A Seventy-Five Year History of the Texas Section of the Mathematical Association of America 1920-1995

by

R. G. Dean

Stephen F. Austin State University

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DEDICATION

This book is dedicated to all of the Secretary-Treasurers who have served the Texas Section of the Mathematical Association of America: Joseph L. Riley, W. D. Baten, Hyman J. Ettlinger, Nat Edmonson, Jr., Charles R. Sherer, Ben T. Goldbeck, Jr., James C. Bradford, Glen E. Mattingly and Charles D. Robinson, without whose dedication to record keeping and faithful reporting, this volume would not have been possible. In fact, without them, the organization might have long since ceased to exist.

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Secretary-Treasurers of the Texas Section



Joseph L. Riley Tarleton Agric. College 1920-1921



W. D. Baten Grubbs Vocational College 1921-1922



Hyman J. Ettlinger* University of Texas 1922-1931

No Photo Available



Nat Edmonson, Jr. Texas Tech & Texas A&M 1931-1942





Ben T. Goldbeck, Jr. Texas Christian University 1964-1970



James C. Bradford Abilene Christian College 1970-1978

*Photo from the H. J. Ettlinger Papers,



Glen E. Mattingly Sam Houston State University 1978-1990



Charles D. Robinson Hardin-Simmons University 1990-????

Math Archives, The Center for American History, The University of Texas at Austin

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FOREWORD

It is truly my good fortune to serve as the Chair of the Texas Sec-tion of the Mathematial Association of America during this year in which we celebrate our Section's 7th Anniversary. One of the privi-leges of being the Chair at this time is having the opportunity to say a few words about our friend and colleague, Professor R. G. Dean of Stephen F.Austin State University.

R.G., our Section's Archivist, has painstakingly pieced togeter this historical account of the Texas Section. This welldocumented account will take us from our Section's birth during the Roaring 20's, through its childhood and its adolescence, to the thriving organization it is today.

During his tenure as Full Professor at Stephen F. Austin State University, R.G. served as Vice Chair of his University Faculty Senate; and in his own Department of Mathematics and Statistics, he performed the duties of Graduate Coordinator for 12 years. His participation in mathematical organizations in the East Texas area has included stints as Vice President and, later President of the East Texas Council of Teachers of Mathematics.

He was the architect of the Master of Science with major in Mathematics Teaching, and for over 20 years, both coordinated and taught in the program. He organized the firast Math Club at Sfephen F. Austin, and later worked to help it achieve status as the Texas Delta Chapter of Pi Mu Epsilon. R.G. also organized and helps to sponsor the Student Chapter of the MAA at Stephen F. Austin.

In addition to his many days devoted to the writing of this book, R. G. has given many years of service to our Section in the following positions: MAA Departmental Representative from Stephen F. Austin for over 12 years, The At-Large Director on more than one occasion, Chair of the Section, and Arrangements Chairnon two occasions. Along the way, he was also a corecipient of the Mathematical Association of America's Polyá Award for Expository Writing.

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Speaking on behalf of all the members of the Texas Section of the MAA, past, present, and future, I simply say, "For all of his efforts for the benefit of so many, we thank R. G. Dean, a mathematician, teacher, and friend, who epitomizes the very best of all of the things that the MAA represents, and whose long and distinguished career has been one to which we should aspire."

I also applaud the contributions of all of the officers who have served the Texas Section throughout the years. These men and women committed substantial amounts of time and energy to the Section without pay, serving only to further the aims of the Mathematical Association of America in Texas.

Other current officers and members of the Executive Committee who wholeheartedly support the publication of this history and who join me in congratulating the author are Stuart Anderson, East Texas State University, Chaie-Elect; Charles Robinson, Hardin Simmons University, Secretary/Treasurer; John Ed Allen, the University of North Texas, Governor; Vivian Dennis, Eastfield College, Immediate Past Chair; Howard Rolf, Baylor University, Arrangements Chair; Dalton nTarwater, Texas Tech University, Arrangements Chair-Elect;David Sanchez, San Antonio College, Level-I Director; John F. Lamb, Jr., East Texas State University, Level II Director; Efraim Armendariz, University of Texas at Austin, Level-III Director, and Mary Parker, Austin Community College, Director At-Large.

January, 1995

Montie Monzingo
Texas Section of MAA Chair, 1994-95
Southern Methodist University

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PREFACE

Had I known how much material I was going to find, I would have started writing a year sooner than I did. Most of the sources I used covering the first forty-five years of the Texas Section were scattered throughout forty-five years worth of the AMERICAN MATHEMATICAL MONTHLY. Other than reports of the meetings of the Texas Section published in the MONTHLY, I was able to find very few records dating before 1965; however, the "News and Notes" section of the MONTHLY contained a wealth of information about the members and their activities. Beginning with the years when Ben T. Goldbeck, Jr., was Secretary-Treasurer, there have been more deliberate efforts at preserving records of the Section.

The newsletters which were begun on a regular basis in 1971 by Jim Bradford when he was the Secretary-Treasurer are one of the best sources of Section history since that time.

I, being a hopelessly incurable packrat, have been keeping programs of meetings, minutes of meetings, financial reports, reports of the High School Mathematics Examination, and whatever other hand-outs I could get hold of at meetings since I joined the Mathematical Association of America in 1961. I served several years on the Executive Committee of the Texas Section and I kept agendas and notes I took at meetings of that committee.

I was able to get surprisingly little information about the Texas Section from the Association. However, Fred Rickey, during the year he was at the MAA main office, informed me that there were some MAA Archives at the Center for American History at the Sid Richardson Library on the campus of the University of Texas in Austin. I found that there are some other Math Archives there as well. They include some of the papers of several of the prominent mathematicians from the University of Texas, including H. J. Ettlinger, Robert E. Greenwood, and R. G. Lubben. Charles Robinson, the current Secretary-Treasurer of the Texas Section has been wonderfully supportive, helping track down information I was missing. Also, when it became apparent that I was not going to have time to use most of the source material for writing and to locate pictures to make the book more attractive and interesting, Charles offered to try to locate some pictures of members, especially everyone who has served as Secretary-Treasurer. His persistence and ingenuity paid off and he was successful in obtaining pictures of all nine of them. Everyone who reads the book will be indebted to him for that.

Charles has also been most helpful in taking care of all the many details associated with publishing a book, arranging for printing, binding, copyrighting, and numerous details I wouldn't begin to know how to do.

I also need to thank everyone who has responded to my calls for help in determining the correct spelling of a name or the location of a member in a particular year.

I know that in spite of my best efforts, somebody's name is going to be misspelled, or somebody is going to be listed at the wrong school, or something someone did is not going to get reported. I am sure that lots of people can supply information which I missed, or they can correct stories I told wrong. I even know of some things I left out because I just ran out of time. This is your invitation to send me that additional information or picture. At this point I am thinking of this Seventy-Five Year History as a warm-up for a Centennial History of the Texas Section which I hope to write when the time comes. So keep those cards and letters (and e-mail and faxes) coming.

This book is dedicated to all of the people who have served as Secretary-Treasurer of the Texas Section, it literally could not have been written without their record keeping and reporting. It also could not have been written without the support and encouragement I have received from my wife, Ouida Whitaker Dean.

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It takes a scholar to truly appreciate scholarly efforts, and she is a scholar. Not only has she been patient and understanding while I have allowed projects around the house to stack up for a year, she has postponed some of her own creative writing to serve as my editor on this project. I could not have found a better editor.

On the day I completed the defense of my doctoral dissertation, I went home, went into the garage and built a birdhouse. When I finally send this off to be printed and bound, I probably will go home, go into my shop and build some bookshelves.

It is my fervent wish that the readers of this account of the history of the first seventy-five years of the Texas Section of the Mathematical Association of America will find it useful; that some will be reminded of pleasant and important events; that some will come to appreciate the contributions of members they didn't know; and that someone will gain as much enjoyment from reading it as I have had compiling it.

January 1995

R. G. Dean Texas Section Archivist/Historian Stephen F. Austin State University Nacogdoches, Texas

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CHAPTER 1.

HISTORICAL BACKGROUND AND ORGANIZATION OF THE TEXAS SECTION

1. FOUNDING OF THE MATHEMATICAL ASSOCIATION OF AMERICA

ne might think of the founding of a professional association as the precursor of the founding of a journal dedicated to the activities of that organization. But in the case of the Mathematical Association of America, the events occurred in the reverse order.

According to Kenneth O. May, [May; 18] there were six short-lived journals in mathematics in this country prior to 1850. They were largely devoted to problem solving. Of the leading journals dedicated to mathematics which have survived the test of time, one is the AMERICAN MATHEMATICAL MONTHLY. As one can read on the title page, it was "FOUNDED IN 1894 BY BENJAMIN F. FINKEL, (AND) WAS PUBLISHED BY HIM UNTIL 1913. FROM 1913 TO 1916 IT WAS OWNED AND PUBLISHED BY REPRESENTATIVES OF FOURTEEN UNIVERSITIES AND COLLEGES IN THE MIDDLE WEST."

L. E. Dickson was nineteen years of age when the MONTHLY published its first issue. It contained an article by Dickson. Eight years later, Finkel persuaded Dickson to become an associate editor of the MONTHLY. Dickson was succeeded by H. E. Slaught. At that time, several colleges cooperated to provide a small subsidy for the publication. However, by the summer of 1912, Finkel discussed with Slaught the likelihood that the printer, A. S. Dixon of Springfield, would be unable to continue providing low cost printing and that other sources of support would need to be found.

Between 1913 and 1916, the MONTHLY received some support from The University of Chicago, Colorado College, Drury College, The University of Illinois, Indiana University, The University of Iowa, The University of Kansas, The University of Michigan, The University of Minnesota, The University of Missouri, The University of Nebraska, Oberlin College, Northwestern University, and Washington University. Slaught realized that this support was somewhat uncertain and began working to obtain broader support for the publication.

"In April of 1914 the Chicago Section of the American Mathematical Society voted to set up a committee of five to report at its December meeting with reference to making recommendations to the Council of the Society on the relations of the Society to the field then covered by the AMERICAN MATHEMATICAL MONTHLY." [May; 19] It was actually in April of 1915 when the committee voted three to two against recommending that the Society assume responsibility for the publication of the MONTHLY. Nevertheless, the Council adopted the following resolution: "It is deemed unwise for the American Mathematical Society to enter into the activities of the special field now covered by the AMERICAN MATHEMATICAL MONTHLY; but the Council desires to express its realization of the importance of the work in this field and its value to mathematical science, and to say that should an organization be formed to deal specifically with this work, the Society would entertain toward such an organization only feelings of hearty good will and encouragement." [May; 20]

Support for the formation of a new association came from many quarters, including E. B. Wilson, E. V. Huntington, and Arnold Dresden. Eventually, Slaught circulated a letter asking for reaction to the formation of an association with the following four functions:

(1) To provide organized activity in the large field between the fields of secondary school mathematics and the field of pure research.

(2) To form a medium of communication and a forum for exchange of ideas between teachers and others interested in collegiate mathematics.

(3) To furnish a place for publication of scientific articles and papers adapted to this intermediate field.

(4) To publish historical articles, book reviews, notes and news, and indeed any matters of interest to the great body of men and women related to this field. [May; 20]

Support for this proposal came from 450 persons. Therefore, on December 30 and 31, 1915, a group of 104 persons met at Ohio State University in Columbus, Ohio, to discuss the formation of a new association. At the meeting, H. E. Slaught made some introductory remarks; W. D. Cairns of Oberlin College was elected temporary secretary; and, in about three hours, most of the organizational details were worked out. A committee was appointed to select a name from a list of eighteen proposed names. At the session the next day, they recommended and the new organization adopt the name, the "Mathematical Association of America." E. R. Hedrick of the University of Missouri was elected president, E. V. Huntington of Harvard University was elected vice president, and W. D. Cairns was elected secretarytreasurer, a position he held for the next twenty-seven years.

The Association also elected an Executive Council of twelve members. An Editorial Board and a Committee on Publications were appointed, as was a committee "to negotiate with the owners of the AMERICAN MATHEMATICAL MONTHLY to secure it as the official journal of the Association!" [May; 21]

Members who joined by April 1916 were considered charter members. There were 1045 charter members, including the following twenty-three from Texas:

C. I. Alexander, Texas Christian University; L. G. Allen, West Texas State Normal College; D. F. Barrow, University of Texas; H. Y. Benedict, University of Texas; J. D. Bond, the Agricultural and Mechanical College of Texas [*hereafter to be called* Texas A&M College]; A. E. Chandler, Simmons College; Mary E. Decherd, University of Texas; E. de la Garza, Brownsville; E. L. Dodd, University of Texas; H. J. Ettlinger, University of Texas; E. L. Hagelstein, San Angelo; J. W. Harrell, Baylor University; E. H. Jones, Southern Methodist University; E. O. Lovett, Rice Institute; J. O. Mahoney, Dallas; I. I. Nelson, High School, Austin; I. C. Nichols, Texas A&M College; Mrs. Susan K. Noel, Trinity University; M. B. Porter, University of Texas; P. C. Porter, Rusk Academy; O. A. Roach, San Antonio; P. H. Underwood, Ball High School, Galveston; C. N. Wunder, Southwestern University. [M23; 143]

Only twelve states, California, Illinois, Indiana, Iowa, Kansas, Maryland, Massachusetts, Michigan, Missouri, New York, Ohio, and Pennsylvania had more charter members in the Association than did Texas. [May; 147-148]

Three Texas schools, Baylor University, Southern Methodist University and the University of Texas were listed among the Institutional Members of the Mathematical Association of America in 1916. [M23; 145] Only four states, Illinois, New York, Ohio, and Pennsylvania had more schools listed as institutional members at that time. [May; 147-148]

The original constitution provided in Article V on Sections that "Any group of members of this Association may petition the Council for authority to organize a Section of the Association for the purpose of holding local meetings." [May; 113] Applications from Kansas, Missouri, and Ohio were received by the Council at the meeting in December of 1915. The Texas Section was, in 1920, to become the eleventh Section of the Association. The first ten and the year of their approval by the Council are:

1915	Ohio	1916	Indiana
1915	Missouri	1916	Minnesota
1915	Kansas	1917	Kentucky
1916	Iowa	1917	Rocky Mountain
1916	Maryland-Virginia-DC	1917	Illinois [May; 84-89]

2. EARLY HIGHER EDUCATION IN TEXAS

hen Texas became a republic in 1836, it was very much a frontier. Early Texas leaders had to be concerned with warding off Native Americans, whose lands were being appropriated, and fending off the Mexicans from whom they had wrested title to the lands. Although Texas had an abundance of resources, it took toughness, perseverance and sometimes desperation to survive in Texas. However, some of the early leaders realized that it would take more than guns and plows to forge the kind of nation they wanted Texas to be. When Mirabeau B. Lamar--who served as President of the Republic of Texas from 1838 to 1843--said, "The cultivated mind is the guardian genius of democracy," he was talking as much about basic literacy as he was about classical literature and fine arts. He was stating a belief that literate persons are better qualified to protect and promote democracy and to lead their fellows to realize the most good for all.

Historian T. R. Fehrenbach [Fehr; 302] wrote that "one remarkable aspect of this frontier . . . was its literacy and general political awareness." He said that "by 1860 there were seventy-one newspapers in Texas, with a total circulation of about 100,000. Ninety-five percent of the white population could read and write and some publication reached virtually every family." The oldest surviving institution of higher learning, Baylor University in Waco, dates from 1845 [CBB; 76?], the year in which Texas achieved U. S. statehood.

Like the newspaper publishers and printing presses, the schoolmasters and curriculum were imported from the older states and territories. Although there had been no official provisions for public schools until 1854, when the windfall revenue from the New Mexico boundary settlement was made available, the frontier counties as well as the older regions already had a basic educational system. Settlers worried much about the education of their children, both boys and girls. As soon as a dozen or more families were located in any region or newmade county, the farmers tried to organize a school. A building was thrown up or made available; a schoolmaster was imported from the East. Every family shared the cost of the teachers salary, which--as often as not--was paid in land or in kind. No schoolteacher in Texas went hungry or failed to find a place of honor at any table. [Fehr; 303]

Throughout history, churches, or at least the clergy, have known that education is a goal to be highly desired and that the establishment of schools is a vital function of the church. Indeed, many of the early discoveries in mathematics were made by churchmen, trying to discern relationships associated with some religious observance. When Texans got to the business of education, churches were among the early organizers of schools. "The historical role of the English Bible in this Texas has increasingly been overlooked. But the King James Version afforded this stultified civilization on the fringes of the 19th-century Western world with a great part of the basic culture it required. It gave the frontier farmer . . . a basic folklore, philosophy, and literature." [Fehr; 304]

Many aborted attempts at establishing colleges have long since been forgotten; but among the successful attempts, the earliest were Baylor in Waco and Mary Hardin-Baylor in Belton. Both of them date from the year of Texas statehood, 1845. No fewer than thirty-one colleges which survive today were established between 1845 and 1900. Four of them are two-year or community colleges today; eight of them are four-year colleges offering baccalaureate degrees; nine of them offer masters degrees of some sort, and the remaining ten offer doctoral degrees of some sort. Of the thirty-one, the following ten--with their dates of founding--are currently state supported:

Prairie View A&M University	1876
Texas A&M University	1876
Sam Houston State University	1879
University of Texas-Medical Branch at Galveston	1881
University of Texas	1883
East Texas State University	1889
University of North Texas	1890
University of Texas at Arlington	1895
Southwest Texas State University	1899
Tarleton State University	1899

Most of the remaining twenty-one have religious denominational affiliations. They include the following:

1845
1845
1849
1852
1869
1872
1873
1873
1873
1873
1881
1885
1889
1890
1891

Texas Lutheran College	1891
Southwestern Assemblies of God College	1893
Texas College	1894
Jacksonville College	1899

From the turn of the century until 1920, fifteen more colleges and universities were added to the list. Four of them:

Texas Woman's University	1901
West Texas State University	1910
University of Texas-El Paso	1913
Sul Ross State University	1920

belong to the state system, and the remaining eleven are either private or supported by religious denominations. They include:

Baylor College of Dentistry	1905
Baylor College of Medicine	1905
Abilene Christian University	1906
Southwestern Baptist Theological Seminary	1907
Texas Chiropractic College	1908
Wayland Baptist University	1908
Our Lady of the Lake University	1911
Southern Methodist University	1911
East Texas Baptist University	1912
Jarvis Christian College	1912
Rice University	1912

So at the time the Texas Section of the Mathematical Association of America was organized, there were at least forty-five colleges and universities operating in Texas. Today, there are no fewer than 150 colleges and universities in the state.

3. THE FORMATION OF THE TEXAS SECTION OF THE MATHEMATICAL ASSOCIATION OF AMERICA

Prior to the formation of the Texas Section of the Mathematical Association of America, there was an active Mathematics Section of the Texas State Teachers Association. No doubt, many of the first discussions about forming a Texas Section occurred at meetings such as the TSTA meeting in Houston on November 28, 1919.

The Fifth Annual Meeting of the Mathematical Association of America was held at the University of Chicago on December 28-29, 1920. [M28; 9ff.] The 150 Association members present included Albert A. Bennett and H. J. Ettlinger of the University of Texas and P. H. Underwood of Ball High School in Galveston. At this meeting, Albert A. Bennett and Edward L. Dodd of the University of Texas were appointed as two of twelve Associate Editors of the MONTHLY for 1921; and East Texas State Normal College, Commerce, Texas, was granted institutional membership. More importantly, "The Board granted authority to the Association members residing in Texas to organize a Texas Section. Professor H. J. Ettlinger [was] elected chairman and Professor J. L. Riley secretary-treasurer of the temporary organization." [M28; 108]

Although authority for Association members residing in Texas to organize a Section did not come until 1920, many of them had been involved in the activities of the Association and had been contributors to the MONTHLY. For example, in 1920, J. L. Riley of John Tarleton Agricultural College in Stephenville, J. S. Brown of Southwest Texas State Normal College, E. P. Lane of Rice Institute, and A. A. Bennett of the University of Texas contributed problems for the "Problems and Solutions" section of the MONTHLY. H. J. Ettlinger published the article "An Introduction to Plane Trigonometry by Graphical Methods." [M27; 63-65] E. L. Dodd was appointed to fill a position on the Board of the Association. A. A. Bennett was appointed an Associate editor of the Association [M27; 109], and he published an ordinance textbook, PHYSICAL BASES OF BALLISTIC TABLE COMPUTATIONS. [M27; 372-3]

CHAPTER 2.

A CHRONOLOGY OF MEETINGS AND NEWS OF THE TEXAS SECTION

The division of this chapter into three sections is somewhat arbitrary. One reason for having the divisions is to help locate the description of events in a given time frame. In addition, the first division was suggested by the fact that meetings of the Section were resumed in 1946 after having been suspended for World War II. No comparable watershed exists for the division at the beginning of the third twenty-five years, but one significant milestone in 1971 was the initiation of the publication of regular newsletters by the Secretary-Treasurer.

1. THE FIRST TWENTY-FIVE YEARS

1921 The first meeting of the Texas Section of the Mathematical Association of America was held at Bryan High School in Dallas on November 25-26, 1921 in conjunction with the Texas State Teachers Association. [M29; 3-6] According to Kenneth May [May; 18], the joint meetings continued until 1927. The first meeting had an attendance of sixty-five, including the following eighteen members of the Association:

W. D. Baten, H. Y. Benedict, A. A. Bennett, J. E. Burnam, P. J. Daniell, H. J. Ettlinger, G. C. Evans, L. R. Ford, A. J. Hargett, H. M. Hosford, E. H. Jones, J. O. Mahoney, R. L. Moore, H. Potter, J. L. Riley, C. P. Rockwell, E. R. Tucker, P. H. Underwood, and C. N. Wunder.

The Friday morning session was presided over by G. C. Evans; the Friday afternoon session was presided over by H. J. Ettlinger who was the president of the Mathematics Section of the Texas State Teachers Association and who had been named Temporary Chairman of the Texas Section at the Fifth Annual Meeting of the Association in December 1920. At the closing session Saturday morning, J. O. Mahoney presided.

Papers were read by G. C. Evans, H. J. Ettlinger, C. P. Rockwell, R. L. Moore, J. L. Riley, W. D. Baten, and A. A. Bennett.

Other activities during 1921

A. A. Bennett of the University of Texas was very active in MAA affairs in 1921. He published two articles in the MONTHLY, "Some Arithmetic Operations with Transfinite Ordinals" [M28; 427-430] and "A Note on the Computations of Logarithms." [M28; 127-131] He contributed to the "Problems and Solutions" section of the MONTHLY, he was an Associate Editor of the MONTHLY, he was elected to the Board of Trustees of the Association, and he attended both the Annual Meeting and the Summer Meeting of the Association. He also published INTRODUCTION TO BALLISTICS.

J. L. Riley of John Tarleton Agricultural College in Stephenville contributed several problems to the "Problems and Solutions" section of the MONTHLY in 1921.

In addition, Assistant Professor Hillel Halperin of the University of Arkansas was appointed an Associate Professor at Texas A&M College. P. J. Daniell of Rice Institute was promoted to Professor of Applied Mathematics, and he spent the Fall semester in France on a Study Leave. P. C. Porter, Dean of Baylor College for Women at Belton, was appointed Assistant Professor of Mathematics at Baylor University.

Institutional Membership in the Association was granted to East Texas State Normal College that year.

1922 The second meeting of the Texas Section was at the First Presbyterian Church in Houston on December 1-2, 1922. [M30; 414-416] Chairman G. C. Evans of Rice Institute presided over the meeting. The secretary of the Section, W. D. Baten, was



R. L. Moore of the University of Texas presented a paper at the first meeting of the Texas Section Photofrom the R. G. Lubben Pepers, Math Archives The Center for American History, The University of Texas at Austin

unable to attend, so A. A. Bennett acted as secretary and reported on the meeting to the Association. [M30; 414-416] Forty-two people attended the meeting, including the following sixteen Association members: A. A. Bennett, J. E. Burnam, P. J. Daniell, Elizabeth Dice, H. J. Ettlinger, G. C. Evans, L. R. Ford, H. Halperin, A. J. Hargett, E. H. Jones, J. O. Mahoney, H. Porter, C. P. Rockwell, E. R. Tucker, P. H. Underwood, C. N. Wunder.

Papers were read by H. Halperin, Miss Lel Red (by invitation), W. P. Udinski (by invitation), H. J. Ettlinger Miss Elizabeth Dice, A. A. Bennett, E. H. Jones, Mr. C. P. Rockwell, L. R. Ford, L. H. Fleck (by invitation), and G. C. Evans.

With Chairman G. C. Evans of Rice Institute presiding over the 1922 meeting, the following officers were elected for the following year: Chairman, L. R. Ford, Rice Institute; Vice-Chairman, A. A. Bennett, University of Texas; Secretary-Treasurer, and H. J. Ettlinger, University of Texas.

Other activities during 1922

A. A. Bennett and E. L. Dodd, both of the University of Texas, served as Editor-in-Chief and an Associate Editor, respectively, of the MONTHLY. A. A. Bennett submitted a solution to a couple of problems in the "Problems and Solutions" section of the MONTHLY. Bennett fell three votes short of being elected Vice President of the Association.

Among the articles published in the MONTHLY by members of the Texas Section were: "The Imaginary Points of Geometry," by A. A. Bennett, [M29; 145-149]; "A Simple Form of Duhamel's Theorem and Some New Applications," by H. J. Ettlinger, [M29; 239-250]; "Rates of Exchange," by H. E. Bray, [M29; 365-371]; and "A Simple Theory of Competition," by G. C. Evans at Rice. [M29; 371-380]

H. J. Ettlinger, University of Texas, attended the Seventh Summer Meeting of the Association meeting at the University of Rochester and both E. L. Dodd, University of Texas, and G. C. Evans, Rice Institute, attended the Seventh Annual Meeting of the Association at Harvard.

New members of the Association from Texas included: Paula F. Henry, Ft. Worth; S. M. Sewall, Southwest Texas State Normal College; A. H. Cowling, East Texas State Normal College; Elizabeth S. Dice, Teacher at Dallas High School; G. S. Smith, Head of Mathematics Department, Port Arthur High School; J. E. Redden, John Tarleton Agricultural College; W. L. Ayres, Southwestern University; Myrtle C. Brown, North Texas State Normal College; Annie D. Durham, Texas Presbyterian College in Milford; Hillel Halperin, Texas A&M College; Emma J. Olson, Texas State College for Women; and L. V. Robinson, Meridian College, Meridian.

Assistant Professor J. W. Harrell was at Brown University, on leave-of-absence from Baylor University; and Associate Professor E. L. Dodd was on leave-of-absence from the University of Texas to teach at Williams College in 1922-23.

At the University of Texas, the Pentagram Club was sponsored by A. A. Bennett. During the academic year, 1921-22, papers were presented by A. A. Bennett (two), M. B. Porter, Renke (R. G.) Lubben, Dean H. Y. Benedict, C. M. Cleveland, William (W. M.) Whyburn, H. J. Ettlinger, Carriella Bell, R. L. Moore, J. M. Bryant of the Department of Electrical Engineering, and Goldie Horton.

G. B. Halsted, a Professor at the University of Texas from 1884 to 1903, died in New York on March 19, 1922. There was a brief obituary in the April 1922 issue of the MONTHLY and a longer tribute by Florian Cajori in the October 1922 issue of the MONTHLY.

1923 The third meeting of the Section was held in Ft. Worth on December 1, 1923. [M31; 418-419] Fifty-five people attended, including the following thirteen members of the Association:

J. M. Bledsoe, Myrtle C. Brown, J. E. Burnam, J. W. Calhoun, J. P. Downer, H. J. Ettlinger, G. C. Evans, L. R. Ford, A. J. Hargett, W. A. Nelson, Hugh Porter, E. R. Tucker, and C. N. Wunder.

Dr. Wunder, professor of mathematics and dean at Southwestern University and chairman of the mathematics section of the Texas State Teachers Association, presided over the morning session; and L. R. Ford, Rice Institute, Chairman of the Texas Section, presided over the afternoon session.

Papers were presented in 1923 by J. M. Bledsoe, J. W. Calhoun, H. J. Ettlinger (two), L. R. Ford, and G. C. Evans. At the business meeting the current officers were reelected to serve another year. Also, "it was voted to instruct the secretary to ascertain the sentiment of the members by a mail questionnaire on the proposition of changing the time of meeting." [M31; 419]

Other activities during 1923

E. L. Dodd, University of Texas, served as an Associate Editor of the MONTHLY.

A. A. Bennett of the University of Texas published two articles in the MONTHLY: "The Most Pleasing Rectangle" [M30; 27-30] and "Linear Operators and Generalized Elementary Symmetric Functions." [M30; 180-185] He also published two items in the "Questions and Discussions" section of the MONTHLY: "Why?" [M30; 138-140] and "The Limiting Case in Enumerative Geometry." [M30; 323-324]

A. A. Bennett and M. B. Porter of the University of Texas and J. L. Riley of John Tarleton Agricultural College submitted problems to the "Problems and Solutions" section of the MONTHLY, and Bennett submitted a solution to a problem.

J. E. Burnam of Simmons College in Abilene was on leave-ofabsence as a Fellow at the University of Texas, and R. G. Lubben was appointed an Instructor at the University of Texas.

L. V. Robinson was named Head of the Department of Mathematics at Meridian College.

At the University of Texas, E. L. Dodd was promoted to Professor and Chairman, Associate Professor R. L. Moore was promoted to Professor, Adjunct Professor H. J. Ettlinger was promoted to Associate Professor, and P. M. Batchelder and Mary Decherd were named Adjunct Professors. J. W. Calhoun was promoted to Professor of Applied Mathematics, W. M. Whyburn was a Professor at South Park Junior College in Beaumont.

At Texas A&M College, F. W. Sparks was appointed Assistant Professor, W. P. Udinski and W. D. Baten were appointed Instructors, and W. L. Hughes and F. W. Frary resigned.

P. J. Daniell, Rice Institute, was appointed to the Town Trust Chair of Mathematics at the University of Sheffield; and G. C. Evans was appointed to the Committee on Endowments by the Council of the American Mathematical Society.

H. E. Bray and L. E. Ward of Rice Institute, J. R. McKee of College Station, C. M. Howard of Texas Weslyan College, Lida B. May of Kidd-Key College in Sherman, E. D. Mouzon, Jr. and R. Q. Seale of Southern Methodist University were elected to membership in the Association.

Apparently no one from Texas attended the Eighth Summer Meeting of the Association, but H. S. Vandiver who would later move to Texas attended. R. L. Moore of the University of Texas attended the Eighth Annual Meeting of the Association at the University of Cincinnati.

1924 The fourth meeting of the Texas Section was conducted at the First Presbyterian Church in San Antonio on November 28, 1924. [M32; 160-162] Forty-six people attended, including the following sixteen members of the Association:

W. L. Ayres, A. A. Bennett, H. E. Bray, J. E. Burnam, E. Dice, H. J. Ettlinger, L. R. Ford, H. Halperin, A. S. Hathaway, G. P. Horton, G. K.

Mayne, C. A. Rupp, G. S. Smith, G. R. West, W. M. Whyburn, and C. N. Wunder.

In the morning, Professor J. M. Bledsoe of the East Texas State Teachers College, Commerce, Texas, presided as Chairman of the mathematical section of the Texas State Teachers Association. The afternoon session was presided over by Professor L. R. Ford of Rice Institute, Chairman of the Texas Section of the Association. A dinner meeting honoring the Texas Section was held by Our Lady of the Lake College.

Papers were presented by J. F. Howard, San Antonio Junior High Schools; Elizabeth Dice, North Dallas High School; J. E. Burnam (two), Simmons College; H. J. Ettlinger (two), University of Texas; F. J. Kelly, University of Minnesota; Miss Edna Graham, West Texas State Teachers College; J. W. Calhoun, University of Texas; L. R. Ford, Rice Institute; G. P. Horton, University of Texas; A. A. Bennett, University of Texas; A. S. Hathaway, Boerne, Texas; H. E. Bray, Rice Institute; A. J. Maria, Rice Institute (by invitation); C. A. Rupp, University of Texas; and W. M. Whyburn, Texas A&M College. Dr. Whyburn's paper "On an Extension of a Definition of a Green's Function" appeared in full in the Sept.-Dec. (1924) issue of the Annals Mathematics, 2d series, vol. 26, pp. 125-130.

The following officers were elected for the following year: Chairman, A. A. Bennett, University of Texas; Vice-Chairman, W. M. Whyburn, Texas A&M College; Secretary-Treasurer, H. J. Ettlinger, University of Texas.

Other activities during 1924

H. J. Ettlinger was an Associate Editor of the MONTHLY.

Articles published in the MONTHLY by members of the Texas Section included: "The Dynamics of Monopoly," by G. C. Evans of Rice Institute [M31; 77-83]; "On the Integrability of a Continuous Function," by H. J. Ettlinger at the University of Texas [M31; 419-421]; and "On a Transformation by Paper Folding," by C. A. Rupp at the University of Texas. A. A. Bennett at the University of Texas published six items in the "Questions and Discussions" section of the MONTHLY: "The Consequences of Rolle's Theorem" [M31; 40-42], "An Inequality in Connection With Logarithms" [M31; 86-90], "Circumscribed and Inscribed Tetrahedra" [M31; 135-137], "The Definition of 'Variable'" [M31; 239-242], "On the Treatment of Maxima and Minima in Calculus Texts" [M31; 293-294], and "On the Definition of Determinants." [M31; 343-345] H. S. Vandiver, at Cornell, published one, "On Algorithms for the Solution of Congruences." [M31; 137-140]

M. B. Porter, Department Head at the University of Texas, successfully recruited H. S. Vandiver to the University of Texas. (Porter had recruited R. L. Moore to return to the University of Texas in 1920.)

J. L. Riley, John Tarleton Agricultural College, submitted two problems to the "Problems and Solutions" section of the MONTHLY; A. A. Bennett. the University of Texas, submitted three and solved one; Hillel Halperin, Texas A&M College, solved two; and W. M. Whyburn, University of Texas, and L. R. Ford and H. E. Bray, Rice Institute, solved one each.

H. J. Ettlinger, University of Texas, edited the MONTHLY section on "Undergraduate Mathematics Clubs."

J. E. Burnam at Simmons College was promoted to Professor. Adjunct Professor P. M. Batchelder, University of Texas, was appointed Acting Assistant Professor at Brown University for 1924-25.

W. M. Whyburn was appointed Assistant Professor at Texas A&M College, and Mary Campbell of the University of Texas was appointed Professor and Department Head at South Park Junior College.

H. E. Bray was promoted to Assistant Professor at Rice Institute.

Sister Mary McNelly of Our Lady of the Lake College, Mary E. Schofield of Presbyterian College in Milford, and F. W. Sparks of Texas A&M College were elected to membership in the Association .

H. E. Bray and G. C. Evans of Rice Institute, and Helmah Holmes, Goldie P. Horton, and R. L. Wilder of the University of Texas attended the International Congress of Mathematicians in Toronto. **1925** According to an announcement in the MONTHLY in 1925, the Fifth Annual Meeting of the Section was to have been held in Dallas, November 26-27, 1925. However, no such meeting was reported in the MONTHLY and, apparently, no other records of the early meetings have survived. There was also no meeting reported in the MONTHLY for 1926 or 1927, even though it was reported in a brief history of the Texas Section in 1967 by C. R. Sherer, H. E. Bray, H. J. Ettlinger, and R. L. Moore that "the Texas Section continued to meet in conjunction with the Texas State Teachers Association until 1927-28." Nevertheless, members of the Texas Section continued to be involved in the activities of the Mathematical Association of America.

Activities during 1925

H. J. Ettlinger was an Associate Editor of the MONTHLY.

G. C. Evans of Rice Institute had two articles: "The Mathematical Theory of Economics" [M32; 104-110] and "Outlines of the Fields of Research: The Mathematics of Economics" [M32; 149] published in the MONTHLY.

A. A. Bennett had six items published in the "Questions and Discussions" section of the MONTHLY, and H. J. Ettlinger had one. The items by Bennett were: "An Elementary Solution of a Problem of Diophantus" [M32; 78-85]; "Generalized Convergence With Binary Relations" [M32; 131-134]; "A Note on 'Matrix of a Determinant'" [M32; 182-185]; "Two New Arctangent Relations for Pi" [M32; 253-255]; "Pi and the Factors of $x^{2}+1$ " [M32; 375-377]; and "The Definition of Radian." [M32; 509-510] The item by Ettlinger was a "Note on the Continuity of a Function Defined by a Definite Lebesgue Integral." [M32; 510-511]

A. A. Bennett also submitted five problems for the "Problems and Solutions" section of the MONTHLY and solved two others. J. L. Riley submitted one, M. B. Porter submitted one, and H. E. Bray solved one.

Bennett was elected 1st Vice President of the Association, and he accepted the position of Professor and Head of the Mathematics Department at Lehigh University.

At Texas A&M College, Hillel Halperin was promoted to Professor, W. P. Udinski was promoted to Assistant Professor, P. K. Smith and F.

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W. Sparks resigned; and F. Ayres, A. A. Blumberg, and W. P. Stevens were appointed Instructors.

R. L. Wilder left the University of Texas to become an Assistant Professor at Ohio State University, and H. A. Wilson left Rice Institute to become Professor of Natural Philosophy at Glasgow University.

At Southwestern University, Velma Tisdale was promoted to Assistant Professor, and J. G. Chaney was appointed Instructor.

Among the new members elected into the Association were: A. A. Blumberg of Texas A&M College; J. G. Estes of Texas Christian University; W. J. Gayder of Howard Payne College; R. G. Lubben of the University of Texas; C. W. McClelland of Daniel Baker College in Brownwood; and Grace K. Mayne of Austin High School.

R. G. Lubben completed his Ph.D. at the University of Texas under the directorship of R. L. Moore.

G. C. Evans and A. D. Michal, Rice Institute; and R. G. Lubben, L. L. Smail, and H. S. Vandiver, the University of Texas, attended the Ninth Annual Summer meeting of the Mathematical Association of America.

E. L. Dodd, Goldie P. Horton, R. G. Lubben and R. L. Moore; and Elizabeth T. Stafford, Texas Technological College, attended the Tenth Annual meeting of the Mathematical Association of America.

In November 1925, the Association listed 1759 members, of whom, eighty-three were from Texas.

1926 There was no meeting of the Texas Section reported in 1926, but some of the activities of members of the Section were reported in the MONTHLY. New members elected to the Association included: D. A. Flanders, Texas Technological College; H. A. Foster, Texas A&M College; G. T. Newton, Head of the Math Department at Cameron High School; Deborah M. Hickey, Rice Institute; D. C. Jones, Texas A&M College; W. L. Porter, Texas A&M College; C. F. Roos, Rice Institute; H. M. Rutherford, Rice Institute; Elizabeth T. Stafford, Texas Technological College; W. P. Stevens, Texas A&M College; C. B. Hale, Tarleton Agricultural College; M. E. Mullings,

the University of Texas; J. E. Nelson, University Junior College, San Antonio; J. H. Binney, Texas A&M College; L. W. Blau, the University of Texas; J. G. Chaney, Lubbock High School; B. L. Christian, Penelope; E. C. Kennedy, Austin; E. C. Klipple, Texas A&M College; A. F. Moursund, an Austin High School; C. A. Murray, Stephen F. Austin State College; G. F. Nelson, Sour Lake High School; Jonathan Pickett, Ranger; Pauline Shirley, Wichita Falls High School; J. H. Sturdivant, the University of Texas; W. P. Udinski, University Junior College, San Antonio; and A. H. Wait, Texas Technological College.

The Tenth Summer Meeting of the Association at Ohio State University was attended by G. C. Evans of Rice Institute, Elizabeth T. Stafford and J. N. Michie, Texas Technological College; and H. S. Vandiver, the University of Texas.

H. S. Vandiver, the University of Texas, published "A Criterion that a Cubic Equation has an Integral Root" in the MONTHLY. [M33, 94-95] And, H. J. Ettlinger, the University of Texas, published "The Kinetics of Learning" in the MONTHLY. [M33, 506-510]

G. C. Evans of Rice was a member of the MAA Committee on Standard Departments of Mathematics and H. J. Ettlinger was an Associate Editor of the MONTHLY.

D. H. Gehman was at the University of Texas as a National Research Fellow. R. G. Lubben was named to a National Research Fellowship. C. F. Roos completed his Ph.D. degree at Rice Institute.

J. N. Michie of the University of Texas was appointed Professor and Head of the Department of Mathematics at Texas Technological College. Also at Tech, D. A. Flanders was appointed to a professorship, and W. M. Whyburn and L. D. Ames were appointed to associate professorships.

Goldie P. Horton, an adjunct professor at the University of Texas, was appointed to an associate professorship there, and L. L. Smail left the University of Texas to accept a position at Lehigh University. J. E. Burnam was appointed to a professorship at Simmons College in Abilene.

Goldie P Horton, R. L. Moore; and H. S. Vandiver of the University of Texas, and H. M. Hosford of Southern Methodist University, attended the Eleventh Annual Meeting of the Mathematical Association of America, meeting at the University of Pennsylvania in Philadelphia, December 30-31, 1926.

1927 The Texas schools listed in the MONTHLY as Institutional Members of the Mathematical Association of America were Baylor University, Rice Institute, Southern Methodist University, and West Texas State Teachers College. [M34; 46]

The membership list of the Association listed eighty-seven members from Texas, making Texas the seventh largest state in terms of membership in the Mathematical Association of America

New members of the Association included C. A. Gilley and W. J. Reid of Austin, Annie B. Horton of Edinburg and W. N. Barnes of San Antonio.

Two members of the Texas Section published articles in the MONTHLY: H. S. Vandiver, the University of Texas, "On the Least Multiple of an Integer Expressible as a Definite Quadratic"; and M. E. Mullings, the University of Texas, "The Rotational Derivative and Some Applications." In a footnote, Mullings indicated that the work was a portion of his M. A. thesis, and that it was directed by H. J. Ettlinger. Hillel Halperin, Texas A&M College, had a problem published in the Problems and Solutions section of the MONTHLY.

At the University of Texas, H. Y. Benedict, Dean of the College of Arts and Sciences, and Professor of Applied Mathematics and Astronomy, was elected President of the University; and H. J. Ettlinger and G. T. Whyburn were promoted to professorships. Ettlinger was also an Associate Editor of the MONTHLY. R. S. Underwood was appointed to an associate professorship at Texas Technological College.

H. E. Bray, Alice C. Dean, and G. C. Evans of Rice Institute, and P. M. Batchelder of the University of Texas attended the Twelfth Annual Meeting of the Association at the University of Wisconsin, September 5-6, 1927.

Of the 1849 members of the Mathematical Association of America, eighty-seven were from Texas. Rice Institute was granted Institutional Membership in the Association. **1928** H. J. Ettlinger was Secretary-Treasurer of the Texas Section from 1923 until 1931, and in 1928 he reported that the Fifth Meeting of the Texas Section was held at Texas A&M College in College Station on Saturday, January 28, 1928. [M35; 393-396] In that report he stated that "For the first time since its organization, this Section held an independent meeting of its own, all previous meetings having been held in conjunction with the Mathematics Section of the Texas State Teachers Association at the time of its regular annual meeting at Thanksgiving."

The report mentioned that G. C. Evans presided over the morning session in the absence of the chairman, W. M. Whyburn, and that H. J. Ettlinger presided over the afternoon session. Since Whyburn was elected Vice-Chairman at the Fourth Annual Meeting of the Section in 1924, it seems reasonable that there was at least one more meeting between 1924 and 1928 at which Whyburn was elected Chairman.

The attendance was forty-one including the following twenty-two members of the Association:

B. T. Adams, F. Ayres, W. L. Ayres, L. W. Blau, A. A. Blumberg, H. E. Bray, A. C. Dean, J. L. Dorroh, H. J. Ettlinger, G. C. Evans, G. W. Evans, L. R. Ford, H. Halperin, M. Hickey, J. R. McKee, J. N. Michie, L. Oxsheer, W. L. Porter, J. J. Quinn, W. A. Rees, F. W. Sparks, and G. T. Whyburn.

Papers were presented by L. R. Ford, Rice Institute; G. T. Whyburn, University of Texas; L. W. Blau, University of Texas; Mr. J. J. Gergen, Rice Institute (by invitation); H. J. Ettlinger, University of Texas; F. Ayres, Texas A&M College; J. J. Quinn, St. Edwards' University; H. E. Bray, Rice Institute; and Professor Charles E. Puryear, Dean of the College, Texas A&M College (by invitation). The afternoon session took the form of a roundtable discussion with the papers of Professor Bray, "A prescribed course for freshmen and their mathematical habits," and Dean Puryear, "Preparation for College Mathematics," forming the basis.

As an outgrowth of the discussion of the meeting in the afternoon, the executive committee was also instructed to appoint a state-wide committee on "Requirements for high school mathematics teachers." This committee was to make an investigation of minimum requirements for high school mathematics teachers and make recommendations to this Section, to the Mathematics Section of the Texas State Teachers Association, and to the Texas State Department of Education. The following were appointed on this committee: F. W. Sparks, Texas Tech College, chairman; Dean C. E. Puryear, Texas A&M College; E. R. C. Miles, Rice Institute; Mary Decherd, University of Texas; D. C. Jones, Southern Methodist University; J. W. Harrell, Baylor University; J. J. Quinn, St. Edward's University; A. R. Wapple, Southwestern University; and L. W. Blau, University of Texas. [M35; 394]

The following officers were elected for the coming year: Chairman, G. T. Whyburn, University of Texas; Vice-chairman, F. W. Sparks, Texas Technological College; Secretary-Treasurer, H. J. Ettlinger, University of Texas.

1929 The 1929 annual meeting of the Texas Section was held at Rice Institute on Saturday, January 26, 1929. [M36; 462-465] Professor G. T. Whyburn presided. The attendance was forty-three, including the following twenty members of the Association: J. H. Binney, L. W. Blau, A. A. Blumberg, H. E. Bray, Alice C. Dean, I. I. Dorroh, H. I. Ettlinger, G. C. Evans, I. R. Ford, F. de la Garza

J. L. Dorroh, H. J. Ettlinger, G. C. Evans, L. R. Ford, E. de la Garza, H. Halperin, E. O. Lovett, E. R. C. Miles, W. L. Porter, W. A. Rees, W. T. Reid, J. H. Roberts, W. G. Smiley, Jr., P. H. Underwood, and G. T. Whyburn.

Talks were presented by: E. R. Heineman, Texas Technological College (by invitation); E. F. Beckenbach, Rice Institute (by invitation); W. T. Reid, University of Texas; L. R. Ford, Rice Institute; J. L. Dorroh, University of Texas; G. C. Evans, Rice Institute; H. J. Ettlinger, University of Texas; F. W. Sparks, Texas Technological College; L. W. Blau, University of Texas and C. R. Sherer, Texas Christian University.

Seven of the talks were on mathematics or applications of mathematics and three were pedagogical in nature. The talk by F. W. Sparks, Chairman of the Committee on Requirements for High School Mathematics Teachers, was a report from that committee. The committee presented the following resolutions:

(1) That prospective teachers of high school mathematics be urged to take a minimum of three years of college mathematics.

(2) That the State Board of Education be requested to place one-half year of algebra in the curriculum of the fourth year of the high school.

(3) That the general aim of the reorganization of high school mathematics courses be to conform with the recommendations of the College Entrance Examination Board and of the National Committee on Mathematical Requirements.

(4) That the teachers colleges be requested to provide not only for better mathematical equipment of prospective teachers of mathematics but also for competent instruction in methods of teaching mathematics. [M36; 464-465]



Left to Right: W. T. Reid, Lucille E. Whyburn, J. M. Roberts, G. T. Whyburn, C. M. Cleveland, R. L. Moore, N. E. Rutt, R. G. Lubben, and J. L. Dorroh. ca. 1927-28. Photo from the R. G. Lubben Papers, Math Archives The Center for American History, The University of Texas at Austin

After comments by G. C. Evans, H. J. Ettlinger and P. H. Underwood, the Section unanimously adopted the second resolution. The committee was requested to continue studying these issues.
In his report in the MONTHLY, Professor Ettlinger mentioned that G. T. Whyburn was re-elected chairman for a period of two years, but there was no mention of the election of a vice-chairman.

1930 There was no meeting of the Texas Section for 1930 reported in the MONTHLY.

1931 The 1931 annual meeting of the Texas Section was held in Fort Worth at Texas Christian University on January 31. [M38; 366-368] Approximately sixty were in attendance, including the following thirty-one members of the Association:

B. T. Adams, L. M. Blumenthal, H. E. Bray, Myrtle C. Brown, J. W. Cell, Savannah L. Cross, Alice C. Dean, Bertha K. Duncan, Nat Edmonson, Jr., H. J. Ettlinger, G. C. Evans, G. W. Evans, C. E. Ferguson, L. R. Ford, C. A. Gilley, J W. Harrell, Deborah M. Hickey, C. M. Howard, E. O. Lovett, A. A. McSweeny, C. A. Murray, Lela Oxsheer, J. E. Redden, P. K. Rees, W. A. Rees, B. P. Reinsch, C. R. Sherer, F. W. Sparks, Elizabeth T. Stafford, Jennie Tate, R. S. Underwood.

During the morning session, papers of a purely mathematical nature were presented, while during the afternoon session, papers dealing with the problems of teaching mathematics were given and discussed. The morning session was presided over by Professor L. R. Ford, who also presided over the afternoon session until after the election of officers. There was no mention of why G. T. Whyburn did not preside.

Papers were presented in the morning session by: R. S. Underwood, Texas Technological College; E. F. Beckenbach of Rice Institute (by invitation); Dr. Elizabeth T. Stafford, Texas Technological College; Dr. L. M. Blumenthal, Rice Institute; H. E. Bray, Rice Institute; and H. J. Ettlinger, The University of Texas.

Papers presented in the afternoon session were by: W. J. Miller, Dean of Engineering, Texas Technological College, by invitation; C. R. Sherer, Texas Christian University; H. F. Alves of the Texas State Department of Education; and a report by the Committee on Requirements for High School Mathematics Teachers. The committee presented "recommendations relative to the mathematics curriculum in the secondary schools and to the preparation of teachers of mathematics in secondary schools." [M38; 368] The following officers were elected: Chairman for one year, Professor H. E. Bray of Rice Institute; Vice-Chairman for one year, C. R. Sherer of Texas Christian University; and Secretary-Treasurer for five years, Nat Edmonson, Jr., of Texas A&M College.

1932 The 1932 meeting of the Texas Section was held in Waggener Hall of the University of Texas in Austin, on Saturday, January 30, 1932. [M39; 318-320] The attendance was forty-four, including the following twenty-seven members of the Association:



Left to Right: C. W. Vickery, R. E. Bayse, R. L. Moore, E. C. Klipple, R. G. Lubben, and F. B. Jones. ca. 1931. Photo from the R. G. Lubben Papers, Math Archives The Center for American History, The University of Texas at Austin

W. N. Barnes, P. M. Batchelder, L. W. Blau, A.

A. Blumberg, L. M. Blumenthal, H. E. Bray, J. E. Burnam, E. L. Dodd, Nat Edmonson, Jr., H. J. Ettlinger, G. C. Evans, G. W. Evans, A. E. Finlay, L. R. Ford, C. A. Gilley, H. H. Halperin, J. W. Harrell, Goldie P. Horton, R. G. Lubben, R. L. Moore, C. A. Murray, Brother Norbert, P. K. Rees, W. A. Rees, B. P. Reinsch, C. R. Sherer, F. W. Sparks.

Only six papers were presented. The presenters were: L. R. Ford, Rice Institute; M. B. Porter, University of Texas (by invitation); Dr. C. H. Dix, Rice Institute (by invitation); Dr. W. M. Rust, Rice Institute (by invitation); E. L. Dodd, University of Texas; and G. W. Evans.

At the business meeting the Section elected the following officers for the coming year: Chairman, C. R. Sherer of Texas Christian University, and Vice-Chairman, W. A. Rees of the Houston Junior College. That evening, a dinner, compliments of the University of Texas, was given for members of the Texas Section and their guests. Dr. H. Y. Benedict, President of the University (and formerly in the Mathematics Department), was the principal speaker at the dinner. **1933** . The next annual meeting of the Texas Section was held at Southern Methodist University in Dallas, Saturday, February 11th, 1933. [M40; 379-382] Those attending this meeting numbered ninety-seven, among whom were the following fourteen members of the Association:

L. W. Blau, L. M. Blumenthal, H. E. Bray, J. E. Burnam, Alice C. Dean, Nat Edmonson, Jr., G. C. Evans, L. R. Ford, C. M. Howard, E. H. Jones, P. K. Rees, W. A. Rees, B. P. Reinsch, C. R. Sherer.



E. L. Dodd & Charles W. Vickery University of Texas Photo from the R. G. Lubben Papers, Math Archives The Center for American History, The University of Texas at Austin

Again, only six papers and one after dinner address were presented. The papers were by: Dr. L. W. Blau, Director of Geophysical Research, Humble Oil and Refining Company; L. R. Ford, Rice Institute; Lonnie Langston, Texas Technological College (by invitation); G. A. Garrett, Rice Institute (by invitation); B. P. Reinsch, Southern Methodist University; and C. R. Sherer, Texas Christian University.

At the banquet, Professor J. M. Bledsoe of the East Texas

State Teachers College gave, by invitation, a paper entitled "The Outlook of Mathematics in Secondary Education." Professor Bledsoe reached the conclusion that "secondary school authorities are steadily tending to minimize the importance of mathematics in the secondary school curriculum in Texas. The quantity of mathematics required is becoming less and less, while the quality of the teaching deteriorates. The result is that the college mathematics staffs of the state are facing a problem which is becoming more severe." [M40; 379]

The Texas Section was attempting to establish greater contact with the teachers of mathematics in the secondary schools of Texas. In that effort, a large number of such teachers had been encouraged to attend the meeting.

As a part of his talk, Professor Sherer disclosed some interesting statistics. A study of failures in freshman mathematics for the State of Texas during the years 1925-26, 1927-28, 1928-29, and 1929-30 had shown that 26.2 per cent of those students who went directly from high school to college were unable to earn a passing grade in their first attempt to pass freshman mathematics. In 1929-30, 41.6 per cent either failed or barely passed.

Professor Sherer referred to a report by J. Seidlin in the December 1932, issue of the MATHEMATICS TEACHER on the opinion held by college teachers of mathematics and science that "secondary schools produce graduates with the following general characteristics:

- (1) Worn out or weary of mathematics,
- (2) No inspiration for individual investigation,
- (3) No appreciation of accuracy,
- (4) Not able to place a decimal point in its proper place,
- (5) Direct and inverse proportions are meaningless." [M40; 382]

There was no mention in the MONTHLY report by the Section Secretary-Treasurer, Nat Edmonson, Jr., of an election of officers at the 1933 meeting.

1934 The annual meeting of the Texas Section of the Mathematical Association of America was held at Texas A&M College on May 5, 1934. [M41; 540-543] Among the forty-seven people attending the meeting were the following seventeen members of the Association:

P. M. Batchelder, J. H. Binney, A. A. Blumberg, H. E. Bray, Myrtle C. Brown, Alice C. Dean, Mary E. Decherd, C. H. Dix, Nat Edmonson, G. C. Evans, L. R. Ford, A. W. Randall, P. K. Rees, W. A. Rees, C. R. Sherer, Laura N. Turner, and C. L. Wilson. Those attending the meeting were guests of A. and M. College at a luncheon served in the banquet room of the college dining hall.

A total of eight papers were presented by the following individuals: E. F. Beckenbach, Rice Institute (by invitation); J. H. Hahn, Rice Institute (by invitation); P. M. Batchelder, University of Texas; Dr. C. H. Dix, Rice Institute; Hillel Halperin, Texas A&M College (by invitation); J. H. Binney, Texas A&M College; C. R. Sherer, Texas Christian University; and Mary E. Decherd, University of Texas. The paper by Sherer addressed the courses which an undergraduate should have in preparation for graduate study in mathematics. Miss Decherd continued to stress the "poor preparation of their students, due in some measure to lack of thorough scholarship on the part of teachers in the lower schools," but she also identified one of the possible reasons for the situation to be that "the college professor often shirks responsibility for active participation in solution of problems of lower schools." [M41; 543]

W. L. Porter of Texas A&M College and F. W. Sparks of the Texas Technological College were elected Chairman and Vice-Chairman, respectively, for the coming academic year. A committee was appointed to formulate plans for a mathematics prize contest in the secondary schools of the state.

A new standard to be used by mathematics departments of Texas colleges represented in the Texas Section when recommending prospective teachers of secondary school mathematics was proposed. "This standard requires that such prospective teachers must take at least thirty semester hours of pure and applied mathematics, eighteen hours of which must be above sophomore grade, before departmental recommendation can be obtained."

A vote of appreciation was extended to Professor G. C. Evans of Rice Institute for his contributions to the Section in past years. Professor Evans was planning to join the staff of the University of California in Berkeley at the end of the academic year.

1935 The annual meeting of the Texas Section of the Mathematical Association of America was held at Texas Technological College, Lubbock, Texas, on April 20, 1935, meeting jointly with the Texas Section of the Society for the Promotion of Engineering Education (S.P.E.E.). [M43; 6-9] It was attended by forty persons including the following twenty-two members of the Association:

J. H. Binney, E. O. Box, H. E. Bray, J. E. Burnam, Nat Edmonson, Jr., E. L. Harp, Jr., J. A. Hurry, Roy MacKay, Lida B. May, J. N. Michie, E. D. Mouzon, Jr., C. A. Murray, W. L. Porter, P. K. Rees, C. R. Sherer, F. W. Sparks, Ruth W. Stokes, Jennie L. Tate, E. L. Thompson, F. E. Ulrich, R. S. Underwood, C. N. Wunder. At the business session the following officers were elected for 1935-36: Chairman, F. W. Sparks, Texas Technological College; and Vice-Chairman, L. R. Ford, Rice Institute. It was voted to make the office of Secretary-Treasurer a permanent one, with Nat Edmonson, Jr., Texas A&M College, continuing in the office. It was also voted to hold the 1936 meeting of the Section at the A. and M. College, College Station, in conjunction with the meeting of the Texas Section of the S.P.E.E.

A total of thirteen papers was presented by the following: O. H. Hamilton, San Antonio Junior College, introduced by Professor Sparks; F. W. Sparks, Texas Technological College; H. E. Bray, Rice Institute; E. R. Heineman, Texas Technological College, introduced by Professor Porter; Ruth W. Stokes, North Texas State Teachers College; W. L. Scott, Rice Institute, introduced by Professor Bray; R. S. Underwood, Texas Technological College; F. E. Ulrich, Rice Institute; P. K. Rees, Texas Technological College; R. Q. Seale, Southern Methodist University, introduced by Professor Mouzon; Hillel Halperin, Texas A&M College; J. T. Hurt, Rice Institute, introduced by Professor Bray; and E. O. Box, East Texas State Teachers College.

1936 The annual meeting of the Texas Section was held at the Texas A&M College on April 11, 1936. Chairman F. W. Sparks of Texas Technological College presided over all sessions. [M43; 454-455]

The forty-one persons attending the meeting included the following twenty-three members of the Association:

J. H. Binney, L. W. Blau, A. A. Blumberg, E. O. Box, H. E. Bray, Alice C. Dean, Nat Edmonson, Jr., H. J. Ettlinger, L. R. Ford, E. H. Hanson, C. M. Howard, E. C. Kennedy, A. A. McSweeny, E. D. Mouzon, Jr., W. L. Porter, J. W. Querry, J. E. Redden, W. A. Rees, O. M. Rogers, H. C. Searcy, C. R. Sherer, F. W. Sparks, F. E. Ulrich.

For the second year, the Texas Section met jointly with the Texas Section of the Society for the Promotion of Engineering Education to hear and discuss a paper read by Dr. L. W. Blau of the Humble Oil and Refining Company on the mathematics training of engineering students. A discussion of this paper was led by H. E. Bray of Rice Institute. The following officers were elected for 1936-37: Chairman, L. R. Ford, Rice Institute; Vice-Chairman, J. H. Binney, Texas A&M College.

Papers were presented by the following seven individuals: Dr. L. J. Lacoste, University of Texas, introduced by Professor Ettlinger; J. H. Hahn, Rice Institute, introduced by Professor Bray; Dr. L. W. Blau, Director of Geophysical Research, Humble Oil and Refining Company; J. O. Mayhugh, University of Texas, introduced by Professor Ettlinger; J. W. Green, Rice Institute introduced by Professor Bray; G. B. Huff, Southern Methodist University, introduced by Professor Bray.

1937 The annual meeting of the Texas Section was held at Rice Institute on Friday and Saturday, April 23-24, 1937. [M44; 492-495] Section Chairman L. R. Ford of Rice Institute presided at all sessions. The attendance was thirty-seven, including the following twenty-members of the Association:

E. F. Beckenbach, J. H. Binney, L. W. Blau, H. E. Bray, Myrtle C. Brown, H. E. Buchanan, J. E. Burnam, Alice C. Dean, Nat Edmonson, Jr., H. J. Ettlinger, L. R. Ford, E. H. Hanson, J. A. Hurry, E. C. Kennedy, J. N. Michie, R. L. Moore, M. E. Mullings, J. W. Querry, W. A. Rees, C. R. Sherer, F. E. Ulrich, H. S. Vandiver.

Attendees at the meeting were the guests of Rice Institute at a dinner Friday evening and at a luncheon on Saturday. A total of nine papers were presented by the following: H. E. Bray, Rice Institute; Dr. J. T. Hurt, Texas A&M College, introduced by Professor Ford; H. S. Vandiver, University of Texas; H. E. Buchanan, Tulane University; R. L. Moore, University of Texas; E. F. Beckenbach, Rice Institute; W. C. Mitchell, Texas A&M College, introduced by Professor Edmonson; E. C. Kennedy, Rice Institute; and J. N. Michie, Texas Technological College.

The officers elected for 1937-38 were: Chairman, J. H. Binney of Texas A&M College, and Vice-Chairman, H. J. Ettlinger of the University of Texas.

1938 The annual meeting of the Texas Section was held at Texas Christian University, Fort Worth, on Friday

and Saturday, April 22-23, 1938. The meeting was presided over by Chairman J. H. Binney of Texas A&M College. [M45; 565-567]

The members of the "Parabola" club assisted Professor Sherer with local arrangements. Among the seventy-two persons attending the meeting were the following twenty-three members of the Association: E. F. Beckenbach, J. H. Binney, A. A. Blumberg, H. E. Bray, Myrtle C. Brown, J. E. Burnam, J. G. Chaney, E. L. Dodd, Nat Edmonson, Jr., H. J. Ettlinger, E. H. Hanson, C. M. Howard, A. J. Kempner, H. A. Luther, B. C. Moore, E. D. Mouzon, Jr., M. E. Mullings, G. A. Newton, Maxwell Reade, Ethel A. Rice, C. R. Sherer, Jennie L. Tate, E. V. White.

At the business session the following officers were elected for 1938-39: Chairman, H. J. Ettlinger, University of Texas; and Vice-Chairman, E. D. Mouzon, Jr., Southern Methodist University.

Eleven talks were presented: A. J. Kempner, University of Colorado; Walter Leighton, Rice Institute, introduced by Professor Bray; H. A. Luther, Texas A&M College; E. L. Dodd, University of Texas; Maxwell Reade, Rice Institute; A. A. Blumberg, Texas A&M College; J. P. Nash, Rice Institute, introduced by Professor Bray; J. G. Chaney, Texas A&M College; Bee Grissom, Austin High School, introduced by Professor Ettlinger; H. J. Ettlinger, University of Texas; and A. J. Kempner, University of Colorado.

1939 The annual meeting of the Texas Section of the Mathematical Association of America was held in Abilene on Friday afternoon, March 31, and Saturday morning, April 1, 1939. Abilene Christian College, Hardin-Simmons University, and McMurry College jointly hosted the meeting. The Section chairman, H. J. Ettlinger, presided at both sessions. Those attending the meeting were guests of the host schools at a dinner on Friday evening. [M46; 321-323]

Among the fifty-two people attending the meeting were the following nineteen members of the Association:

H. E. Bray, J. E. Burnam, Nat Edmonson, Jr., H. J. Ettlinger, C. A. Gilley, E. H. Hanson, E. R. Heineman, G. B. Huff, H. A. Luther, B. C. Moore, E. D. Mouzon, Jr., M. E. Mullings, C. A. Murray, C. R. Sherer,

F. W. Sparks, Jennie L. Tate, Earl Thomas, F. E. Ulrich, H. E. Woodward.

A total of nine papers was presented by: F. E. Ulrich, Rice Institute; Walter Jennings, Texas A&M College, introduced by Professor Edmonson; E. R. Heineman, Texas Technological College; Robert Greenwood, University of Texas, introduced by Professor Ettlinger; C. P. Brady, Texas Technological College, introduced by Professor Sparks; H. J. Ettlinger, University of Texas; Wilfred Kaplan, Rice Institute, introduced by the Secretary; J. T. Hurt, Texas A&M College, introduced by Professor Edmonson; and C. A. Murray, West Texas State Teachers College.

At the business session the following officers were elected for the coming year: Chairman, E. D. Mouzon, Jr., Southern Methodist University; Vice-Chairman, J. E. Burnam, Hardin-Simmons University. The 1940 meeting was awarded to Southern Methodist University, Dallas, Texas. Setting the date for the 1940 meeting was left to the Section officers.

Other activities during 1939

H. S. Vandiver and A. A. Bennett, both from the University of Texas, published articles in the MONTHLY: "Some Simple Types of Semirings" by Vandiver [M46; 22-26] and "The College Teacher of Mathematics Looks at Teacher Training" by Bennett. [M46; 213-224] Bennett also published the textbook ARITHMETIC with P. B. Fisher.

L. F. Ollman, Texas Technological College, and J. W. Querry, Sam Houston State Teachers College, attended the twenty-second summer meeting at the University of Wisconsin.

H. E. Bray, Rice Institute and R. G. Lubben and R. L. Moore, University of Texas attended the twenty-third annual meeting of the Association with the AMS in Richmond and Williamsburg, Virginia, at which R. L. Moore delivered his retiring AMS presidential address. A. A. Bennett was elected to the Board of Trustees of the Association.

Dr. E. L. Dodd of the University of Texas was selected as Research Professor for 1939-40. Each year, one professor at the University of Texas was chosen to hold this position and was granted a reduced teaching load. At Texas Technological College, Associate Professor E. L. Thompson was promoted to Professor, Assistant Professor E. R. Heineman was promoted to Associate Professor, and L. F. Ollman and R. K. Wakerly were named Instructors. Also, E. A. Hazlewood, formerly of the State Teachers College, Mansfield, Pennsylvania, was appointed as an assistant professor at Tech.

Elsewhere, P. K. Rees of New Mexico State College was appointed to an assistant professorship at Southern Methodist University, and Associate Professor H. E. Bray at Rice Institute was promoted to professor.

The Association began electing governors that year, and A. A. Bennett of the University of Texas was elected as a governor-at-large.

1940 The annual meeting of the Texas Section of the Mathematical Association of America was held at Southern Methodist University in Dallas on Friday afternoon, March 29, and Saturday morning, March 30, 1940. [M47; 418-421]

The following six individuals presented talks on mathematics: G. B. Huff, Southern Methodist University; E. F. Beckenbach, Rice Institute; P. K. Rees, Southern Methodist University; Maxwell Reade, Rice Institute; H. J. Ettlinger, University of Texas; and J. P. Nash, Rice Institute, introduced by Dr. Beckenbach.

The following five individuals presented talks on problems concerning the teaching of mathematics: C. A. Murray, West Texas State Teachers College; C. R. Sherer, Texas Christian University; Dr. E. H. Hereford, State Department of Education, introduced by Professor Ettlinger; Hob Gray, University of Texas, introduced by Professor Ettlinger; and Elizabeth Dice, North Dallas High School, introduced by Professor Ettlinger.

Among the fifty people attending the meeting were the following twenty members of the Association: E. F. Beckenbach, J. H. Binney, Myrtle C. Brown, J. E. Burnam, Nat Edmonson, Jr., H. J. Ettlinger, E. H. Hanson, G. B. Huff, H. A. Luther, E. D. Mouzon, Jr., C. A. Murray, G. A. Newton, W. L. Porter, Maxwell Reade, P. K. Rees, W. A. Rees, C. R. Sherer, F. W. Sparks, Jennie L. Tate, and Earl Thomas. During the business session, Professor J. E. Burnam of Hardin-Simmons University and Dr. E. F. Beckenbach of Rice Institute were elected, respectively, Chairman and Vice-Chairman for the 1941 meeting. Those present voted to accept the invitation of the North Texas State Teachers College to hold the 1941 meeting at that institution.

Other activities during 1940

R. E. Greenwood, an instructor at the University of Texas, was elected to membership in the MAA and published an article, "On the Discovery of Certain Trigonometric Identities," in the MONTHLY. [M47; 99-100]

E. F. Beckenbach of Rice Institute, who was elected Vice-Chairman, presented the paper "Space Analogues Of Function-Theoretic Results" at the national meeting in Columbus, Ohio. He also accepted an appointment as an assistant professor at the University of Michigan.

H. S. Vandiver of the University of Texas was on leave-of-absence during the fall semester. Also at the University of Texas, Assistant Professor H. V. Craig was promoted to associate professor; and J. R. Foote, H. J. Jones, A. M. Mood and I. C. Roberts were appointed to instructorships.

Some other Instructors appointed around the state included G. A. Whetstone at Amarillo College, D. W. Starr at Southern Methodist University, G. L. Gross at Texas A&M College, and P. W. Gilbert and F. D. Rigby at Texas Technological College.

Other promotions included J. T. Hurt at Texas A&M College; he was promoted to assistant professor.

Of the 575 junior colleges in the nation in 1940, Texas had 40, or 7% of them, and the state enrolled 12,804 students for 6.5% of the nation's enrollment in junior colleges.

Texas was placed into Region 11 along with Oklahoma for the purpose of electing regional governors to the Board of Governors of the Association.

1941 The annual meeting of the Texas Section was held at the North Texas State Teachers College on Friday afternoon, April 4, and Saturday morning, April 5, 1941. W. D. Cairns, the national secretary of the Association was a guest at the meeting. [M48; 497-498]

Among the fifty-two people attending the meeting were the following twenty-five members of the Association:

B. T. Adams, J. D. Bankier, A. A. Blumberg, H. E. Bray, Myrtle C. Brown, W. D. Cairns, J. V. Cooke, Alice C. Dean, Nat Edmonson, Jr., H. J. Ettlinger, E. H. Hanson, E. A. Hazlewood, G. B. Huff, B. C. Moore, E. D. Mouzon, Jr., M. E. Mullings, C. A. Murray, W. L. Porter, P. K. Rees, W. A. Rees, C. R. Sherer, F. W. Sparks, F. E. Ulrich, R. S. Underwood, C. T. York.

Nine presentations were made: S. Mandelbrojt, Rice Institute, introduced by Professor Bray; F. E. Ulrich, Rice Institute; H. J. Ettlinger, University of Texas; A. A. Blumberg, Texas A&M College; F. B. Jones, University of Texas, introduced by Professor Ettlinger; Miss

Harlan C. Miller, University of Texas, introduced by Professor Ettlinger; George Piranian, Rice Institute, introduced by Professor Bray; J. D. Bankier, Rice Institute; and C. A. Murray. Professor Murray reported on the work of a committee which was appointed to study the reasons for the excessive number of failures in mathematics among college students.

During the business session on Friday afternoon, E. H. Hanson of North Texas State Teachers College and R. S. Underwood of Texas Technological College were elected, respectively, Chairman



Left to Right: F. Burton Jones and R. G. Lubben University of Texas Photo from the R. G. Lubben Papers, Math Archives The Center for American History, The University of Texas at Austin

and Vice-Chairman for the 1942 meeting. Nat Edmonson, Jr., continued as Secretary-Treasurer. Those present voted to accept the invitation of Texas Technological College to hold the 1942 meeting at that institution.

Other activities during 1941

H. J. Ettlinger of the University of Texas was elected Governor of Region 11 (Texas and Oklahoma) for two years at the annual meeting of the Association, meeting in Baton Rouge, Louisiana. Members of the Texas Section attending the Twenty-Fifth Annual Meeting of the Association included: J. D. Bankier and H. E. Bray, Rice Institute; J. E. Burnam, Hardin-Simmons University; H. J. Ettlinger, R. E. Greenwood and R. G. Lubben, University of Texas; E. H. Hanson, North Texas State Teachers College; C. M. Howard, North Texas Agricultural College; E. C. Kennedy, Texas College of Arts and Industries; Sister Presentation McNelly, Our Lady of the Lake College; and R. K. Wakerling, Texas Technological College.

The Twenty-Fourth Summer Meeting of the Association was attended by the following members of the Texas Section: R. E. Basye, Texas A&M College; H. E. Bray, Rice Institute; Myrtle C. Brown and E. H. Hanson; North Texas State Teachers College; H. J. Ettlinger, R. L. Moore and R. G. Lubben, University of Texas; and J. N. Michie, Texas Technological College.

North Texas State Teachers College was granted Institutional Membership in the Mathematical Association of America.

The Kappa Mu Epsilon society team at Southern Methodist University won permanent possession of the Southern Intercollegiate Mathematics Association Cup. Its team was composed of Lennie Vernon, Guy Redmon, Kenneth Cole, Charles Meuhlenweg, Jane Taylor, Roland Porth, Merle Mitchell and Julia Smith. Officers of the chapter were: President, Julia Smith; Vice President, Paul Minton; Secretary-Treasurer, Marguerite Summers; and Corresponding Secretary, Dr. P. K. Rees.

1942 The Texas Section was scheduled to meet April 3-4, 1942, at Texas Technological College, but the meeting was canceled because of travel restrictions imposed by World War II. Not all sections suspended meetings during the war. Some smaller states in which distances required for traveling to meetings is much smaller continued to meet; and, with the exception of one annual meeting in 1943 and one summer meeting, in 1945, the Mathematical Asso-

ciation of America continued to meet throughout the war. Apparently, no one from Texas attended the Twenty-Sixth Annual Meeting of the Association, but R. E. Greenwood attended the Twenty-Fifth Summer Meeting in September of 1942. The annual meeting of the Association scheduled for December 30-31, 1942 in New York, N. Y., was canceled because of travel restrictions.

Nineteen sections reported meetings in 1942. Among them, the Southwestern Section of the Association met at New Mexico State College on April 27-28, 1942, and elected E. A. Hazlewood, Texas Technological College, Chairman of that Section.

It was reported in the MONTHLY that Associate Professor E. C. Kennedy of the Texas College of Arts and Industries had become a 1st Lieutenant in the Army Air Corps and that Dr. J. A. Daum of Texas A&M College was on active duty as a 2nd Lieutenant in the U. S. Army.

Publication of the MONTHLY continued uninterrupted during the war, with Howard Eves at Allen Academy in Bryan solving several problems in the "Problems and Solutions" section.

In Texas, Fred Assadourian of New York University and D. L. Webb of the Georgia School of Technology were appointed assistant professors at Texas Technological College; Assistant Professor E. A. Hazlewood was promoted to Associate Professor there; and R. K. Wakerling left Texas Technological College to become an assistant professor at Fresno State College.

Also, Dr. H. L. Olson was appointed Assistant Professor at Southwestern University in Georgetown and H. C. Parrish, who held a Master of Science degree from North Texas State Teachers College and who was a teaching assistant at Ohio State University, was elected to membership in the Association. Parrish was later to serve as Chairman of the Texas Section.

H. J. Ettlinger of the University of Texas and Governor from Region 11 represented the Mathematical Association of America at the inauguration of President J. N. R. Score at Southwestern University on October 6, 1942.

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1943 Fourteen sections of the Association reported meetings in 1943, but the Texas Section was not one of them.

R. D. Anderson of the University of Texas attended the Twenty-Sixth Summer Meeting at the New Jersey College for Women and Rutgers University. Only nine Board Members, including only two regional governors, attended this meeting. H. J. Ettlinger of the University of Texas attended the Twenty-Seventh Annual Meeting in Chicago.

H. E. Bray of Rice Institute was elected to serve a two-year term as Governor, representing Region 11, and H. D. Brunk, a Fellow at Rice Institute, and George Piranian, an Instructor at Rice, were elected to membership in the Association.

Only seven sections of the Association reported meetings in 1943; the Texas Section was not one of them.

1944 H. S. Vandiver of the University of Texas attended the Twenty-Seventh Summer Meeting at Wellesley College in Wellesley, Massachusetts; and W. M. Whyburn of Texas Technological College attended the Twenty-Eighth Annual Meeting of the Association, meeting in Chicago.

W. E. Beeman, North Texas State Teachers College, and J. V. Pennington, a Ph.D. graduate of Rice Institute and Vice President of Reed Roller Bit Company in Houston, were elected to membership in the Association.

H. V. Craig, University of Texas, published "A Vectorial Development of Two Differentiation Formulas" in the MONTHLY. E. L. Dodd, also of the University of Texas, died in 1944.

1945 Nine sections of the Association, again not including the Texas Section, reported having meetings in 1945. Three members of the Texas Section, H. J. Ettlinger and G. B. Huff, both of the University of Texas, and W. M. Whyburn of Texas Technological College, attended the Twenty-Ninth Annual Meeting in Chicago.

Among the individuals elected to membership in the Association were the following: T. D. Howe, Jr., T. D. Howe Construction Company, Houston; Albert Newhouse, Rice Institute; E. J. Stulken, Geophysical Services, Inc., Dallas; Mrs. Edith L. Morgan, Texas Christian University; Walter Leighton, Rice Institute, and H. E. Woodward, Texas Technological College.

Associate Professor R. M. Pinkerton, Texas A&M College, was promoted to Professor of Mathematics and named Head of the Department. Associate Professor E. F. Beckenbach, of the University of Texas, was named Associate Professor at the University of California at Los Angeles.

R. S. Underwood of Texas Technological College published an article in the MONTHLY, "An Analytical Geometry for N-Variables" [M52; 253-262]; and H. V. Craig of the University of Texas published a note in the MONTHLY, "A Matter of Motivation: A note on vector analysis." [M52; 82] Also, C. A. Murray of West Texas State College, had a problem published in the "Problems and Solutions" section of the MONTHLY.

The Kappa Mu Epsilon chapter at Texas Technological College reported having fiftyeight active members.

The Association voted to abolish Institutional Member-ships.

The end of the first twentyfive years of the Texas Section came near the end of WW II. Mathematicians from Texas contributed to the war effort in a variety of ways. Some contributed by becoming a part of our armed services, sometimes to be involved directly in combat and sometimes to provide the type of technical expertise that only a



H. J. Ettlinger Accepting award for 10 years as Chairman of USO Photo from the H. J. Ettlinger Papers, Math Archives The Center for American History, The University of Texas at Austin

mathematician can provide: expertise in ordinance and ballistics, in communications and cryptography, in electronics design and other engineering design, and in numerous other ways. H. J. Ettlinger of the University of Texas, served ten years as chairman of the USO. It is unfortunate that we do not have a complete list of Texas mathematicians who contributed to the successful completion of the war.

One of the sacrifices Texas mathematicians made was the suspension of annual meetings of the Section. On the other hand, the suspension of meetings did not mean the end of doing mathematics in Texas. Some contributed by continuing to teach and to train young mathematicians for the future for which we sacrificed.

A. A. Blumberg of Texas A&M College died on October 21, 1945.

2. THE SECOND TWENTY-FIVE YEARS

1946 A special meeting of the Texas Section of the Mathematical Association of America was held at Texas Christian University, Fort Worth, Texas, on Friday and Saturday, December 6-7, 1946, the first meeting since April 4-5, 1941. Vice-Chairman R. S. Underwood, who was elected at the 1941 meeting, presided. The Secretary-Treasurer, Nat Edmonson, Jr., was no longer in the Texas Section, so C. R. Sherer, Texas Christian University, was named Acting-Secretary. It was decided that the other officers elected in 1941 should continue until the Annual Meeting in the Spring of 1946. It was also decided that the meeting would be held at Texas Technological College, where the 1942 meeting had been scheduled. [M55; 274-275]

An informal dinner was held at the Worth Hotel Friday night at which W. M. Whyburn, President of Texas Technological College, addressed those present on "The Role of Mathematics in the Post World War II Educational Programs." Other presentations at the meeting included papers by: R. S. Underwood, Texas Technological College; C. W. Horton, Defense Research Laboratory Staff, University of Texas, introduced by H. J. Ettlinger; H. J. Ettlinger, University of Texas; F. E. Ulrich, Rice Institute; H. E. Bray, Rice Institute; R. E. Greenwood, University of Texas; R. E. Langer, University of Texas (an extended

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address delivered at the invitation of the Section); and a round-table discussion of teaching problems in mathematics by Elizabeth Dice, North Dallas High School; Mabel Williams, Tyler Junior College; and W. L. Porter of Texas A&M College, all introduced by the Secretary.

The following twenty-one members of the Association were present: H. E. Bray, H. F. Bright, Myrtle Brown, J. E. Burnam, J. V. Cooke, Alice Dean, Elizabeth Davis, H. J. Ettlinger, R. E. Greenwood, E. R. Heineman, J. F. Howard, Harlan Miller, J. W. Querry, W. A. Rees, D. W. Starr, E. J. Stulken, F. E. Ulrich, R. S. Underwood, W. M. Whyburn, Mabel Williams, H. E. Woodward.

Other activities during 1946

R. E. Greenwood and A. M. Gleason, U. S. Naval Reserve, Washington, D.C., published an article, "Binomial Identities," in the MONTHLY [M53; 24-27]; and H. S. Vandiver published one, "Fermat's Last Theorem, Its History and the Nature of the Known Results Concerning It," also in the MONTHLY. [M53; 555-578]

F. E. Ulrich of Rice Institute attended the Twenty-Eighth Summer Meeting of the Association at Cornell University. Three members of the Texas Section, E. E. Moise of the University of Texas, E. D. Mouzon, Jr., of Southern Methodist University, and W. M. Whyburn of Texas Technological College attended the Thirtieth Annual Meeting of the Association at Swarthmore College, Swarthmore, Pennsylvania.

New members of the Association from Texas included R. H. Bing of the University of Texas and Dorothy L. Rees of Trinity University.

Among the promotions around the state were the following: R. H. Bing and R. E. Greenwood of the University of Texas, W. S. McCulley of Texas A&M College, and Albert Newhouse of the University of Houston were all promoted to Assistant Professors; and Associate Professor C. B. Wright of East Texas State Teachers College who was promoted to Professor.

Among the appointments to positions in Texas were the following: R. E. Basye, W. E. Beeman, J. A. Daum, and N. W. Wells were appointed Instructors at Texas A&M College, H. D. Brunk was appointed an Instructor at Rice Institute, and Associate Professor Josephine M. Mitchell of Winthrop College was appointed Associate Professor at the Texas State College for Women.

Moving from teaching positions in Texas were Walter Leighton of Rice Institute, who was appointed a Professor at Washington University; D. L. Webb of Texas Technological College, who was appointed an Assistant Professor at the University of Arizona; E. C. Kennedy of the Texas College of Arts and Industries, who was appointed a Research Engineer with Consolidated Vultee Aircraft Corporation in Daingerfield; and W. I. Layton of Amarillo College, who was appointed Professor of Mathematics and Head of the Department at Austin Peay State College in Clarksville, Tennessee. Layton would soon return to Texas and eventually serve the Texas Section as Chairman.

1947 The annual meeting of the Texas Section of the Mathematical Association of America was held at the Texas Technological College on Friday and Saturday, April 25-26, 1947. Professor E. H. Hanson, Chairman of the Section, presided. An informal dinner was held at the Hilton Hotel on Friday evening, after which an address was given by Professor H. J. Ettlinger. [M55; 275-276]

Talks were presented by the following: F. E. Ulrich, Rice Institute; H. D. Brunk, Rice Institute; R. S. Underwood, Texas Technological College; H. E. Bray, Rice Institute; and H. S. Wall, University of Texas. Wall's talk was an invited address of an hour's duration. A "roundtable discussion on examination papers" was led by E. R. Heineman, Texas Technological College, and C. R. Sherer, Texas Christian University.

The following members of the Association were present: Ina Mae Bramblett, H. E. Bray, Myrtle Brown, H. D. Brunk, J. E. Burnam, J. V. Cooke, H. J. Ettlinger, E. H. Hanson, E. R. Heineman, P. E. Lerret, J. N. Michie, Elva Miller, Harlan Miller, C. R. Sherer, F. W. Sparks, F. E. Ulrich, R. S. Underwood, H. S. Wall, G. T. Whyburn.

At the business meeting the following officers were elected for the next year: Chairman, R. S. Underwood, Texas Technological College; Vice-Chairman, F. E. Ulrich, Rice Institute; and Secretary-Treasurer, C. R. Sherer, Texas Christian University.

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Other activities during 1947

The Association revised its Bylaws to provide for election of Governors by Sections instead of Regions, and H. E. Bray was elected by the Texas Section for a three-year term, July 1, 1947-June 30, 1950.

Apparently no one from the Texas Section attended the Twenty-Ninth Summer Meeting of the Association. There was no Annual Meeting of the Association between December 27, 1946, and January 1, 1948.

Texas Christian University and Texas State College for Women received charters for chapter membership in Kappa Mu Epsilon.

New members of the Association from Texas included: W. T. Guy, Jr., University of Texas; W. B. Temple, Texas A&M College (on leave as an instructor at the University of Texas); G. R. Vick and H. M. Hardy, Sam Houston State Teachers College; J. W. Calkin, H. E. Taylor and T. J. White, Rice Institute; Don Cude, Southwest Texas State Teachers College; J. W. Dobbins, student at St. Mary's University; and Harlan C. Miller, Texas State College for Women.

1948 The annual meeting of the Texas Section of the Mathematical Association of America was held at Rice Institute, April 23-24, 1948. Professor R. S. Underwood, Chairman of the Section, presided. An informal dinner was held at Rice Institute on the evening of April 23. Dr. H. A. Wilson, Professor Emeritus of Physics at Rice Institute, gave an after dinner address. [M56; 66-67]

The following members of the Association were present: Ina Mae Bramblett, H. E. Bray, H. D. Brunk, J. W. Calkin, J. A. Daum, Alice C. Dean, E. H. Hanson, H. M. Hardy, E. R. Heineman, N. C. Hunsaker, H. A. Luther, Hazel Mason, Harlan C. Miller, Edith Morgan, Albert Newhouse, J. W. Querry, C. B. Rader, L. W. Ramsey, Dorothy Rees, C. R. Sherer, M. M. Slotnick, F. W. Sparks, E. J. Stulken, Jennie Tate, H. E. Taylor, W. B. Temple, F. E. Ulrich, R. S. Underwood, and T. J. White.

The following seven individuals presented papers: Dr. W. V. Houston, President, Rice Institute, paper by special invitation; H. D. Brunk, Rice Institute; E. J. Stulken, Geophysical Service, Inc.; R. S. Underwood, Texas Technological College; P. J. C. Lauback, Westminister College, introduced by the Secretary; C. R. Sherer, Texas Christian University; and E. H. Hanson, North Texas State Teachers College.

At the business meeting, the following officers were elected for 1948-49: Chairman, F. E. Ulrich, Rice Institute; Vice-Chairman, H. J. Ettlinger, University of Texas; and Secretary-Treasurer, C. R. Sherer, Texas Christian University. The next meeting was to be held at Denton, Texas under the joint sponsorship of North Texas State Teachers College and Texas State College for Women.

Other activities during 1948

H. E. Bray, Rice Institute, and R. E. Greenwood, University of Texas, attended the Thirty-First Annual Meeting of the Association meeting at the University of Georgia on January 1, 1948; J. A. Daum, Texas A&M College, attended the Thirtieth Summer Meeting of the Association at the University of Wisconsin; and C. G. Maple, North Texas State Teachers College, and H. E. Bray attended the Thirty-Second Annual Meeting of the Association meeting at Ohio State University on December 31, 1948.

New members elected into the Association included W. H. Neely, Texas Christian University; R. W. Oesch, Trinity University; and R. M. Whitmore, Southwestern University.

H. E. Bray gave the address "On the Moduli of the Roots of the Derivative of a Polynomial" at the Thirty-First Annual Meeting of the Association.

1949 The annual meeting of the Texas Section of the Mathematical Association of America was held in Denton, Texas, April 8-9,1949. North Texas State Teachers College and Texas State College for Women were co-sponsors. [M56; 588-590]

At a banquet Friday night in the Household Arts Building on the campus of the Texas State College for Women, Dr. Floyd Stovall of North Texas State Teachers College was the principal speaker. A luncheon was given Saturday noon in Marquis Hall on the campus of North Texas State Teachers College.

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The attendance was ninety-one, including the following forty-one members of the Association: A. W. Ashburn, A. E. Barksdale, Ina M. Bramblett, H. E. Bray, Myrtle C. Brown, J. E. Burnam, L. A. Colquitt, J. V. Cooke, Don Cude, J. A. Daum, R. E. Greenwood, E. H. Hanson, H. M. Hardy, C. M. Howard, J. M. Hurt, Mrs. Fay Johnson, E. C. Klipple, C. G. Maple, Hazel L. Mason, E. K. McLachlan, W. K. McNabb, Harlan C. Miller, Edith L. Morgan, E. D. Mouzon, Jr., C. A. Murray, J. W. Querry, Henry Rainbow, L. W. Ramsey, C. R. Sherer, D. P. Shore, M. M. Slotnick, F. W. Sparks, D. W. Starr, Jennie L. Tate, H. E. Taylor, F. E. Ulrich, Maud Willey, Mabel Williams, H. A. Wood, L. G. Worthington, C. B. Wright.

Three papers were read Friday afternoon: F. E. Ulrich, Rice Institute; L. A. Colquitt, Texas Christian University; and R. E. Greenwood, University of Texas. Four papers were read Saturday: H. E. Bray, Rice Institute; G. R. MacLane, Rice Institute; E. K. McLachlan, Baylor University; and C. A. Murray, West Texas State Teachers College. Also presented on Saturday was the panel discussion "What mathematics should be taught during the first four years in college?" The participants in this discussion were Ina M. Bramblett, Texas Christian University; M. M. Slotnick, Humble Oil and Refining Company; F. E. Ulrich, Rice Institute; E. C. Klipple, Texas A and M College; and C. R. Sherer, Texas Christian University.

At the business meeting the following officers were elected for the next academic year: Chairman, H. J. Ettlinger, University of Texas; Vice-Chairman, C. A. Murray, West Texas State Teachers College; and Secretary-Treasurer, C. R. Sherer, Texas Christian University.

Other activities during 1949

Papers published in the MONTHLY included: "Some Applications of Extended Analytic Geometry" by R. S. Underwood of Texas Technological College and "Note on a Periodic Continued Fraction" by H. S. Wall of the University of Texas.

Thirteen members of the Texas Section attended the Thirty-First Summer Meeting of the Association at the University of Colorado in Boulder. They included: H. E. Bray and J. W. Calkin, Rice Institute; L. A. Colquitt and C. R. Sherer, Texas Christian University; J. A. Daum, Texas A&M College; Terrell Ellis, North Texas State College; R. E. Greenwood, R. G. Lubben and H. S. Vandiver, the University of Texas; and E. A. Hazlewood, E. R. Heineman, F. W. Sparks and R. S. Underwood, Texas Technological College. H. D. Brunk and F. E. Ulrich of Rice Institute attended the Thirty-Third Annual Meeting of the Association at Columbia University.

1950 The annual meeting of the Texas Section of the Mathematical Association of America was held at Abilene, Texas, on April 14-15, 1950, sponsored jointly by Abilene Christian College, Hardin-Simmons University, and McMurry College. Sessions were held Friday afternoon and Saturday morning with H. J. Ettlinger and C. A. Murray presiding. A dinner was given Friday evening at McMurry College at which L. W. Ramsey of Texas Christian University gave an illustrated talk on "A Mathematician's Hobby," and Dr. A. S. Householder of Oak Ridge Institute of Nuclear Studies gave an address on "Mathematics and Science." [M58; 70-71]

Among the seventy-nine persons who registered were the following thirty-two members of the Association: Ina M. Bramblett, H. E. Bray, H. D. Brunk, J. E. Burnam, L. A. Colquitt, J. V. Cooke, H. J. Ettlinger, E. H. Hanson, E. A. Hazlewood, E. R. Heineman, J. J. Henrick, J. M. Hurt, T. M. Jasper, Fay H. Johnson, Hazel L. Mason, Dorothy McCoy, E. D. Mouzon, Jr., M. E. Mullings, C. A. Murray, H. C. Parrish, C. B. Rader, L. W. Ramsey, C. R. Sherer, F. W. Sparks, D. W. Starr, W. G. Stokes, Jennie L. Tate, H. E. Taylor, F. E. Ulrich, R. S. Underwood, B. B. Williams, H. E. Woodward.

The program consisted of eight papers and a panel discussion. The first six papers were given Friday afternoon, and the remaining papers and the panel discussion were given Saturday morning. Papers were presented by R. S. Underwood, Texas Technological College; Samuel Agmon, Rice Institute, introduced by the Secretary; J. M. Hurt, University of Texas; H. E. Taylor, Rice Institute; Mrs. A. Hays, Abilene Christian College, introduced by the Secretary; G. R. MacLane, Rice Institute, introduced by the Secretary; M. E. Mullings, Abilene Christian College and J. V. Cooke, North Texas State College. The panel discussion "Freshman Mathematics" was led by E. R. Heineman and E. A. Hazlewood of of Texas Technological College, and C. R. Sherer of Texas Christian University. The discussion dealt with the following topics: (1) "What should we do with the poorly prepared student"; (2) "What should we do with the gifted student"; (3) "How can we get the gifted student to take more mathematics."

At the business meeting the following officers were elected for the coming year: Chairman, C. A. Murray, West Texas State College; Vice-Chairman, D. W. Starr, Southern Methodist University; and Secretary-Treasurer, C. R. Sherer, Texas Christian University.

Other activities during 1950

Professor Nat Edmonson, Jr., of Johns Hopkins University, formerly of Texas A&M College and Secretary-Treasurer of the Texas Section, accepted a position with Fairchild Engine and Aircraft Corporation in Oak Ridge, Tennessee.

W. I. Layton of the State Teachers College at Frostburg, Maryland, accepted the position of Head of the Department of Mathematics at Stephen F. Austin State College.

Assistant Professor R. E. Greenwood of the University of Texas was recalled to active duty by the Navy Department.

At the Annual Meeting of the Association at Columbia University, the Board of Governors voted that Sectional Governors be elected by mail vote to be conducted by the Secretary of the Association. E. H. Hanson of North Texas State College was elected by the Texas Section to serve a three-year term, July 1, 1950-June 30, 1953.

The Committee on Sections and Meetings was authorized to determine the geographical boundaries of each section. The boundaries of the Southwestern Section were set to include Arizona, New Mexico and El Paso County in Texas. The Texas Section was set to cover all of Texas except El Paso County.

1951 The annual meeting of the Texas Section of the Mathematical Association of America was held in Dallas, Texas, April 27-28, 1951. Southern Methodist University served as sponsor. At a banquet given Friday night in the Student Union Dining Hall, H. M. Hosford, Vice-President of Southern Methodist University, was the principal speaker. [M59; 69-70]

About eighty persons attended the sessions of the Section including the following forty-seven members of the Association: J. C. Bradford, Ina M. Bramblett, H. E. Bray, L. A. Colquitt, J. V. Cooke, Don Cude, Terrell Ellis, B. T. Goldbeck, Jr., L. D. Gregory, Blanche B. Grover, E. H. Hanson, E. A. Hazlewood, E. R. Heineman, J. J. Henrick, C. M. Howard, C. E. Kelley, Ruth Kissel, W. M. Koger, Ruth O. Lane, W. I. Layton, A. S. Lee, J. W. Lindsay, G. R. MacLane, Hazel L. Mason, Dorothy McCoy, W. K. McNabb, Harlan C. Miller, Leo Moser, E. D. Mouzon, Jr., C. A. Murray, T. D. Oxley, H. C. Parrish, C. J. Pipes, L. W. Ramsey, Dorothy L. Rees, C. A. Rogers, C. R. Sherer, D. P. Shore, D. W. Starr, Jennie L. Tate, F. E. Ulrich, R. S. Underwood, H. S. Vandiver, Margaret M. Welch, Mabel Williams, F. L. Wren, C. B. Wright.

Six papers were given Friday afternoon and two more were given Saturday morning. The presenters were: G. R. MacLane, Rice Institute; Leo Moser, Texas Technological College; R. S. Underwood, Texas Technological College; J. D. Rice, Rice Institute, introduced by the Secretary; C. J. Pipes, Southern Methodist University; F. E. Ulrich, Rice Institute; Lee Wilburn, Assistant Commissioner for Instructors, T. E. A., introduced by the Secretary; and F. L. Wren, George Peabody College for Teachers (by invitation).

At the business meeting, the following officers were elected for the next academic year: Chairman, D. W. Starr, Southern Methodist University; Vice-Chairman, C. B. Wright, East Texas State Teachers College; and Secretary-Treasurer, C. R. Sherer, Texas Christian University.

Other activities during 1951

At Texas Technological College, Gordon Fuller from Alabama Polytechnic Institute and Leo Moser from the University of North Carolina were appointed to positions as associate professors.

Ben T. Goldbeck, Jr., of the University of Wyoming was appointed an instructor at Texas Christian University. Goldbeck would later become Secretary-Treasurer of the Texas Section. C. J. Pipes of the University of Oklahoma was appointed an assistant professor at Southern Methodist University.

George Copp, University of Texas, was appointed an assistant professor at North Texas State University. Nat Edmonson, Jr. of Fairchild Engine and Aircraft Corporation in Oak Ridge, Tennessee was appointed Principal Mathematician at Oak Ridge National Laboratories.

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W. T. Guy, Jr., Graduate Assistant at California Institute of Technology was appointed an assistant professor at the University of Texas. Albert Newhouse of the University of Houston was promoted to Professor.

The University of Houston sponsored its first Mathematics Institute, July 30-August 2.

The December 1951, issue of the MONTHLY listed 181 members of the Association from Texas.

1952 On April 25-26, 1952, the annual meeting of the Texas Section of the Mathematical Association of America was held in Commerce, Texas, on the campus of East Texas State Teachers College. [M59; 517-520] A banquet was held on Friday night with President J. G. Gee of East Texas State Teachers College as the principal speaker.

About ninety persons attended the sessions of the meeting, including the following fifty-three members of the Association:

R. E. Baker, J. C. Bradford, Ina M. Bramblett, H. E. Bray, L. A. Colquitt, M. L. Coffman, J. V. Cooke, A. H. Cowling, Don Cude, J. A. Daum, Jim Douglas, Jr., G. H. Dubay, Terrell Ellis, R. L. Glass, L. D. Gregory, W. T. Guy, Jr., E. H. Hanson, E. A. Hazlewood, E. R. Heineman, J. M. Hurt, E. C. Kennedy, H. A. Luther, E. K. McLachlan, W. K. McNabb, Hazel L. Mason, V. A. Miculka, Harlan C. Miller, E. D. Mouzon, Jr., M. E. Mullings, C. A. Murray, H. C. Parrish, R. B. Pinson, C. J. Pipes, Henry Rainbow, L. W. Ramsey, C. L. Riggs, R. Q. Seale, C. R. Sherer, F. W. Sparks, C. E. Springer, D. W. Starr, W. G. Stokes, E. J. Stulken, Jennie L. Tate, W. W. Taylor, M. E. Tittle, F. E. Ulrich, R. S. Underwood, Margaret M. Welch, Mabel Williams, H. A. Wood, A. W. Wortham, C. B. Wright.

The program included fifteen papers and one panel discussion. The papers were presented by: H. C. Parrish, North Texas State College; Professor Samuel Agmon, Rice Institute, introduced by the Secretary; J. C. Bradford, North Texas State College; C. L. Riggs, East Texas State Teachers College; Jim Douglas, Jr., Rice Institute; M. L. Coffman, Texas A&M College; C. E. Springer, University of Oklahoma (by invitation); R. S. Underwood, Texas Technological College; T. M. Gallie, Jr., Rice Institute, introduced by the Secretary; E. R. Heineman, Texas Technological College; W. T. Guy, Jr., University of Texas (by title); H. F. Bright, University of Texas (by title); J. M. Hurt, University of Texas; and Sister Antonietta, Incarnate Word College, introduced by the Secretary and W. T. Guy, Jr., University of Texas.

The panel discussion "Certification of Teachers in Texas" had: J. E. Franklin and Everett Shepherd, East Texas State Teachers College; H. E. Bray, Rice Institute; C. R. Sherer, Texas Christian University as panelists, with E. A. Hazlewood, Texas Technological College as Moderator.

At the business meeting, the following officers were elected for the next academic year: Chairman, C. B. Wright, East Texas State Teachers College; Vice-Chairman, L. A. Colquitt, Texas Christian University; and Secretary-Treasurer, C. R. Sherer, Texas Christian University.

Other activities during 1952

Assistant Professor H. D. Brunk left Rice Institute to become a Mathematician in Systems Evaluation at Sandia Corporation in Albuquerque, New Mexico. At Texas Christian University, Assistant Professor L. A. Colquitt was promoted to Associate Professor, and Margaret Welch was awarded a graduate fellowship.

Associate Professor W. W. Gandy left Texas A&M College to become a Senior Aerophysics Engineer with Consolidated Vultee Aircraft Company in Ft. Worth. At Texas Technological College, Professor J. N. Michie was named Professor Emeritus.

Dr. H. F. Bright, formerly of the University of Texas, was named Chief of Technical Services in the Human Resources Research Office at George Washington University. James C. Bradford, previously a graduate student at North Texas State College, accepted a graduate assistantship at the University of Oklahoma.

H. J. Ettlinger of the University of Texas represented the Mathematical Association of America at the inauguration of President J. W. Lewis of Trinity University on October 8, 1952. **1953** The annual meeting of the Texas Section of the Mathematical Association of America was held at Texas Christian University, Fort Worth, Texas, on April 24-25, 1953. Professor C. B. Wright, Chairman of the Section, presided at the sessions. Professor L. R. Ford of the University of Mississippi and formerly of Rice Institute was an invited guest at the Section meeting. [M60; 583-586]

There were one hundred eight persons in attendance, including the following sixty-two members of the Association:

T. A. Abouhalkah, R. C. Ailara, A. W. Ashburn, A. V. Banes, Ina M. Bramblett, H. E. Bray, Myrtle C. Brown, M. L. Coffman, L. A. Colquitt, J. V. Cooke, Don Cude, F. W. Donaldson, G. H. Dubay, L. K. Durst, Terrell Ellis, L. R. Ford, Gordon Fuller, R. L. Glass, Blanche B. Grover, W. T. Guy, Jr., E. H. Hanson, E. A. Hazlewood, E. R. Heineman, Fay H. Johnson, Ruth Kissel, E. C. Klipple, H. A. Luther, Hazel L. Mason, Lida B. May, Dorothy McCoy, W. K. McNabb, V. A. Miculka, Harlan C. Miller, B. C. Moore, E. D. Mouzon, Jr., C. A. Murray, Albert Newhouse, Bob Parker, H. C. Parrish, C. J. Pipes, C. B. Rader, Sr., L. W. Ramsey, Dorothy L. Rees, C. L. Riggs, Virginia B. Roberts, C. A. Rogers, R. Q. Seale, C. R. Sherer, D. P. Shore, Sister Mary of Perpetual Help, D. W. Starr, W. G. Stokes, W. W. Taylor, Earl Thomas, F. E. Ulrich, R. S. Underwood, Margaret M. Welch, Mabel Williams, H. A. Wood, A. W. Wortham, C. B. Wright, Martin Wright.

The program consisted of papers by the following individuals: E. C. Klipple, Texas A&M College; Horace Flatt, Rice Institute, introduced by the Secretary; L. R. Ford, University of Mississippi; R. S. Underwood, Texas Technological College; E. R. Keown, Texas A&M College, introduced by the Secretary; R. M. McLeod, Rice Institute, introduced by the Secretary; J. T. Hurt, Texas A&M College, introduced by the Secretary; H. C. Filgo, Jr., Rice Institute, introduced by the Secretary; W. T. Guy, Jr., University of Texas; L. K. Durst, Rice Institute; Hazel L. Mason, Junior High School, Grand Prairie; T. A. Abouhalkah, University of Texas; Bob Parker, Texas Technological College; and E. A. Hazlewood, Texas Technological College.

At the business meeting, the following officers were elected for the coming year: Chairman, L. A. Colquitt, Texas Christian University; Vice-Chairman, E. A. Hazlewood, Texas Technological College; and Secretary-Treasurer, C. R. Sherer, Texas Christian University.

Other activities during 1953

R. E. Greenwood returned to the University of Texas after two years of military leave as a Lieutenant Commander in the U. S. Naval Reserve. W. T. Guy, Jr., was promoted to Assistant Professor at the University of Texas. Mary Hamstrom left the University of Texas to become an assistant professor at Goucher College.

The University of Texas announced its summer class schedule with classes taught by Cooper, Craig, Ettlinger, Greenwood, Guy, Lane, Lubben, Mohat, Moore, Wall, and Weaver.

On September 1, 1953, the Department of Applied Mathematics and Astronomy and the Department of Pure Mathematics at the University of Texas merged to become the Department of Mathematics and Astronomy.

The University of Houston held its Third Mathematics Institute, June 23-26, 1953. Also, Albert Newhouse became the Chairman of the Department of Mathematics. At Texas Southern University, the Acting Head of the Department of Mathematics, J. A. Pierce, became the Chairman of Graduate School Administration.

W. E. Beeman left Texas A&M College to become an instructor at North Texas State College. P. D. Minton, formerly a graduate assistant at the University of North Carolina, became an assistant professor at Southern Methodist University. R. M. Whitmore of Southwestern University became a staff member with Sandia Corporation in Albuquerque, New Mexico.

B. L. Blankenship, who held a M.A. degree from the University of Texas, accepted a teaching position at San Saba High School in San Saba. Ida M. Burnhard, who had been a Supervisor of Mathematics at Southwest Texas State Teachers College, moved to the Texas Education Agency as a Consultant in Secondary Education. J. D. Rice, an assistant at Rice Institute, was named an assistant professor at Lamar State College of Technology; and F. E. Ulrich at Rice was promoted to Professor.

E. R. Heineman of Texas Technological College was elected to a three-year term as Governor of the Texas Section of the Mathematical Association of America to serve from July 1, 1953-June 30, 1956.

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1954 The annual meeting of the Texas Section of the Mathematical Association of America was held at Texas Technological College on April 23-24. L. A. Colquitt, Chairman of the Section, presided at the sessions. By invitation, Dr. S. M. Ulam delivered an address at the afternoon session entitled "Mathematical Games." At the banquet B. W. Jones gave the principal address, "New Emphases in Mathematics." [M62; 71-74]

There were seventy persons in attendance, including the following forty-eight members of the Association:

J. C. Bradford, Ina M. Bramblett, H. E. Bray, J. E. Burnam, D. R. Clutterham, M. L. Coffman, L. A. Colquitt, Don Cude, J. R. Foote, Frances Freese, Gordon Fuller, Blanche B. Grover, W. T. Guy, Jr., J. O. Hassler, E. A. Hazlewood, E. R. Heineman, J. A. Hummel, B. W. Jones, E. C. Klipple, W. I. Layton, C. W. Long, H. A. Luther, Lida B. May, V. A. Miculka, P. D. Minton, R. A. Moreland, Jr., M. E. Mullings, C. A. Murray, T. K. Pan, Bob Parker, G. M. Petersen, C. J. Pipes, C. L. Riggs, Virginia B. Roberts, Marabeth Rollins, R. Q. Seale, C. R. Sherer, F. W. Sparks, D. W. Starr, W. W. Taylor, J. I. Tracey, F. E. Ulrich, R. S. Underwood, Patricia A. Ward, Margaret M. Welch, Mabel Williams, H. E. Woodward, C. B. Wright.

The program included fourteen papers by the following presenters: M. L. Coffman, Texas A&M College; J. R. Foote, University of Oklahoma; R. S. Underwood, Texas Technological College; W. T. Guy, Jr., University of Texas; E. R. Keown, Texas A&M College, introduced by the Secretary; S. M. Ulam, Los Alamos, New Mexico (by invitation); Guy Johnson, Jr., Rice Institute; B. W. Jones, University of Colorado; R. W. Randall, Jr., Rice Institute, introduced by the Secretary; D. R. Clutterham, Consolidated Vultee Aircraft Corporation, Fort Worth, Texas; W. I. Layton, Stephen F. Austin State College; Sister Claude Marie, Incarnate Word College, introduced by the Secretary; J. O. Hassler, University of Oklahoma; and E. A. Hazlewood, Texas Technological College.

At the business meeting the following officers were elected for the coming year: Chairman, E. A. Hazlewood, Texas Technological College; Vice-Chairman, M. E. Mullings, Abilene Christian College; and Secretary-Treasurer, C. R. Sherer, Texas Christian University.

Other activities during 1954

At Texas Southern University, A. H. Wardlaw was promoted to Assistant Professor and named the Acting Head of the Department of Mathematics; J. E. Westbury was promoted to Assistant Professor; and Jeanette E. Lockley was named an instructor.

Also in 1954, D. E. Edmondson accepted a research instructorship at Tulane University; later in the year, he was appointed to an assistant professorship at Southern Methodist University. Edmondson would later serve the Texas Section, both as its chairman and as sectional governor.

D. H. Wright was appointed to an assistant professorship at the University of Houston. At Texas A&M College, H. B. Curtis, Jr., was promoted to an assistant professorship.

1955 The annual meeting of the Texas Section of the Mathematical Association of America was held at Abilene, Texas, on April 22-23, 1955, hosted jointly by Abilene Christian College, Hardin-Simmons University, and McMurry College. Sessions were held Friday afternoon and Saturday morning, with E. A. Hazlewood and M. E. Mullings presiding. [M62; 609-612]

By invitation the President of the Mathematical Association of America, Professor W. L. Duren, Jr., of Tulane University delivered an address at the afternoon session entitled "A Course on Sets." At the banquet Dorothy McCoy of Wayland Baptist College gave an illustrated lecture on her teaching experiences in Iraq.

There were 74 persons in attendance, including the following 50 members of the Association:

T. A. Abouhalkah, C. P. Benner, Ina M. Bramblett, H. E. Bray, J. E. Burnam, L. A. Colquitt, Don Cude, H. B. Curtis, Jr., W. L. Duren, Jr., B. T. Goldbeck, Jr., R. G. Green, R. E. Greenwood, Jr., W. T. Guy, Jr., Lena L. Hays, E. A. Hazlewood, E. R. Heineman, R. F. House, P. W. M. John, Guy Johnson, Jr., E. C. Klipple, J. W. Lindsay, C. W. Long, H. A. Luther, Dorothy McCoy, R. V. McGee, A. B. McLemore, R. M. McLeod, V. A. Miculka, P. D. Minton, V. H. Morrill, M. E. Mullings, C. J. Pipes, C. L. Riggs, Virginia B. Roberts, C. R. Sherer, D. P. Shore, W. C. Sikes, S. A. Sims, Sister Antonietta, D. W. Starr,

J. R. Swaffield, Jennie L. Tate, W. W. Taylor, J. I. Tracey, F. E. Ulrich, R. S. Underwood, Patricia A. Ward, Mabel Williams, C. B. Wright, Martin Wright.

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The program included twelve papers by the following presenters: W. T. Guy, Jr., University of Texas; H. A. Luther, Texas A&M College; Guy Johnson, Jr., Rice Institute; W. L. Duren, Jr., Tulane University and President of the Association; R. E. Greenwood, Jr., University of Texas; P. W. M. John, University of Oklahoma; R. M. McLeod, Rice Institute; R. S. Underwood, Texas Technological College; J. I. Tracey, Texas Christian University; H. E. Bray, Rice Institute; T. A. Abouhalkah, Railroad Commission of Texas; and E. A. Hazlewood, Texas Technological College.

At the business meeting the following officers were elected for the coming year: Chairman, M. E. Mullings, Abilene Christian College; Vice-Chairman, Don Cude, Southwest Texas State Teachers College; and Secretary-Treasurer, C. R. Sherer, Texas Christian University.

Other activities during 1955

At Rice Institute, L. K. Durst was promoted to an assistant professorship. R. G. Green, a student at Abilene Christian College, accepted a teaching position at Merkel High School in Merkel. Associate Professor P. M. Batchelder of the University of Texas retired.

J. I. Tracey of Texas Christian University represented the Mathematical Association of America at the inauguration of President W. M. Tate at Southern Methodist University on May 5, 1955.

W. M. Whyburn served on the MAA Committee on Places of Meeting from 1954-1956.

For the first time in the history of the Association, an Annual Meeting of the Association was held in Texas. The Thirty-Ninth Annual Meeting was held on Friday, December 30, 1955 at Rice Institute. C. R. Sherer, Secretary-Treasurer of the Texas Section served on the Program Committee. Three hundred and eighty-two persons were registered for the meeting including two hundred and fifty-four members of the Association.

R. H. Bing of the University of Wisconsin, a student of R. L. Moore at the University of Texas, delivered an address, "Some Recent Discoveries and Near Misses in Topology"; and H. J. Ettlinger of the University of Texas presented "Stimulating Interest of Youthful Talent in Mathematics and Other Sciences." Both addresses were given at the second session of the Association meeting.

The Committee on Arrangements for the meeting of the Association consisted of: F. E. Ulrich, Rice Institute, Chairman; H. E. Bray, Rice Institute; A. H. Brown; L. K. Durst, Rice Institute; H. M. Gehman, Secretary-Treasurer of the MAA; Guy Johnson, Jr., Rice Institute; G. R. MacLane, Rice Institute; Szolem Mandelbrojt, formerly of Rice Institute; and J. W. T. Youngs.

The Program Committee consisted of Wallace Givens, Chairman, C. R. Sherer of Texas Christian University, and W. T. Reid.

The meeting of the Association was held jointly with the Annual Meeting of the American Mathematical Society. G. T. Whyburn, President of the Society, delivered his retiring presidential address. Whyburn was formerly at the University of Texas and had served as Chairman of the Texas Section from 1928-1931.

1956 The annual meeting of the Texas Section of the Mathematical Association of America was held at San Marcos, Texas, on April 20-21, 1956, sponsored by Southwest Texas State Teachers College. Sessions were held Friday afternoon and Saturday morning with Chairman M. E. Mullings presiding. At the banquet Friday night Dr. Don Cowan of Texas Christian University gave a speech entitled "Education for the Nuclear Age." [M63; 608-611]

There were 108 persons in attendance and 78 of those were members of the Association.

A total of seventeen papers were presented by the following: B. T. Goldbeck and A. A. Grau, The University of Oklahoma, presented by Mr. Goldbeck; Alan Wilson, Rice Institute, introduced by the Secretary; R. E. Greenwood, University of Texas; E. K. McLachlan, Baylor University; Mr. R. P. Kelisky, University of Texas; J. R. Boyd, Chance Vaught Aircraft, Dallas; R. L. Moore, University of Texas (by invitation); G. R. MacLane, Rice Institute; D. E. Edmondson, Southern

Methodist University; R. C. Osborn, University of Texas; W. T. Guy, Jr., University of Texas; H. C. Parrish, North Texas State College; Guy Johnson, Jr., Rice Institute; W. I. Layton, Stephen F. Austin State College; J. W. Lindsay, Texas Technological College; E. R. Heineman, Texas Technological College; and Nat Edmonson, Jr., Convair, Fort Worth.

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At the business meeting, the following officers were elected for the coming year: Chairman, Don Cude, Southwest Texas State Teachers College; Vice-Chairman, Martin Wright, University of Houston; Secretary-Treasurer, C. R. Sherer, Texas Christian University.

Other activities during 1956

D. H. Lehmer, a Visiting Lecturer for the Mathematical Association of America, was at Texas Christian University on March 26-28.

W. M. Whyburn of Texas Technological College was chairman of the Joint Committee on Places of Meetings of the MAA. R. E. Greenwood, University of Texas, was on the MAA Committee on the Putnam Prize Competition.

G. B. Huff, University of Texas, was on the MAA Committee on Visiting Lecturers, and H. E. Bray of Rice Institute was on the MAA Nominating Committee for 1956. John T. Mohat of the University of Texas was appointed to an instructorship at Duke University.

R. A. Moreland, Jr., formerly at Sandia Corporation in Albuquerque, New Mexico, was appointed to an instructorship at Texas Technological College. At Texas Christian University, Mable G. Reavis was appointed to an assistant professorship and L. A. Colquitt was promoted to professor. Assistant Professor V. H. Morrill from Hardin-Simmons University was appointed to an assistant professorship at Tarleton State College.

Assistant Professor J. W. Lindsay of Texas Technological College was awarded a Danforth Foundation Teachers Study Grant for 1956-57, which he spent at the University of California at Los Angeles. At North Texas State College, H. C. Parrish was promoted to an associate professorship. Charles D. Robinson, a 1956 graduate of Hardin-Simmons University, was appointed an instructor at HSU. He would later become the chairman of the Department of Mathematics there and would also become the Secretary-Treasurer of the Texas Section of the Mathematical Association of America.

At Southwest Texas State Teachers College, W. C. Akin, Saphrona B. Krause, and A. W. Spear were appointed instructors. Vivian Spurgeon was appointed to an assistant professorship at East Texas Baptist College.

At the University of Texas, F. R. Yett, from Long Beach State College, was appointed assistant professor, H. S. Vandiver was granted a postdoctoral fellowship by the National Science Foundation, and Assistant Professor E. J. Prouse was on leave of absence for the first semester.

Jean B. Richmond, Texas State College for Women, was appointed to an instructorship at Texas Christian University. J. P. Brannen was appointed to an instructorship at Sam Houston State Teachers College. C. W. Leniger, University of Texas, was appointed to an assistant professorship at Arlington State College.

H. L. Rolf of Vanderbilt University was appointed to an assistant professorship at Baylor University. Rolf would later serve the Texas Section as Chairman. J. M. Stark from Massachusetts Institute of Technology was appointed to a professorship at Lamar State College of Technology. At the University of Texas, W. T. Guy, Jr., was promoted to associate professorship.

C. R. Sherer was elected to be the Sectional Governor from the Texas Section for a three-year term from July 1, 1956-June 30, 1959. Sherer continued to serve as Secretary-Treasurer of the Section.

1957 The spring meeting of the Texas Section of the Mathematical Association of America was held at the University of Houston on April 26-27, 1957. Don Cude and Martin Wright presided at the regular sessions. There were 120 persons in attendance, including 80 members of the Association. [M64; 547-550]

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Papers were presented by: C. P. Benner, University of Houston; W. T. Guy, Jr., University of Texas; B. T. Goldbeck, Jr., Texas Christian University; L. K. Durst, Rice Institute; Mr. R. P. Kelisky, University of Texas; G. B. Price, University of Kansas and President of the Mathematical Association of America (by invitation.); F. J. Palas, Southern Methodist University; L. L. Silverman, University of Houston; J. T. Hurt, Texas A&M College, introduced by the Secretary; D. E. Edmondson, Southern Methodist University; F. S. Nowlan, University of Illinois, and A. A. Aucoin, University of Houston, presented by Mr. Aucoin; Mr. Daniel Weiser, Rice Institute; P. D. Minton, Southern Methodist University; R. S. Underwood, Texas Technological College; and W. I. Layton, Stephen F. Austin State College.

At the business meeting, the following officers were elected for the year 1957-58: Chairman, Martin Wright, University of Houston; Vice-Chairman, E. K. McLachlan, Baylor University; and Secretary-Treasurer, C. R. Sherer, Texas Christian University.

Other activities during 1957

Whiting Visiting Professor at Trinity College, Louis Brand, was appointed M. D. Anderson Professor of Mathematics at the University of Houston.

Ben T. Goldbeck, Jr., of the University of Oklahoma was appointed to an assistant professorship at Texas Christian University; and J. C. Bradford of the University of Oklahoma was appointed to an assistant professorship at Abilene Christian College. Both Goldbeck and Bradford would later serve the Texas Section as Secretary-Treasurer, Goldbeck from 1964-1970 and Bradford from 1971-1978. Both would be forced to resign the office because of health problems, hopefully, not brought on by the pressures of the duties of that office.

J. W. Neuberger of the University of Texas was appointed to an instructorship at the Illinois Institute of Technology. Also at U. T., Alfred Schild, formerly of the Westinghouse Research Laboratories in Pittsburgh, Pennsylvania, was appointed Professor; Associate Professor R. E. Greenwood was promoted to Professor; and both R. C. Osborn and Richard Kelisky were promoted to Assistant Professors.

D. E. Edmondson of Southern Methodist University was promoted to Associate Professor.
C. R. Sherer served on the MAA Committee on High School Contests. H. J. Ettlinger served as a representative of the Association to the American Council on Education.

President Emeritus E. O. Lovett at Rice Institute died August 13, 1957. He was a charter member of the Mathematical Association of America.

1958 The annual meeting of the Texas Section of the Mathematical Association of America was held at Baylor University on April 18-19, 1958. Chairman Martin Wright and Vice-Chairman E. K. McLachlan presided. There were 125 persons registered for the meeting, including 90 members of the Association. By invitation of the Section, Professor Louis J. Brand, University of Houston, delivered an address entitled "Some Aspects of Dimensional Analysis." [M65; 731-734]

The following presented papers: Arlen Brown, Rice Institute; F. J. Palas, Southern Methodist University; R. P. Kelisky, University of Texas; R. E. Greenwood, University of Texas; H. B. Curtis, Jr., Rice Institute; W. E. Roth, Austin, Texas; Daniel Weiser, Rice Institute; R. C. Osborn, University of Texas; J. R. Boyd, Chance Vaught Aircraft, Dallas, Texas; J. L. Cornette, University of Texas; Hadi Haddad, University of Texas, introduced by the Secretary; J. T. Hurt, Texas A&M College, introduced by the Secretary; and H. J. Ettlinger, University of Texas.

Officers chosen for 1958-1959 were E. K. McLachlan, Baylor University, Chairman; W. T. Guy, University of Texas, Vice-Chairman; C. R. Sherer, Texas Christian University, Secretary-Treasurer. The Section decided to participate in the National High School Mathematics Contest during the next year on a trial basis. Dr. H. J. Ettlinger at the University of Texas was made chairman of the committee in charge.

Other activities during 1958

At Texas A&M College, R. L. Nolen was appointed Assistant Professor; J. L. Fulbright, D. M. Gibson, Jr., R. A. Knapp, and C. B. Moehlman, were appointed Instructors; W. B. Oldham and S. M. Wood were appointed Junior Instructors; Assistant Professor W. S. McCulley was promoted to Associate Professor; F. N. Huggins was promoted to Assistant Professor; and Associate Professor T. R. Nelson retired.

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W. E. Beeman, North Texas State College, was appointed to an associate professorship at Arlington State College. Also, Associate Professor George Copp was promoted to Professor, and Associate Professor H. C. Parrish was promoted to Professor and Director of the Mathematics Department.

D. R. Clutterham left Convair in Ft. Worth to accept a position as Chief Engineer with the Martin Company in Orlando, Florida. W. L. Shepherd, Texas Western College, was appointed Assistant Professor. Assistant Professor Peter Terwey, Jr., Davidson College, was appointed Associate Professor at Lamar State College of Technology.

At the University of Texas, Assistant Professor R. T. Gregory, formerly of the University of California at Goleta, was appointed to an associate professorship; and Associate Professor Byron Cosby, Jr., State University of Iowa, was appointed Professor of Actuarial Science at the University of Texas. Assistant Professor R. P. Kelisky left the University of Texas to accept the position of Associate Mathematician with the IBM Research Center, Yorktown Heights, New York.

Ann Farek, Laredo Junior College, was appointed Instructor at the Texas College of Arts and Industries.

Associate Professor E. H. Gilmore, Oklahoma State University, was appointed Assistant Professor at Texas Technological College.

J. P. Cuellar, Jr., Junior Research Engineer at the Southwest Research Institute; B. F. Edwards, Senior Engineer at Chance Vaught Aircraft Inc.; C. E. Falbo, an instructor at San Antonio College; W. G. Hazelett, Computational Engineer at Chance Vaught Aircraft Inc.; Jesse L. Long, Associate Professor at Midwestern State University; G. L. Millican, Engineer at Texas Instruments Inc. and P. D. Scott, a student at South Oak Cliff High School were all elected to membership in the Mathematical Association of America.

Southern Methodist University announced the opening of a Computing Laboratory on its campus. A new building was built to house the Univac Scientific 1103 Computer, one of the most advanced scientific computers in the world at that time. The building also housed the Remington Rand Service Bureau and SMU Computing Laboratory offices and classrooms. The computer was operated jointly by Remington Rand as a service to industries and by Southern Methodist University as a service for academic research and teaching. Acquisition of the Univac computer was recognized as a major milestone in academic research in the region. This writer, who was teaching mathematics in high school in Texas City, Texas, took five of the top mathematics and science students from Texas City to Dallas, just to see the scientific marvel that the Univac was.

Professor Emeritus J. N. Michie of Texas Technological College died on November 24, 1958. He was a member of the Association for thirty-three years.

1959 The annual spring meeting of the Texas Section of the Mathematical Association of America was held April 17-18, 1959, at the University of Texas. There were 150 in attendance, including 100 members of the Association. [M66; 751-753]

The following officers were elected for the coming year: Chairman, W. T. Guy, Jr., University of Texas; Vice-Chairman, P. R. Cullwell, San Antonio College; Secretary-Treasurer, C. R. Sherer, Texas Christian University.

Fourteen papers were presented by: J. F. Gray, St. Mary's University of San Antonio, introduced by the Secretary; Professor W. S. McCulley, Texas A&M College; Peter Henrici, University of California, Los Angeles (by invitation.); R. S. Underwood, Texas Technological College; Dale Maness, Howard Payne College; Carl Pearcy, Rice Institute, introduced by the Secretary; R. E. Greenwood, University of Texas; Louis Brand, University of Houston; J. F. Gray, St. Mary's University of San Antonio; Guy Johnson, Rice Institute; Ben Fitzpatrick, Jr., University of Texas; G. R. MacLane, Rice Institute; Terence Reed, Rice Institute, introduced by the Secretary; and Fred Bamforth, Texas Christian University, introduced by the Secretary.

Professor H. J. Ettlinger gave a detailed report of the High School Mathematics Contest which was given on a trial basis. Through Professor Ettlinger's leadership, the results were very satisfactory and the Section decided to continue the contest the next year.

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Other activities during 1959

The Executive Director of the High School Mathematics Contest for the MAA was W. H. Fagerstrom at Pan American College in Edinburg, Texas.

W. T. Guy, Jr., University of Texas, was elected Governor of the Texas Section for a three-year term to run from July 1, 1959-June 30, 1962.

Assistant Professor J. R. Boyd, Lamar State College of Technology, was appointed Assistant Professor at Arlington State College. Assistant Professor D. F. Dawson, University of Missouri, was appointed Professor at North Texas State College. At Texas Southern University, Velma M. Williams and Beverly Smith were appointed Instructors.

E. H. Hanson of Chance Vaught Aircraft, Inc., who had served the Section as Chairman from 1941 until 1947 and as Governor 1950-53, accepted the position of Chief of the Technical Staff of Land-Air, Inc., in Point Mugu, California.

Associate Professor A. J. Lohwater, University of Michigan, was appointed Associate Professor at Rice Institute. Assistant Professor W. M. Perel, Texas Technological College, left to accept a position as Associate Professor at Louisiana State University in New Orleans.

R. L. Tennison, a graduate of Howard Payne College and of Oklahoma State University, was appointed Assistant Professor at East Central State College in Oklahoma. Tennison would later return to Texas and eventually serve the Texas Section as Chairman. A. L. Wilkinson, Texas A&M College, accepted a position with the Department of Agriculture in Dallas.

C. R. Woodrow, formerly a graduate student at Oklahoma State University, was appointed an Instructor at Austin College; and R. G. Dean, also formerly a graduate student at Oklahoma State University, was appointed an Instructor at Stephen F. Austin State College.

Thomas A. Atchison, a graduate student at the University of Texas, and R. G. Dean, an instructor at Stephen F. Austin State College, were elected to membership in the Mathematical Association of America. S. S. Wilks, a Visiting Lecturer for the Mathematical Association of America, spoke at North Texas State College, Southern Methodist University, Texas Christian University and Rice Institute.

Associate Professor Myrtle C. Brown of North Texas State College died on March 8, 1959. She had been a member of the Association for thirty-six years.

When on October 4, 1957, the USSR launched Sputnik, the first artificial earth satellite, it had also launched a race to the moon which would spawn a fervor for mathematics and science education unprecedented in the history of the United States. Obviously, the Russians had a clear lead in rocketry. If we were to match what we recognized as a vast and superior body of scientists and to overtake their lead in rocketry, we too had to begin to train much more vigorously than we had ever done before.

It would have taken years to train enough new teachers of mathematics and science, and then wait for them to train a new generation of mathematicians and scientists, so the National Science Foundation began a crash program to retrain existing teachers. Some of the avenues followed were: nationally televised classes in mathematics and physics; summer institutes and academic-year institutes, primarily for teachers in Junior and Senior High Schools; and science faculty fellowships, primarily for college teachers. This writer earned a masters degree in Natural Science while attending Oklahoma State University, 1958-59, on an academic-year institute. He first studied advanced calculus while attending a summer institute at Clark University, 1960, and had a science faculty fellowship for part of his work on the Ph.D. degree at Texas Christian University, 1962-66.

During the Summer of 1959, three of the seventy-nine NSF Summer Institutes were in Texas, one at East Texas State College, one at Our Lady of the Lake College, and one at Southern Methodist University.

1960 The annual spring meeting of the Texas Section of the Mathematical Association of America was held on April 8-9, 1960, at San Antonio College. Professors W. T. Guy, Jr., University of Texas, and P. R. Cullwell, San Antonio College, presided. The total attendance was 153 including, 105 members of the Association. [M67; 733-736]

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The following individuals presented twenty-one papers: H. B. Curtis, Jr., University of Texas; D. E. Edmondson, Southern Methodist University; P. M. Blair, Rice Institute, introduced by the Secretary; H. A. Luther, Texas A&M College; Guy Johnson, Rice Institute; Louis Brand, University of Houston; Larry Armijo, Rice Institute; W. S. McCulley, Texas A&M College; George Springer, University of Kansas; R. K. Meany, Texas Christian University; J. R. Cammon, Rice Institute, introduced by the Secretary; J. R. Boyd, Arlington State College; P. D. Minton and Mr. A. E. Crofts, Southern Methodist University; R. E. Kilmer, Texas A&M College, introduced by the Secretary; Roger Osborn, University of Texas; W. I. Layton, Stephen F. Austin State College; R. S. Underwood, Texas Technological College; L. K. Durst, Rice Institute; W. H. Fagerstrom, Pan American College; E. R. Heineman, Texas Technological College; and Visiting Professor Ping Chang Van, Texas Technological College, introduced by the Secretary.

The officers for the next academic year were as follows: Chairman, P. R. Cullwell, San Antonio College; Vice-Chairman, W. I. Layton, Stephen F. Austin State College; Secretary-Treasurer, C. R. Sherer, Texas Christian University.

1961 The annual spring meeting of the Texas Section of the Mathematical Association of America was held at the Stephen F. Austin State College, Nacogdoches, Texas, on April 14-15, 1961. There were 175 persons present, including 122 members of the Association.

In 1961, Dr. W. I. Layton was Head of the Mathematics Department at Stephen F. Austin State College. E. P. Kelly, Harold Bunch, and this writer, who made up the remainder of the Department, were aware that the Section meeting was scheduled here and we had wondered why none of us had been asked to help with the local arrangements.

Dr. Layton scheduled a faculty meeting about a week before the scheduled Section meeting. We gathered and at the appointed time, Dr. Layton began a little speech: "Gentlemen, as you may know, Stephen F. Austin State College is to have the honor of being the host for the meeting of the Texas Section of MAA. This is a great honor and a great responsibility, and we want to put on a meeting people will enjoy and which we can be proud of, so I would like to appoint a committee for local arrangements." Kelly, Bunch and I began looking at each other and wondering, "How can we plan for a meeting in a week?" We should have known.

Dr. Layton designated all of as members of the committee and then began passing out little strips of paper with our respective duties on them. I was to show up at the college cafeteria at 8:15 a.m. on Saturday where Mr. Childress, the Food Service Director, would have ten dozen donuts waiting for me. Arrangements for a table and coffee had already been made. Each member of the "committee for local arrangements" had similar duties. In his characteristic style, Dr. Layton had planned every conceivable detail himself. This was typical of his administrative style. He took it upon himself to shelter his faculty from anything which might burden them and take time from their teaching.

H. S. Vandiver of the University of Texas was the invited speaker. I did not know at the time that five years later I would elect to write a dissertation on semirings, and then discover that the structure had been defined first by Vandiver. I just knew that he was supposed to be the world's foremost living authority on Fermat's Last Theorem and I was interested in what he had to say. In his address, he began recapping the progress which had been made on the puzzling proof, and in the middle of the address, he got an idea of something he had evidently never tried before.

He apparently forgot that he had an audience and for over an hour, he worked on the two portable chalkboards which had been placed on the stage of the auditorium. Professor Vandiver was a little gnome of a man and he was wearing a large baggy coat with large pockets. As he worked, filling the boards, then erasing them, he would occasionally stick an eraser into one of the pockets of the coat. When he "ran out of erasers," I, as a member of the arrangements committee was dispatched to a classroom across the hall to get a new supply of erasers. As you know, he did not resolve Fermat's Last Theorem that day, but I am certain that, if he had worked until midnight, no one would have walked out or interrupted him. [M68; 704-707]

The following eighteen papers were presented Friday afternoon and Saturday morning: H. A. Luther, Texas A&M College; R. S. Underwood, Texas Technological College; E. R. Keown, Texas A&M Col-

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lege; H. S. Vandiver, University of Texas; G. W. Batten, Jr., Rice University; C. R. Deeter, Texas Christian University; G. R. MacLane, Rice University; George Copp, North Texas State College; Louis Brand, University of Houston; P. D. Minton and Frederick Backer, Jr., Southern Methodist University; E. P. Kelly, Jr., Stephen F. Austin State College; Arlen Brown, Rice University; M. A. Al-Bassam, Texas Technological College; V. Seshadri, Southern Methodist University; Mr. L. R. Carry, North Texas State College; D. E. Edmondson, University of Texas; Mr. Carl Pearcy, Rice University; and A. A. Armendarez, Rice University.

Officers for the next year were: Chairman, W. I. Layton, Stephen F. Austin State College; Vice-Chairman, G. R. MacLane, Rice University; Secretary-Treasurer, C. R. Sherer, Texas Christian University.

Other activities during 1961

The Texas Section of the Mathematical Association of America decided to have two meetings each year, the regular spring meeting and another in conjunction with the Texas Academy of Science, which was usually held sometime during the first two weeks of December. A special section of the Academy was formed for mathematics. The first such meeting was held at Galveston, on December 8 and 9, 1961. W. T. Guy, Jr., University of Texas, sectional Vice-President of the Academy, presided. L. A. Colquitt, Texas Christian University, was elected Vice-President for the next year. The Secretary of the Texas Section absorbed the regular duties of that office for this meeting. About 100 members were present. [M69; 691-693]

The program included sixteen contributed papers. These papers were presented by: Alfred Schild, University of Texas, and F. A. E. Pirani, King's College, London, England, presented by Professor Schild; E. P. Kelly, Stephen F. Austin State College; M. H. Burns and G. H. Dubay, Texas Institute for Rehabilitation and Research and University of St. Thomas; Louis Brand, University of Houston; H. J. Ettlinger, University of Texas; Elbert Pirtle, Stephen F. Austin State College, (undergraduate) introduced by E. P. Kelly; D. E. Edmondson and Mr. D. J. Hansen, University of Texas; J. T. White, University of Texas; Roger Osborn, University of Texas; Louis Silverman, University of Houston; G. S. Innis, Jr., University of Texas; A. A. J. Hoffman, University of Texas; P. D. Minton, Southern Methodist University; P. J. Knopp, University of Texas; J. M. Nash, Texas A&M College; and Sister Claude Marie Faust, C. C. V. I., Incarnate Word College.

The practice of holding a meeting in the Fall continued for four years, 1961-62-63-64. It might have continued indefinitely, had there not been a desire on the part of the other sections of the Texas Academy of Science to move the meeting of that Academy to the Spring, possibly in March. Members of the Texas Section of the Mathematical Association of America opposed the move, but were easily outvoted by those favoring it. When the TAS did move to the Spring, it was felt that participation in that meeting would tend to dilute the participation in the Spring meeting of the Texas Section of the Mathematical Association of America, so the Texas Section withdrew its cooperation in the meeting of the Texas Academy of Science. Nevertheless, members of the Texas Section have continued to participate in the Texas Academy of Science meetings and to contribute papers, but on a much smaller scale.

1962 The annual spring meeting of the Texas Section of the Mathematical Association of America was held on April 6-7, 1962, at Rice University. [M69; 703-707] There were 150 persons present, of whom 100 were members of the Association. By invitation of the Section, Professor A. D. Wallace, Tulane University, gave the main address, which was entitled "The Structure of Topological Semigroups--Recent Advances."

The following individuals presented papers: Arlen Brown, Rice University; E. R. Keown, Texas A&M College; H. E. Heatherly, Texas A&M College; Don Deckard and Carl Pearcy, Humble Oil and Refining Company; L. L. Silverman, University of Houston; M. A. Al-Bassam, Texas Technological College; Richard O'Neill, Rice University; G. R. MacLane, Rice University; K. F. Barth, Rice University; J. E. McMillan, Rice University; G. S. Innis, Jr., University of Texas; J. F. Gray, S. M., St. Mary's University; Louis Brand, University of Houston; H. A. Luther, Texas A&M College, and L. F. Guseman, Jr., and H. A. Luther, Texas A&M College.

Also papers by: J. E. Strub, Texas A&M College; L. K. Durst, Rice University; J. T. White, University of Texas; P. J. Knopp, University of Texas; J. T. Hurt, Texas A&M College; V. Seshadri, Southern Methodist University; B. S. Shannon and P. D. Minton, Southern Methodist University; P. D. Minton, Southern Methodist University, and Dr. Manus Foster, Socony Mobil Company, Inc.; Mr. W. T. Tucker, Southern Methodist University; J. P. Brannen, University of Texas; H. H. Walbesser, University of Texas; Lillian K. Bradley, Texas Southern University; R. A. Hassell, Southern Methodist University; Roger Osborn, University of Texas; L. A. Colquitt, Texas Christian University; and W. T. Guy, Jr., University of Texas.

The following officers were elected: Chairman, G. R. MacLane, Rice University; Vice-Chairman, H. C. Parrish, North Texas State University; Secretary-Treasurer, C. R. Sherer, Texas Christian University.

Other activities during 1962

H. C. Parrish of the North Texas State College was elected Governor of the Texas Section for a three-year term, July 1, 1962-June 30, 1965.

The Fall meeting of the Texas Section was held jointly with the Texas Academy of Sciences at the University of Texas on November 30 and December 1, 1962. There were two sessions, one Friday afternoon and one Saturday morning, for contributed papers. On Friday afternoon there was an invited hour address by C. B. Morrey, Jr., of the University of California, Berkeley, on "Certain Function Spaces and The Calculus of Variations." Attendance at the meeting was 110, of whom 65 were members of the Association. L. A. Colquitt, Vice-President of the Academy for Section I (Mathematics) presided.

Papers were presented by: H. A. Luther, Texas A&M College; Louis Brand, University of Houston; H. J. Ettlinger, University of Texas; J. F. Gray, St. Mary's University; D. E. Edmondson, University of Texas; T. A. Atchison, University of Texas; R. T. Gregory, University of Texas; B. L. Sanders, Texas Christian University; S. N. Afriat, Rice University; J. T. Webster, Southern Methodist University; R. A. Axford and P. B. Crawford, Texas A&M College; A. A. J. Hoffman and G. B. Dobbins, Jr., Texas Christian University; Barbara Clinger, University of Texas; J. E. Cude, University of Texas; and P. L. Odell, University of Texas. [M70; 358-360]

1963 The annual spring meeting of the Texas Section of the Mathematical Association of America was held at

North Texas State University, Denton, Texas, April 19-20, 1963. Attendance was 211, of whom 150 were members of the Association. L. A. Colquitt, W. T. Guy, and H. C. Parrish presided at the various sessions. Friday afternoon Professor H. S. Wall of the University of Texas gave an invited address on "Hellinger Type Integrals." Friday evening Vice-President W. L. Ayres, Southern Methodist University, gave the banquet address an "As I See It From Here." [M70;797-801]

At the business meeting, the following were elected: Chairman, H. C. Parrish, North Texas State University; Vice-Chairman, E. R. Heineman, Texas Technological College; Secretary-Treasurer, C. R. Sherer, Texas Christian University. The 1964 meeting was scheduled to be held at Texas Technological College

Papers were presented by: B. S. Shannon, Jr., and P. D. Minton, Southern Methodist University; R. D. Sinkhorn, University of Houston; Carl Pearcy, Humble Oil and Refining Company; C. J. Stuth, East Texas State College; D. R. Myrick, Texas Technological College; Louis Brand, University of Houston; H. S. Wall, University of Texas; W. A. Al-Salam, Texas Technological College; Larry Armijo, Rice University; G. W. Batten, Jr., Rice University; John Perryman, University of Texas; H. L. Gray, Texas Technological College; A. O. Garder, Humble Oil and Refining Company; J. A. Dyer, Southern Methodist University; Guy Johnson, Jr., Rice University; D. F. Dawson, North Texas State University; Richard O'Neill, Rice University; T. A. Atchison, University of Texas; Jim Douglas, Jr., and Carl Pearcy, Rice University and Humble Oil and Refining Company; Lowell Gregory, Chance Vaught Corporation; J. T. Hurt, Texas A&M College; E. K. McLachlan, Oklahoma State University; A. A. J. Hoffman, Texas Christian University; Naoki Kimura, University of Oklahoma; Bob Boyer, Kingsville High School; and Mary Folsom, University of Miami.

Other activities during 1963

The Texas Section of the Mathematical Association of America met jointly with the sixty-seventh meeting of the Texas Academy of Science at Abilene Christian College, December 6-7, 1963. The program was arranged by James F. Gray, S.M., St. Mary's University, Vice-President for Mathematics of the TAS, who presided at the Friday afternoon session. H. C. Parrish, North Texas State University, Chairman of the Texas Section of the MAA, chaired the Saturday morning session. An invited address on "Order Statistics" was given by S. S.

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Wilks of Princeton University on Friday afternoon, through the cooperation of the NSF-Visiting Lecturer Program in Statistics. Charles R. Sherer of Texas Christian University was elected Vice-President of Section I-Mathematics of the TAS for 1964. [M71; 826-827]

The program included fifteen papers by the following: H. A. Luther, Texas A&M College; J. T. Webster, Southern Methodist University; W. E. Christilles, Saint Mary's University; S. S. Wilks, Princeton University (an invited hour, address through the cooperation of the NSF-Visiting Lecturer Program in Statistics); H. E. Lacey, Abilene Christian College; D. E. Ryan, University of Texas; E. E. Moyers, Tidewater Oil Company; H. E. Heatherly, Texas A&M College; W. S. McCulley, Texas A&M College; Don Edmondson, University of Texas; Woodard Robbins, Abilene Christian College; Patrick Odell and James Scroggs, University of Texas; Brock Barton, Abilene Christian College (undergraduate); Ray Whiteside, University of Texas and a panel discussion: "Pro's and Con's, Problems and Potential of the Freshman Combined Analytics and Calculus Course" by Professors J. F. Gray, S.M., St. Mary's University (moderator); Dale Maness, Howard Payne College; M. E. Mullings, Abilene Christian College; and H. C. Parrish, North Texas State University.

1964 The annual meeting of the Texas Section was held at Texas Technological College on April 10-11, 1964. [M71; 834-837] Herbert C. Parrish, Chairman of the Section, and E. A. Hazlewood, presided. There were 200 persons in attendance, including 160 official registrants. Dr. R. H. Bing, President of the Mathematical Association of America, was a distinguished visitor and gave an hour lecture on "Homogeneity."

The program included contributed papers by the following: J. J. Malone Jr., University of Houston; Henry E. Heatherly, Texas A&M University; Charles Megibben, University of Texas; Carl F. Kossack, Graduate Research Center, Dallas; R. P. Bland, Southern Methodist University, Department of Mathematical and Experimental Statistics; C. H. Boll, Department of Mathematical and Experimental Statistics, Southern Methodist University; T. A. Atchison, Texas Technological College; M. A. Al-Bassam, Texas Technological College; A. D. Stewart, Prairie View A. and M. College; Chang-Char Tu, Rice University; G. S. Innis, Jr., Rice University; A. F. Burger and H. A. Luther, Texas A&M University; C. R. Wall, Texas Christian University; R. D. Sinkhorn, University of Houston; J. A. Dyer, Southern Methodist University; H. E. Lacey, Abilene Christian College; Louis Brand, University of Houston; P. W. Latimer, Lamar State College of Technology; Don Cude, Southwest Texas State College; and Arthur W. J. Ullman, Rice University.

At the business meeting the following officers were elected: Chairman, E. R. Heineman, Texas Technological College; Vice-Chairman, Charles R. Deeter, Texas Christian University; Secretary-Treasurer, Charles R. Sherer, Texas Christian University.

This writer was a graduate student at Texas Christian University at the time of this meeting, and was able to attend only because Charles R. Deeter took several graduate students--C. R. Wall, Bob Huddleston, David Drennan and me--in his vehicle, a white Ford mustang. I don't know whether I have ever adequately expressed to Professor Deeter how much I appreciated the encouragement he gave, and continues to give, to me and other students.

Other activities during 1964

The Texas Section of the MAA, in conjunction with the Texas Academy of Science, met on the campus of Baylor University, December 11-12, 1964. There were 100 members of the Association present. [M72; 454-455] Thomas A. Atchison of Texas Technological College, was the chairman for the December 11 afternoon session, and Charles R. Deeter of Texas Christian University, for the Saturday morning session, December 12.

Papers were read by: P. L. Odell, University of Texas; J. A. Dyer, Southern Methodist University; H. E. Lacey, University of Texas; Melvin R. Hagan, Stephen F. Austin State College; A. A. Gioia and A. M. Vaidya, Texas Technological College; K. W. Reed, Jr., Texas Southern University; J. W. Fitzpatrick, Trinity University; H. A. Luther and H. P. Konen, Texas A&M University; H. J. Ettlinger, University of Texas; H. P. Rogers, San Angelo College; H. L. Rolf, Baylor University; G. D. Smetzer, Trinity University; C. R. Williams, Midwestern University; J. H. Abbott, Graduate Research Center of the Southwest; Irene St. Clair, Texas Education Agency; and Jim Bezdek, Fort Worth Public Schools. **1965** The annual spring meeting of the Texas Section of the MAA was held on the campus of Texas Christian University on April 9-10, 1965. There were 268 persons registered, including 163 members of the Association. [M72; 816-820]

Papers were presented on both days in two concurrent sessions, which were chaired by Professors H. C. Parrish of North Texas State University, D. S. Nymann of Texas Christian University, C. J. Pipes of Southern Methodist University, D. W. Starr of Southern Methodist University, and R. C. Osborn of the University of Texas.

The welcoming address was given by Dr. J. M. Moudy, Executive Vice-Chancellor of Texas Christian University, at a dinner meeting on April 9. It was presided over by C. R. Deeter of Texas Christian University.

The General Session, on Saturday, was chaired by E. R. Heineman of Texas Technological College and included the reports of committees and of the secretary, C. R. Sherer of Texas Christian University. At this session the following officers were elected for the coming year: Chairman, C. R. Deeter, Texas Christian University; Vice-Chairman, C. J. Pipes, Southern Methodist University; Secretary-Treasurer, Ben T. Goldbeck, Jr., Texas Christian University.

The invited speakers for the meeting were William R. Scott, University of Kansas, and Richard D. Anderson, Louisiana State University. Dr. Scott spoke on "Infinite Abelian Groups"; Dr. Anderson spoke on "The Undergraduate Program to Prepare Students for Graduate Study."

Contributed papers were presented by: by Richard Bagby, Rice University; James Harvey, Texas Christian University; J. A. Dyer, Southern Methodist University; R. D. Sinkhorn, University of Houston; H. L. Gray, University of Texas and TRACOR Inc.; S. A. Sims and Gil Kim, Texas A&M University; S. A. Sims, and M. T. O'Hara, Texas A&M University; B. F. Jones and C. C. Tu, Rice University; A. M. Vaidya, Texas Technological College; A. A. Gioia and A. M. Vaidya, Texas Technological College; R. P. Kendall and Roger Osborn, University of Texas; J. M. Stark, Lamar State College of Technology; Mark Lotkin, Flight Operations Laboratory, General Electric Co.; J. T. Hurt, Texas A&M University; J. J. Malone, Jr., University of Houston; J. R. Durbin, University of Texas; M. W. Weaver, University of Texas; D. E. Edmondson, University of Texas; G. S. Innis, University of Texas; Louis Brand, University of Houston; J. P. Vogiatzis, University of Houston; H. A. Luther and J. M. Nash, Texas A&M University; P. L. Odell, University of Texas, and A. H. Feivenson, NASA-Manned Spacecraft Center; Arthur Ullman, Texas Christian University; D. R. Traylor, University of Houston; Margaret R. Wiscamb, Texas Christian University; John Reynolds, Texas Christian University; and R. S. Underwood, Texas Technological College.

Other activities during 1965

Martin Wright of the University of Houston was elected Governor of the Texas Section for a three-year term, July 1, 1965-June 30, 1968.

Section records show that the membership of the Texas Section in 1965 was approximately 640.

1966 The annual spring meeting of the Texas Section of MAA was held on the campus of Southern Methodist University on April 15-16, 1966. There were 287 persons registered including 210 members of the Association. [M73; 928-932]

Papers were presented on both days in two concurrent sessions chaired by J. T. Mohat of North Texas State University, A. D. Stewart of Prairie View A. and M. College, Bobby Sanders of Texas Christian University, Dale Maness of Austin College, and Father Theodosius Demen of the University of Dallas.

The welcoming address was given by Provost W. L. Ayres of Southern Methodist University at a dinner meeting on Friday evening, which was presided over by C. J. Pipes of Southern Methodist University.

The general session on Saturday was chaired by C. R. Deeter of Texas Christian University and included reports of committees and of the secretary-treasurer. At this session the following officers were elected for the coming year: Chairman, C. J. Pipes of Southern Methodist University; Vice-Chairman, Dale Maness of Austin College; Secretary-Treasurer; and Ben T. Goldbeck, Jr., of Texas Christian University. The invited speakers for the meeting were P. R. Halmos, University of Michigan and University of Miami, who spoke on "Dilation Theory," and R. L. Wilder, University of Michigan, who spoke on "The Role of Intuition."

Papers were presented by the following: R. E. Huddleston, Texas Christian University; Tom Davis, Sam Houston State College; Daniel Wulbert, University of Texas; J. J. Malone, Jr., University of Houston, and J. R. Clay, George Washington University; A. E. Borm, Southwest Texas State College; R. D. Sinkhorn, University of Houston; G. S. Innis, Defense Research Laboratory, University of Texas, A. D. Stewart, Prairie View A. and M. College; D. F. Dawson, North Texas State University J. E. Cude, University of Texas; T. P. Kezlan, University of Texas; H. A. Luther and W. F. Stewart, Texas A&M College; Jack Bryant, Texas A&M University; G. E. Mattingly, Sam Houston State College; R. V. McPherson, University of Texas; Peter Morris, University of Texas; Louis Brand, University of Houston; H. E. Lacey, University of Texas; T. J. Bradshaw, Texas Christian University; A.[rthur] Ullman, Texas Christian University; R. G. Dean, Arlington State College; H. E. Scheiblich, University of Texas; Nancy Bedford, University of Houston; John Reynolds, Texas Christian University; R. R. Bunten, 6570th USAF Personnel Research Laboratory; A.[rthur] Ullman, Texas Christian University; and A. R. Amir-Moéz, Texas Technological College.

Other activities during 1966

This writer was in the final throes of his dissertation under the direction of Ben T. Goldbeck, Jr., at Texas Christian University in the Spring of 1966. All of the committee members except L. A. Colquitt had read and approved the draft, and Colquitt had had it for over a month when the Spring meeting took place at Southern Methodist University that April. On Friday morning at the meeting, Colquitt passed me in the hallway, in his characteristic "almost race-walking" way, skidded to a halt, and waved a rolled-up bundle of papers (which turned out to be the draft of my dissertation) and said with some urgency, "I need to talk to you about this." We agreed for me to come to his motel after I gave my talk in the afternoon. When I got there I found that Colquitt was sharing a room with Paul R. Halmos. We went over the few changes Colquitt wanted me to make with Halmos looking on. Halmos probably doesn't remember it, but I will surely never forget it. **1967** The annual spring meeting of the Texas Section of the MAA was held on the campus of Austin College in Sherman, on April 14-15, 1967. There were 279 persons registered, including 176 members of the Association. [M74; 904-907]

Papers were presented Friday in two concurrent sessions chaired by A. D. Stewart of Prairie View A&M, D. H. Martin of Grayson College, T. G. Newman of Southern Methodist University, and B. B. Williams of the University of Texas at Arlington.

The welcoming address was given by President J. D. Moseley of Austin College at a dinner meeting on Friday evening, which was presided over by Dale Maness of Austin College.

The general session on Saturday was chaired by C. J. Pipes of Southern Methodist University and included reports of all committees and of the secretary-treasurer. At this session the following officers were elected for the coming year: Chairman, Dale Maness of Austin College; Vice-Chairman, H. A. Luther of the Texas A&M University; Secretary-Treasurer, B. T. Goldbeck, Jr., of Texas Christian University.

The invited speakers for the meeting were E. E. Moise, Harvard University, who spoke on "How to Tell That a Simple Over-hand Knot is Really Knotted," and Dr. T. A. Atchison, Ling-Temco-Vaught, who spoke on "Nonlinear Transformations Related to the Evaluation of Improper Integrals."

Contributed papers were presented by: Louis Brand, University of Houston; J. C. Bradford, Abilene Christian College; Geraldine Fuller Daunis, Texas Christian University and University of Texas at Arlington; D. E. Edmondson, University of Texas; Jean B. Richmond, Southern Methodist University; Ruth Goodman, Texas A&M University; W. J. Matthews, Southwest Texas State College; Richard O'Neill, Rice University; Margaret R. Wiscamb, University of St. Thomas; A. F. Kleiner, Jr., Texas A&M University; Wingo Hamilton, University of Texas at Arlington; C. D. Tabor, Texas Christian University and Texas Woman's University; M. G. Monzingo, Southern Methodist University; Jack Bryant, Texas A&M University; Max Jodeit, Jr., Rice University; C. C. Tu, Rice University; A. R. Crawley and H. A. Luther, Texas A&M University; Louis Brand, University of Houston; J. R. Durbin, University of Texas; Shannon Smyrl, Texas Technological College;

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S. A. Sims, Texas A&M University, and Sallie Nelson, Lockheed Electronics Company; and F. L. Ermis, Jr., Wharton County Junior College.

The Section Chairman, C. J. Pipes, announced the appointment of a committee to write a history of the Texas Section of the Mathematical Association of America. The committee consisted of C. R. Sherer of Texas Christian University, Chairman; R. L. Moore and H. J. Ettlinger of the University of Texas; and H. E. Bray of Rice University.

Other activities during 1967

Assistant Professor R. G. Dean of the University of Texas at Arlington accepted a position as Associate Professor at Stephen F. Austin State College.

On September 29, 1967, Secretary-Treasurer Ben T. Goldbeck, Jr., sent two copies of the "short" (three pages) history of the Texas Section to Raoul Hailpern, Associate Secretary of the Mathematical Association of America. It became the basis for the section in the book edited by Kenneth O. May, THE MATHEMATICAL ASSOCIATION OF AMERICA: ITS FIRST FIFTY YEARS.

The Fiftieth Annual Meeting of the Mathematical Association of America was held in Houston on January 26-28, 1967. This was only the second time an annual meeting of the Association had been held in Texas. There were 3101 registered in attendance, of whom, 1720 were members of the Association.

The Program Committee consisted of: D. G. Bourgin, Chairman; Louis Brand, University of Houston; E. H. Connell; W. T. Guy, Jr., University of Texas; J. H. Hlavaty; E. C. Klipple, Texas A&M University; and W. K. McNabb, Dallas. The Committee on Arrangements consisted of: D. R. Traylor, University of Houston, Chairman; Eleanor Akers; H. L. Alder; P. T. Bateman; M. L. Curtis, Rice University; W. T. Ingram, University of Houston; C. B. Rader, University of Houston; J. A. Robinson; G. L. Walker; Margaret R. Wiscamb, University of St. Thomas; and Martin Wright, University of Houston.

Sessions were held primarily at the Rice Hotel in downtown Houston, with some of them--in joint session with the National Council of Teachers of Mathematics--held at the Cullen Auditorium at the University of Houston. This writer remembers a lot of congestion in the lobby, in some corridors, and in the coffee shop next door. At one break, R. L. Tennison and I went next door for coffee. When we finally got seats at the counter, the waitress, who noticed that neither Tennison nor I had beards, whispered across the back of her hand, "Y'all are not with them are you?" nodding toward the hundred or so mathematicians, most of whom were wearing beards. In the 1960's, many Texans thought of almost anyone who had a beard as a "hippie" and not as someone with whom "decent folks" would associate.

Another example of the mutual "cultural shock" at that meeting was the inconvenience caused by the Rice Hotel policy of not paging females over the paging system.

One of the features of the meeting was a Film Program which featured a film on the life and work of John Von Neumann one by Mark Kac, "Can You Hear the Shape of a Drum," and one by Marston Morse, "Pits, Peaks and Passes." Also shown were the CEM Animated Calculus Films, the CEM Animated Level I Films, and some films from the College Geometry Project of the University of Minnesota.

A most delightful memory for the author is of coming upon an unscheduled showing of the animated cartoon film from Modern Learning Aids entitled "Infinite Acres." It was showing on a small self-enclosed projector with a rear-projection screen about the size of a television set. It was set up at the intersection of two hallways on the third or fourth floor of the Rice Hotel. If they were interested, people would stop to watch the ten-minute film, which was on a film loop and which was showing continuously. While I was watching, a rather short, somewhat pudgy and very animated man also stopped to watch. He seemed to be enjoying the film more than any one else, and he got very excited when one of the characters, the paint company boss, came onscreen. "That's Me! See Him. That's Me!" he said. I found out later that he was Melvin Hendrickson, a consultant on the film project and the cartoon's inspiration for the "boss man."

1968 The annual spring meeting of the Texas Section of the MAA was held on the campus of Texas A&M University on April 19-20,1968. There were 256 persons registered, including 178 members of the Association. [M75; 824-826]

Papers were presented on Friday in three concurrent sessions moderated by R. J. Duffin, Texas A&M University; M. G. Mundt, Texas Lutheran College; J. J. Malone, Texas A&M University; C. M. McLoury, McMurry College; R. M. Whitmore, Southwestern University; R. G. Dean, Stephen F. Austin State College; and G. R. Stewart, Stephen F. Austin State College. Papers were also read in three concurrent sessions on Saturday morning. These sessions were chaired by R. B. Patschke, Tyler Junior College; M. G. Bordelon, College of the Mainland; and Jack Bryant, Texas A&M University.

The welcoming address was given by Vice-President W. C. Hall of Texas A&M University at a dinner meeting Friday evening, at which H. A. Luther, Texas A&M University, presided.

The general session on Saturday was chaired by Dale Maness of Austin College and included reports of all committees, the section Governor, and the Secretary-Treasurer. At this session the following officers were elected for the coming year: Chairman, H. A. Luther, Texas A&M University; Vice-Chairman, Carmon McFerran of Texarkana College; Secretary-Treasurer, B. T. Goldbeck, Jr., Texas Christian University.

The invited speakers were Gail S. Young, of Tulane University and representing the Association; who spoke on "Topological Aspects of Complex Variables"; R. E. Greenwood, University of Texas, who spoke on "The Putnam Prize Competition"; and M. L. Curtis, of Rice University and representing the MAA Committee on Undergraduate Preparation in Mathematics, who spoke on "What Every Young College Teacher Should Know."

The program at the 1968 meeting was the largest program that had ever been presented at a meeting of the Texas Section. In addition to the three invited addresses, it included forty-four contributed papers. The presenters were: J. R. Mosher, Texas Christian University; Truman Lewis and Tom Newman, Texas Technological College; C. H. Farmer, TRACOR, Inc.; G. L. Shurbet and H. W. Milnes, Texas Technological College; Louis Brand, University of Houston; H. L. Gray and T. A. Atchison, Texas Technological College; W. S. McCulley, Texas A&M University; W. B. Sconyers, Texas Christian University; Margaret R. Wiscamb, University of St. Thomas; David Drennan, Texas Christian University and Jarvis Christian College; Carter Lyons, Texas A&M University; J. C. Bradford, Abilene Christian College; H. E. Lacey, NASA-MSC-Houston and University of Texas; H. E. Stone, Texas Christian University; H. W. Milnes and S. K. Hildebrand, Texas Technological College; R. K. Williams, Southern Methodist University; P. J. Allen, University of Alabama; F. E. Tidmore, Texas Technological College; Brother Joseph Heisler, St. Edward's University; Arthur Richert, Jr., University of Texas; M. E. Harris, University of St. Thomas; and Richard O'Neill, Rice University.

Also presenting were: L. F. Guseman, Jr., NASA-Manned Spacecraft Center; Dianne Kleuser, University of St. Thomas; T. L. Boullion, Texas Technological College; Jim Bezdek, North Texas State University; H. E. Heatherly, Texas A&M University; Bertha G. Trevino, Laredo Junior College; J. R. Boone, Texas Christian University; J. J. Malone, Jr., Texas A&M University; Jack Bryant, Texas A&M University; Louis Brand and Steve Ligh, University of Houston and Texas A&M University; Norm Howes, Texas Christian University; Jean Rogers Edwards, University of Houston; Russell Cowan, Lamar State College of Technology; C. H. Sampson, Texas A&M University; Mark Hedrick, Houston, Texas; Linda D. Lindsey, Tarleton State College and Texas Christian University; George Berzsenyi, Texas Christian University and Northeast Louisiana State College; J. D. Price, North Texas State University; J. C. Bolen, Texas Christian University; R. R. Bunten, USAF Personnel Research Laboratory; Jay Amburgey, Texas Technological College; and Richard Bagby, Rice University.

Other activities during 1968

D. E. Edmondson of the University of Texas was elected Governor of the Texas Section for a three-year term, July 1, 1968-June 30, 1971.

Section records show that the membership of the Texas Section in 1965 was approximately 840.

1969 The annual spring meeting of the Texas Section of the MAA was held on the campus of Texarkana College, Texarkana, Texas on April 18-19, 1969. There were 204 persons registered, of whom 132 were members of the Association.

At the business meeting on Saturday morning, April 19, the following officers were elected for the coming year: Chairman, Carmon McFerran, Texarkana College; Vice-Chairman, George Vick, Sam Houston State University; Secretary-Treasurer, J. C. Bradford, Abilene Christian College. Also, the Committee on Financing made a report and the Sectional Governor, D. E. Edmondson, made a report.

Invited speakers were E. J. McShane of the University of Virginia, who spoke on "A Unified Theory of Integration," and Victor Klee of the University of Washington and representing the Association, who spoke on "Shapes of the Future." In sessions meeting Friday afternoon and Saturday morning twenty-eight contributed papers were presented by: R. K. Williams, Southern Methodist University; H. L. Rolf, Baylor University; C. W. Mastin, Texas Christian University; M. G. Monzingo, Southern Methodist University; J. T. Hurt, Texas A&M University; Louis Brand, University of Houston; D. E. Edmondson, University of Texas; O. H. Hamilton, Texas Christian University; D. L. Nelson and T. L. Boullion, Texas Technological College; W. D. Clark, Stephen F. Austin State College; A. F. Kleiner, Texas A&M University; C. R. Williams and J. Warndof, Midwestern University and University of Arkansas; A. R. Amir-Moéz and G. E. Johnston, Texas Technological College and Wayland Baptist College; R. C. Juola, University of Texas; Russell Cowan, Lamar State College of Technology; George Berzsenyi and R. S. Birchler, Northeast Louisiana State College; Farhad Aslan, East Texas State University; W. A. Coberly and T. O. Lewis, Texas Technological College; R. G. Dean, Stephen F. Austin State College; R. L. Poe and C. R. Perry, Texas Technological College; K. G. Johnson and C. R. Smith, Northeast Louisiana State College; Don Burleson and Charles R. Williams, Midwestern University; H. E. Stone, Texas Christian University; K. G. Johnson, Northeast Louisiana State College; C. R. Hallum, Texas Technological College; H. A. Luther and H. G. Sierra, Texas A&M University; W. S. McCulley, Texas A&M University; Elton Lacey, University of Texas; A. R. Amir-Moéz, Texas Technological College; and P. D. Minton, Southern Methodist University.

A committee was appointed to explore ways of increasing our contact with the Junior Colleges.

Other activities during 1969

W. K. McNabb of Dallas was a panelist on the panel "Secondary School Preparation of Students for Freshman Calculus" at the Fifty-Second Annual Meeting of the Association, meeting in New Orleans, Louisiana. The "Challenge in the Classroom: The Methods of R. L. Moore," a CEM Film was shown on the film program at the New Orleans meeting.

1970 The annual spring meeting of the Texas Section of MAA was held on the campus of Sam Houston State University on April 10 and 11, 1970. There were 206 people in attendance.

Invited speakers were E. A. Walker of New Mexico State University, who spoke on "Invariants for Abelian Groups," and Harley Flanders, Purdue University and Editor of the MONTHLY, who spoke on "Mathematical Aspects of Electric Network Theory." Saturday morning, a meeting for teachers of two-year colleges was held.

At the business meeting on Saturday morning, April 11, the following officers were elected for the coming year: Chairman, George Vick, Sam Houston State University; Vice-Chairman, Louie Huffman, Midwestern University; Secretary-Treasurer, J. C. Bradford, Abilene Christian College.

In sessions meeting Friday afternoon and Saturday morning the following read contributed papers: R. V. Morgan, Jr., Southern Methodist University; Robert Giese, Mandrel Industries; K. E. Hummel, Trinity University; George Berzsenyi, Lamar State College of Technology; Brother Joseph Heisler, St. Edward's University; G. E. Suchan, University of Houston; A. D. Stewart, Prairie View A and M College; M. P. Williams, Texas Tech University; L. F. Guseman, Jr., Texas A&M University; Bill Anderson, East Texas State University; D. H. Anderson, Southern Methodist University; F. T. Aslan, East Texas State University; R. K. Williams, Southern Methodist University; E. L. Perry, Jr., Baylor University and Texas Christian University; Russell Cowan, Lamar State College of Technology; D. K. Hughes, Abilene Christian College; W. J. Zimmerman, University of Texas; Farhad Aslan and Howard Duck, East Texas State University; Norm Howes, University of Dallas; C. B. Murray, University of Houston; R. M. Thrall, Rice University; J. R. Durbin, University of Texas; Russell Bilyeu, North Texas State University; and Margaret H. Kneitz, Texas Southern University.

A special session for Junior Colleges was held.

Other activities during 1970

The Fifty-Third Annual Meeting of the Mathematical Association of America was held at the San Antonio Convention Center in San Antonio, January 24-26, 1970. This meeting had been scheduled for Miami, Florida; indeed, the October 1969 issue of the MONTHLY still carried Miami as the meeting site. However, some unsettling events had been brewing in the everglades for several months.

The city had initially promised twenty-five hundred rooms would be made available for the convention; however, the convention in New Orleans had used over thirty-eight hundred rooms, so the committee arranging the Joint Meeting asked for an additional five hundred. But, in April 1969, only sixteen hundred eighty rooms were committed by Miami. The city proposed to "solve" the problem by offering rooms in Coral Gables. This less-than-satisfactory arrangement might have averted moving the meeting had it not been for the fact that around the first of October, the Teamsters, who owned the Everglades Hotel, reneged on their commitment of 250 rooms there, reducing that number to 150. The Everglades was to have been the headquarters hotel for the meeting.

Then on October 8, 1969, the Miami Convention Bureau recommended that the Mathematical Association of America and American Mathematical Society move their meeting elsewhere. Fortunately, the San Antonio Convention Center was available, so on October 10, the Joint Committee on Plans of Meetings voted unanimously to move the meeting to San Antonio. It seems that Teamsters had more clout than mathematicians; but it may well be snowing in Miami the next time the MAA and AMS plan a meeting there.

Although the Program Committee, consisting of Herman Meyer, Chairman, A. R. Bednarek, D. B. Goodner, J. E. Kelley, and A. D. Wallace had most of the program planned, a new Committee for Local Arrangements had to be appointed. In one letter pertaining to the problem, H. L. Alder, the Associate Secretary of the Association, confessed that he did not know any of the mathematicians in San Antonio, but that he did not want to risk angering any of them by appointing a committee consisting of members at the University of Texas, where he did know people. So he enlisted the help of D. E. Edmondson who was Governor of the Texas Section at that time. On October 21, Edmondson recommended DeWayne Nymann of the University of Texas as Chairman, Peter Terwey of Trinity University as Vice-Chairman, William E. Christilles of St. Mary's University as Publicity Director, and Walker E. Hunt of San Antonio College. He also reported he had secured their agreement to serve.

Mathematicians not only found out what Texans can do when the chips are down, but they also found out what a delightful place San Antonio on the "River Walk" can be in January. In a letter dated February 13, 1970, from H. L. Alder to Wallace Hall, Director of the San Antonio Convention Bureau, Alser said: "As I reported at the business meeting of our Association on January 25, I repeatedly heard expressions such as 'This is the best meeting we have ever attended; when can we meet here again?'" He also said: " as you undoubtedly know, the Joint Committee on Places of Meetings . . . decided to recommend to our governing bodies to hold another national meeting at San Antonio six years from now. I think this action speaks louder than any words our delight with the arrangements which were provided."

R. M. Thrall of Rice Institute was on the committee which planned a panel discussion on Computer Science and Mathematics sponsored by the Conference Board of the Mathematical Sciences.

There were 3994 registered in attendance, of whom 2117 were members of the Association.

3. THE THIRD TWENTY-FIVE YEARS

1971 The annual meeting of the Texas Section of the MAA was held at Midwestern University in Wichita Falls on April 16 and 17, 1971. There were 184 people in attendance.

At the business meeting on Saturday, the following officers were elected for the coming year: Chairman, Louie Huffman, Midwestern University; Vice-Chairman, Robert A. Northcutt, Southwest Texas State University; Regional Chairman of the MAA High School Contest, W. S. McCulley, Texas A&M University; Secretary-Treasurer, J. C. Bradford, Abilene Christian College. Invited speakers were E. Ward Cheney of the University of Texas, who spoke on "A Survey of Approximation Theory," and Dr. A. B. Willcox, Executive Director of the MAA, who spoke on "England was Lost on the Playing Fields of Eton: A Parable for Mathematics."

Saturday morning a panel on Accreditation and Certification was held, followed by meetings of special interest groups. Contributed papers were presented in sessions meeting Friday afternoon by: A. Donnell and A. R. Amir-Moéz, Texas Tech University; C. R. Perry, Jr., and A. R. Amir-Moéz, Texas Tech University; Jean Richmond, Southern Methodist University; C. R. Wall, P. L. Crews, and D. B. Johnson, East Texas State University; M. G. Monzingo, Southern Methodist University; D. E. Edmondson, University of Texas; Robert Giese, University of Houston; J. R. Courville, University of Southwestern Louisiana; Russell Schexnayder, University of Southwestern Louisiana; H. E. Heatherly, University of Southwestern Louisiana; Brother Joseph Heisler, St. Edward's University; W. M. Whyburn, Southern Methodist University and East Carolina University; D. H. Anderson, Southern Methodist University; Russell Cowan, Lamar State College of Technology; L. V. Robinson, Argyle, Texas; T. M. Howle, Jr., and John Perryman, University of Texas at Arlington; Stephen West and John Perryman, University of Texas at Arlington; and W. W. Bolton and S. C. Crim, Lamar State College of Technology.

Also, papers by R. K. Williams, Southern Methodist University; R. V. McPherson, University of Texas; M. W. Jeter, Stillwater, Oklahoma; F. N. Huggins, University of Texas at Arlington; J. W. Strain, Midwestern University; Ronald Harrist and Wanzer Drane, Southern Methodist University; Joe Wimbish and Dale Maness, Oklahoma College of Liberal Arts; A. R. Amir-Moéz, Texas Tech University; Vadim Komkov, Texas Tech University; Dale Maness and Joe Wimbish, Oklahoma College of Liberal Arts; Glen Mattingly, Sam Houston State University; B. L. Turlington and Donna K. Dunaway, Southern Methodist University; S. W. McGuire, Lamar State College of Technology; and Ronald Harrist, Southern Methodist University.

On Saturday morning there was a panel presentation of The CUPM Report on Accreditation and Certification. Also, there were three concurrent meetings of "Special Interest Groups." They included "Mathematics in the First Two Years--A Panel on Pre-Calculus Mathematics," "Algebra-Undergraduate and Graduate," and "Real Analysis and Topology."

Other activities during 1971

C. J. Pipes of Southern Methodist University was elected Governor of the Texas Section for a three-year term, July 1, 1971-June 30, 1974.

The Section Secretary-Treasurer, J. C. Bradford, began the publication of a newsletter as an attempt to promote communication within and interest in the Texas Section of the MAA. He began with the hope that the experiment could continue for about two years with Fall, Winter and Spring editions each year. The Winter and Spring editions would include the information contained in the two mailouts formerly used for the Spring meeting. Departments were asked to send news items such as special events, new programs, guest lecturers, promotions, new faculty, retirees, publications, etc., for the winter newsletter. News items and personal items from individuals were invited.

Two actions of long-range importance to the section were taken at the Spring business meeting:

(1) Authorization was given by the Section for the appointment of a committee to devise and implement a method for communicating information that is needed for evaluating transfer programs and advising transfer students. Dr. Glen Mattingly of Sam Houston State University was named to chair this committee. Other committee members were Brenda Auld, C. P. Benner, Herman Scheneman, Beverly Smith, and Margaret R. (Wiscamb) Hutchinson. Persons with suggestions on the matter were asked to contact Dr. Mattingly immediately.

(2) A second committee was authorized to study enlargement of the Executive Committee. This action followed discussion of a desire that had been expressed by many members that the Section take a broader and more useful role in mathematical affairs in the state. The committee was asked to study the entire structure of officers of the Section. Chairman of this committee was Don Edmondson. Other committee members were Charles Pipes, John Perryman, and Frank Lopez.

Chairman Louie Huffman represented the Section at the Meeting of Section Officers that was held in conjunction with the summer meeting of the MAA at Penn State. He reported on our work with Two-Year Colleges, including the plans of Glen Mattingly's committee on transfer problems. Huffman also reported that a resolution was presented by the Michigan Section for the national office to collect the dues for the sections. Charles Pipes, Section Governor, represented the Texas Section at the meeting of the Board of Governors at Penn State. He reported that all sections were being asked to review their Bylaws and bring them into line with suggestions made by the Committee on Sections. The prime matters of concern regard stability in the Section Executive Committee.

At Abilene Christian College, D. A. Caughfield, Gene Evans, and David K. Hughes were promoted to associate professorships.

Angelo State University began a new graduate program, a Master of Arts in Teaching with a major in Mathematics.

At Bishop College, Alemayehu Haile, associate professor, completed all the requirements for the Ph.D. in Statistics at SMU. The Department of Mathematics received an NSF grant to conduct an In-Service Institute for junior high school teachers in cooperation with Dallas public schools. Argelia V. Rodriguez, Chairman of the Department, was Director of the NSF Institute. Dr. Rodriguez was also Director of the Teacher Development for Desegregating Schools Institute for Elementary Mathematics Teachers and Teacher Trainers.

At Blinn College, new teachers were Stewart Angel and John Huber. Mr. Huber was teaching part time as an internship on a degree in Junior College teaching at Sam Houston State University. At Concordia Lutheran College Pat Zimmerman was a new instructor.

William Rippetoe joined the faculty at El Centro College, and Larry Kerbel was named chairman of the Mathematics-Engineering Division of the college. A new pre-professional sequence in engineering to encompass the first two years of the standard engineering program was begun at El Centro.

Ann Bentley from Hardin-Simmons University attended the A.A.A.S. Seminar on Mathematical Modeling at the University of Texas.

Incarnate Word College, for the ninth consecutive year, received an NSF grant for an In-Service Institute for High School Mathematics Teachers. Sister Claude Marie Faust was Institute Director. Twentyfive high school teachers enrolled in the Institute. Also, Sister Claude Marie was named a mathematics consultant for the Bi-Lingual Education Project in San Antonio.

At the University of Houston, H. Cook, D. R. Traylor, and J. N. Younglove were promoted to Professor; M. Armbrust, R. D. Byrd, J. Mausen, W. L. Morris, J. W. Stepp, and A. P. Whitman were promoted to Associate Professor; C. L. Bandy and R. Coustantine were named instructors; G. G. Johnson was named Associate Professor; and M. J. O'Malley was named Assistant Professor. Also, S. G. Wayment was a Visiting Associate Professor, D. G. Bourgin was designated M. D. Anderson Professor of Mathematics, D. R. Traylor was awarded an Administrative Internship by the American Council of Education, P. J. Knopp was on leave to serve as an Associate Director of CUPM for 1971-72, and B. F. Ray retired.

At Howard Payne College, Robert Sartain returned from a leave of absence for graduate study at Texas Tech and became Chairman of the Mathematics Department. Bill J. Dulin, formerly at Texas A&M, was named the new chairman of the Mathematics Department at McMurry College.

Charles R. Williams was promoted to Associate Professor and Joseph C. Warndof and Robert J. Lifsey were promoted to Assistant Professor at Midwestern University. C. W. Rowell was on leave at North Texas State University and was replaced by James C. Hamilton.

At North Texas State University, new assistant professors were Banshi Malviya of Ottawa, in functional analysis, and Yui-Ws (August) Lau from Houston, in topological semi-groups. Professor John Ed Allen was on an eighteen-month NSF grant to study Numerical Analysis at Purdue University. Professor Paul Lewis was a visiting assistant professor at the University of Florida that year. He was replaced for the year by David Lenahurg of L. S. U. Instructors Marilyn Gilchrist, Pauline Wright, and Professor Nand Lal resigned.

At Odessa College, Chappell Scurlock, a doctoral candidate at North Texas State University, was named Instructor. Associate Professor George Hunt retired after 14 years at Odessa, and Assistant Professor H. L. Waldrum retired after more than 20 years.

At Sam Houston State University, new faculty were Robert Neal Hart, Assistant Professor, coming from the University of Nairobi Kenya with Ph.D. at New Mexico State, and David F. Norwood from Houston. A new Computer Science department was begun, offering graduate and undergraduate minor programs for majors in business, science, and mathematics. Thirty junior high school teachers from seven states participated in an NSF Summer Institute led by George Vick, Director and Dan Reeves, Assistant Director.

New assistant professors at Southwest Texas State University included Grady G. Early from Texas A&M University, Donald Hazlewood (apparently no relation of E. A. Hazlewood at Texas Technological College) from Syracuse University, Harry McClung from West Virginia University, James Poirot from Texas Technological College, Ernest Ratliff, Jr., from Oklahoma University. Chairman of the Department Don Cude retired after 26 years service. Cude was Chairman of the Texas Section in 1956-57. Robert A Northcutt became the new chairman. Northcutt was to become Chairman of the Texas Section in 1972-73 and Governor in 1986-89.

In the Department of Mathematics at Southern Methodist University, Edwin D. Mouzon, Jr., retired for the second time after having taught at SMU since 1921. He had recently been named an outstanding professor by a national agency.

In the Department of Statistics at Southern Methodist University, William R. Schucany was named a new assistant professor. Dr. Schucany and Dr. H. L. Gray of Texas Tech were participants in a recent Princeton conference on "The Jackknife Method." Papers were presented by J. W. Drane, W. R. Schucany, W. T. Tucker, Jr., and J. T. Webster.

At Stephen F. Austin State University, promotions included: R. G. Dean to Professor and Ennis D. McCune to Assistant Professor. New and returning faculty included: Jasper E. Adams, who received the Ph.D. degree from Texas Tech University; Jane Ritter of the University of Texas; Ronald E. Mayeaux of Northwestern State University of Louisiana; John L. Toups of the University of Houston; and Roy W. Whitmore of Texas Tech. The second edition of W. I. Layton's COLLEGE ARITHMETIC was published by John Wiley and Sons. SFASU was in the second year of an NSF College Science Improvement Grant. W. I. Layton was director of the grant covering departments of Biology, Chemistry, Mathematics, and Physics. SFASU was awarded a Carnegie Grant to study the possibility of a Doctor of Arts degree in

Biology, English, History, and Mathematics. R. G. Dean was named chairman of the Doctor of Arts Committee in Mathematics.

Timothy L. Flinn at Tarleton State College was promoted to Assistant Professor. Ann Surley was named instructor. A Master of Science in Teaching degree was instituted.

H. C. Parrish of North Texas State University and W. P. Orton of the University of Arkansas were visiting lectures at Texarkana College.

At the University of Texas in the Department of Mathematics, Klaus Bichteler, W. T. Eaton, G. W. Stewart, III and James W. Daniel were promoted to Associate Professor. New assistant professors were J. P. Alexander, G. C. Hamrick and Robert Speiser. Peter D. Morris of Penn State was a Visiting Associate Professor and R. H. Bing of the University of Wisconsin was a Visiting Professor. Ervin Prouse became Professor Emeritus in 1971. Persons on leave for 71-72 included: Bernhard Anerg to the University of Mainz, Germany; Michael Richter to the University of Freiburg, Germany; Jörg Blatter and Galen Seever to the University of Bonn, Germany; Roy P. Kerr to the University of Canterbury, N. A.; E. P. Armendariz resigned to go to Southwestern Louisiana; and Kai Faltings resigned to go to the University of Kaiseralautern, West Germany.

At the University of Texas in the Department of Computer Sciences, Dr. G. V. Stewart was promoted to Associate Professor. New Assistant Professors were W. H. Hennenam of MIT and A. S. Noetzel of the University of Pennsylvania. David M. Young published ITERATIVE SOLUTION OF LARGE LINEAR SYSTEMS, and R. T. Gregory and D. M. Young published A SUMMARY OF NUMERICAL MATHEMATICS.

At Texas A&I University a program in statistics was begun. Philip S. Morey, Jr., had a paper in TENSOR MAGAZINE. Dr. Cecil presented several papers at meetings in 1970-71 and Dr. Speed had a NASA grant for statistical research. Speed also presented several papers in 1970-71.

New faculty at the Texas A&M University Institute of Statistics were Professor A. S. Kshirsagar from SMU and Visiting Professor V. J. Hemmerle from Rhode Island. An undergraduate degree in Quantitative Science was being proposed jointly with the Department of Mathematics. Professor R. R. Hocking received the Wilcoxon Award for the outstanding paper in Techno-metrics of 1970. Professor A. S. Kshirsagar was elected Fellow of the American Statistical Association.

At West Texas State University, new instructors were Darrell C. Hagen, Duane Jacobs, and Wayne E. Schulz. Ronald Huffstutler was promoted to Professor; and John Hunter Durran of Winchester College, Hampshire, England, was a visiting speaker in the summer. After many years of service to the Mathematics Department and to WTSU, Cecil Briggs retired. Frank Williams published the book THE LANGUAGE OF MATHEMATICS, and William Ambrose published TRIGONOMETRY: A FUNCTIONAL APPROACH.

Distribution of a booklet complied by the "Transfer Data Committee," chaired by Dr. Glen Mattingly, was begun. The booklet listed syllabi and textbook titles for college mathematics courses taught by colleges in Texas. The intent was that the information provided would aid anyone attempting to evaluate "transfer credit."

The committee on Bylaws revision, chaired by Don Edmondson, suggested revision of the Bylaws as follows: (1) that the retiring president will remain on the Executive Committee for one year and (2) that three directors be elected to the Executive Committee: Level-I Director, Level-II Director and Director-at-Large. Level-I Director be a person whose interests are in the first two-years program. Level-II Director be a person with interests primarily in years three and four.

Members of the Section were asked to express opinions on the following question: Should the "Host - Vice-Chairman" continue automatically to become Chairman of the Section?

Special Honorees of the Section were: Mabel Williams, Sammie Smyrl, and Brother Raymond F. Schnepp, S.M.

Miss Williams retired in May of 1970 after 48 years in teaching, 34 of which were spent teaching Mathematics at Tyler Junior College, 15 years as head of the Mathematics Department. Williams earned her B. A. and M. A. degrees from the University of Texas in 1922 and started her teaching career in a Pittsburgh, Texas, high school. She later taught in a Port Arthur high school before moving to Tyler Junior College in 1936 to teach Mathematics and Physics. When separate departments were formed in Tyler Junior College in 1955 Miss Williams was appointed head of the Mathematics Department and remained head of that department until her retirement in 1970.

Mrs. Sammie Smyrl of Tyler Junior College retired in the fall of 1970.

Brother Schnepp was born in Chicago, Illinois, March 10, 1896. He received his elementary education at St. Michael's School, Chicago, Illinois. In 1913 he entered the Marianist order. In his early teaching career, he taught grade and high schools in St. Louis, Missouri; Dubuque, Iowa; New Orleans, Louisiana; and Peoria, Illinois, from 1914 until 1925. He received his Bachelor of Science degree from Dayton University in 1922. He continued his studies at the University of Fribourg, Switzerland, 1925-1930, and was conferred with the Master of Science degree in 1928 and with the Ph.D. in 1929. He was Head of the Mathematics Department at St. Mary's University, San Antonio, Texas, from 1930-1961. Brother Schnepp was elected to Emeritus status on the Graduate Faculty of St. Mary's University in 1971.

The following additional tribute to Brother Schnepp was published in the Winter Newsletter:

In the above paragraph are written the personal data of Brother Schnepp, S.M., but words are not capable of expressing the dedicated and excellent teacher he was during his teaching career at St. Mary's University. He is always interested in all of his students and more than capable of having them do orderly, independent original thinking. His personality is an asset to the teaching profession and to the Society of Mary in which he celebrated his Golden Jubilee. His knowledge was not only contained in the study of mathematics but included many other disciplines, English, history, music, etc.

H. S. Wall, Professor Emeritus at the University of Texas, Austin died September 12, 1971, after an illness of several months. Dr. Wall was mentor and friend of many in the Texas Section.

W. O. Alexander, Professor of Mathematics and Chairman of the Division of Science at the University of Corpus Christi, died April 14, 1971, after suffering a stroke the day before. He was born in 1926 in Eldorado, Texas. He had begun teaching at UCC in 1955.

1972 The annual meeting of the Texas Section of the MAA was held at Southwest Texas State University on April 14 and 15, 1972. There were 231 in attendance including 213 members of the Association plus 34 spouses of attendees.

At the business meeting on April 15 the following officers were elected: Chairman, Robert A. Northcutt, Southwest Texas State University; Vice-Chairman, B. L. Sanders, Texas Christian University; Regional Chairman of the MAA High School Contest, W. S. McCulley, Texas A&M University; Secretary-Treasurer, J. C. Bradford, Abilene Christian College; Provisional Directors, June Wood, South Texas College, R. L. Tennison, University of Texas at Arlington, and A. D. Stewart, Prairie View A and M College.

R. H. Bing spoke on "Some Open Questions in Euclidean 3-Space." L. L. Clarkson, Texas Southern University, and John Jewett, Oklahoma State University and Vice President of the Association spoke on "The Work of Some of the CUPM Panels." W. A. Bennie and Ray Carry, both from the University of Texas, spoke on "Competency Based Teacher Education and the Implications for Mathematics."

The program also included thirty-three contributed papers presented by: D. G. Hazlewood, Southwest Texas State University; H. L. Rolf, Baylor University; Michael Wommack and Charles Wall, East Texas State University; Charles Wall, East Texas State University; M. G. Monzingo, Southern Methodist University; D. E. Edmondson, University of Texas; R. E. Dover, Lubbock Christian College; H. E. Heatherly, University of Southwestern Louisiana; E. P. Armendariz, University of Southwestern Louisiana; Baxter Johns, Baylor University; J. T. B. Beard, University of Texas at Arlington; Jim Hickey, Baylor University; L. L. Clarkson, Texas Southern University; J. R. Cannon, University of Texas; J. L. Poirot, Southwest Texas State University, and Russell Cowan, Lamar University.

Also by: R. K. Williams, Southern Methodist University; E. B. Hibbs, Southwest Texas State University; Jack Hardy, Texas A & I University; D. F. Dawson, North Texas State University; David Anderson, Southern Methodist University; George Berzsenyi, Lamar University; Robert Giese, Mandrel Industries; R. M. Thrall, Rice University, D. R. Howes, U. S. Army STAG; C. R. Deeter, Texas Christian University; Patrick Sullivan and J. C. Traweek, Jr., Amarillo College; C. B. Douthitt, Alvin Junior College; Vivienne Mayes, Baylor University; W. C. Tye, T. L. Boullion and T. A. Atchison, Texas Tech University; Vadim Karnkov, Texas Tech University; John Spellman, Pan American University; H. E. Lacey, University of Texas; and G. G. Lorentz, University of Texas.

Other activities during 1972

The Texas Section published the first edition of UNDERGRADUATE MATHEMATICS IN TEXAS, a book containing information about undergraduate courses at Texas colleges and universities which could be used in advising transfer students and for "other similar purposes." The approximately 200 initial orders were priced at \$5.00 and an additional fifty orders for reprints at a slightly higher price. The project was partially funded by a \$300 grant from the Association. The book was an outgrowth of the "Transfer Data Committee" chaired by Glen Mattingly which was appointed at the 1971 meeting at Midwestern.

Sam B. Ross, chairman of the Mathematics-Statistics Department at the University of St. Thomas, was promoted to Professor. At Texas Tech University, H. L. Gray was named Chairman and Thomas A. Atchison was named Associate Chairman. And, at Odessa College, Charles Sweatt was appointed to an instructorship.

At Abilene Christian College, Euline (Bo) Green was appointed Assistant Professor. At Angelo State University, John W. Duke was promoted to Professor. Edwin J. Hewett was appointed Assistant Professor at Hardin-Simmons University. At Southern Methodist University, Montie G. Monzingo was appointed Associate Professor. And, at Texas Wesleyan College, Russell Floyd was appointed Assistant Professor and George Brewer was an Adjunct Professor.

At the University of Texas at Arlington, H. A. D. Dunsworth, E. P. Berryhill, and E. C. Kennedy retired. Dunsworth, who had been at the school for forty-seven years was named Professor Emeritus. Berryhill had taught there twenty-five years and Kennedy had taught there eight years after retiring from General Dynamics.

John David Brown, Assistant Professor of Mathematics at Southern Methodist University, died on August 15, 1972, after a brief illness, in Houston, Texas. He was born in Houston on April 4, 1938 and grew up in Baytown. He attended Southern Methodist University, where he earned bachelor's and master's degrees in mathematics; Texas Christian University, where he did graduate work in mathematics; and North Texas State University, where he received the Ph.D. degree in mathematics education in the Spring of 1971.

Howard B. Curtis, Jr., of Rice University, died December 4, 1972 at the age of forty-eight.

1973 The annual meeting of the Texas Section of the MAA was held at Texas Christian University on April 6 and 7, 1973. There were 193 in attendance, including 137 members of the Association plus 31 spouses of attendees.

At the business meeting on April 7, the following officers were elected: Chairman, B. L. Sanders, Texas Christian University; Vice-Chairman, D. E. Edmondson, University of Texas; Regional Chairman of the MAA High School Contest, W. S. McCulley, Texas A&M University; Level-II Director, George Copp, North Texas State University; and Director-at-Large, Vivienne M. Mayes, Baylor University.

R. P. Boas spoke on "Consequences of Continuity"; R. M. Thrall spoke on "Some Mathematical Models in Decision Theory"; Chaney Anderson moderated a panel on "Planning and Executing A Mathematics Laboratory in Two-Year and Four-Year Institutions"; and F. A. Wright, Jr., of Tyler Junior College chaired a panel on "Computers in Mathematics."

There were also nineteen contributed papers on the program, presented by: Vivienne M. Mayes, Baylor University; E. L. Perry, Jr., Baylor University; A. R. Amir-Moéz, Texas Tech University; J. A. Bell, Texas A & I University at Laredo; Margaret R. Hutchinson, University of St. Thomas; D. H. Anderson, Southern Methodist University; S. C. Crim, Lamar University; R. L. Tennison, University of Texas at Arlington; D. F. Dawson, North Texas State University; F. N. Huggins, University of Texas at Arlington; B. D. Anderson, East Texas State University; D. E. Edmondson, University of Texas; Allen Walker, Lubbock Christian College; D. P. Grantham, East Texas State University; E. B. Hibbs, Jr., Southwest Texas State University; Robert Korfhage, Southern Methodist University; Alton Goddard, East Texas State University; Bill Moore, Texas A&M University; and F. A. Wright, Jr., Tyler Junior College.
Other activities during 1973

W. W. (Bub) Taylor retired at East Texas State University after thirty years service there. Ron L. Glass, Chairman of the Mathematics Department at Odessa College, retired after forty-four years of teaching, twenty-seven of them as a chairman in junior colleges.

M. E. Mullings was named Professor Emeritus at Abilene Christian College, where he had taught for thirty-eight years, thirty-one of them as Head of the Mathematics Department. Mullings had served as Chairman of the Texas Section. Dr. John C. Stevens, President of Abilene Christian College, said of him, "Dr. Mulling's long tenure here has been distinguished by his absolute loyalty to this institution and to his profession, and by the industry with which he pursued any task he undertook."

At East Texas State University and Bill D. Anderson, John F. Lamb, Jr., were promoted to Associate Professors. W. Vance Underhill was promoted to Assistant Professor there. At Southern Methodist University, Paul D. Minton, Chairman of the Department of Statistics, was named Dean of the School of Arts and Sciences at Virginia Commonwealth University.

A "Conference on History of American Mathematics" was held at Texas Tech University. Speakers included Garrett Birkhoff of Harvard University, and Salomon Bochner of Rice University. Dennison R. Brown of Rice University, and Morris Kline of New York University, were visiting lecturers at Trinity University. Michael E. Lord was promoted to Associate Professor at the University of Texas at Arlington.

H. L. Gray was named Frensley Professor of Mathematical Sciences at Southern Methodist University.

June Wood, of South Texas College, was elected Second Vice-President of the Association. Leonard, of the University of Texas, was elected Treasurer of the Association.

The Fifty-Sixth Annual Meeting of the Mathematical Association of America was held in Dallas, January 27-29, 1973, in conjunction with the annual meeting of the American Mathematical Society. This was the fourth time the Joint Meeting had been held in Texas. There were 3162 registered in attendance, of whom, 1687 were members of the Association.

The Program Committee consisted of C. J. Pipes of Southern Methodist University, Chairman; Louie C. Huffman of Midwestern State University; Vivienne M. Mayes of Baylor University; R. W. Mitchell of the University of Texas at Arlington; B. L. Sanders of Texas Christian University; R. R. Korfage; and L. G. Woodby.

The Committee for Local Arrangements consisted of D. W. Starr of Southern Methodist University, Chairman; H. L. Alder; W. L. Ayres; P. T. Bateman of the University of Illinois; Frank Lopez of Eastfield College; W. K. McNabb of the Skyline Center in Dallas; Anita Priest; W. A. Rindler; E. D. Roach; Argelia V. Rodriguez; G. L. Walker; and Basil Wall of the University of Texas at Arlington.

Three members of the Texas Section were on a seven-member committee of the MAA-AMS to plan a Mathematical observance of the U.S. Bicentennial Celebration. They were June Wood of South Texas College, J. Dalton of Texas Tech University, and Leonard Gillman of the University of Texas. Tarwater was named Chairman of the Department of Mathematics at Tech.

Famed mathematician and retired University of Texas Professor, Harry S. Vandiver died Thursday, January 4, 1973, after a long illness. He was 90 years old. One obituary of Vandiver read:

Mathematician, educator and historian, Dr. Vandiver gained international recognition in 1931 by winning the Cole Prize of the American Mathematical Society for his paper on "Fermat's Last Theorem." His reputation grew to the point that, in a special issue of the Journal of Mathematical Analysis and Applications in 1966, Dr. Vandiver was described as "the world's foremost authority on Fermat's Last Theorem and a world leader in algebraic number theory."

It also noted that he "has profoundly influenced the development of American mathematics for a period of over 60 years." He was a member of the National Academy of Sciences. Dr. Vandiver's career was marked by numerous research appointments, including Guggenheim Fellowships (1927 and 1930), four Heckscher Research Foundation grants, Senior Postdoctoral Fellowship of the National Science Foundation, and others from The University of Texas, Cornell, Princeton, and the American Philosophical Society. In 1924 he joined the faculty at UTAustin, where he taught for 42 years before retiring in 1966. He was named a Distinguished professor in applied mathematics and astronomy in 1947.

During his career, Professor Vandiver wrote more than 175 scholarly articles, contributing to such fields as number theory, finite algebras, fields, rings and groups. He was recognized also as a leading contributor in the history of mathematics, as well as the laws of reciprocity, cyclotomic and relative Abelian algebraic fields and constructive algebraic theories.

Even as a professor emeritus at the University, Dr. Vandiver continued his research, causing the well-known mathematician Dr. Alfred Brauer of the University of North Carolina to write: "In my opinion there does not exist another mathematician in the history of mathematics who had done research so successfully as you after attaining the age of 70."

Professor Vandiver was named a charter member of the Academy of Texas. He also was elected to the Texas Academy of Science and the New York Academy of Sciences. His career included memberships in the American Mathematical Society, Mathematical Association of America and American Association of University Professors. He was editor of the authoritative volume entitled "Annals of Math" and chairman of the committee on algebraic numbers of the National Research Council.

Vandiver was survived by his wife, Maude Folmabee Vandiver; a son, Dr. Frank E. Vandiver, noted historian and provost of Rice University in Houston, and three grandchildren, Nita, Nancy and Frank of Houston.

After 45 years at Texas Tech, E. Richard Heineman retired July 31, 1973. His first contact with the Texas Section of MAA was in April, 1929 when he presented a paper on "Generalized Vandermonde Deter-

minants" at the annual meeting at Rice Institute. From 1953 to 1956 he was a member of the Board of Governors of MAA, and in 1965 he was chairman of the Texas Section. Professor Heineman received the Standard Oil Foundation Award for Distinguished Teaching in 1969. He is the author of five editions of PLANE TRIGONOMETRY, two books on COLLEGE ALGEBRA, and several articles.

Emmett A. Hazlewood, also of Texas Tech University, retired as professor of mathematics at the end of the fall semester, 1973. He came to Texas Tech as assistant professor of mathematics in 1939. From 1942-46 he served in the Army Air Corps and was an instructor in mathematics at the United States Military Academy from 1943-1946. He then returned to Texas Tech as professor of mathematics and served as department chairman from 1948-1966. He was a member of the MAA for 37 years. He served as chairman of a Section of the Association on two different occasions, once for the Southwestern section and once for the Texas Section.

Brother Frank Gutting, S.M., Associate Professor of Mathematics at St. Mary's University, died October 17, 1973, at the age of sixtyfive. He went to St. Mary's in 1954 and served in the Mathematics Department until his death; he was Chairman of the department during the summer of 1965. He was a member of the Mathematics Association of America and of the Mathematics Honor Society at St. Louis University. Brother Frank's primary teaching responsibility while at St. Mary's was to teach Freshmen and Sophomore Math majors and minors. "How and what he taught left an indelible impression upon his students."

1974 The annual meeting of the Texas Section of the MAA was held at the University of Texas on April 5 and 6, 1974. There were 220 registered persons attending, including 193 members of the Association and 26 students.



University of Texas Mathematics Faculty & Staff ca. 1967 Left to Right: Milo W. Weaver, R. G. Lubben, Roger C. Osborn, H. J. Ettlinger, DeWayne S. Nymann, Charles R. Sherer, Ralph Cain, R. L. Moore, John R. Durbin, Unknown, Don E. Edmondson, Ephrim P. Armendariz, Unknown, Robert E. Greenwood, Gail S. Young, Roy P. Kerr, Unknown w. glasses, Unknown with, H. S. Wall, Secretary, Woodrow W. Bledsoe, Unknown C. S., Unknown older, Blond Sec., William T. Guy, Jr., Howard B. Curtis, Jr., Brunett Sec., E. Glenadine Gibb, Julie Gaylord, Unknown. Photo from R. G. Lubben Papers, Math Archives, The Center for American History, The University of Texas at Austin

D. E. Edmondson, University of Texas, Vice-Chairman of the Section, became Chairman. The following officers were elected: First Vice-Chairman, J. E. Hodge, Angelo State University; Second Vice-Chairman, G. R. Blakley, Texas A&M University; Level-I Director, Amogene Devaney, Amarillo College; Director-at-Large, R. G. Dean, Stephen F. Austin State University; and the Director of MAA High School Contest, J. R. Boone, Texas A&M University.

Dorothy Bernstein spoke on "How to Make and Break Codes"; W. T. Reid spoke on "Anatomy of the Ordinary Differential Equation"; Professor Emeritus H. J. Ettlinger spoke on "The Cauchy Initial Value Problem"; Amogene Devaney arranged a panel on Basic Mathematics; and J. L. Poirot arranged for a series of papers on Computer Science in Mathematics Departments. There were also thirty-six contributed papers on the program. They were presented by: D. M. Kulvicki, University of Texas; A. R. Amir-Moéz, R. E. Long, Texas Tech University; D. E. Edmondson, University of Texas; Gretchen Mooningham, Texas Tech University; Bolling Farmer, University of Texas; J. W. Mooningham, Texas Tech University; D. M. Kulvicki, University of Texas; Russell Bilyeu, North Texas State University; F. N. Huggins, University of Texas at Arlington; D. R. Read, Lamar University; D. F. Dawson, North Texas State University; and D. M. Kulvicki, University of Texas.

Also by: S. W. McGuire and J. F. Harvill, Lamar University; S. W. McGuire and B. D. Read, Lamar University; C. B. Murray, University of Houston; D. A. Caughfield, Abilene Christian College; Fred Wright, Tyler Junior College; G. G. Early and J. L. Poirot; Southwest Texas State University; A. R. Goddard, East Texas State University; J. L. Poirot and G. G. Early, Southwest Texas State University; M. L. Curtis, Rice University; J. A. Nickel, University of Texas of the Permian Basin; B. J. Dulin, McMurry College; and John F. Lamb, Jr., East Texas State University.

Also by: George Berzsenyi, Lamar University; Margaret R. Hutchinson, University of St. Thomas; J. A. Bell, Texas A & I University at Laredo; Jack Hardy, Texas A & I University; E. P. Armendariz, University of Texas; D. G. Hazlewood, Southwest Texas State University; J. M. Stark, Lamar University; Kenny Zuber and Bill Anderson, East Texas State University; Russell Cowan, Lamar University; K. W. Kennedy, Rice University; A. D. Stewart, Prairie View A&M University; and Elton Lacey, University of Texas.

Other activities during 1974

Charles R. Deeter of Texas Christian University was elected Governor of the Texas Section for a three-year term, July 1, 1974-June 30, 1977.

Stuart Anderson was appointed Instructor at East Texas State University, and Marian J. Kelterborn was appointed Assistant Professor there. Also, Archie Brock and Howard B. Lambert were promoted to Professors. At McMurry College, Bill J. Dulin was appointed acting chairman of the Division of Science and Mathematics. At San Antonio College, Bennie A. Zinn and Walter Helmers were promoted to Associ-

ate Professors, and George White, Richard Salinas, and Ronald Coleman were promoted to Assistant Professors.

Tyler State College, later to become the University of Texas at Tyler, opened; and Gerald L. Morris, formerly of the University of Texas at Arlington;, and Robert H. Cranford, formerly of North Texas State University, assumed positions in the Mathematics Department.

National Academy of Science member and University of Texas mathematics professor, R. H. Bing, received the Mathematical Association of America's Award for Distinguished Service to Mathematics. The award was presented by Richard D. Anderson who said, "In the whole human race, there is nobody else quite like R. H. Bing, and in any neighborhood of R. H. Bing, there is activity of all the many facets of mathematics, including inspirational teaching, ingenious research, dedicated leadership, and delightfully effective salesmanship for our subject."

Robert L. Moore, 91, an internationally known mathematician and professor emeritus at The University of Texas at Austin, died Friday October 4, 1974, in an Austin nursing home. His obituary read:

Moore taught at UT Austin from 1920 until This retirement in 1969. The University named its a physics/mathematics/astronomy building in his honor in 1973.

A former president of the American Mathematical Society (1937-39) and member of the National Academy of Sciences, Moore gained world eminence for his "point set theory," which is considered one of the most significant mathematical developments of modern times. His major work, "Foundations of Point Set Theory", which deals with point set topology, was hailed as a monumental contribution to mathematics.

In 1931-32, Moore was the first American mathematician chosen by the American Mathematical Society to be its visiting lecturer (the four previous lecturers having been Europeans). For 13 years he was associate editor of the Society's Transactions, and for a number of years he edited the Colloquium publications of that society.

Moore had the distinction of having three of his former doctoral students elected to the National Academy of Sciences (an achievement believed to be unsurpassed by any other professor in the nation).

Among the almost 50 UT students who earned their Ph.D. degrees under Moore's guidance, two became presidents of the American Mathematical Society and four were presidents of the Mathematical Association of America.

Moore was particularly known for a stimulating Socratic teaching style that came to he known as the "Texas" method of training mathematicians, with Dr. Moore supplying theorems to the class and the students supplying proofs. The teaching method was so effective in preparing research mathematicians that the Mathematical Association of America commissioned the preparation of a special film: "Challenge in the Classroom: The Methods of R. L. Moore," for showing at its meetings.

Born November 14, 1882, in Dallas, Moore earned the Bachelor of Science and Master of Arts degrees from UT Austin in 1901. He was a teaching fellow in mathematics at UT Austin in 1901-02 and then spent a year teaching school in Marshall before going to the University of Chicago, where he received the Ph.D. in 1905. At Texas, Moore had studied with Professor George Bruce Halsted, and at Chicago, with E. H. Moore (no kin).

Before returning to the Texas faculty in 1920, Moore taught at the University of Tennessee (1905-06), Princeton University (1906-08), Northwestern University (1908-11), and the University of Pennsylvania (1911-1920).

Moore was listed in Who's Who in America, International Who's Who, World Biography, American Men of Science and other lists of notable persons. In addition to membership in the American Mathematical Society and Mathematical Association of America, [Moore was a charter member of the Mathematical Association of America.] he was a member of the Polish Mathematical Society and a Fellow and former vice president of the American Association for the Advancement of Science. Beyond his achievements in the field of mathematics, Moore was fond of boxing and was known as a good pistol shot. He engaged in the sport of boxing while a UT undergraduate and worked out with the Princeton boxing team when he was a faculty member there.

Dr. Moore's survivors included his wife, the former Margaret Key: a nephew, Frank Hudson Chapman of San Antonio; a niece, Mrs. Lydia Moore Martin of Tyler, and a number of great-nephews and great-nieces.

One anecdote concerning Moore's Socratic teaching method and his book, "Foundations of Point Set Theory," is the following: Moore demanded that his students devise proofs of their own, and he discouraged looking at proofs others had done until students had done a proof of their own. It has been told that when Moore learned that a copy of his book was in the University of Texas Library, he promptly checked it out and never returned it. Presumably, he wanted to remove any temptation his students might have to see how he had done a proof. I have never tried to determine the veracity of the story. It is too good a folklore story to do that.

Professor Emeritus R. S. Underwood of Texas Tech University, died May 18, 1974, at the age of eighty-three. He was a member of the Mathematical Association of America for fifty-four years.

1975 The annual meeting of the Texas Section of the MAA was held at Angelo State University on April 11 and 12, 1975. There were 215 registered persons attending.

James E. Hodge, Angelo State University, Vice-Chairman of the Section, became Chairman. Second Vice-Chairman G. R. Blakley, Texas A&M University, became First Vice-Chairman. The following additional officers were elected: Howard Rolf, Baylor University, was elected Second Vice-Chairman; R. G. Dean, Stephen F. Austin State University, was elected for a one-year term as Director-at-Large; Archie Brock, East Texas State University, was elected to a two-year term as Level-II Director; and J. C. Bradford was elected for a threeyear term as Secretary-Treasurer. Level-I Director Amogene Devaney, Amarillo College, would serve for one more year. J. R. Boone, Texas A&M University, was elected to a three-year term as MAA HighSchool Contest Director and, by vote of the Section, was added to the Executive Committee of the Texas Section.

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Jurgen Schmidt of the University of Houston presented an invited address on "Partial Fractions and Invertible Prime Ideals." Dr. H. O. Pollak of Bell Laboratories and President of the MAA spoke on "On the Nature of Applied Mathematics."

The program included thirty-nine contributed papers by the following: J. L. Hein, University of Texas of the Permian Basin; J. W. Fisher, University of Texas; E. L. Perry, Baylor University; Ernest Ratliff, Jr., Southwest Texas State University; Shirley Tucker, Texas Christian University; R. K. Williams, Southern Methodist University; D. R. Read, Lamar University; M. R. Hagan, North Texas State University; S. E. Green, East Texas State University; J. C. Bolen, A. A. Gillespie and B. B. Williams, University of Texas at Arlington; F. N. Huggins, University of Texas at Arlington; D. M. Kulvicki, University of Texas; and D. V. Goulet, University of Houston and J. R. Cuzzi, Texas Institute for Rehabilitation and Research.

Also by: Don Edmondson, University of Texas; G. B. Turney, University of Texas at Arlington; Linda M. Neal, Tarleton State University; L. F. Heath, University of Texas at Arlington; J. W. Strain, Midwestern University; A. R. Amir-Moéz, Texas Tech University; J. M. Stark, Lamar University; K. L. Park, East Texas State University; D. K. Hughes, Abilene Christian College; Bonnie Kelterborn, East Texas State University; A. A. Mullin, Killeen, Texas; and J. A. Bell, Texas A & I University at Laredo.

Also by: Pat Hickey, Baylor University; Paul Knopp, University of Houston; Dennis Kulvicki, University of Texas; Betty Barr, University of Houston; J. A. Nickel, University of Texas of the Permian Basin; W. C. Bell, North Texas State University; Russell Bilyeu, North Texas State University; Russell Cowan, Lamar University; R. L. Tennison and A. R. Mitchell, University of Texas at Arlington; T. A. Keagy, North Texas State University; D. F. Dawson, North Texas State University; R. J. Martin, Amarillo College; Jim Bennett, Eastfield College and "A panel on uses of hand calculators" was presented by Martha Daley, Texas Southern University; Chris Boldt, Eastfield College; Omer Jenkins, Texas A&M University; and Tom Bohanon, Tarleton State University, chairman.

Other activities during 1975

William E. Hinds joined the faculty at Midwestern State University, having previously worked for Northrop Space Laboratories and Ling-Temco-Vaught, and having taught at Denison University.

Associate Professor John Spellman of Pan American University was appointed Acting Head of the Department of Mathematics there. C. P. Barton of Stephen F. Austin State University was a consultant and speaker for the Texas Small Schools Summer Workshop in Austin. R. G. Dean was President of the East Texas Council of Teachers of Mathematics. W. I. Layton, Chairman of the Department of Mathematics and Statistics, was Alumni Distinguished Professor for 1975 at Stephen F. Austin State University.

R. Vic Morgan was appointed Associate Professor of Mathematics at Sul Ross State University. At Tarleton State University, Joe E. Cude was promoted to Professor, and Linda M. Neal completed her Ph.D. degree at Texas A&M University and was promoted to Associate Professor.

At Texas A&M University, H. A. Luther retired and was named Professor Emeritus. He had taught at A&M since 1937, serving as Head of the Department of Mathematics, and as the MAA Institutional Representative. In 1968, he served as Chairman of the Texas Section. At Texas Tech University, G. Milton Wing was a Visiting Professor of Mathematics.

Glenadine Gibb of the University of Texas was the president of the National Council of Teachers of Mathematics. Lucille Whyburn, Associate Professor at the University of Virginia, spent the year at the University of Texas as a part-time lecturer and also working with the mathematical papers and correspondence of the late Robert L. Moore.

1976 The annual spring meeting of the Texas Section was held at Texas A&M University on April 2-3, 1976. There were 231 registered persons in attendance. This meeting was one of the Centennial Academic Assemblies of Texas A&M University.

Presenting invited addresses were: H. L. Alder, President-Elect of the MAA, who spoke on "Recent Developments in the Theory of Partition Identities"; P. R. Halmos who spoke on "Bounded Matrices"; and Paul Erdös, Centennial Professor of Mathematics at Texas A&M, who spoke on "Combinatorial Problems in Elementary Geometry." Charles Chui of Texas A&M arranged a special session on Approximation Theory. Larry Guseman of Texas A&M arranged a special session on Mathematical Pattern Recognition. Howard Rolf, Baylor, organized a panel of representatives of business, industry, and government to discuss the needs of undergraduate programs. Norman Fletcher of Mountain View College organized a special pedagogical session relating to Mathematics in the first two years.

Officers for 1976-77 were:

Past Chairman	J. E. Hodge, Angelo State University
Chairman	G. R. Blakley, Texas A&M University
First Vice-Chairman	H. L. Rolf, Baylor University
Second Vice-Chairman	R. G. Dean, Stephen F. Austin State Univ.
Secretary-Treasurer	J. C. Bradford, Abilene Christian University
Level-I Director . B. D. I	Langston, Tarrant Co. Jr., College, NE Campus
Level-II Director	Archie Brock, East Texas State University
Director-at-Large	R. H. Cranford, Texas Eastern University
High School Contest Director	J. R. Boone, Texas A&M University.

The program included forty-four contributed papers by: K. L. Singh, Texas A&M University; H. E. Lacey, University of Texas; A. Y. W. Lau, North Texas State University; R. G. Bilyeu, North Texas State University; R. K. Williams, Southern Methodist University; T. A. Keagy, Wayland Baptist College; Russell Cowan, Lamar University; D. F. Dawson, North Texas State University; F. N. Huggins, University of Texas at Arlington; R. K. O'Callaghan, University of Texas of the Permian Basin; R. W. Yeagy, Stephen F. Austin State University, H. S. Butts, Louisiana State University and N. H. Vaughan, North Texas State University Tom Head, University of Alaska and Department of Mathematical Sciences, Rice University; M. G. Monzingo, Southern Methodist University; Henry Heatherly, University of Southwestern Louisiana; R. R. Korfhage, Serban Constantin, Judith Feld, and Fred Reagor, Southern Methodist University; and R. S. Doran, Texas Christian University.

Also by: W. S. McCulley, Texas A&M University; Robert Ducharme, University of Texas at San Antonio; John F. Lamb, Jr., East Texas State University; J. W. Strain, Midwestern State University; George Berzsenyi, Lamar University; C. R. Deeter and A. A. J. Hoffman, Texas Christian University; H. F. Walker, University of Houston and B. C. Peters, NRS Postdoctoral Fellow, NASA/Johnson Space Center; H. P. Decell, Jr., University of Houston; Demetrios Kazakos, State University of New York at Buffalo; T. F. McCabe, Pan American University; and J. L. Solomon, Mississippi State University; L. L. Shumaker, University of Texas; J. D. Ward, Texas A&M University; R. R. Smith, Texas A&M University; and F. J. Narcowich, Texas A&M University.

Also by: E. W. Cheney, University of Texas; C. Franchetti, University of Texas; D. L. Barrow, Texas A&M University; G. Votruba, University of Montana and University of Texas; Liam O'Callaghan, Odessa College; Dennis M. Kulvicki, University of Texas; J. M. Stark, Lamar University; D. K. Cohoon, School of Aerospace Medicine, Biometrics Div., Brooks AFB (two papers); Dorothy Lynn Chesnut and Marian Paysinger, University of Texas; R. V. Morgan and T. T. Warnock, Sul Ross State University; S. A. Sim and Jane Morris Able, University of Texas at Arlington; and B. B. Williams, University of Texas at Arlington.

Other activities during 1976

The Fifty-Ninth Annual Meeting of the Mathematical Association of America was held at the San Antonio Convention Center, January 24-26, 1976. This was the fifth time for this national joint meeting to be held in Texas. There were 2840 registered in attendance, of whom 1640 were members of the Association.

The Program Committee consisted of Leonard Gillman of the University of Texas, Chairman; J. Dalton Tarwater of Texas Tech University, Betty J. Hinman, Morris Kline of New York University, K. O. May of the University of Toronto, C. V. Newsome, Retired, and M. W. Pownall.

The Committee for Local Arrangements consisted of Peter Terwey of Trinity University, Chairman; Efraim P. Armendariz of the University of Texas, Walker E. Hunt of San Antonio College, Stanley G. Wayment and Robert A. Northcutt of Southwest Texas State University, Constance J. Jones of the N E Independent School District in San Antonio, P. T. Bateman, Frederick J. Carter of St. Mary's University, G. L. Walker, and David P. Roselle of Virginia Military Institute, Secretary of the Association.

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William L. Ayres, Professor Emeritus of Mathematics at Southern Methodist University, died January 24, 1976, in a Dallas hospital at the age of seventy years. He had served as Associate Secretary of the American Mathematical Society, 1938-46, and as Vice-President of the Mathematical Association of America, 1946-47.

Don E. Richmond, on leave from Texas Instruments, was a Visiting Associate Professor at Southern Methodist University.

A special breakfast was held in San Antonio in conjunction with the Annual Joint Meetings, to serve as a forum for the presentation of a prize of \$3000 for a worthy book, monograph, or article in mathematics published between January 1, 1970 and June 30, 1975. The prize was donated by Professor Emeritus of Mathematics H. J. Ettlinger at the University of Texas, in honor of two of his late colleagues, R. L. Moore and H. S. Wall. R. H. Bing of the University of Texas, chairman of the selection committee presided. Other committee members were: Hyman Bass of Columbia University; J. B. Diaz of Rensselaer Polytechnic Institute; G. G. Lorentz of the University of Texas; Deane Montgomery of the institute for advanced Study; C. B. Morrey of the University of California at Berkeley; and Stan Ulam of the University of Colorado.

Finalists were Sterling K. Berberian, James W. Daniel, W. T. Eaton, Edwin Hewitt, H. Elton Lacey, W. T. Reid, R. T. Rockafeller, and Mary Ellen Estill Rudin. The winner was W. T. Eaton, for a paper, "the Sum of Solid Spheres," published in the MICHIGAN MATHEMATICAL JOURNAL, Vol. 19, (1972), pp. 193-207.

At Angelo State University, James E. Hodge, a past chairman of the Texas Section, was promoted to Professor. At Austin College, the J. N. Chadwick Chair in Mathematics, which had been allowed to become vacant during the depression years, was reactivated. Thomas Kimes was named to occupy that chair.

Vivian Dennis and Chris E. Boldt, Eastfield College, completed Doctor of Education degrees at East Texas State University. Boldt was the President-Elect of the Greater Dallas Council of Teachers of Mathematics and the Vice-Chairman of the Mathematics Section of Texas Junior College Teacher's Association.

At Hardin-Simmons University, Ann Bentley was the President of the Big Country Council of Teachers of Mathematics. W. T. Reid, H. J. Ettlinger's second doctoral student at the University of Texas, retired from the University of Oklahoma, and donated his extensive journal collection to the library at Hardin-Simmons University.

Richard A. Alo of Carnegie Mellon University, was appointed Professor and Head of the Department of Mathematics at Lamar University. At North Texas State University, John Ed Allen was named Chairman of the Department of Mathematics.

1977 The annual spring meeting of the Texas Section was held at Baylor University on April 1-2, 1977. There were 211 registered persons in attendance.

Presenting invited addresses were: David Roselle, Secretary of the MAA, who spoke on "Lattice Path Problems and Combinatorial Sequences"; and W. F. Lucas of Cornell University who spoke on "Modeling Coalitional Values." There was a panel discussion on "Undergraduate Mathematics Applications" presented by R. M. Thrall of Rice University, E. L. Perry of Baylor University, and W. F. Lucas of Cornell University.

Officers for 1977-78 were:

Past Chairman G. R. Blakley, Texas A&M University Chairman H. L. Rolf, Baylor University First Vice-Chairman . . R. G. Dean, Stephen F. Austin State University Second Vice-Chairman Dalton Tarwater, Texas Tech University Secretary-Treasurer J. C. Bradford, Abilene Christian University Level-I Director . B. D. Langston, Tarrant Co. Jr., College, NE Campus Level-II Director Margaret Hutchinson, University of St. Thomas Director-at-Large R. H. Cranford, Texas Eastern University High School Contest Director . . . J. R. Boone, Texas A&M University

Thirty-two contributed papers were presented by: L. R. Williams, University of Texas; G. L. Wiggins, Texas Tech University; Russell Bilyeu, North Texas State University; W. Fraser, University of Texas; C. N. Kellogg and R. W. Barnard, Texas Tech University; Russell Cowan, Lamar University; D. F. Dawson, North Texas State University; T. A. Keagy, Wayland Baptist College; D. K. Cohoon, School of Aerospace Medicine and University of Texas at San Antonio; F. N. Huggins, University of Texas at Arlington; A. A. Mullin, Fort Hood, Texas; Roy Brooks, University of Texas of the Permian Basin; Baxter Johns, Baylor University; E. P. Armendariz, University of Texas; A. A. Mullin, Fort Hood, Texas; and Joseph Heisler, St. Edward's University.

Also by: Joe Falkner, Texas Tech University; M. G. Monzingo, Southern Methodist University; C. I. Dorsett, North Texas State University; Jean Richmond, Southern Methodist University; J. M. Stark, Lamar University; Betty Barr, University of Houston; George Berzsenyi, Lamar University; Douglas Tharp, Michael Murphy and Nancy Holder; University of Houston-Downtown; Chris Boldt, Eastfield College; John Hunsucker, Sam Houston State University; Vadim Komkov, Texas Tech University; R. K. Williams, Southern Methodist University; Bill Copeland and Bill Anderson, East Texas State University; C. R. Williams, Midwestern State University; Nick Vaughan, North Texas State University; and Eugene Tidmore, Baylor University.

Distinguished Service Citations for unusual contributions to mathematics and to the Texas Section were presented to H. J. Ettlinger of the University of Texas and, posthumously, to C. R. Sherer of Texas Christian University.

The citation for Hyman Joseph Ettlinger, "Outstanding Contributor to Mathematics in Texas," was written by Robert E. Greenwood and it read:

H. J. Ettlinger is a charter member of the Mathematical Association of America. He faithfully supported the Texas Section and served as its Governor. He attended many of the annual meetings where he chaired sessions and presented many talks.

H. J. Ettlinger taught mathematics at the University of Texas at Austin from 1913 to 1968, teaching both undergraduates and graduates. He combined his own research activities in differential equations and integral equations with directing the research of many doctoral and masters candidates. Many of his students now teach in Texas schools and universities. During much of his career he cooperated with R. L. Moore and H. S. Wall, whom he honored in 1974 by establishing the University of Texas Mathematics Award.

He displayed a continuing desire to interest high school students in mathematics, helping to organize participation in the Mathematics Contests, directing a summer program for talented high school students from 1959-1968, and by participating in secondary school visiting lecturer programs.

The service he has rendered will long stand as an example of what enthusiasm, talent, and dedication can accomplish.

The citation for Charles Robert Sherer, "Governor of the Mathematical Association of America, long-time Officer of its Texas Section" was written by Landon Colquitt and it read:

Charles Robert Sherer served generously and well the discipline of mathematics and its sponsoring societies.

His students honored him by an award for excellence in teaching; with former students they established a Scholarship named for him and for Mrs. Sherer. The Faculty Senate and the Board of Trustees of Texas Christian University recognized his achievements by an honorary degree. The present citation is intended to record the respect felt for him by his colleagues, the honor in which his peers hold him.

Exemplar of glad learning and glad teaching, student of E. H. Moore and G. A. Bliss, and for more than three decades Chairman of the Department of Mathematics at Texas Christian University, he leaves us the benefit of his work and of his wisdom, and his legacy of courtesy and wit. His contributions and his example we acknowledge with gratitude; his friendship we remember in love.

Those of us who attended Texas Christian University remember C. R. Sherer as "Prof Sherer." He was retiring when I first enrolled there, so I did not get to take a course under him, but I knew students who had taken classes from him and I remember the high regard they had for him. During the first year I was there, Prof Sherer was invited to be the speaker at the Pi Mu Epsilon Banquet. He chose to relate some autobiographical anecdotes. He told about growing up on a farm in Red Cloud, Nebraska. One story concerned a time he was left at home, while everyone else went to town, to keep their goslings from straying into the hog-pen where the hogs would kill them. He said that as the

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day wore on, he got more and more tired of having to run and shoo the goslings away from the hogs when he would rather be doing something else. He finally hit upon a solution which neither the mother geese nor his parents appreciated. When they came home, they found a terrible racket from both geese and goslings; but the goslings were safe -- each with a nail driven through the web if one foot into the ground.

Prof Sherer also told about his apprehensions as he boarded a train with his belongings in a carpet bag to go to the University of Nebraska. He told about taking calculus his first semester, and about learning when the first exam was returned that his teachers grading system was to grade until he found the first mistake, and to give credit only for what came before that. Prof said he had made a mistake filling out the cover page and had got a zero on the paper. But, he said that before the semester was ended, he was making 100's on exams. He gave credit to that teacher for teaching him the value on meticulously careful work.

He also related some of the excuses students had given him over the years, but I have heard so many from my students, I can't remember which were his and which are mine.

Other activities during 1977

James N. Younglove of University of Houston was elected Governor of the Texas Section for a three-year term, July 1, 1977-June 30, 1980.

Chris E. Boldt of Eastfield College, was one of eight Regional Vice-Presidents of the American Mathematical Association of Two-Year Colleges. at East Texas State University, Bill D. Anderson was promoted to Professor, and Floyd Hill retired.

At the University of Houston-Downtown, Ron Barnes, formerly an Assistant Professor of Mathematics at the State College of New York in Brockport, joined the faculty. At Midwestern State University, Louie C. Huffman, a past chairman of the Texas Section, was the state president of Texas Association of College Teachers.

John W. Neuberger, formerly of Emory University was appointed Professor; R. Daniel Mauldin, formerly of the University of Florida, was appointed Associate Professor; and George Copp retired at North Texas State University.

At Pan American University, John Huber was appointed Assistant Professor, and Joseph E. Chance and Sister Geralda Schaefer were promoted to Associate Professors. At Stephen F. Austin State University, Kenneth H. Price was promoted to Associate Professor.

James W. Daniel was appointed Chairman of the Department of Mathematics at the University of Texas. James W. Vick was appointed Undergraduate Adviser and John R. Durbin was appointed Graduate Adviser.

Charles Robert Sherer, Retired Professor of Mathematics at Texas Christian University, died on February 6, 1977, in a Ft. Worth hospital, at the age of eighty-two.

W. T. Reid, Retired Professor of Mathematics from the University of Oklahoma and Visiting Scholar at the University of Texas, died in Austin on October 14, 1977, at the age of seventy.

1978 The annual spring meeting of the Texas Section was held at Stephen F. Austin State University on March 31-April 1, 1978. There were 198 registered persons in attendance.

Presenting invited addresses were: Professor S. Ulam who spoke on "Mathematics in Atomic Energy During the War" and Calvin A. Lathen, editor of Two-Year College Mathematics Journal, who spoke on "Peer Group Instruction: Alternative to Lecture-Discussion." There was a panel discussion on "Preparing for College Mathematics: Recommendations of MAA and NCTM" presented by W. K. McNabb of Skyline Center, R. S. Pieters of Hockaday School, Bob Langston of Tarrant County Junior College, and Margaret Hutchinson of the University of St. Thomas.

Officers for 1978-79 were:

Chairman R. G. Dean, Stephen F. Austin State University First Vice-Chairman Dalton Tarwater, Texas Tech University Second Vice-Chairman . . . Bill Anderson, East Texas State University Level-I Director David Sanchez, San Antonio College Level-II Director Margaret Hutchinson, University of St. Thomas Director-at-Large Robert M. Thrall, Rice University Secretary-Treasurer ... Glen Mattingly, Sam Houston State University High School Contest Director J. R. Boone, Texas A&M University

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When Glen Mattingly of Sam Houston State University became the Secretary-Treasurer, he also became the Newsletter Editor.

Thirty contributed papers were presented by the following: David F. Dawson, North Texas State University; Thomas A. Keagy, Wayland Baptist College; Russell Cowan, Lamar University; E. Green, Abilene Christian University; Frank N. Huggins, University of Texas at Arlington; A. A. Gillespie and B. B. Williams, University of Texas at Arlington; Russell Bilyeu, North Texas State University; Ronald Teemley, North Texas State University of Texas at Arlington; William E. Beeman, University of Texas at Arlington; William K. McNabb, Dallas Independent School District; R. S. Pieters, Hockaday School, Dallas; Shirley Tucker, Austin; J. C. Bolen and G. B. Turney, University of Texas at Arlington.

Also by: Don E. Edmondson, University of Texas; Gary Wiggins, Texas Tech University; Jacob T. B. Beard, Jr., University of Texas at Arlington; Nick Vaughan, North Texas State University; H. S. Butts and Robert W. Yeagy, Stephen F. Austin State University; William B. Poucher, Abilene Christian University; Ali R. Amir-Moéz, Texas Tech University; John Huber, Pan American University; John F. Lamb, Jr., East Texas State University; Lawrence P. Maher, North Texas State University; James Caristi, Texas Lutheran College; Fred S. Patterson, Execucom System Corporation; S. K. Berberian, University of Texas; Morton L. Curtis, Rice University; and J. C. Harman, Lamar University (Visiting).

A Distinguished Service Citation for unusual contributions to mathematics and to the Texas Section was presented to H. E. Bray of Rice University.

Other activities during 1978

Amendments to the Bylaws of the Texas Section were made which changed the title Chairman to Chair in all occurrences and provided that the Chair-Elect should succeed after one year in office to become the Chair for one year. There were also created positions of Arrange ments Chair-Elect and Arrangements Chair. The Arrangements Chair-Elect succeeds to the Arrangements Chair and is to be from the institution hosting the Section meeting during the latter year. A Level-III Director was added, to be chosen from an institution with a program extending to the doctoral level. Terms of office for the three directors were set at three years, with one elected each year. The term of the Director-at-Large was increased to two years, with election being in even numbered years.

At Southern Methodist University, David W. Starr retired after thirty-eight years teaching, fourteen of them as chairman of the Department of Mathematics. Richard K. Williams became the new chairman. Montie G. Monzingo became the Undergraduate Director of the Department.

At Stephen F. Austin State University, W. I. Layton retired as Head of the Department of Mathematics and Statistics after twenty-nine years, twenty-eight of them as chairman. Ennis D. McCune was promoted to Associate Professor.

Dalton Tarwater stepped down from the chairmanship at Texas Tech University. At the University of Texas, Michael Starbird was on leave at the Institute for Advanced Study, Princeton, New Jersey.

1979 The Annual Spring Meeting of the Texas Section was held at Texas Tech University April 6-7, 1979. Dalton Tarwater of Texas Tech University was in charge of arrangements. There were 169 registered persons in attendance.

Invited Speakers included Dr. Milton Holloway, Executive Director of the Texas Energy Advisory Council, who spoke on "The Use of Mathematical Models for a National Energy Policy"; Dr. Mark Wells of the Los Alamos Scientific Laboratory, whose title was "An Experimental Algorithm for N-dimensional Adaptive Quadrature"; Fred Roberts of Rutgers University, whose topic was "Interval Graphs, Traffic Phasing, Ship Building, and Mobil Radio Frequencies"; and Dr. A. B. Willcox, Executive Director of the MAA, whose presentation was titled "Mathematics: Where Are We Going and What Can Educators Do About It?" Dr. Willcox was the official MAA representative to the meeting. He also presented a slide program on the new Washington Headquarters. A panel discussion on "Trends in the Two-Year College Mathematics Curriculum" was presented by William Keils of San Antonio College, Joe McMillian of North Harris County Community College, Mary Parker of Austin Community College, and Betty Travis of St. Phillips College. David Sanchez of San Antonio College was moderator.

A panel discussion of "Trends in the Undergraduate Mathematics Curriculum in Texas" was presented by George Berzsenyi of Lamar University, Larry Guseman of Texas A&M University, and Ernest Ratliff of Southwest Texas State University. The program was arranged by Margaret Hutchinson of St. Thomas University and moderated by Richard Alo of Lamar University.

Entertainment at the banquet was provided by a Texas Tech University string ensemble.

The Spring Meeting incorporated special group meetings for Department Chairman, Institutional Representatives and the Executive Committee of the Texas Section.

Nominations for appropriate positions on the Executive Committee were presented by Howard Rolf of Baylor University, Chairman of the Nominations Committee, and elected by acclamation with a unanimous vote. The selection was made contingent upon approval of proposed revisions in the Texas Section Bylaws by the Board of Governors in its next meeting.

The Executive Committee for 1979-80 was:

Immed. Past Chairman R. G. Dean, Stephen F. Austin State Univ.
Chair Dalton Tarwater, Texas Tech University
Chair-Elect Bill Anderson, East Texas State University
Secretary-Treasurer Glen Mattingly, Sam Houston State University
Level-I Director David Sanchez, San Antonio College
Level-II Director Margaret Hutchinson, University of St. Thomas
Level-III Director Bennie Williams, The Univ. of Texas at Arlington
Director-at-Large Robert M. Thrall, Rice University
Arrangements Chair Bill Anderson, East Texas State University
Arrangements Chair-Elect Ray Tebbetts, San Antonio College
State Contest Director J. R. Boone, Texas A&M University
Governor James N. Younglove, University of Houston.

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Twenty-eight contributed papers were presented by the following: Shirley Tucker, Austin; Carol Congleton, Moody College; Vera R. King, Prairie View A&M; Michael Jones, ELA; Betty Travis, St. Philip's College; James A. Bell, Laredo State University; John Huber, Pan American University; Russell Bilyeu, North Texas State University; Ronald Teemley, Texas Christian University; David F. Dawson, North Texas State University; Charles Dorsett, North Texas State University; Ann Petrus, Our Lady of the Lake University; Carl P. Pixley, Southwest Texas University; and Robert M. Nehs, Texas Southern University;

Also by: Montie G. Monzingo, Southern Methodist University; Roy G. Brooks, University of Texas of the Permian Basin; Don E. Edmondson, University of Texas; Donald G. Hazlewood, Southwest Texas State University; Norman W. Naugle, Texas A&M University; L. E. Broome and George Carter, Moody College; John F. Lamb, Jr., East Texas State University; Charles R. Deeter and Kiritkumar Talati, Texas Christian University; L. Dwayne Snider, Tarleton State University; Mark D. Bray, East Texas State University; Thomas A. Keagy, Texas Eastern University; J. N. Stark, Lamar University; George Berzsenyi, Lamar University; and C. P. Benner, The University of Houston.

E. Richard Heineman and Emmett Hazlewood were honored with Distinguished Service Citations at the annual Section Dinner for their outstanding service to the Texas Section.

Other activities during 1979

The third edition of COLLEGE MATHEMATICS IN TEXAS was published by the Texas Section. C. P. Benner of the University of Houston, was the chairman of the Texas Section Committee Course Transfer. Other committee members were Margaret R. Hutchinson of the University of St. Thomas; Beverly Smith of Texas Southern University; Herman Schoenemann of Blinn College; and June Wood of the University of Houston-Downtown.

The 30th International Science and Engineering Fair was held May 7-12, 1979, in the Henry B. Gonzales Convention Center in San Antonio. The Texas Section was invited to supply judges for the mathematics entries. Don E. Edmondson, the University of Texas; James R. Boone, Texas A&M University; George Berzsenyi, Lamar University; and R. G. Dean, Stephen F. Austin State University, served as judges, with Edmonson acting as chairman of the group.

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The High School Lecture Program, sponsored by the Texas Section, was under the direction of a committee consisting of: David Sanchez, San Antonio College, Chairman; Bill D. Anderson, East Texas State University; and Glen E. Mattingly.

At Abilene Christian University, James C. Bradford resigned as Head of the Department of Mathematics after thirteen years in that position. David K. Hughes was appointed to be the new Department Head. Thomas F. Kimes of Austin College, spent a Sabbatical leave at Cambridge University, United Kingdom.

Bobby Jimerson, Chairman of the Department of Mathematics at East Texas Baptist College, was killed in a farm accident on August 15, 1979. V. Rutledge McClaran was named Chairman to succeed him. At East Texas State University, Bill D. Anderson was appointed Assistant Dean of the College of Sciences and Technology.

1980 The Annual Spring Meeting of the Texas Section was held at East Texas State University on April 11-12, 1980. Bill Anderson of East Texas State University was in charge of arrangements. Registered attendance was 164.

Invited Speakers included Leonard Gillman of The University of Texas, Treasurer of the MAA, who spoke on "Optimal Strategies in Sports"; Margaret Waid of the University of Delaware, currently visiting The University of Texas, who spoke on "Mathematical Models of Nerve Signal Transmission Through Axons"; and Bernard Madison, Chairman of Mathematics at the University of Arkansas and Chairman of the Panel on Basic Skills of the MAA Committee on Placement Examinations, who discussed the "MAA Placement Testing Program." Professor Gillman was the official MAA representative to the meeting.

A panel discussion on "Developing Computer Science Programs" was presented by Richard Alo of Lamar University, Bill Pervin of The University of Texas at Dallas, Grady Early of Southwest Texas State University, and Robert Tennison of the University of Texas at Arlington. Alo served as moderator. An Ad Hoc Committee of the Texas Association of Academic Administrators in the Mathematical Sciences gave a report on its study of the short supply of public school mathematics teachers in Texas and the resulting changes proposed in mathematics teacher certification. This group also reported on the Texas Assessment Program which was designed to insure maximum achievement in mathematics in public schools.

Honored with a Resolution of Commendation was Richard Mifflin, student at Rice University, who ranked in the top five in the William Lowell Putnam Mathematical competition. Also honored with a Resolution of Commendation were Pang Chen and Nic McPhee, high school students from Wichita Falls, Texas, and their teacher, Tillie Himstedt, for their achievement in the Texas Mathematical Olympiad. Pang Chen was winner of the Texas Olympiad and Nic McPhee received a high score. In a special ceremony, Pang was presented with the first place trophy. All three were guests of the Section at the Section Banquet.

Officers and Directors for 1980-81 were:

Immediate Past Chair	Dalton Tarwater, Texas Tech University
Chair	Bill Anderson, East Texas State University
Chair-Elect Rob	ert L. Tennison, University of Texas at Arlington
Secretary-Treasurer .	Glen E. Mattingly, Sam Houston State University
Level-I Director	David Sanchez, San Antonio College
Level-II Director	R. Vick Morgan, Sul Ross State University
Level-III Director	Bennie Williams, University of Texas at Arlington
Director-at-Large	Landon Colquitt, Texas Christian University
Arrangements Chair	Ray Tebbetts, San Antonio College
Arrangements Chair-Elect	Richard Alo, Lamar University
State Contest Director	James R. Boone, Texas A&M University
Governor	. John Mohat, North Texas State University.

Only eighteen contributed papers were presented. They were presented by: John R. Durbin, University of Texas; Chris Boldt, Eastfield College; Ali R. Amir-Moéz, Texas Tech University; James W. Daniel, University of Texas; Michael Jones, Monthly Mathematics Bulletin; Russell Cowan, Lamar University; Tom Keagy, University of Texas at Tyler; David F. Dawson, North Texas State University; Russell Bilyeu, North Texas State University; Frank N. Huggins, University of Texas at Arlington; W. Vance Underhill, East Texas State University; Charles Dorsett, Texas A&M University; Carl P. Pixley, Southwest Texas State University; Montie G. Monzingo, Southern Methodist University; Don E. Edmondson, University of Texas; Joe Allison, Eastfield College; John Huber, Pan American University; and Norman W. Naugle, Texas A&M University.

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Other activities during 1980

John T. Mohat of North Texas State University was elected Governor of the Texas Section for a three-year term, July 1, 1980-June 30, 1983.

W. D. Clark, R. G. Dean, and E. D. McCune at Stephen F. Austin State University had an article published in THE TWO-YEAR COLLEGE MATHEMATICS JOURNAL titled "Calculators to Motivate Infinite Compositions of Functions." [June 1980, pp. 189-195] R. G. Dean, while a graduate student at Texas Christian University in 1965, had attempted to publish an article concerning some of the strange things which happen when functions are composed repeatedly, but had it rejected. A decade later, he learned that E. D. McCune had discovered some of the same properties. They involved W. D. Clark in the discussion, and over a period of five years, submitted their article to several journals. When the article was finally published, it turned out to be one of the first published articles on "strange attractors" and "chaos" in dynamical systems. Clark, Dean, and McCune were awarded the George Polya Award for Expository Writing by the Mathematical Association of America at the 1981 Summer Meeting of the Association, meeting in Pittsburgh, Pennsylvania.

The Sixty-Third Annual Meeting of the Mathematical Association of America was held at the San Antonio Convention Center, January 5-7, 1980. This was the sixth time for this national joint meeting to be held in Texas. There were 2758 registered in attendance, of whom, 1581 were members of the Association.

The Committee for Local Arrangements consisted of Bennie A. Zinn of San Antonio College, Chairman; Constance J. Jones of the N E Independent School District in San Antonio; Robert A. Northcutt of Southwest Texas State University; Kenneth E. Hummel of Trinity University; Rita Bardano; William J. LeVeque; Kenneth A. Ross; and David P. Roselle of Virginia Military Institute, Secretary of the Association.

A total of 106 high school students participated in the second Texas Mathematical Olympiad. Pang Chen of Rider High School in Wichita Falls was awarded the first place trophy by outgoing Governor of the Texas Section, James N. Younglove. Richard Mifflin, a student at Rice University, scored in the top five students nationwide on the 40th Annual William Lowell Putnam Mathematical Competition.

At the University of Texas, Efraim P. Armendariz was promoted to Professor; Bruce Palka, Frank Gerth, Charles Radin, and Michael Starbird were promoted to Associate Professors; G. G. Lorentz was named Emeritus Professor; R. H. Bing was elected to the American Academy of Arts and Sciences; and Robert E. Greenwood was one of six who received \$5000 awards for teaching. Greenwood also completed his term as MAA Institutional Representative, as he anticipated retirement.

Jurgen Schmidt, a distinguished algebraist and member of the faculty at the University of Houston, died October 14, 1980.

1981 The Annual Spring Meeting of the Texas Section was held at San Antonio College in San Antonio, Texas, on April 10-11, 1981. Ray Tebbetts of San Antonio College was in charge of arrangements. Registered attendance was 185.

Invited speakers included Larry Schumaker of Texas A&M University, who spoke on "Fitting Surfaces to Scattered Data"; Charles David Miller of American River College in Sacramento, California; who reviewed the "Current Status of Mathematics Laboratories"; Dr. Preston D. Kronkosky, Deputy Executive Director of the Southwest Educational Development Laboratory, who presented a "Review and Comments on the Whitehouse Report on 'Science and Engineering Education for the 1980's and Beyond'"; and John Jobe of Oklahoma State University (representing the MAA) who presented a Career Awareness Package for Secondary School Students titled "Mathematics at Work in Society."

A panel discussion of the status of mathematical research and graduate programs in Texas was presented by James W. Daniel, Chairman of Mathematics at the University of Texas, John Ed Allen, Chairman of Mathematics at North Texas State University, Elton Lacey, Chairman of Mathematics at Texas A&M University, Robert Thrall of Rice University, and Dalton Tarwater of Texas A&M University. Professor Daniel arranged this presentation and served as moderator. A panel discussion of "Remedial/Developmental Mathematics in Colleges and Universities" was presented by Vic Morgan of Sul Ross State University, Richard Alo of Lamar University, Douglas Tharp of the University of Houston-Downtown, and Bennie Zinn of San Antonio College. Professor Morgan reviewed Remedial/Developmental Mathematics in Colleges and Universities across the country, and other panelists detailed practices at representative institutions within the state. Professor Morgan arranged the presentation and served as moderator.

Professor John Ed Allen of North Texas State University gave a brief report on the work of the Ad Hoc Committee of the Texas Association of Academic Administrators in the Mathematical Sciences, which was working on monitoring and assisting in the process of revising certification requirements for school mathematics teachers in Texas. Significant was the information that this group had some opportunity for input in determining standards.

A progress report on the revitalization of the Texas Section High School Lecture Program was presented by William K. McNabb of Skyline Center, Director of this program. Also a member of the MAA "Committee on Secondary School Lectures," Mr. McNabb was in charge of restructuring the Texas Section program during the 1981-82 year.

A special session for student papers was incorporated into this year's program. Five papers were presented. Larry Heath of the University of Texas at Arlington made the arrangements.

Student honorees at the Section Banquet that year were the Texas Mathematical Olympiad winner, Gerhard Paseman of Bellaire High School in Houston, and outstanding performer, Jerome de La Cruz of John Marshall High School in San Antonio.

Also honored in a special tribute was Robert Greenwood of The University of Texas for distinguished service to mathematics and to the Texas Section of MAA. Professor Greenwood entertained with a first hand account of some of the early history of the Texas Section and closed his response with one of his famous "magic" acts. He retired at the end of that school year. The Spring Meeting incorporated special group meetings for department chairmen, (Texas Association of Academic Administrators in the Mathematical Sciences), the Mathematical Association of Two-Year Colleges (TexMATYC), Institutional Representatives of the Texas Section and the Executive Committee.

Officers and directors for 1981-82 were:

Contributed papers were presented by the following:

Faculty papers by: Baxter Johns, Baylor University; Nick Vaughan, North Texas State University; George Berzsenyi, Lamar University; Montie G. Monzingo, Southern Methodist University; Bill Anderson and John F. Lamb, Jr., East Texas State University; Ali R. Amir-Moéz, Texas Tech University; David Cohoon, School of Aerospace Medicine, Brooks Air Force Base; James A. Bell, Laredo State University; Chris Boldt, Eastfield College; Ralph W. Cain, University of Texas; Michael G. Murphy, University of Houston-Downtown; M. K. Jones, Ft. Worth; Patricia S. Hickey, Baylor University; Joe F. Allison, Eastfield College; Charles Dorsett, Texas A&M University; Don E. Edmondson, University of Texas; Robert E. Goad, Sam Houston State University; Richard T. Denman; B. B. Williams (with A. A. Gillespie), University of Texas at Arlington; Russell Bilyeu, North Texas State University; Tahereh Daneshi and C. R. Deeter, Texas Christian University; and Jean Richmond, Southern Methodist University.

Student papers by: Fred Curtis, University of Dallas; Larry Ketchersid, Trinity University; Craig Finley, East Texas State University; Jim Armstrong, University of Texas at Arlington; and Jeffrey A. Conly, University of Texas at Arlington.

A realization that much of the history of the Texas Section had already slipped into obscurity, and that some organized effort needed to be made to try to preserve and pass on what remained led to the naming of R. G. Dean of Stephen F. Austin State University as the Archivist/Historian of the Texas Section.

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Other activities during 1981

At the University of Houston, C. P. Benner, Klaus Kaiser, and Homer Walker were promoted to Professors; and Peter Percell was promoted to Associate Professor. At Abilene Christian University, Bo Green had an NSF Science Faculty Fellowship to study Operations Research at Stanford University.

Amogene DeVaney, Professor of Mathematics and Engineering at Amarillo College, retired after thirty years of service there; and Patrick Sullivan was promoted to Associate Professor. At Eastfield College, Vivian A. Dennis was elected President of the Texas Technical Society; Chris Boldt was elected to a two-year term on the Board of Directors of the National Council of Teachers of Mathematics; and Joe F. Allison was serving as department chairman.

At East Texas State University, Stuart Anderson returned from a leave of absence, and John F. Lamb, Jr., was promoted to Professor. At Midwestern State University, Charles R. Williams was appointed interim Director of Institutional Studies.

Robert E. Goad returned to Sam Houston State University from a leave of absence to study and teach at the University of Tennessee at Knoxville; and E. Wesley Sanders was promoted to Associate Professor at Sam Houston. At Southern Methodist University, Henry L. Gray was appointed Associate Dean for Academic Planning and William R. Schucany was appointed Director of the Division of Mathematical Sciences.

At Southwest Texas State University, John Spellman, formerly Chairman of the Department of Mathematics at Pan American University, was appointed Chairman of the Department of Mathematics and Computer Science; and Robert A. Northcutt returned to full time teaching. H. Elton Lacey, formerly of the University of Texas, was appointed Head of the Department of Mathematics at Texas A&M Uni versity. John T. White was appointed Chairman of the Department of Mathematics at Texas Tech University.

June Wood, University of Houston-Downtown, was reappointed to a second term on the MAA's Committee on the Teaching Undergraduate Mathematics. Michael G. Murphy, University of Houston-Downtown, was promoted to Associate Professor.

1982 The Annual Spring Meeting of the Texas Section was held at Lamar University in Beaumont, Texas on April 2-3, 1982. Richard A. Alo of Lamar University was in charge of arrangements. Registered attendance was 195.

Invited speakers included Constantine Corduneanu of the University of Texas at Arlington, who spoke on "Almost Discrete Periodic Processes"; Gian-Carlo Rota of the Massachusetts Institute of Technology, who spoke on "Elementary Theory of the Euler Characteristic"; John A. Holland, Trinity University, who discussed "Using Microcomputers in the (College) Classroom"; and R. D. Anderson of Louisiana State University and President of the Mathematical Association of America who spoke on "National Initiatives Affecting Pre-College Mathematics Education."

Five simultaneous sessions, including one for student papers, were scheduled for Friday afternoon. A total of thirty contributed papers were presented by the following faculty:

Dorothy Lynn Brooks, University of Texas at Austin; Robert S. Doran, Texas Christian University; Joseph Szucs, Texas A&M University at Galveston; Tommy L. Leavelle, North Texas State University; Tom Keagy, The University of Texas at Tyler; David F. Dawson, North Texas State University; James Galloway and E. D. McCune, Stephen F. Austin State University; Howard Penn, Mountain View College; Kae Park, The University of Texas at Austin; Efraim P. Armendariz and Jae Keol Park, The University of Texas at Austin; John C. Freeman and Jill F. Hasling, Institute for Storm Research, University of St. Thomas; David Hughes, Abilene Christian University; and Tahereh Daneshi, Cameron University, Lawton, Oklahoma.

Also: Jill F. Hasling and John C. Freeman, Institute for Storm Research, University of St. Thomas; Bill Anderson, Dennis Grantham and John F. Lamb, Jr., East Texas State University; Kathryn Fraughnaugh Jones, University of Houston, Central Campus; A. A. Gillespie and B. B. Williams, University of Texas at Arlington; Charles Dorsett, Texas A&M University; J. K. Kohli, Lamar; Richard Alo, Lamar University; David R. Kincaid, University of Texas at; James C. Bradford, Abilene Christian University; Andrew J. Berner, University of; Roy Dean Alston, Stephen F. Austin State University; Chris Boldt, Eastfield; George Berzsenyi, Lamar University; Howard B. Lambert, East Texas State University; W. D. Clark, R. G. Dean & E. D. McCune, Stephen F. Austin State University; J. M. Stark, Lamar University; and Joe F. Allison, Eastfield College.

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Presiders for the contributed paper sessions were R. G. Dean, Stephen F. Austin State University; Charles Combrink, Texas Christian University; P. W. Latimer, Lamar University (Prof. Emeritus); Tuvia Adar, San Antonio College; Joe Allison, Eastfield College; John Huber, Pan American University; Ray Carry, The University of Texas at Austin; and William McNabb, Skyline Center, Dallas.

No record of the student papers presented is currently available.

There was a panel discussion followed by audience participation on "Computer Science and Mathematics: a Curriculum." It was stimulated in part by the paper in the August/September 1981 issue of the MONTHLY by Anthony Ralston (and other related statements). Landon Colquitt of Texas Christian University arranged this presentation and Professor Charles Deeter, also of Texas Christian University, moderated the discussion. The Ralston paper had been assigned as "homework."

Special reports were given updating information on efforts to gain approval for "non-credit remedial mathematics" in Texas public colleges and universities and on proposed revisions of the certification requirements for school mathematics teachers, grades K through 12 and on "certification standards for school mathematics teachers."

Special meetings were held for TAAAMS, TexMATYC, the Executive Committee, and the Institutional Representatives.

Officers and directors for 1982-83 were:

Immed. Past Chair . . . Robert L. Tennison, Univ. of Texas at Arlington Chair John Ed Allen, North Texas State University Chair-Elect Robert H. Cranford, University of Texas at Tyler Secretary-Treasurer . . . Glen Mattingly, Sam Houston State University

Level-I Director	Vivian A. Dennis, Eastfield College
Level-II Director R. Vie	c Morgan, Sul Ross State University
Level-III Director James N	N. Younglove, University of Houston
Director-at-Large	Nancy C. Ogden, Garland I.S.D.
Arrangements Chair Melvin R. H	Hagan, North Texas State University
Arr. Chair-Elect	Keagy, University of Texas at Tyler
Texas AHSME Director Jame	es R. Boone, Texas A&M University

The annual banquet, prefaced that year by a wine and cheese party, was held on Friday evening on the eighth floor of the John and Mary Gray Library, which provided a panoramic view of the "Golden Triangle Area." The menu included London broil, fresh vegetables, wild rice, cheesecake with strawberry topping and tea/coffee. The price for both affairs was \$9.50. Professor Robert Greenwood of the University of Texas at Austin, Retired, entertained with lighthearted insights on the "Invariance in Mathematics."

Other activities during 1982

Katherine Bell was appointed to replace Richard A. Alo as Head of the Department of Mathematics at Lamar University. Alo became the Head of the Department of Mathematics at University of Houston-Downtown. Alo spent one month in Italy on a NATO grant, and George Berzsenyi, who was appointed to chair the MAA subcommittee on the American Invitational Mathematics Examination, also went to Australia at the invitation of the Australian Contest Committees.

E. Dennis Huthnance, formerly of Newberry College in South Carolina joined the faculty of the Department of Mathematical Sciences at Midwestern State University. At Pan American University, Sister Geralda Schaefer and Joseph E. Chance, were promoted to Professors; and John Huber and G. Edgar Parker were promoted to Associate Professors.

The third annual Southwest Regional Mathematical Sciences Competition, sponsored by the Mathematics Department at the University of Texas at Arlington, was held February 27, 1982. Larry F. Heath was the coordinator for the competition.

Robert E. Greenwood, the University of Texas, represented the MAA at the Inauguration of President Roy B. Shilling, Jr., of Southwestern University in Georgetown on April 23, 1982. Raymond L. Wilder, R. L. Moore's first doctoral student at the University of Texas, died in Santa Barbara, California in July, 1982 at the age of eighty-six.

Edwin F. Beckenback, formerly of both Rice University and the University of Texas, died in August, 1982, just after the Summer Meeting in Toronto. At that time he was chairman of the Publications Committee of the Mathematical Association of America, a position he had held for over a decade.

1983 The annual meeting of the Texas Section was held at North Texas State University on April 8-9, 1983. Melvin R. Hagan was the Arrange-ments Chair for the meeting. Registered meeting attendance was 266.

The program included the following invited lectures: "Paradoxical Coverings of the Real Line," by Ivan Niven, University of Oregon and President of MAA; "Duality in Mathematics (The role of compact Hausdorff spaces in mathematics)," by S. Kakutani, Yale University; "Perceptions Regarding Discrete Mathematics and Calculus for the Freshman Year," by R. D. Anderson, Louisiana State University; and "The State of School Mathematics in Texas," by Barbara Montalto, Texas Education Agency.

Contributed papers were presented by: Joseph Kung, North Texas State University; Peter Lindstrom, North Lake College; J. M. Stark, Lamar University; David F. Dawson, North Texas State University; Victor A. Belfi, Texas Christian University; Frank N. Huggins, University of Texas at Arlington; Charles Dorsett, Louisiana Tech University; Jim Bradford, Abilene Christian University; Frank H. Mathis and Danny W. Turner, Baylor University; Alfonso Castro, Southwest Texas State University; A. A. Gillespie and B. B. Williams, University of Texas at Arlington; Joseph Wiener, Pan American University; Philip R. Sanfilippo, Farmers Branch, Texas; C. Bandy and R. Torrejon, Southwest Texas State University; Norman W. Naugle, Texas A&M University(two); and Roy Dean Alston, Stephen F. Austin State University.

Also by: E. Dennis Huthnance, Midwestern State University; Michael Murphy and Nancy Rich, University of Houston-Downtown; Michael K. Jones, Fort Worth, Texas; Neal Hart, Sam Houston State University; Bill Aslan, East Texas State University; Bella Wiener, Pan American University; G. Marvin Eargle, Appalachian State University, Boone, North Carolina; G. Edgar Parker, Pan American University; Ed Oxford, Baylor University; Andre Deutz, Texas A&M University at Galveston; John Huber, Pan American University; Robert S. Doran, Texas Christian University; Tommy L. Leavelle, North Texas State University; Jeffrey W. Neslen, Texas Christian University; and Joseph M. Szucs, Texas A&M University at Galveston.

Student papers were presented by: Joseph F. Gerda, Jr., University of Texas at Arlington; Robert F. Jones, Sam Houston State University; Errol Moncriffe, Texas Southern University; David C. Sutherland, North Texas State University; N. E. Brewster and R. Kannan, University of Texas at Arlington; Brice McIntyre, East Texas State University; and Catherine Abbott, North Texas State University.

A "premeeting" Developmental Mathematics Workshop was sponsored by Addison-Wesley Publishing Company. The speaker for this session was P. Demana of Ohio State University, who spoke on "Articulation Between High Schools and Colleges." Between fifty and sixty people attended the workshop.

Special group meetings were held by the Texas Association of Academic Administrators in the Mathematical Sciences (TAAAMS), by the Texas Mathematical Association of Two-Year Colleges (TexMATYC), by the Institutional Representatives of the Texas Section and by the Executive Committee.

A registration fee of \$5.00 was charged for regular members. There was no charge for students.

The officers and directors for 1983-84 were:

Immediate Past Chair John Ed Allen, North Texas State University
Chair Robert H. Cranford, University of Texas at Tyler
Chair-Elect Margaret R Hutchinson, University of St. Thomas
Secretary-Treasurer Glen Mattingly, Sam Houston State University
Level-I Director
Level-II Director Darwin Peek, Trinity University
Level-III Director James N. Younglove, University of Houston
Director-at-Large Nancy C. Ogden, Garland I.S.D.
Arrangements Chair Thomas Keagy, University of Texas at Tyler

Arr. Chair-Elect . . . Andre Deutz, Texas A&M University at Galveston Texas AHSME Director James R. Boone, Texas A&M University

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Other activities during 1983

James C. Bradford of Abilene Christian University was elected Governor of the Texas Section for a three-year term, July 1, 1983-June 30, 1986.

Donald F. Bailey, formerly of Cornell College, Mount Vernon, Iowa, was appointed Chairman and Associate Professor of Mathematics at Trinity University. At Lamar University, George D. Poole, formerly of Emporia State College (Kansas), was appointed Head of the Department of Mathematics.

At Texas A&M University, James R. Boone received the Former Students Association Distinguished Teaching Award, which carried a \$4000 stipend.. At North Texas State University, R. Daniel Mauldin was on leave to the Los Alomos Scientific Laboratories.

The fourth annual Southwest Regional Mathematical Sciences Competition, sponsored by the Mathematics Department at the University of Texas at Arlington, was held February 26, 1983. Larry F. Heath was the coordinator for the competition.

R. H. Bing, the University of Texas, was named to hold the Mildred Caldwell and Baine Perkins Kerr Centennial Professorship in Mathematics. Also, at Texas, Klaus Richard Bichteler, Cameron McAllen Gordon, Stephen Joseph McAdam, and James W. Vick were promoted to Professors; and Raymond C. Heitman and Jeffrey David Vaaler were promoted to Associate Professors.

The fourth edition of COLLEGE MATHEMATICS IN TEXAS was published by the Texas Section. John Hardy of the University of Houston, was the chairman of the Texas Section Committee Course Transfer. Other committee members were Margaret R. Hutchinson of the University of St. Thomas; Beverly Smith of Texas Southern University; Herman Schoenemann of Blinn College; and June Wood of the University of Houston-Downtown.

The Texas Mathematical Association of Two Year Colleges, with 108 members, had the largest state membership in the American Texas
Mathematical Association of Two Year Colleges. Gerald Skidmore of Alvin Community College, was President of the TexMATYC. Twentynine of their members attended the annual meeting of the AMATYC in Orlando, Florida.

1984 The annual meeting of the Texas Section was held at The University of Texas at Tyler on April 6-7, 1984. Thomas Keagy was the Arrangements Chair for the meeting. There were 277 registrants for the meeting.

Meetings of special groups included a TAAAMS Luncheon Meeting (Texas Association of Academic Administrators in the Mathematical Sciences), TexMATYC Business Meeting (Texas Mathematical Association of Two-Year Colleges), a meeting of the Executive Committee, and an Institutional Representatives Breakfast Meeting.

The invited addresses included: "Mathematical Time Exposures; Some Recurrent Geometry," by Mary Ellen Rudin, University of Wisconsin; and "Mathematics and Computer Science: A Case Study in Marriage and Divorce," by Lynn Steen, St. Olaf College, President Elect of the MAA.

There was a special session with a "Forum On Mathematics Resource Centers and Other Aids in Managing Large Classes" led by Eddie Warren, University of Texas at Arlington, with responses by: John Hardy, University of Houston; John Durbin, University of Texas; and Bill Perry, Texas A&M University.

Special reports included: "A Mathematician's Tour of China," by Linda Kyle, Tarrant County Junior College; "New School Mathematics Curriculum and New Standards for Mathematics Teacher Certification," by Barbara Montalto, Texas Education Agency; "Report on MAA TEAM Project" (Teaching Experimental Applied Mathematics), by Bo Green, Abilene Christian University; and "Computers in Schools in Texas (Pre-college & college): Impact on Curriculum and Pedagogy" John Huber, Pan American University.

Contributed papers were presented by: Tommy L. Leavelle, North Texas State University; Elias Deeba, University of Houston Downtown; Stuart Anderson, East Texas State University; J. K. Kohli, Lamar University; Sudhir Goel & Ron Barnes, University of Houston-Downtown; E. Dennis Huthnance, Midwestern State University; George Poole, Lamar University; Donald F. Bailey, Trinity University; George Berzsenyi, Lamar University; Joe F. Allison, Eastfield College; Richard A. Cooper, Trinity University; and Victor A. Belfi, Texas Christian University.

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Also by: Robert E. Goad, Sam Houston State University; Chris Boldt, Eastfield College; Robert S. Doran, Texas Christian University; David Hughes, Abilene Christian University; Don E. Edmondson, University of Texas; Joseph Kung, North Texas State University; Timothy P. Donovan, East Texas State University; Robert R. Kallman, North Texas State University; Michael Laidacker, Lamar University; Reza Aftabazadeh, Pan American University; and Norman Naugle, Texas A&M University.

The only student paper was presented by Sandra Wheeler of East Texas State University.

The Executive Committee for 1984-85 consisted of Immediate Past Chair Robert H. Cranford, University of Texas at Tyler Chair Margaret R Hutchinson, University of St. Thomas Chair-Elect Vic Morgan, Sul Ross State University Secretary-Treasurer . . Glen Mattingly, Sam Houston State University Level-I Director George Brewer, Odessa College Level-II Director Darwin Peek, Trinity University Level-III Director Darwin Peek, Trinity University Level-III Director James N. Younglove, University of Houston Director-at-Large Rose Marie Smith, Texas Woman's University Arrangements Chair Joseph Szucs, Texas A&M University at Galveston and Anthony Blozinski, Texas A&M University at Galveston Arrangements Chair-Elect Vivian A. Dennis, Eastfield College Texas AHSME Director James R. Boone, Texas A&M University

Other activities during 1984

William K. McNabb, a part-time instructor at Eastfield College, was the president of the Greater Dallas Council of Teachers of Mathematics. Vivian A. Dennis was the Chairman of the Dallas County Community College District Mathematics Curriculum Committee.

Abilene Christian University was responsible for distributing *Team Learning Modules* produced by the Mathematical Association of America. At Angelo State University, Cass Archer, Chairman of the Department of Mathematics, retired after twenty-one years on the faculty there. Don Williams was appointed Dean of Sciences at Austin College. Williams had been at Austin College since 1970, and had held the Fish Chair of Mathematics and had been Chairman of the Department of Mathematics since 1973. Thomas F. Kimes, Chadwick Professor of Mathematics, who had chaired the department from 1962-73, was reappointed Chairman.

At Baylor University, Danny W. Turner and Max Shauck received international recognition for their research on the use of ethanol as aviation fuel. At East Texas Baptist University, V. Rutledge McClaran was appointed Dean of Arts and Sciences; and James R. Mosher, formerly of Wayland Baptist University, was appointed Chairman of the Department of Mathematics.

At Sam Houston State University, John Huber, formerly Head of the Department of Mathematics at Pan American University, was appointed Coordinator of Mathematics and Computer Science and Teacher Education in the Division of Mathematical and Information Sciences.

Timothy L. Flinn, Tarleton State University, was named a Piper Professor by the Minnie Stevens Piper Foundation. At Texas A&M University, Larry F. Guseman and Francis J. Narcowich received the Former Students Association Distinguished Teaching Award, which carried a \$4000 stipend.

At the University of Texas at Arlington, Frank N. Huggins retired after sixteen years at UTA. James C. Bolen, Professor of Mathematics at UTA, resigned to accept the position of Chairman of the Mathematics Department at the Northeast Campus of Tarrant County Junior College. At the University of Texas at Tyler, Alton R. Goddard retired.

E. Glenadine Gibb, the University of Texas, died in June of complications from cancer. Her contributions were honored with a memorial lecture presented at the Eleventh Annual Conference of the Research Council for Diagnostic and Prescriptive Mathematics. She had been a member of the faculty in Mathematics and Mathematics Education since 1965. Gibb was the Catherine Mae Parker Centennial Professor of Education at Texas and had served as President of the National Council of Teachers of Mathematics, 1972-74.

1985 The annual meeting of the Texas Section was held at Texas A&M University at Galveston on April 11-13, 1985. The Section Chair, Margaret R. Hutchinson of the University of St. Thomas, presided. Joseph Szucs and Anthony Blozinski of Texas A&M University at Galveston arranged the meeting. There were 209 registrants for the meeting; and a \$4.00 fee for pre-registration or a \$5.00 registration fee at the meeting. No registration fee was charged for students.

Meetings of special groups included a TAAAMS Luncheon Meeting (Texas Association of Academic Administrators in the Mathematical Sciences), TexMATYC Business Meeting (Texas Mathematical Association of Two-Year Colleges), a meeting of the Executive Committee, and an Institutional Representatives Breakfast Meeting.

The invited addresses included: "Lacunary Fourier series, from Sidon to Pisier," by Kenneth Ross, University of Oregon, Secretary of the Mathematical Association of America; "The Examinations of the MAA Committee on American Mathematics Competitions," by Walter Mientka, Executive Director, American High School Mathematics Examination; and "Approximation of Matrices," by P. R. Halmos, The University of Santa Clara, Editor of Mathematics Monthly.

There was a special report: a "Progress report on new mathematics curriculum and new standards for mathematics teacher certification," by Barbara Montalto, Texas Education Agency; and a special session, a "Forum on funding higher education in Texas, problems, proposed solutions, and portents of the future."

The program also included a panel discussion: "Mathematics course work - Who's calling the shots?" led by Rose Marie Smith, Moderator, Texas Woman's University; John Allen, North Texas State University; Don Bailey, Trinity University; Don Edmondson, University of Texas; and Peter Lindstrom, Northlake College.

There were thirty-three contributed papers in four sessions Friday afternoon presented by Robert R. Kallman, North Texas State, University; Victor A. Belfi, Texas Christian University; Sudhir K. Goel and Dennis Rodriguez, University of Houston-Downtown; Charles Dorsett, Louisiana Tech University; Aurel J. Zajta and Sudhir K. Goel, University of Houston-Downtown; Robert S. Doran, Texas Christian University; Elizabeth M. Bator, North Texas State University; Vincent P. Schielack, Jr.. Texas A&M University; Joseph C. Warndof, Midwestern State University.; Don E. Edmondson, University of; and Efraim P. Armendariz, University of Texas.

Also by; Joseph M. Szucs, Texas A&M University at Galveston; Aurel J. Zajta, University of Houston-Downtown; John R. Durbin, University of Texas; Wynne Johnson, University of Texas at Arlington; Stuart Anderson, East Texas State University; Lawrence Maher, North Texas State University; Richard A. Alo and Michael G. Murphy, University of Houston-Downtown; Ashok Kumar and Sudhir K. Goel, University of Houston-; Ron Barnes, University of Houston-Downtown; Ping-Tung Chang, Laredo State University; and Vivian Dennis, Eastfield College.

Also by Gregory D. Foley, Austin Community College; Tammie Ann Hill, Prairie View A&M University; George D. Poole, Lamar University; Timothy P. Donovan, East Texas State University; Susan Hunt, Baylor University; Donald F. Bailey, Trinity; Beverly Smith, Texas Southern University; Bella Wiener, Pan American University; Carol Ghomi & Dennis Rodriguez, University of Houston-Downtown; John F. Lamb, Jr., East Texas State University; and John Dennis, Rice University.

Other activities during 1985

R. Daniel Mauldin, North Texas State University, received the first Decker Award for scientific research. The award carried a \$15,000 stipend. Also at North Texas, Herbert C. Parrish retired. Parrish had served as Chairman of the Department of Mathematics there, 1958-65. He had served as both Chairman and Governor of the Texas Section. Also retiring at North Texas was David F. Dawson.

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Daniel H. Reeves, a popular teacher and speaker for mathematics teachers, retired at Sam Houston State University. I will always think of Dan Reeves as one of my mentors and heroes, even though I never had a course under him. Dan and I both accepted positions as mathematics instructors at Texas City High School, Texas City, in 1956. Dan was an experienced teacher, but it was my first teaching job. He "took me under his wing" and tried to teach me, as well as his other students. He taught me that the way students respond mirrors the way the teacher performs, and that the amount of energy students expend is directly proportional to the energy a teacher expends. Equally important for me was the fact that Dan "badgered" me into going on to graduate school. I was perfectly happy, teaching in high school, and felt no pressing need or desire to work on a higher degree. Dan kept after me until I applied to several schools and subsequently received a National Science Foundation Academic-Year Institute at Oklahoma State University, where I earned a Master of Science degree. At OSU, another of my mentors and heroes, Jeanne L. Agnew, "scared" me into a love for theoretical mathematics, that led to my eventually pursuing a doctorate in ring theory.

June Wood, University of Houston-Downtown, retired, but planned to continue teaching part-time.

Robert L. Tennison, Professor of Mathematics at the University of Texas at Arlington, died in July, 1985, after a several-years struggle with cancer. Tennison had taught at UTA for twenty years, and had served as Chairman of the Texas Section, 1981-82.

1986. The annual meeting of the Texas Section was held at Eastfield College in Mesquite, Texas, on April 10-12, 1986. Section Chair, Vic Morgan of Sul Ross State University, presided at the meeting, which was arranged by Vivian A. Dennis of

Eastfield College. There were 211 registrants for the meeting. There was a \$4.00 fee for pre-registration or a \$5.00 registration fee at the meeting. No registration fee was charged for students.

Invited addresses included the following: "Applications of mathematics," by Professor John D. Neff, Georgia Institute of Technology; "Infinite dimensional intuition," by R. D. Anderson, Louisiana State University, Past President of the MAA; "Developmental/Remedial mathematics-Current view and future outlook," by Dr. William Sanford, Assistant Commissioner for Universities and Research, Coordinating Board, Texas College & University Systems. Also, a resource panel consisting of R. D. Anderson, Louisiana State University; Charles "Chuck" Miller, American River College, California; Louie Huffman, Midwestern University; Sam Tinsley, Eastfield College; and John Huber, Sam Houston State University.

Also, the Section honored R. H. Bing for his many contributions to mathematics. He was the speaker at the banquet, speaking on "My experiences in becoming a mathematician." R. D. Anderson, a long time friend and colleague of Professor Bing, introduced the speaker.

There were three special reports: "School mathematics now" by Barbara Montalto, Texas Education Agency; "PREP, A program for high ability middle and high school students," by Manuel P. Berriozábal, The University of Texas at San Antonio; and, in a session on Standards in Entry Level College Mathematics, "A Comparison of ACT Scores with Grades in Entry Level Courses" by Elbert Walker, New Mexico State University. Walker's talk was followed by "Two Samples" by L. Dwayne Snider, Tarleton State University and E. Wesley Sanders, Sam Houston State University.

A Mini-Course on "Mathematical Applications," taught by Marvin Keener of Oklahoma State University, was the first of what was to become a standard feature of the meetings of the Texas Section.

Meetings of Special Groups included a TAAAMS Luncheon Meeting (Texas Association of Academic Administrators in the Mathematical Sciences), the Institutional Representatives Breakfast, a meeting of the TexMATYC, and a meeting of the Executive Committee.

The program also included thirty-five contributed papers, thirty by faculty and five by students. The faculty papers were presented by: Jo-

seph Kung, North Texas State University; Don Edmondson, University of Texas; Michael Laidacker and George Poole, Lamar University; Jae Keol Park, Efraim P. Armendariz and Byeng Keun Koo University of Texas and Busan National University, Korea; Efraim P. Armendariz, Hyeng Keun Koo and Jae Keol Park University of Texas and Busan National University, Korea; Ed Oxford and Eugene Tidmore, Baylor; Robert L. Sartain, Wayland Baptist University; James C. Kirby, Tarleton State University; and Carol Jones, University of Houston-Downtown.

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Also by Marjorie S. Freeman, University of Houston-Downtown; Bo Green, Abilene Christian University; by Will Watkins, Pan American University.; by Elias Deeba, University of Houston-Downtown; Joseph Warndof and Dennis Huthnance, Midwestern State University; Peng Fan, Texas Christian University; Charles Dorsett, Louisiana Tech University; Vincent P. Schielack, Jr., Texas A&M University; Seok Sagong, Hardin-Simmons University; Michael G. Murphy, R. Bower Loftin and Suresh Agrawal, University of Houston-Downtown; and Elizabeth Bator, North Texas State University.

Also by Sudhir K. Goel and Ashok Kumar, University of Houston-Downtown; Richard M. Trent and Richard A. Croley, Jr., East Texas State University; Sudhir K. Goel and Dennis M. Rodriguez University of Houston-Downtown; Ron Barnes and Kenneth Oberhoff, University of Houston-Downtown; Larry Dwayne Snider and Cathy Crawford, Tarleton State University; Charles P. McKeague, Cuesta College; Chris Boldt, Eastfield College; Scott Chapman, North Texas State University; Victor Grichtchak, Dnepropetrozsk State University, USSR and North Texas State University; and John F. Lamb, East Texas State University

Student papers were presented by: Gregory S. Ellis, Trinity University; Karen Knorr, Trinity University; Neven JurKovic, Southwest Texas State University; Mario Grimani, Southwest Texas State University.; and Michael Rowland, University of Houston-Downtown.

The Executive Committee for 1986-87 consisted of: Immediate Past Chair Vic Morgan, Sul Ross State University Chair George Berzsenyi, Lamar University Chair-Elect Don Bailey, Trinity University Secretary-Treasurer Glen Mattingly, Sam Houston State University Level-I Director George Brewer, Odessa College Level-II Director . . . Arnold Vobach, University of Houston-Downtown Level-III Director Melvin R. Hagan, North Texas State University Director-at-Large John R. Durbin, University of Texas Arrangements Chair Timothy L. Flinn, Tarleton State University Arrangements Chair-Elect Darwin Peek, Trinity University Texas AHSME Director James R. Boone, Texas A&M University Governor Robert A. Northcutt, Southwest Texas State University

Other activities during 1986

Robert A. Northcutt of Southwest Texas State University was elected Governor of the Texas Section for a three-year term, July 1, 1986-June 30, 1989.

Richard A. Cooper, Trinity University; and Ron Barnes, Houston-Downtown; were appointed to coordinate student participation in activities of the Texas Section, particularly in the Annual Meeting of the Section. James C. Bradford, Abilene Christian University, represented the Mathematical Association of America at the inauguration of Dr. Don Newberry as President of Howard Payne University on October 3, 1986.

At Trinity University, William F. Trench, formerly of Drexel University, joined the faculty as Andrew G. Cowles Distinguished Professor of Mathematics. At the University of Texas at Arlington, George J. Fix was appointed Chairman of the Department of Mathematics.

Leonard Gillman, the University of Texas, was elected President of the Mathematical Association of America. Gillman had previously served as Treasurer of the Association. Dale E. Walston received the departmental teaching award from the Department of Mathematics at the University of Texas.

At the Houston-Downtown, Michael G. Murphy was promoted to Professor and June Wood was promoted to Emeritus Professor.

R. H. Bing died on April 28, 1986, just sixteen days after he was honored by the Texas Section at its meeting at Eastfield College. When Bing realized that his health was failing, he donated his collected works and memorabilia to his alma mater, Southwest Texas State University. He also donated \$5000 to begin a fund for the expressed purposes of:

- (1) holding mathematical conferences and seminars;
- (2) encouraging expository work in mathematics and providing recognition for original outstanding research; and,
- (3) encouraging and inspiring students through displays, scholarships, and awards.

The fund was named the R. H. Bing Endowment for Mathematics. Also, an Endowed Fund was established, at Southwest Texas State University, to honor Don and Helen Cude. It was established to support scholarships for students majoring in mathematics or computer science, with preference being given to students working on certification to teach. Don Cude was Chairman of the Department of Mathematics at Southwest Texas State University for many years, and Chairman of the Texas Section in 1956-57.

William K. McNabb died after suffering a heart attack on Sunday, September 10, 1986.

Hyman Joseph Ettlinger was born September 1, 1889, in St. Louis, Missouri. He received a bachelor's degree from Washington University in St. Louis in 1910; a master's degree from Harvard University in 1911; and the Ph.D. degree from there, under the direction of G. D. Birkhoff, in 1920. Ettlinger joined the faculty of the University of Texas in 1913 where he became noted for both his teaching and his research. He directed the dissertations for twenty-two at Texas and served on committees for hundreds of others. His first two Ph.D. students were William M. Whyburn, in 1927, and William T. Reid, in 1929. They combined to produce thirty-seven Ph.D. students, and Whyburn served as Chairman of the Texas Section. Ettlinger's research was predominantly in differential and integral equations and in the calculus of variations.

Ettlinger was deeply involved in civic activities, sometimes writing articles on the state of education for the popular press. One photograph in the Ettlinger Papers, in the Math Archives at the Center for American History in Austin, shows him receiving an award for serving as Chairman of the USO for ten years; and he was associated with the Defense Research Laboratory of the University of Texas. Ettlinger retired in 1968. He died, in Austin, on June 8, 1986, at the age of ninety-six. Ettlinger was a charter member of the Mathematical Associa tion of America and the first chairman of the Texas Section of the Mathematical Association of America, having been appointed to the position temporarily when the formation of the Section was authorized by the Association. He served as Secretary-Treasurer of the Section from 1923 to 1931; he was elected Chairman twice, for 1938-39 and for 1949-50; he was the first Texas Coordinator of the High School Mathematics Contest. Ettlinger gave no fewer than twenty papers at meetings of the Texas Section. In 1977, the Texas Section honored him with one of the first two Distinguished Service Citations.

1987 The annual meeting of the Texas Section was held at Tarleton State University in Stephenville, Texas on April 2-4, 1987. Section Chair, George Berzsenyi of Lamar University presided at the meeting which was arranged by Timothy L. Flinn of Tarleton State University. There were 165 registrants for the meeting. There was a \$4.00 fee for pre-registration or a \$5.00 registration fee at the meeting. No registration fee was charged for students.

The invited addresses included "Axioms for C*-algebras: Flying by instruments," by Robert S. Doran, Texas Christian University; "Forces for change in mathematics education" by Henry Pollak, Bell Communications; "Solutions and their applications to physical systems," by Henry A. Warchall, North Texas State University; "Applications in the mathematical sciences (Instructional Media)," by John Jobe, Oklahoma State University; "On artificial intelligence," by W. W. Bledsoe, Microelectronics and Computer Technology Corporation; and "Making mathematicians count: the role of mathematics in public policy," by Christine Stevens, Arkansas State University.

The second annual Mini-Course: "Applications of Mathematics in the Telephone Industry" was taught by Henry Pollak, Bell Communications Research. Registration for the Mini-Course was \$25.00.

Two special reports presented were "School Mathematics," by Barbara Montalto, Texas Education Agency, and "Long Range Planning Committee," by Jim Bradford, Abilene Christine University.

Meetings of Special Groups were the TAAAMS Luncheon Meeting (Texas Association of Academic Administrators in the Mathematical Sciences), the Department Representatives Breakfast, and the meeting of the Executive Committee. Contributed papers were presented by Bill Aslan, East Texas State University; Ron Barnes, University of Houston-Downtown; John F. Lamb, Jr., East Texas State University; Timothy L. Flinn, Tarleton State University; L. Dwayne Snider and Barbara Jinks, Tarleton State University; Bill Beckner, University of Texas; Chris Boldt, Eastfield College; Marjorie S. Freeman, University of Houston-Downtown; William F. Trench, Trinity University; Elias Y. Deeba, University of Houston-Downtown; Stuart Anderson, East Texas State; and Thomas A. Atchison, Stephen F. Austin State University.

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Also by Michael G. Murphy and Kenneth E. Oberhoff University of Houston-Downtown; Yuly Sact, Lamar University; Scott Chapman, North Texas State University; Don E. Edmondson, University of Texas; Eugene Tidmore, Baylor University.; Sudhir Kumar Goel, University of Houston-Downtown; Vincent P. Schielack, Jr., Texas A&M University; Montie G. Monzingo, Southern Methodist University.; Michael Laidacker, Lamar University; Peter A. Lindstrom, North Lake College; Ali R. Amir-Moéz, Texas Tech University; Ronald J. Stanke, Baylor University; Kennard Reed, Jr., Houston Community College System; Elizabeth M. Bator, North Texas State University; A. Matheson, Lamar University; and Patrick L. Odell, University of Texas at Dallas.

One student paper was presented. It was by Marcus A. Bailey, University of Houston-Downtown.

The Executive Committee for 1987-88 consisted of:
Immediate Past Chair George Berzsenyi, Lamar University
Chair Donald F. Bailey, Trinity University
Chair-Elect Joe E. Cude, Tarleton State University
Secretary-Treasurer Glen Mattingly, Sam Houston State University
Level-I Director Patricia A. Juelg, Blinn College
Level-II Director Arnold Vobach, University of Houston-Downtown
Level-III Director Melvin R. Hagan, North Texas State University
Director-at-Large John R. Durbin, University of Texas
Arrangements Chair Darwin Peek, Trinity University
Arrangements Chair-Elect Jack Tennison, Texas Lutheran College
Texas AHSME Director James R. Boone, Texas A&M University
Governor Robert A. Northcutt, Southwest Texas State University

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Other activities during 1987

At the Executive Committee meeting on October 24, 1987, there was considerable discussion of various ways to increase financial support for the Section. A motion to raise pre-registration fees for the annual meeting to \$13.00 and registration fees at the meeting to \$15.00.

Regional Contest Coordinator, Jim Boone asked that the Texas Section sponsor some awards costing about \$50.00 each.

The Seventieth Annual Meeting of the Mathematical Association of America was held at the San Antonio Convention Center, January 21-24, 1987. This was the seventh time for this national joint meeting to be held in Texas.

Ron Barnes, the Houston-Downtown, was reappointed for a threeyear term as Coordinator of the Student Chapter Activities for the Texas Section.

Robert E. Greenwood, Emeritus Professor at the University of Texas, was awarded a Certificate of Meritorious Service for his service and leadership in the Texas Section, in the Association, and in the larger mathematical and communities. The award was presented by the Mathematical Association of America at the Sixty-sixth Summer Meeting of the Association at the University of Utah in Salt Lake City, in August, 1987.

At Abilene Christian University, Bo Green was appointed Chairman of the Department of Mathematics.

At Stephen F. Austin State University, Thomas A. Atchison, was serving as President of the East Texas Council of Teachers of Mathematics. Joe E. Cude, Tarleton State University, was appointed to the Council of Excellence by the Texas Commissioner for Higher Education.

1988 The annual meeting of the Texas Section was held at Trinity University, in San Antonio, Texas, on April 14-16, 1988. The Section Chair, Donald F. Bailey of Trinity University presided at the meeting which was arranged by Darwin Peek. There were 196 registrants for the meeting.

Invited addresses presented were "An Obvious Introduction" by President Leonard Gillman, Mathematical Association of America, The University of Texas; "The dilemma of modern computing: accuracy vs stability vs parallelism," by George Fix, The University of Texas at Arlington; and "Mathematical ideas - Their origin and spread in Texas," by Robert Greenwood, University of Texas.

Special reports included "College testing," by Joe Cude, Tarleton State University and "Calculus for a new century," by Charles Deeter, Texas Christian University.

The program also included a panel discussion: "Mathematics enrichment programs for underrepresented groups in the mathematical professions." Moderator, Darwin Peek, Trinity University. Panelists: Manuel P. Berriozábal, TEXPREP, University of Texas at San Antonio; Jo Ann Fitts, Harlandale Middle School, Harlandale ISD; Jo Ann Fitts, Upward Bound, Trinity University; Rose Marie Smith, Denton PREP, Texas Woman's University; Antonio P. Garza, Jr., Thomas A. Edison H.S., San Antonio ISD; Antonio P. Garza, Jr., San Antonio PREP, University of Texas at San Antonio.

The third annual Short Course (previously called "Mini-Course"), "Cryptography and number theory," was taught by Carl Pomerance, University of Georgia.

Meetings of the following special groups were held: TAAAMS Luncheon Meeting (Texas Association of Academic Administrators in the Mathematical Sciences), TexMATYC, the Department Representatives Breakfast and the meeting of the Executive Committee.

Contributed papers were presented by William F. Trench, Trinity University; Ronald J. Stanke, Baylor University; Don E. Edmondson, University of Texas; Scott T. Chapman, Trinity University; Robert S. Doran, Texas Christian University; R. G. Dean and Keith Dean, Stephen F. Austin State University; Efraim P. Armendariz, University of Texas; Victor A. Belfi, Texas Christian University; George Berzsenyi, Lamar University; Catherine Ann Abbott, North Texas State University; Donald F. Bailey, Trinity University; Elizabeth M. Bator, North Texas State University; John F. Lamb, Jr., (Presenter) and Bill Aslan, East Texas State University; Robert Piziak, Baylor; and Danny W. Turner (Co-authors: Dean M. Young and John W. Seaman) Baylor University. Also by Vincent P. Schielack, Jr., Texas A&M University; James W. Petticrew, Pan American University; Frank Mathis, Baylor University; Sherwood Samn, USAF School of Aerospace Medicine; Timothy P. Donovan, Midwestern State University; Elias Y. Deeba (Presenter) and Dennis M. Rodriguez, University of Houston-Downtown; John T. Sieben, Texas Lutheran College; Phoebe T. Judson, Trinity University; Ronald D. Ferguson and Jack V. Shaw, San Antonio College; Vivian Dennis, Eastfield College; Ken Oberhoff (Presenter) and Ron Barnes, University of Houston-Downtown; Carmen Hinds Lee, Theodore Roosevelt High School; Dalton Tarwater, Texas Tech University; Chris Boldt, Eastfield College; Eddie Warren, University of Texas at Arlington; Bella Wiener, Pan American University; and Marjorie S. Freeman, University of Houston-Downtown.

The eight student papers were also presented by the following: Andrew Chamblin, Trinity University; Ruben Worley, Baylor University; Robert W. Green, Southwestern University; Robert Stimets, Austin Community College, Rio Grande Campus; Rebecca R. McGowan, Trinity University; Charlotte Simmons, East Texas State University; Lea Ligon, Abilene Christian University; and Mace Williamson, Abilene Christian University.

The Executive Committee for 1988-89 consisted of:

Immediate Past Chair Donald F. Bailey, Trinity University
Chair, Joe E. Cude
Chair-ElectC. Roy Combrink, Texas Christian University
Secretary-Treasurer Glen Mattingly, Sam Houston State University
Level-I Director
Level-II Director Arnold Vobach, University of Houston-Downtown
Level-III Director John T. White, Texas Tech University
Director-at-Large Barbara Montalto, Texas Education Agency
Arrangements Chair Jack Tennison, Texas Lutheran College
Arrangements Chair-Elect Melvin R. Hagan, University of North Texas
Tex. AHSME Director Vince P. Schielack, Jr., Texas A&M University
Governor Robert A. Northcutt, Southwest Texas State University

Other activities during 1988

At East Texas State University, Dale R. Bedgood returned to fulltime teaching after twenty-one years as Head of the Department of Mathematics. Stuart Anderson was selected to be the new Department Head. At Lamar University, John R. Cannon was named Head of the Department of Mathematics. George Berzsenyi became Head of the Department of Mathematics at Rose-Hulman Institute in Terre Haute, Indiana.

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Ronald D. Salmon, who retired from Louisiana State University in 1985, was appointed a Professor of Mathematics at McMurry College. At Midwestern State University, David S. Tucker was appointed Associate Professor, and Louie C. Huffman returned after a year of teaching in Malaysia.

The R. H. Bing Endowment for Mathematics at Southwest Texas State University reached \$15,000.

At Tarleton State University, Euda "Pete" Dean, formerly of the University of Texas at Arlington, joined the mathematics faculty. Joe E. Cude was a member of the Texas Academic Skills Program Committee and Co-Chair of the Content Advisory Committee for the TASP Committee.

Robert S. Doran of Texas Christian University, received the Chancellor's Distinguished Award in Teaching. Doran was on leave at Oxford University.

At the University of Texas-San Antonio, Manuel P. Berriozábal, Director of the Texas Prefreshman Engineering Program (TexPREP), raised over \$800,000 in grants and in kind contributions in support of TexPREP. Because of his efforts, 874 students were able to complete the 1988 TexPREP.

1989 The annual meeting of the Texas Section was held on the campus of Texas Lutheran College in Seguin, April 6-8, 1989. Section Chair Joe Cude of Tarleton State University presided at the meeting, which was arranged by Jack Tennison of Texas Lutheran College. There were 223 persons registered for the meeting. Pre-registration for the meeting was \$13.00 and registration at the meeting was \$15.00. There was no registration fee charged of students.

The fourth in the series of Minicourses, "Great Theorems From Mathematical Analysis: 1689-1881," was taught by William Durham, Hanover College and The Ohio State University.

Meetings of special groups were held. These included the TAAAMS (Department Heads) Luncheon, the Executive Committee Meeting, and the breakfast meeting of the Institutional Representatives.

Invited addresses included "Variety is the Spice that Motivates Students," by George Brewer, Odessa College: Discussion Moderator: Shelba Morman, North Lake Community College; "Job Opportunities and Challenges in Applied Mathematics," by James W. Daniel, University of Texas; "Mathematics from Applications - Some Examples," by Clyde F. Martin, Texas Tech University; and "Calculus: the Bell Cow of Curricular Reform," by Bernard L. Madison, The University of Arkansas.

The program also included the special report "A 'Texas Mathematical Sciences Education Board'?" by Robert A. Northcutt, Southwest Texas State University, and R. O. Wells, Jr., Rice University; and a TASP Panel: "Survey of Developmental Mathematics Programs," Pat Juelg, Moderator, Bee County College; George Brewer, Odessa College; Vivian Dennis, Eastfield College; Montie Monzingo, Southern Methodist University; Robert Northcutt, Southwest Texas State University; and Vincent Schielack, Texas A&M University.

Contributed papers were presented by Vincent P. Schielack, Jr., Texas A&M University; Sherwood Sean, USAF School of Aerospace Medicine; Alfred E. Borm, Southwest Texas State University; Timothy P. Donovan, Midwestern State University; Bo Green, Abilene Christian University; Elizabeth L. Egan, Texas Christian University; Elias Deeba and Dennis Rodrigues, University of Houston-Downtown; Ronald D. Ferguson, San Antonio College; Jack V. Shaw, San Antonio; Robert S. Doran, Texas Christian University; William F. Trench, Trinity University; Will Watkins and Joseph Wiener, Pan American; James W. Petticrew, Pan American; Ed Oxford, Baylor University; John Spellman, Southwest Texas State University; Patrick L. Odell, Baylor University; Scott Chapman, Trinity University; James D. McCall, Jr., Texas A&M University; and Joseph Wiener and Will Watkins, Pan American University.

Also by John F. Lamb, Jr., East Texas State University; Chris Boldt, Eastfield College; Farhad (Bill) Aslan and John F. Lamb, Jr., East Texas State University; John T. Sieben, Texas Lutheran College;

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Lynda O'Gorman, The Psychological; Bella Wiener, Pan American University; Eddie Warren, University of Texas at Arlington; William S. McCulley, Texas A&M University (Retired); Jim Bradford, Abilene Christian University; Sherill Easterling, Tarleton State University; Timothy L. Flinn, Tarleton State University; Marjorie S. Freeman and Michael Murphy, University of Houston; Doug Tharp and Ken Oberhoff, University of Houston-Downtown; Mike Murphy, University of Houston-Downtown; Ron Barnes, and A. de Korvin, R. Kleyle, and R. Lea, University of Houston-Downtown.

The Executive Committee for 1989-90 consisted of:

Immediate Past Chair	Joe E. Cude, Tarleton State University
Chair C	. Roy Combrink, Texas Christian University
Chair-Elect D	ale R. Bedgood, East Texas State University
Secretary-Treasurer Gl	en Mattingly, Sam Houston State University
Level-I Director	Patricia A. Juelg, Blinn College
Level-II Director Michae	l Murphy, University of Houston-Downtown
Level-III Director	John T. White, Texas Tech University
Director-at-Large	Barbara Montalto, Texas Education Agency
Arrangements Chair	Melvin R. Hagan, University of North Texas
Arrangements Chair-Elect .	R. G. Dean, Stephen F. Austin State U.
Tex. AHSME Director V	ince P. Schielack, Jr., Texas A&M University
Governor Lou	ie C. Huffman, Midwestern State University

Other activities during 1989

Louie C. Huffman of Midwestern State University was elected Governor of the Texas Section for a three-year term, July 1, 1989-June 30, 1992.

Joe E. Cude of Tarleton State University reported that this year the Coordinating Board set the preliminary cut-off score for the TASP test at approximately 70 percent. This was a much higher passing score than many people felt it would or should be. The decision was essentially a political one. The Texas Section, through the work of its officers and members, lobbied for a "high" passing score. Cude said, "I feel that we did have an influence on that decision." The Austin newspaper mentioned that the "mathematics associations" (this was the Texas Section and TAAAMS) had urged the Board to set a high passing score. The Texas Section set up a booth for the distribution of information and membership applications for the MAA, and the sale of MAA books, through mail order, at the Conference for the Advancement of Mathematics Teaching, in San Antonio, August 2-4. Robert A. Northcutt was the CAMT Representative from the Section, and he reported that Cathy Seeley, Bill Hopkins and Barbara Montalto, all of the Texas Education Agency, provided support and leadership in making the conference, which had a budget of \$120,000 and 3680 participants, possible. He thanked them for their continued support of MAA.

A follow-up of the previous participants in TexPREP showed that of those responding, eighty-eight percent (88%) were college graduates or enrolled in college; sixty percent (60%) had majored or were majoring in science or engineering. Between 1979 and 1989, 2600 students completed at least one summer in TexPREP.

The selection of the Regional Contest Coordinator for the American High School Mathematics Examination was made a function of the MAA Committee on High School Contests. Since all other members of the Executive Committee were elected by the Section, it was felt that the it was undesirable to have a member of the Executive Committee appointed by some outside organization; consequently, that officer was removed from the Executive Committee by a change in the Bylaws. At the same time, several other changes were made in an attempt to more clearly delineate the responsibilities of the officers.

Thomas A. Atchison, Chairman of the Department of Mathematics and Statistics at Stephen F. Austin State University, was selected as the Dean of the School of Sciences and Mathematics there. F. Doyle Alexander was named Interim Chairman, and Graduate Coordinator R. G. Dean was named Chairman of the search committee to find a replacement for Atchison.

1990 The annual meeting of the Texas Section was held at the University of North Texas, Thursday through Saturday April 5-7, 1990. The meeting was arranged by Melvin Hagan of the University of North Texas; and the Section Chair, C. Roy Combrink of Texas Christian University, presided. There were 270 persons registered for the meeting. Pre-registration for the meeting was \$13.00 and registration at the meeting was \$15.00. There was no registration fee charged of students.

The meeting was one part of the celebration of the Centennial Year at the University of North Texas. In 1990, UNT had an enrollment of nearly 27,000, making it the fourth largest university in the state. With a faculty of twenty-one, the Department of Mathematics had a total amount of research grants in force that year of more than \$750,000. Also, there were thirty-four doctoral students in mathematics, thirtythree master's degree students in mathematics and 143 undergraduate mathematics majors.

The fifth annual Minicourse, "An Introduction to Mathematica," was taught by Professor Thomas Kiffe of Texas A&M University. The enrollment fee for the Minicourse was still \$25.00.

Invited addresses included "Award Winning Teaching; Reflections of a Piper Professor and CASE Gold Medalist," by Robert S. Doran, Texas Christian University; "Life of a 'Rotator' at NSF," by Florence Fasanelli, George Washington University; "Infinite Games," by Donald A Martin, The University of California at Los Angeles; "Fractals," by R. Daniel Mauldin, University of North Texas; and "Calculus Reform: An Overview," by Tom Tucker, Colgate University, Vice President of the Mathematical Association of America and Chair of CUPM Subcommittee on Calculus Reform.

There was a panel discussion entitled: "Texas Prefreshman Engineering Program - (A Statewide Summer Mathematics Enrichment Program)," with Moderator, Darwin Peek, Trinity University; and panelists Rose Marie Smith, Texas Woman's University; Richard Cooper, Trinity University; and Catherine Banks, Texas Woman's University at Dallas.

A set of papers arranged by the Calculus Committee included the following papers: "What's Happening in Texas Calculus: Anybody Know?" by Charles R. Deeter, Texas Christian University; "A Summary of Texts and Course Coverage in Main-Stream Calculus in Texas," by Chris E. Boldt, Eastfield College; "Remarks: MS 2000 Project Conference at University of Maryland, October, 1989: Mathematical Sciences: Servant to Other Disciplines," by Rose Marie Smith, Texas Woman's University; "Calculus: Louisville Report," by Jim Bradford, Abilene Christian University; "Calculus & Technology," by Timothy L. Flinn, Tarleton State University; "The Emerging Scholars Program - A Calculus Project," by Efraim Armendariz, University of Texas; and "Teaching Calculus II with Computer Algebra," by Phoebe T. Judson, Trinity University.

Contributed papers were presented by Sterling K. Berberian, University of; Ronald D. Ferguson, San Antonio; Rick Denman, Southwestern University; Bill Aslan, East Texas State University; Robert Northcutt, Southwest Texas State University; Elizabeth L. Egan, Texas Christian University; Stuart Anderson and Dale Bedgood, East Texas State University; John F. Lamb, Jr., East Texas State; Martha M. Harvey, Midwestern State University; Linda J. S. Allen, Texas Tech University; Jack V. Shaw, San Antonio College; and Ross Phillips, Southwest Texas State University.

Also by John F. Lamb, Jr., East Texas State University; Joe F. Allison, Eastfield College; Ron Barnes, University of Houston-Downtown; Michael G. Murphy, University of Houston-Downtown; Bo Green, Abilene Christian University; Jean Richmond, Southern Methodist University; Frank Mathis, Baylor University; Danny W. Turner, Baylor University; C. Corduneanu, University of Texas-Arlington; Chris Boldt, Eastfield College; Ronald J. Stanke, Baylor University; Joseph Wiener, University of Texas-Pan American; Charles Dorsett, Louisiana Tech University; Bella Wiener, University of Texas-Pan American; and Elizabeth M. Bator, University of North Texas.

Also by David Ruch, Tarleton State University; Donald F. Bailey, Trinity University; James W. Petticrew, University of Texas-Pan American; Patrick L. Odell, Baylor University; Mona Cherri, Texas Woman's University and Wayne Powell, Oklahoma State University; Scott Chapman, Trinity University; Joseph Chance and Alejandro Necoches, University of Texas-Pan American; Elias Y. Deeba, University of Houston-Downtown; Walter M. Potter, Southwestern University; Archie D. Brock and Richard Oubes, East Texas State; Dalton Tarwater, Texas Tech University; and Vincent P. Schielack, Jr., Texas A&M University.

Student papers were presented by Travis Burnal Howell, Southwestern University; Charlotte Simmons, University of North Texas; Michael Green, University of North Texas; and Guy Lovan, Sam Houston State University.

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The Executive Committee for 1990-91 consisted of:

Immediate Past Chair . . . C. Roy Combrink, Texas Christian University Chair Dale R. Bedgood, East Texas State University Chair-Elect Larry Heath, University of Texas at Arlington Secretary-Treasurer . Charles D. Robinson, Hardin-Simmons University Level-I Director . . . James Bolen, Tarrant County Community College Level-II Director . . Michael Murphy, University of Houston-Downtown Level-III Director John T. White, Texas Tech University Director-at-Large James R. Boone, Texas A&M University Arrangements Chair . . R. G. Dean, Stephen F. Austin State University Arrangements Chair-Elect Elias Deeba, U of Houston-Downtown Tex. AHSME Director . . Vince P. Schielack, Jr., Texas A&M University Governor Louie C. Huffman of Midwestern State University

Special group meetings held included the Executive Committee Meeting, the TAAAMS (Department Heads) Luncheon, the Institutional Representatives' Breakfast, and the Breakfast Meeting of MAA Student Chapter Advisors

Other activities during 1990

The Texas Section honored Glen Mattingly of Sam Houston State University, John T. Mohat of the University of North Texas, and Herbert C. Parrish of the University of North Texas with Distinguished Service Citations.

Thomas F. Kimes, Chadwick Professor of Mathematics and Chairman of the Department of Mathematics at Austin College, retired from the chairmanship; but he continued as Chadwick Professor of Mathematics. Don Williams was named the new chairman.

Mike Dellens, Austin Community College, was elected president of the TexMATYC for a two-year term. Charles D. Robinson, Hardin-Simmons University, who was beginning a three-year term as Secretary-Treasurer, spent the spring semester on a sabbatical leave at Texas Tech University.

Louie C. Huffman, Midwestern State University and Governor and formerly Chair of the Texas Section, retired after thirty-five years at MSU. At Sam Houston State University, George R. Vick, Chair of the Texas Section, 1970-71, retired after forty-four years at Sam Houston. Neal Hart, Sam Houston State University, accepted a Fullbright Professorship at Sultan Qaboos University in the Sultanate of Oman.

At Stephen F. Austin State University, Jasper E. Adams was selected as Chairman of the Department of Mathematics and Statistics. Adams, whose B. S. and M. S. degrees were from SFA and whose Ph.D. was from Texas Tech University, had been the Coordinator of the Statistics Laboratory at SFA. At Tarleton State University, Joe E. Cude stepped down after eighteen years as Head of the Department of Mathematics. James C. Kirby was appointed Interim Head of the Department of Mathematics.

James C. Bolen, Professor of Mathematics and Chair of the Mathematics Department at the Northeast Campus of Tarrant County Junior College, stepped down to return to full-time teaching. Lou Ann Mahaney was appointed to succeed Bolen as chair.

At Texas Christian University, Robert S. Doran, who was serving a two-year term as President of the Board of Trustees of the Association of Members of the Institute for advanced study at Princeton, was appointed to a three-year term as Chair of the Department of Mathematics. Charles R. Deeter of TCU, was Chair of the Texas Section Committee on Lower Division College Mathematics.

Michael Murphy, University of Houston-Downtown, was appointed to the position of Vice-President for Academic Affairs and Provost. At the University of St. Thomas, Sam B. Ross, was again named Chairman of the Mathematics-Statistics Department.

At the University of Texas at Arlington, G. B. Turney retired after teaching there for thirty-one years and Mervin Childers retired after thirty-two years. Woodrow W. Bledsoe, holder of the Peter O'Donnell, Jr., Centennial Chair in Computing Systems and Professor of Mathematics the University of Texas in Austin, received the American Mathematical Society 1990 Milestone Prize for his work on Automatic Theorem Proving.

1991 The annual meeting of the Texas Section was held at Stephen F. Austin State University in Nacogdoches, April 4-6, 1991. The Chair Dale R. Bedgood of East Texas State University presided. R. G. Dean of Stephen F. Austin State University ar-

ranged the meeting. There were 249 persons registered for the meeting. Pre-registration for the meeting was \$15.00 and registration at the meeting was \$18.00. There was no registration fee charged of students.

The sixth annual Minicourse, "Dynamical Systems -- Chaos and Fractals" was taught by Marilyn B. Durkin of Bentley College in Waltham, Massachusetts. Registration for the minicourse was \$30.00.

Dr. Durkin received her B.S. degree from Bates College, her M.S. degree from Salem State College, and her Ph.D. degree in mathematics from Boston University. Her doctoral dissertation, "The Dynamics of the Complex Exponential Function-A Mathematical and Computer Graphical Analysis, was done under the direction of Robert L. Devaney. She



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Marilyn B. Durkin, Bently College and Stuart Anderson, East Texas State University

taught at Salem State College and Boston University prior to coming to Bentley College in 1989. Dr. Durkin has presented a number of workshops and lectures in the field of dynamical systems and has recently developed an introductory dynamical systems course at Bentley.

For the first time, a workshop for **students only** was held. It was on "Chaos and Fractals," taught by Professor Durkin. An abbreviated version of the annual minicourse, it was held Friday morning from 10:30 to 12:30. No registration fee was charged for this workshop.

Meetings of special groups included the following: the TAAAMS (Department Heads) Luncheon, the TexMATYC Meeting, the Institutional Representatives Breakfast, the Long Range Planning Committee Meeting, and the Breakfast Meeting of MAA Student Chapter Advisors and a Student Representative.

The invited addresses included: "Let's Not Move from Rote Pencil Manipulations to Technology Mimicry," by John Kenelly, Clemson University; "Some Good Attitudes Learned from Euler and Polya," by

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Lester H. Lange, San Jose State University; "Graphing Calculators in the Mathematics Classroom," by Sharon Sledge, San Jacinto College; and "Encouraging Minority Achievement in Mathematics," by Efraim Armendariz, University of Texas.

Also invited: "Notes Toward a Holiday Reader in Good Mathematics," by Lester H. Lange, San Jose State University; "Curriculum and



Lester H. Lange, Dale R. Bedgood and others at the banquet at Stephen F. Austin State University

Enrollment Trends in High School Mathematics," by Dr. Bill Hopkins, Mathematics Specialist, Texas Education Agency; "The Role of the Counselor in the Placement of Students in High School Mathematics Courses," by Carolyn Melton, Past President, Texas School Counselors' Association and Director of Guidance and Counseling in the Fort Worth Independent School District.

Contributed papers were presented by Eugene Tidmore, Baylor University; Thomas A. Boynton, Texas Lutheran College; Donald F.

Bailey, Trinity University; Frank Mathis, Baylor University; Timothy P. Donovan, Midwestern State University; Charles Dorsett, Louisiana Tech University; James W. Petticrew, University of Texas-Pan American; Roy Dean Alston, Stephen F. Austin State University; Nick Vaughan, University of North Texas; Michael G. Monticino, University of North Texas; Danny W. Turner, Baylor University; Joseph M. Szucs, Texas A&M University at Galveston; Beverly Smith, Texas Southern University; and Stuart Anderson, East Texas State University.

Also by S. Eugene Sims, St. Mary's University; David Rueh, Sam Houston State University; Delin Tan, Texas A & I University; Patrick L. Odell and Doug Wielenga, Baylor University; Robert S. Doran, Texas Christian University; Elias Y. Deeba, University of Houston-Downtown; Michael G. Murphy, University of Houston-Downtown; Ron Barnes, University of Houston-Downtown; Reza O. Abbasian,

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Texas Lutheran College; Anthony P. Blozinski, Texas A&M University at Galveston; W. D. Clark, Stephen F. Austin State University; Ongard Sirisaengtaksin, Linda Becerra, and Kenneth Oberhoff, University of Houston-Downtown; and Darwin R. Peek, Trinity University.

Also by Christopher P. Benton, Alvin Community College; Joe Chance, University of Texas-Pan American; Howard B. Lambert, East Texas State University; S. K. Berberian, University of Texas; Ching-Yun Suen, Texas A&M University at Galveston; Julius M. Burkett, Stephen F. Austin State University; Kenneth J. Word, Central Texas College; Don Williams, Brazosport College; Chris Boldt, Eastfield College; Jack B. Tennison, Texas Lutheran College; Michael Laidacker and John Harvill, Lamar University; Ali R. Amir-Moéz, Texas Tech University; Robert S. Doran, Texas Christian University; John F. Lamb, Jr., East Texas State University; and Vincent P. Schielack, Jr., Texas A&M University.

Moderators for the sessions of contributed papers were Roy Dean Alston, F. Doyle Alexander, Kelly Cunningham, Bob Feistel, Jane Ritter, Kenneth H. Price, Pam Roberson, C. Wayne Proctor, W. D. Clark and Joe McWilliams.

The session for student papers was moderated by Ron Barnes. It included presentations by Susan Paulson, University of North Texas; "Markov Chain models of games," by James W. Miller, Baylor University; Mouhamad Bismar, University of Houston-Downtown; and Hongmin Lu, Baylor University.

Graduate School Representatives were available for interviews with prospective students.

Fifty dormitory rooms were available for students at a cost of \$8.00 per night.

A student representative from each college was invited to attend the Dutch treat breakfast meeting Saturday morning MAA student chapter advisors.

A spouses program included a bus tour of Nacogdoches, a Dutch treat lunch at the Clear Springs Restaurant, and a trip to Millard's Crossing, an early Texan restoration village and Texana Museum. The Executive Committee for 1991-92 consisted of:

Immediate Past Chair . . . Dale R. Bedgood, East Texas State University Chair Larry Heath, University of Texas at Arlington Chair-Elect Rose Marie Smith, Texas Woman's University Secretary-Treasurer . Charles D. Robinson, Hardin-Simmons University Level-I Director . . . James Bolen, Tarrant County Community College Level-II Director . . . Michael Murphy, University of Houston-Downtown Level-III Director John Ed Allen, University of North Texas Director-at-Large John Ed Allen, University of North Texas Director-at-Large Bo Green, Abilene Christian University Tex. AHSME Director . . Vince P. Schielack, Jr., Texas A&M University Governor Louie C. Huffman of Midwestern State University

Other activities during 1991

Distinguished Service Awards were presented to James C. Brad-



Don E. Edmondson and James C. Bradford with their Awards for Meritorious Service

ford. of Abilene Christian University and to Don E. Edmondson of the University of Texas.

James C. Bradford was also awarded a Certificate of Meritorious Service by the Mathematical Association of America at the Joint Meeting in Baltimore in January 1991. At that time, Bradford had been on the faculty at Abilene Christian University since 1957, except for four years at Teledyne. His first appearance on a program of the Tex-

as Section was on April 25-26, 1952 at East Texas State Teachers College in Commerce, where he presented a contributed paper. Between 1952 and 1991, Bradford gave seven contributed papers and at least four special reports at meetings of the Texas Section.

Bradford served as Secretary-Treasurer of the Section, 1970-78; as Governor, 1983-86; as Chair of the Long-Range Planning Committee,

1986-89; and as Public Information Officer, 1979-95. One of the most lasting marks he made on the Texas Section was the section newsletter which he began in 1971. Through the newsletter, the members of the Texas Section can stay informed about what is going on in the mathematics community across the state. It has proved to be an invaluable resource for the compilation of the history of the section, and it should be similarly valuable for anyone writing a history of almost any college or university in the state. The success of the newsletter in Texas has contributed to the practice being adopted by many other sections of the MAA.

At the national level, Bradford served on the Committee on Sections and on the Public Information Panel of the Mathematical Association of America.

Other service to the mathematics community included: Visiting Scientist for the Texas Academy of Science; Vice-President of the mathematics section of the Texas Academy of Science; Vice-President of the Texas Academy of Science, 1968; President of the Big Country Council of Teachers of Mathematics, 1967-68; one of the founders of the Texas Association of Academic Administrators, and President of that organization in 1978; and author of the mathematics chapter in the Sigma Xi Centennial volume, 100 YEARS OF SCIENCE AND TECHNOLOGY IN TEXAS.

Marilyn Mays of North Lake College was installed as the President-Elect of the American Mathematical Association of Two-Year Colleges (AMATYC) last November. North Lake was been awarded a \$29,657 grant from the Exxon Education Foundation for Dr. Mays' work with AMATYC in developing a strategic plan for the revitalization of mathematics at two-year colleges.

Benjamin Goodier retired after serving as a lecturer for ten years at the University of Texas-Pan American. David Jabs, an alumnus of Texas A&I University, joined the faculty at UT-PA as a lecturer. Also, an International Conference on the Theory and Applications of Differential Equations was held May 15-18, 1991. One hundred forty-three mathematicians from twenty-seven countries participated, with Joseph Wiener serving as chairman of the organizing committee.

The fifth edition of COLLEGE MATHEMATICS IN TEXAS, edited by Clifton Whyburn of the University of Houston, was published in 1991.

Robert A. Northcutt, Southwest Texas State University, reported that the Texas Mathematical Sciences Education Board had received a \$10,000 grant from the Exxon Foundation to underwrite start-up costs and an initial study.

George W. Brewer, Odessa College, who had been the Exhibits Coordinator for the meetings of the Texas Section for many years, resigned from the position. E. Wesley Sanders of Sam Houston State University, was appointed to the position. Brewer was recognized for his years of faithful service to the Section at the business meeting at Stephen F. Austin State University in Nacogdoches.

James E. Hodge, former Chairman of the Department of Mathematics at Angelo State University, retired. Hodge had served as Chairman of the Texas Section, 1975-76. V. Rutledge McClaran of East Texas Baptist University, was named chair of the Program Committee for the 71st Annual Meeting of the National Council of Teachers of Mathematics, to be held in Seattle, Washington in 1993.

Edwin J. Hewett, Professor of Mathematics at Hardin-Simmons University, was awarded the 1990-91 Sears-Roebuck Foundation Teaching Excellence and Campus Leadership Award. At Stephen F. Austin State University, Ennis D. McCune was named a Distinguished Alumni Professor and Regents Professor.

H. Elton Lacey, formerly Head of the Department of Mathematics at Texas A&M University, was promoted to Associate Dean for Academic Affairs and Business Operations in the College of Science. Carl Pearcy was appointed Interim Head; and Larry F. Guseman returned to the Department of Mathematics after several years as Director of Graduate Studies.

At Texas Christian University, Robert S. Doran was the editor of a volume in the AMS Contemporary Mathematics Series, SELFADJOINT AND NONSELFADJOINT OPERATOR ALGEBRAS AND OPERATOR THEORY. and George T. Gilbert was appointed Associate Editor of the *Mathematics Magazine*.

Efraim P. Armendariz, the University of Texas, was appointed Chairman of the Department of Mathematics. Bruce P. Palka was named Associate Chairman. Don E. Edmondson was given a Distinguished Service Award for his contributions to the Texas Section; and Sterling K. Berberian retired.

Emeritus Professor Landon Colquitt of Texas Christian University

died December 19, 1991. Colquitt was a member of the faculty for 41 years before retiring in 1989. He chaired the mathematics department at TCU from 1962 to 1979 during which time a doctoral program in mathematics was developed. A number of Ph.D. degree recipients from TCU are involved in Texas Section activities. Chancellor William E. Tucker of TCU described Dr. Colquitt "as a Renaissance man . . . at ease in the gallery or the concert ball, at theater or literary salon, playing racquetball or riding his bicycle, quoting Shakespeare, singing melodies from Gilbert and Sullivan or tending his garden and taking home grown flowers to his friends."



Landon A. Colquitt Photo Courtesy of Mathematics Department Texas Christian University

Dr. Colquitt was a Fellow of the Texas Academy of Science and American Association for the Advancement of Science and a member of the American Mathematical Society, Mathematical Association of America, Society for Industrial and Applied Mathematics and Institute of Mathematical Statistics. He also held memberships in Sigma XI, Phi Kappa Sigma, Pi Mu Epsilon, and mathematics societies of Japan, Edinburgh, France, and Switzerland.

Members of the Texas Section will remember Dr. Colquitt for his courtly manner, his devotion to the best interests of the section, and the eloquent resolutions which he read at the close of many Annual Section Meetings.

Lawrence F. Guseman, Jr., Texas A&M University, died on November 5, 1991. Guseman served on the faculty of TAMU for 23 years, directing graduate studies since 1988. In 1984, he won the Distinguished Achievement Award in Teaching given by the Former Students Association of Texas A&M. He was a highly successful research mathematician who worked on pattern recognition and remote sensing of satellite data. He had more than twenty publications.



E. Richard Heineman, formerly a Professor of Mathematics at Texas Tech University, died May 21, 1991. Heineman was Governor of the Texas Section, 1953-56, and served as Chairman of the Section, 1964-65.

1992 The annual meeting of the Texas Section was held at the Sofitel Hotel in Houston Thursday-Saturday, April



Larry F. Heath University of Texas at Arlington

9-11,1992. The host institution was the University of Houston-Downtown, and Elias Y. Deeba was in charge of arrangements. Section Chair, Larry Heath presided. There were 294 persons, including sixty-six students, registered for the meeting. Advanced registration was \$20.00 and registration at the meeting was \$25.00. As always, there was no registration fee for students.

Participants could choose between two Shortcourses in addition to the Student Workshop: "Some Mathematical Problems in Artificial Intelligence," taught by Andre de Korvin of the Uni-

versity of Houston-Downtown, and "New Mexico State University's Student Research Projects in Calculus," taught by Douglas S. Kurtz of New Mexico State University. Registration for each of these courses was \$25.00.

The year's Student Workshop (For Students Only) was entitled "Hard Problems You Wish Your Professor Had Assigned," by Douglas S. Kurtz, New Mexico State University.

Meetings for special groups included the following: a Long Range Planning Committee Meeting, the TAAAMS Department Chairs' Forum, the TexMATYC Meeting, the MAA Institutional Representatives' Breakfast, and the Breakfast Meeting of MAA Student Chapter Advisors and Student Representatives

The program included a total of sixty-four talks, including six invited addresses, forty-two contributed papers by faculty and sixteen papers contributed by students. Invited addresses included: "SUMMA Proposal Writing Workshop," by Dr. Florence Fasanelli of the Mathematical Association of America; "Future of Manned Space Flights," by Aaron Cohen, Director of the Johnson Space Center in Houston; "Humor in Calculus or Toward a Fat and Funny Calculus," by James C. Bradford, Abilene Christian University, 1992 Recipient of MAA Meritorious Service Certificate; "Calculus in Context," by James Callahan, Smith College and Kenneth Hoffman, Hampshire College; and "Parallel Algorithms for Modeling Flow in Porous Media Problems," by Mary F. Wheeler, Rice University.

The MAA Address was "Problems with an American Mathematical Monthly Connection" by Deborah Haimo, President, Mathematical Association of America.

The presentations by faculty included papers by Linda J. S. Allen, Texas Tech; Edward J. Allen, Texas Tech University; Alexandra Kurepa, Texas Christian University; Jacek Turski, University Houstonof Downtown; Eric Sepulveda, Ana-lab Corporation; Shishen Xie, University Houston-Downtown;; of Alan Wiederhold, San Jacinto College; Bill Aslan, Dale R. Bedgood, and John F. Lamb, Jr., East Texas State University; Bill Aslan, East Texas State Uni-



Deborah Haimo

versity; Rhonda L. Hatcher, Texas Christian; Frank Mathis, Baylor University; Howard B. Lambert and Annelle E Fowler, East Texas State University and Tyler Junior College; David Breese, Austin Texas; and Michael Monticino, University of North Texas.

Also by Joseph E. Chance, University of Texas-Pan American; Saber N. Elaydi, Trinity; Stuart Anderson, East Texas State University; Patrick L. Odell, Baylor University; John F. Lamb, Jr., East Texas State University; William F. Trench, Trinity University; George T. Gilbert and Matthew Richey, Texas Christian University and St. Olaf College; David Otway Wray, Texas A&M University; Ayman Badawi, University of North Texas; W. D. Clark, Stephen F. Austin State University; L. Dwayne Snider, Tarleton State University; Bella Wiener and Joseph Wiener, University of Texas-Pan American; Kenneth J. Word, Central Texas College; Chris Boldt, Eastfield College; Chenyi Hu, University of Houston-Downtown; Mike Dellens, Austin Community College; and Howard B. Lambert, East Texas State University.

Also by Ali R. Amir-Moéz, Texas Tech University; Patricia A. Juelg, North Harris College; Sherill Easterling, Tarleton State University; Vincent P. Schielack, Jr., Texas A&M University; Mark Farris, Hardin-Simmons University; M. Jean McKemie, St. Edward's University; Mary Wagner-Krankel, Hardin-Simmons University; Joseph Wiener and Will Watkins, University of Texas-Pan American; by Samuel R. Thompson, III, St. Mary's University; Robert Piziak, Baylor University; Raymond J. Cannon, Jr., Baylor University; Linda Becerra, Ongard Sirisaengtaksin, and Bill Waller, University of Houston-Downtown.

Moderators were Dennis Rodriguez, Linda Becerra, William Waller, Steven McKay, and Michael Murphy.

Student papers were presented by Jianqiu He, Texas Tech University.; Mark Stamp, Texas Tech University; Paul Price, Southwestern University; Louis Revor, Hardin-Simmons University; Guang-Hwa Andy Chang, Texas Tech University; Jeffery A. Greathouse, Southwestern University; Patrick M. Tarwater, Texas Tech University; Julie Faulkner, University of Houston-Downtown; Cassandra Moore, Southwestern University; Connie Yarema, East Texas State University; Kelly McMann, St. Edward's University; Tres Harrell, St. Edward's University; Pam Lockwood, Texas Tech University; A. G. Bian, R. Anderson, and F. Mohamed, Texas Tech University; David Bixler, Tarleton State University; and Chian Du Stamp, Texas Tech University.

Moderators for the sessions of student papers were Mary Stewart Jones and Raghid Nasr.

Graduate School Representatives, available for interviews with prospective students, were from Texas A&M University, Texas Christian University, Texas Tech University, the University of North Texas, the University of Texas at Arlington, and the University of Texas School of Public Health in Houston.

Members of the nominating committee were Dale Bedgood, Chair, East Texas State University; R. G. Dean, Stephen F. Austin State University; Don Edmondson, University of Texas; and Frank Lopez, Eastfield College.

The Executive Committee for 1992-93 consisted of: Immediate Past Chair . . . Larry Heath, University of Texas at Arlington Chair Rose Marie Smith, Texas Woman's University Chair-Elect Vivian Dennis, Eastfield College Secretary-Treasurer . Charles D. Robinson, Hardin-Simmons University Level-I Director . . James C. Bolen, Tarrant County Community College Level-II Director John F. Lamb, Jr., East Texas State University Level-III Director Efraim P. Armendariz, University of Texas Director-at-Large Bo Green, Abilene Christian University Arrangements Chair Bo Green, Abilene Christian University Tex. AHSME Director John Ed Allen, University of North Texas

Other activities during 1992

John Ed Allen of the University of North Texas was elected Governor of the Texas Section for a three-year term, July 1, 1992-June 30, 1995.

Distinguished Service Awards for 1992 were presented to Landon A. Colquitt of Texas Christian University (Honored Posthumously) and

Joe Cude of Tarleton State University.

The 1992 Texas Section Distinguished College or University Teaching of Mathematics Award was won by Robert S. Doran. Dr. Doran was a Professor of Mathematics and Chair of the Department of Mathematics at Texas Christian University where he had been a faculty member since 1969. He also served as president of the Board of Trustees of the Association of Members of the



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Joe E. Cude (l.) accepting Distinguished Service Award from Larry F. Heath. Larry Dwayne Snider (r.) read the citition.

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Institute for Advanced Study at Princeton.

At the time of the award, Doran was an MAA Visiting Lecturer and Chair of the MAA Beckenbach Book Prize Committee. He was al-



Robert S. Doran, recipient of the first Texas Section Distinguished College or University Teaching of Mathematics Award and wife, Shirley.

so a member of the National College Board Equity Agenda Teaching Committee and a member of the AMS Library Committee. Dr. Doran was а reviewer for the MATHEMATICAL REVIEWS and the BULLETIN OF THE AMS, a referee for 16 mathematics journals, a popular "teacher in-service" speaker, faculty sponsor of four TCU student groups, and for ten years, he was faculty sponsor of the undergraduate mathematics club at TCU.

Dr. Doran had been a visiting professor at the University of Texas, a member of the Institute of Advanced Study, and a visiting scholar at the Massachusetts Institute of

Technology. In 1988, he spent the fall semester as a senior visiting scholar at the Mathematical Institute at Oxford University. A productive researcher, he has published five graduate level books since 1979.

During the five years prior to 1992, Doran received *eleven* prestigious awards at the local, state, and national levels for his teaching. In 1989, alone, he was named Piper Professor and CASE Gold Medalist. Additionally, the student body had chosen him for the TCU Teaching Excellence Award three times in prior years.

Doran's philosophy of teaching is a challenge to every mathematics teacher: love students, love mathematics, be well prepared, have patience, enjoy yourself, be enthusiastic, be helpful, encourage students, and show that mathematics is a fascinating, exciting, interesting, and useful subject.

A former student of Robert Doran's, a Terrell physician, Dr. Judy Tucker, recounted that Dr. Doran "builds self-discipline, promotes good character, and encourages accountability in each of his students. He does this through a unique blend of kindness, caring, fun, encouragement, and good old-fashioned hard work. It is difficult to describe exactly how it all works, but he is tremendously successful in reaching even those students who initially have little interest in learning mathematics."

The selection committee consisted of John T. White, Chair, Texas Tech University; Robert H. Cranford, University of Texas at Tyler; Kenneth E. Oberhoff, University of Houston-Downtown; and Stephen B. Rodi, Austin Community College.

a At the University of North Texas, formerly North Texas State University, Nick H. Vaughn retired from full-time teaching; but announced plans to continue teaching half-time. At Stephen F. Austin State University, R. G. Dean retired from full-time teaching. He accepted a five-year "modified appointment," or half-time appointment. The purpose of the move to reduced teaching was to free more time to do some writing, specifically to include a seventy-five year history of the Texas Section.

1993 The year's annual meeting was held Thursday-Saturday, April 1-3, 1993 at Abilene Christian University. Chair-Elect, Vivian Dennis presided in the absence of the Section Chair, Rose Marie Smith. The meeting was arranged by Bo Green of Abilene Christian University. Advanced registration was \$20.00 and registration On-site was \$25.00. There was no registration fee for students. The total registration was 274.

The 1993 Short Course was "Maple, A Computer Algebra System," taught by James C. Bradford and David K. Hughes, both of Abilene Christian University. Registration for the



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Left to Right: Bo Green, Glen E. Mattingly, Louie C. Huffman, and Margaret R. Hutchison at the 1993 meeting at Abilene Christian University

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course was \$25.00.

The year's workshop for students only was "Maple for the Mathematics Student," and it too was taught by James C. Bradford and David K. Hughes. As always, there was no charge for the Student Workshop.

Meetings for special groups that year included a meeting of the Long Range Planning Committee, the TAAAMS (Department Heads) Luncheon, the TexMATYC Meeting, the Institutional Representatives' Breakfast, and the Breakfast Meeting of the MAA Student Chapter Advisors and Student Representatives.

The 1993 MAA Address was "Moving to the Meta-Level," given by Dr. Marcia Peterson Sward, Executive Director The Mathematical Association of America.

Other invited addresses included "Assessment and Research in Undergraduate Mathematics Curriculum Reform," by Ed Dubinsky of Purdue University, Editor of *UME Trends*; "Models of Epidemics", by Linda J. S. Allen of Texas Tech University; and "Some of My Students" Favorite Things," by Robert S. Doran of Texas Christian University,



Robert S. Doran

1992 Recipient of the Texas Section Distinguished College or University Teaching of Mathematics Award.

Papers contributed by faculty included presentations by Elias Deeba, University of Houston-Downtown; Roger Zarnowski, Angelo State University; Elizabeth M. Bator, University of North Texas; Charles Dorsett,

University of North Texas; Alexandra Kurepa, Texas Christian University; Reza O. Abbasian, Texas Lutheran College; Lorenzo Eric Sepulveda, Ana-Lab Corporation, Kilgore; L. Dwayne Snider, Tarleton State University; David S. Tucker, Midwestern State University; Mark Farris, Midwestern State University; Robert Piziak, Baylor University; George Tintera and Alvin Kay, Texas A&I University; and Floyd Vest, University of North Texas.

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Also by Suji Singh, Southwest Texas State University; Farhad B. Aslan, East Texas State University; Rhonda L. Hatcher and George T. Gilbert, Texas Christian University; Ernest F. Ratliff, Southwest Texas State University; John T. Sieben, Texas Lutheran College; Ed Oxford and Danny Turner, Baylor University; John F. Lamb, Jr., East Texas State University; Victor A. Belfi, Texas Christian University; Donald F. Bailey, Trinity University; W. D. Clark, Stephen F. Austin State University; Patrick L. Odell, Baylor University; Bill Aslan and Howard Duck, East Texas State University; Ali R. Amir-Moéz, Texas Tech University; Ayman Badawi, University of North Texas; Timothy P. Donovan, Midwestern State University; and Joe Chance, University of Texas-Pan American.

Moderators for these sessions were Sam McReynolds, Ron Salmon, Dan Dawson, and Ed Hewett.



At the Abilene meeting, left to right: S. Eugene Sims, Floyd Vest, Russell G. Bilyeu, Robert H. Cranford, Charles I. Dorsett, and Stuart Anderson

There were three sessions of student contributed presentations in 1993, which included a record twenty-two papers. Student papers were presented by Erin Manning, Southwestern University.; William J. King, Southwestern University; Thomas M. Rose, University of Texas of the Permian Basin; Juan Saavedra, St. Edwards University; Yancy Lee Nuñez, Texas Tech University; A. G. Bian, Texas Tech University; Tim H. Orsak, Texas Tech University; Donna L. Flint, University Of Texas at Arlington; Nicole C. Duenez, St. Edwards University; Elaine White, McMurry University; and Philip Muth, University of Dallas.

Also by Ronald Dee Winn, Stephen F. Austin State University; Jeff Smith, University of North Texas; Arthur J. Hymel, University of North Texas; Mark Huggins, University of North Texas; Roxanna Rubio, St. Edward's University; Michael K. Oberle, Oklahoma State University; Steven L. Scott, George T. Gilbert, Rhonda L. Hatcher, and David F. Addis, Texas Christian University; Sharon Cates, East Texas State University; Tai Nguyen, St. Edward's University; Wayne D. Young, Stephen F. Austin State University; Deanna Dick, Texas Tech University; and Dawn Slavens, Stephen F. Austin State University.

Moderators for the sessions of student papers were John Keyser, Kristen Hieronymus, and Lon Outland.

A number of Texas graduate programs were represented at the meeting, including Southern Methodist University, Texas A&M University (Mathematics and Statistics), Texas Christian University, Texas Tech University, University of Houston, University of North Texas, University of Texas at Arlington, University of Texas, and University of Texas School of Public Health (Houston). Graduate student advisors from these universities had literature available which described their programs. Arrangements could be made to visit personally with the advisors.

There was a student pizza party on Friday, April 2. There was no charge for the party. All student participants were invited to take part.

The Executive Committee for 1993-94 consisted of: Immediate Past Chair . . . Rose Marie Smith, Texas Woman's University Chair Vivian A. Dennis, Eastfield College Chair-Elect Montie G. Monzingo, Southern Methodist University Secretary-Treasurer . Charles D. Robinson, Hardin-Simmons University Level-I Director David Sanchez, San Antonio College Level-II Director John F. Lamb, Jr., East Texas State University Level-III Director Efraim P. Armendariz, University of Texas Director-at-Large John T. White, Texas Tech University Arrangements Chair James R. Boone, Texas A&M University Arrangements Chair-Elect Howard Rolf, Baylor University Tex. AHSME Director John Ed Allen, University of North Texas

Other activities during 1993





Vivian Dennis presenting award to Louie Huffman

Dennis presenting award to Margaret Hutchinson

Distinguished Service Awards Presentations were made to Louie Huffman, Midwestern State University; Margaret R. Hutchinson, University of St. Thomas; and Robert A. Northcutt, Southwest Texas State University.

The 1993 Texas Section Distinguished College or University Teaching of Mathematics Award was won by James R. Boone, who was

a Professor of Mathematics at Texas A&M University where he had been a faculty member since 1968. He was serving as Director of the TAMUPREP, a summer program for seventh graders, and Director of COSTAMU, a collaborative program in mathematics between institutions in Costa Rica and Texas A&M University.

Boone was a long-time Regional Examination Coordinator for the American Mathematics Competitions and, in that capacity and others, served on the Executive



James R. Boone (c.) being congratulated by Robert E. Greenwood for being presented the 1993 Texas Section Distinguished College or University Teaching of Mathematics Award. R.G. Dean (l.) read the citation.

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Committee of the Texas Section of the MAA for some 18 years. He has also been a member and chair of numerous state-wide committees working on various important aspects of teacher preparation in Texas. At the time of the award, he was Chair of the Texas State Certification Programs and Requirements Committee, and a member of the State Commission on Standards for the Teaching Profession (Texas Education Agency) and the Commissioners' Advisory Committee on Teacher Induction (Higher Education Coordinating Board). Also, he had had more than twenty years of service to the professional development of mathematics teachers at the pre-service and in-service levels.

In addition, Boone won the Distinguished Teaching Award for the College of Science presented by the Former Students Association at Texas A&M in 1982. He was the Favorite Professor of the Texas Student Education Association in 1988 and was awarded the Texas A&M University Faculty Distinguished Achievement Award in Teaching (for the whole university) in 1988. He had been the university's nominee for the Piper Professorship Award three times and was nominated for the National Council for Advancement and Support of Education Professor of the Year in 1987 and 1988.

Boone had written 25 research papers in set theoretic topology and geometry and 11 pedagogical papers. He had also been a member of many Ph.D. degree and Masters degree committees, serving as chair of two doctoral committees and 14 masters committees. Typical student comments concerning Professor Boone are: "He rekindled my interest in mathematics to such a high level that I decided to pursue a graduate degree in the subject," and "He makes math interesting and brings complex mathematical theories down to an understandable level."

Boone received his Bachelors and Masters degrees from Texas A&M University and his Ph.D. degree in mathematics from Texas Christian University, where his major Professor was Hisahiro Tamano.

The Seventy-Sixth Annual Meeting of the Mathematical Association of America was held at the San Antonio Convention Center, January 13-16, 1993. This was the eighth time for this national joint meeting to be held in Texas.

The Program Committee consisted of Bruce P. Palka, Chairman; Manuel P. Berriozábal, James W. Daniel and Leonard Gillman of the University of Texas, Linda H. Boyd of DeKalb College, Roger A. Horn, Richard A. Askey, David W. Ballew, Don W. Schener, Jr., Robert A. Smith of Ohio State University, and Maria M. Klewe.

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The Committee for Local Arrangements of the national meeting consisted of Shair Ahmad of the University of Texas at San Antonio, Chairman; Don Bailey of Trinity University, David Sanchez of San Antonio College, William H. Jaco, Carol Redfield, Kenneth A. Ross, Gene Sims, Betty Travis of Austin, and Marcia P. Sward.



Clockwise from the left: Joe.Cude, Don E. and Blanch Edmondson, James C. and Elizabeth Bradford, Maude Brown Greenwood and Robert E. Greenwood at the Section Banquet, April 2, 1993.

Robert E. Greenwood, the "Elder Statesman" of the Texas Section, died on April 25, 1993, in Austin, at the age of eighty-one. His death came only three weeks after the Section meeting at Abilene Christian University, a meeting at which many members will recall visiting with Dr. and Mrs. Greenwood. He made a hit at the banquet by announcing that his first Texas section meeting was in 1939. later, he remarked that a lot of folks had come up to him after the banquet to volunteer the information that they were born in 1939. As a matter of fact, most people at that meeting were born after 1939.

Greenwood began a 43-year career at the University of Texas at Austin in 1938, when he joined the applied mathematics faculty. Except for the years of World War II and the Korean conflict, when he served in Washington, D.C. he continued with UT until his retirement at age 70. A popular and effective teacher, he was known for his Mathe-Magic shows, the red vest, and the variety of hats he wore.

Dr. Greenwood was awarded the Creative Teaching Award and the Distinguished Service Certificate by the Mathematical Association of America.

As the elder statesman of Texas mathematics, Dr. Greenwood brought a sense of the history of the Section to all of the meetings he attended. At future Annual Meetings, many members will continue to celebrate his kindly life.

Only a few days before his death, Greenwood mailed three chapters of a manuscript he was writing on the history of the Department of Mathematics at the University of Texas.

Gifts may be made to the Robert E. Greenwood Scholarship Fund, established by the University of Texas Retired Faculty Staff Association at the University of Texas at Austin or to the Robert E. Greenwood Scholarship Fund, Department of Mathematics, UT-Austin.

In 1977, Greenwood was invited by one of his doctoral students, C. P. Barton of the Department of Mathematics at Stephen F. Austin State University, to present a colloquium at SFA and to speak at the Pi Mu Epsilon banquet. At the banquet, he performed some of the magic tricks he was famous for; but at the colloquium, he spoke on a problem in graph theory, one of the Ramsey Graph problems. The talk caught the attention of Keith R. Dean, a freshman at SFA and son of the writer. Keith began working on Ramsey graphs. On several occasions, he and Greenwood corresponded, and on several occasions, at meetings of the Section, they visited. Greenwood always had time to encourage Keith in his work. Even though he spent several years between his B.S. and M.S. degrees, he continued to work on Ramsey graphs; and when in 1991, he finally wrote a thesis, it was titled, On the Ramsey Number $R_3(4,4)$, and it won the Sigma Xi Outstanding Thesis Award for 1991-92. Even though Kenneth H. Price directed the thesis, much of the credit for it must go to Robert E. Greenwood.

John T. Mohat of the University of North Texas, died September 22, 1993 at the age of 69. He retired from the Mathematics Department at the University of North Texas in 1988, having taught there since 1959. Dr. Mohat served as Chair of the department from 1965-1970

and was acting chair 1975-1976. Students remember him for his outstanding ability as a teacher, helping them to discover and to understand mathematics. Faculty and colleagues recall his dignity and strong sense of principle and fairness.

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Mohat was a long-time member of the Mathematical Association of America, serving the Texas Section in many capacities including Governor from 1980-1983. In 1990, he received the Section's Distinguished Service Award.

1994 The annual meeting of the Texas Section was held at Texas A&M University on Thursday-Saturday, April 7-9, 1994. Section Chair, Vivian Dennis, presided at the meeting which was arranged by James R. Boone. Advanced registration was \$20.00 and registration On-site was \$25.00. There were 324 registered for the meeting. This was the largest registration ever for a meeting of the Texas Section.



Meeting of the Executive Committee at College Station on April 7, 1994. Clockwise from left: John Ed Allen, Rose Marie Smith, Donald L. Kerider, President of the MAA, Howard L. Rolf, Charles D. Robinson, Vivian A. Dennis, James R. Boone, David Sanchez, and Montie G. Monzingo

There were three Short Courses, including one for students only. One of the three was divided into two related parts, taught by two different teachers. The course: "Enhancing the Teaching and Learning of Calculus and Differential Equations with Graphing Calculators" was taught by Bert K. Waits of Ohio State University. It met for two hours Thursday night and for two hours Friday morning. The Short Course: "Wavelets Combining Gabor and Affine Structures" was taught for two hours by Joe Lakey of the University of Texas on Thursday evening; and it was followed by an "Introduction to Spline Wavelets" by Ewald Quak of Texas A&M University, for two hours on Friday morning.

The Student Workshop was a shortened version of the Short Course: "Enhancing the Teaching and Learning of Calculus and Differential Equations with Graphing Calculators" by Professor Bert K. Waits. There was no registration fee charged for any of this year's short courses.

The 1994 MAA Address: "Roots of Recursion in Mathematics and Computer Science" was given by Professor Donald L. Kreider, Dartmouth College and President of The Mathematical Association of America.

Meetings for special groups included the following: the Executive Committee Meeting, the TAAAMS Department Chairs' Forum followed by the TAAAMS Department Chairs Luncheon, the TexMATYC Meeting, the Student Pizza Party, the Institutional Representatives' Breakfast, and the Breakfast Meeting of MAA Student Chapter Advisors and Student Representatives.



MAA Student Chapters Pizza Party at College Station

Invited addresses included: "The Moise plane-My favorite geometric example," by James R. Boone, Texas A&M University, 1993 Recipient of the Texas Section Distinguished College or University Teaching of Mathematics Award; "Mathematical vision and learning through scientific computation," by Richard Ewing, Director, Institute for Scientific Computing and Dean College of Science, Texas A&M University; and "Wavelets for precise time-frequency localization," by Charles K. Chui, Director, Center for Approximation Theory, Texas A&M University.

Contributed papers were presented by Neven Jurkovic, Palo Alto College; Al Boggess, Texas A&M University; Mark Farris, Midwestern State University; Linda M. Neal, San Jacinto College, South Campus; Elias Deeba and Shishen Xie, University of Houston-Downtown; Elias Deeba and Ananda Gunawardena, University of Houston-Downtown; David Hughes, Abilene Christian University; Linda M. Neal, San Jacinto College, South Campus; Linda Becerra, Ongard Sirisaengtaksin, and William Waller, University of Houston-Downtown; Javier Garza, University of North Texas; Mel Damodaran, University of Houston-Victoria; Marcia Paprzycki, University of Texas of the Permian Basin; and Chenyi Hu, University of Houston-Downtown.

Also by Marilyn Mays, North Lake College; W. D. Clark and Roy Dean Alston, Stephen F. Austin State University; David K. Ruch, Sam Houston State University; Sharon Sledge and June Bjercke, San Jacinto College; Heidi Staebler, East Texas State University; Connie Yarema, East Texas State University; Franklin Kemp, East Texas State University; Sherill Johnson, Tarleton State University; David Joyner, Lubbock Christian University; Julie Roman, Incarnate Word College; D. Reginald Traylor, Incarnate Word College; Vince Schielack, Texas A&M University; Mary Wagner-Krankel, St. Mary's University; Eugene Tidmore, Baylor University; Bill Aslan, East Texas State University; and John T. Sieben, Texas Lutheran College.

Also by John F. Lamb, Jr., Ron Huffstutler, Archie Brock, and Bill Aslan, East Texas State University; Joe E. Chance, University of Texas-Pan American; David S. Tucker, Midwestern State University; Ali R. Amir-Moéz, Texas Tech University; Robert Piziak and Danny W. Turner, Baylor University; John J. Edgell, Jr., Southwest Texas State University; Frank Mathis, Baylor University; Shishen Xie, University of Houston-Downtown.; C. Wayne Proctor, Stephen F. Austin State University; Richard Kreminski, East Texas State University;

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Charles Dorsett, Louisiana Tech University; Zachary Franco, Texas A&M University; Donald F. Bailey, Trinity University; C. Corduneanu, University of Texas at Arlington; David K. Ruch, Sam Houston State University; and Marianna A. Shubov, Texas Tech University.

Eleven papers were contributed by the following students Davin M. Potts, Texas A&M University; Carlos Uribe, University of Houston-Downtown; Amy Garrison, Hardin-Simmons; Maribel Martinez, St. Edward's University; Michele Bryant, David Gritzmacher, and Holly Tiemann, Southwestern University; Elaine White, McMurry University; Robert A. DeSarro, St. Edward's University; James Warren, Texas A&M University; Ronald D. Winn, Stephen F. Austin State University; Maurice A. Peugh, Stephen F. Austin State University; and James A. Mendoza, University of Texas.

A number of Texas graduate mathematics programs were represented at the meeting this year.

Members of the nominating committee were Rose Marie Smith, Texas Woman's University, Chair; Melvin Hagan, University of North Texas; Bill Hinds, Midwestern State University; and Shelba Morman, North Lake College.

The Executive Committee for 1994-95 consisted of: Immediate Past Chair Vivian A. Dennis, Eastfield College

Chair Montie G. Monzingo, Southern Methodist University Chair-Elect Stuart Anderson, East Texas State University Secretary-Treasurer . Charles D. Robinson, Hardin-Simmons University Level-I Director David Sanchez, San Antonio College Level-II Director John F. Lamb, Jr., East Texas State University Level-III Director Efraim P.Armendariz, University of Texas Director-at-Large Mary Parker, Austin Community College Arrangements Chair Howard Rolf, Baylor University Arrangements Chair-Elect . J. Dalton Tarwater, Texas Tech University Tex. AHSME Director John Ed Allen, University of North Texas

Other activities during 1994

The 1994 Texas Section Distinguished College or University Teaching of Mathematics Award was won by Professor Montie G. Monzingo. He was a Professor of Mathematics at Southern Methodist University where he has been a member of the mathematics faculty since 1966. He was serving as the director of undergraduate studies, taught in the talented and gifted middle school program, often judged high school math fairs, and was serving on the William McNabb Committee for Dallas Mathematics High School Examination.

Monzingo was chosen SMU Outstanding Teacher in 1975, 1982, and 1985. For a number of years, he taught in SMU's very successful Student Science Training Project for talented high school students which was funded by NSF. He had offered a number of workshops for high school teachers in such subjects as discrete mathematics, pre-calculus mathematics, and AP calculus.

Outside the mathematics department, Monzingo served on the student center governing board, on the Tutorial Service Advisory Board at SMU, and on SMU's Teacher Preparation Council. At the time of the award, he was the Chair-Elect of the Texas Section of the MAA.



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Montie G. Monzingo, recipient of the 1994 Texas Section Distinguished College or University Teaching of Mathematics Award and 1994-95 Chair of the Texas Section

Monzingo's department chair noted that his two most important contributions to education at Southern Methodist are his outstanding teaching of the basic Mathematics Fundamentals courses to the general student population and his contacts with high school teachers and students through the variety of programs in which he had been involved.

Since its beginning in 1986, Dr. Monzingo had been the only teacher of the credit version of SMU's Talented and Gifted Middle School Program.

Students praise Monzingo for energetic lectures, "even at eight in the morning," for his humor, and for his willingness to help students. One student commented, "He is unquestionably the finest math teacher I have ever had." Another student noted that, under Montie Monzingo's guidance, mathematics "became a living language." And a colleague observed, "Montie has a quick wit, and the students thoroughly enjoy his classes. He is rigorous in his standards and he teaches the students well, yet they have fun while they are learning."

Members of the *ad hoc* selection committee for the 1994 award were Robert S. Doran, Chair, Texas Christian University; George W. Brewer, Odessa College; John F. Lamb, Jr., East Texas State University; and John T. White, Texas Tech University.

A Distinguished Service Award was presented to James R. Boone of Texas A&M University.



James R. Boone with Distinguished Service Award

James N. Younglove, the University of Houston, retired in January, 1994, after thirty years there, nine of them as Chairman of the Department of Mathematics. Younglove was a founding member of the Texas Association of Academic Administrators in Mathematical Sciences; and he served as Governor of the Texas Section, 1977-80.

George W. Brewer, Odessa College, was the President of the Texas Association of Academic Administrators in Mathematical Sciences for 1994-95. At Texas A&M University, Charles Chui, Director of the Center for Ap-

proximation Theory, was awarded the Texas A&M University Association of Former Students Distinguished Achievement Award for Research in 1994.

At the University of Texas, Leonard Gillman won the Lester R. Ford Award for Expository Writing, presented by the Mathematical Association of America. His article was, "An Axiomatic Approach to the Integral." [M100;16-25]

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1995 The 1995 meeting is scheduled to be held at Baylor University in Waco, March 30-April 1, 1995. The meeting is being arranged by Howard Rolf and the Section Chair, Montie G. Monzingo of Southern Methodist University will preside. The Texas Section of the Mathematical Association of America will celebrate its Seventy-Fifth Anniversary. Also, Baylor University, the oldest college in Texas still in existence, will be celebrating its 150th Anniversary. The Executive Committee requested that the Section Archivist/Historian, R. G. Dean, Stephen F. Austin State University, write a seventy-five year history of the Texas Section to be available at the 1995 meeting.



1994-95 Executive Committee Planning the 1995 Meeting at Baylor. Clockwise from the left: James R. Boone, John Ed Allen, Charles D. Robinson, Montie G. Monzingo, Howard L. Rolf (arm), Efraim P. Armendariz (profile), Mary R. Parker, and Vivian A. Dennis

The 1996 meeting is scheduled to be at Texas Tech University on March 29-31, 1996.

The 1997 meeting is scheduled to be at Southwest Texas State University.

The 1998 meeting is scheduled to be at Southern Methodist University.



The 1999 meeting is scheduled to be at Texas Lutheran College.

Some members of the Executive Committee having dinner in Waco. Clockwise from the left: Charles D. Robinson, John Ed Allen, Vivian A. Dennis, Stuart Anderson, Howard L. Rolf, Montie G. Monzingo, and Clydene Robinson.

One indicator of the importance of the Texas Section is the involvement of members of the Texas Section in positions of leadership in the national Association. Charles D. Robinson compiled, for the 1994 Fall Newsletter, a list of all Texans holding positions on Committees or holding offices in the Mathematical Association of America. They are listed below in the order in which they appeared in the Official MAA Committee list, October 6, 1994.

Name,	School,	Committee or Office
John Ed Alle	en, University of North Texas,	Board of Governors
Bettye Forte	, Ft. Worth ISD,	Governor-at-Large
David A. Sat	nchez, Texas A&M University	Governor-at-Large
Leonard Gill	man, University of Texas at A	ustin, Governor Ex-Officio
David A. Sat	nchez, Texas A&M University	AMS-MAA Cooperation
James W. Da	niel, University of Texas,	Carl B. Allendoerfer Awards
James W. Da	niel, University of Texas,	Polya Awards
James W. Da	niel, University of Texas,	Lester R. Ford Awards
Bonnie Leite	h, New Braunfels High School	, American Mathematics
		Competitions
Thomas R. E	Butts, University of Texas at D	allas, Advisory Panel,
	А	merican Math. Competitions

Name,	School,	Committee or Office
Douglas A.	Hensley, Texas A&M University,	Advisory Panel,
	Ame	erican Math. Competitions
Stephen B.	Rodi, Austin Community College,	Advisory Panel,
	Ame	erican Math. Competitions
Vincent P.	Schielack, Jr., Texas A&M Univer	sity, American High
	School	Mathematics Examination
George T. 0	Gilbert, Texas Christian University	y, American Invitational
		Math. Examination
Phoebe T. J	Judson, Trinity University, C	Computers in Mathematics
		Education
Nadina M.	Duran, Texas A&M University, Co	orpus Christi, CUPM
James W. S	stepp, University of Houston,	CUPM Subcommittee
		on Assessment
Robert A. N	Northcutt, Southwest Texas St. Uni	v., CUPM Subcommittee
	on Quantitati	ive Literacy Requirements
Uri Treism	an, University of Texas, CUPN	I Undergraduate Research
		in Mathematics
Marilyn E.	Mays, North Lake College,	Two-Year Colleges
Stephen Ro	di, Austin Community College,	Two-Year Colleges
Roger Cont	reras, Texas Southmost College,	Advising
Stephen B.	Rodi, Austin Community College,	Preparation for College
		Teaching
Richard Gu	inst, Southern Methodist University	y Statistics
Mary R. Pa	rker, Austin Community College	Statistics
James A. E	pperson, University of Texas, Pro	ject NExT Advisory Panel
Manuel P.	Berriozábal , Univ. of Texas, San A	Antonio, Human Resources
Stephen B.	Rodi, Austin Community College,	Consultants
Mary F. Wl	heeler, Rice University, Mathema	iticians Outside Academia
Efraim P. A	Armendariz, University of Texas,	Minority Participation
		in Mathematics
Manuel P.	Berriozábal , Univ. of Texas, San A	Antonio, Minority
	Participation	in Mathematics, Co-Chair
Leonard Gi	llman, University of Texas,	Minority Participation
		in Mathematics
Richard A.	Tapia, Rice University,	Minority Participation
		in Mathematics
Uri Treism	an, University of Texas,	Minority Participation
		in Mathematics
Ronald F. I	Barnes, University of Houston-Dow	ntown, Student Chapters
Ronald F. H	Barnes, U of Houston-Downtown, V	isiting Lecturers, Chair

Name,	School,	Committee or Office
Shelba J. Mo	rman, North Lake College,	Teaching Assistants and
		Part-Time Instructors
Stephen B. R	odi, Austin Community College,	Teaching Assistants and
		Part-Time Instructors
Raymond O.	Wells, Jr Rice University,	Teaching Assistants and
		Part-Time Instructors
Jacqueline B.	Giles-Giron, Houston Central Co	ollege, Committee on
		Faculty Development
Laura Pruitt,	Texas Instruments, Inc., Exhibit	s Advisory Subcommittee
Paul A. Foers	ster, Alamo Heights High School,	Mu Alpha Theta
		Lecture Committee
Bettye Forte,	Ft. Worth ISD,	Mu Alpha Theta
		Lecture Committee
James W. Da	niel, University of Texas, Counc	cil on Publications, Chair
James W. Da	niel, University of Texas, Publica	tions Management Chair
James W. Da	niel, University of Texas,	Publications Chair
Bruce P. Palk	a, University of Texas,	Publications
Stephen B. R	odi, Austin Community College	Classroom Resource
]	Materials Editorial Board
Bruce P. Palk	a, University of Texas at Austin,	Dolciani Mathematical
	Expositio	ns Editorial Board Editor
George T. Gi	lbert, Texas Christian University,	Mathematics Magazine
		Associate Editor
Manuel P. Be	erriozábal, Univ. of Texas, San A	ntonio, Nominating
	Committee, Editor o	of Mathematics Magazine
James W. Da	niel, University of Texas, N	ominating Committee for
	the Editor of	of Mathematics Magazine

James R. Boone of Texas A&M University, was on leave at NSF for 1994-95, to the Committee on the Mathematical Education of Teachers; and David Sanchez of San Antonio College was appointed to the New Mathematical Library Editorial Board.

As we approach the end of the first seventy-five years of the Texas Section, it is relatively easy to look back with pride at what we have accomplished. But, what of the next seventy-five years? We are poised on the threshold of challenges we can scarcely comprehend. The comfortable way in which we have taught mathematics, since before the organization of the Mathematical Association of America, is being brought into question. How best to use the unfolding technology: graphing calculators, computers with powerful graphics and symbolic algebra software; and the so-called "information highway," offering almost instant sharing of results around the globe, and "distance learning," whereby we can be taught interactively by experts, half a state or half a world away.

Whether insights into mathematics can be taught as well with a computer simulation as they can with epsilon-delta proofs has become almost as important a question as whether Fermat's Last Conjecture is true. Recalling that one of the primary reasons for the founding of the Mathematical Association of America was to insure the publication of the AMERICAN MATHEMATICAL MONTHLY, one has to wonder about the future of journal publication as we know it. Almost certainly, mathematics journals are destined to be "online." Economics and speed of publication almost guarantee that paper copies of journals will cease to exist. But, one has to wonder, will people browse the electronic journals, keeping abreast of developments and picking up research ideas, as they now do with paper journals, or will possession and exchange of ideas become an elitist province among a relatively few computer literates.

One of the "safe bastions" of mathematics, since the time of Isaac Newton, has been the mathematical predictability in dynamical systems; but, the assault of chaos has torn down many of the ramparts. The challenge is to discover the order and structure within chaos.

Or, how much of a premium should we place on elegance in proofs. Is an exhaustive computer search of several hundred thousand cases as much to be desired as an elegant, twenty or fifty line proof?

These and many more challenges face us and other mathematicians of the future. One thing seems obvious to me, organizations such as the Mathematical Association of America, will have a vital role in shaping our response to the Golem at the door. And perhaps the most important function of the Texas Section, past, present, and future, is that it is like a large extended family, offering a sense of acceptance and belonging. At any rate, that is what it has been for me.

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Leonard Gillman of the University of Texas President of the Mathematical Association of Americs, 1986-87 1994 Winner of the Lester R. Ford Award for Expository Writing Photo Courtesy of Leonard Gillman

CHAPTER 3.

OFFICERS OF THE TEXAS SECTION

INTRODUCTION

For the first four and a half decades of its existence, the Texas Section operated with a slate of officers consisting of a Chairman, a Vice-Chairman and a Secretary-Treasurer. These three officers functioned unofficially as an Executive Committee. During approximately half of the time, after the creation of Section Governors by the Association, the officers were joined on the Executive Committee by the Section Governor.

College enrollments in Texas grew very slowly during that period. College mathematics faculty grew correspondingly slowly; and, since the vast majority of members of the Section were faculty members, the participation in the activities of the Section grew slowly. Attendance records for meetings of the Section are not complete, but it appears that there was only one meeting of the Section in the first thirty-five years at which the attendance exceeded 100.

In a letter to Raoul Hailpern, Associate Secretary of the Mathematical Association of America, dated January 10, 1966, Ben T. Goldbeck, Jr., Secretary-Treasurer of the Texas Section, inquired about the Bylaws of the Section. Goldbeck was in his first year as Secretary-Treasurer and was evidently trying to find an official source for his duties. On January 18 Hailpern responded, "I am glad you brought up the question of Bylaws: I cannot find any relating to the Texas Section, and can only presume these were never drawn up."

Subsequently, a Bylaws Committee was appointed. It was composed of: Ben Goldbeck, Texas Christian University, Chairman; Ron L. Glass, Odessa College; John T. Mohat, North Texas State University; A. D. Stewart, Prairie View A & M College; and Margaret R. Wiscamb, University of St. Thomas.

In a letter to committee members dated April 27, 1967, Goldbeck said:

It is my firm belief that the operation of the section up to now has been efficient and pleasant, and that the bylaws should become an instrument to describe our practices, customs and methods rather than to invoke a new system. What we do now has been the outgrowth of years and has resulted in a smoothly functioning organization, causing a minimum of work for a minimum of people.

I propose to submit to each of you this summer a set of bylaws modeled after the suggested bylaws of the MAA I will be pleased to have your comments, additions and subtractions, from which a final draft may be obtained for your approval and then the approval of the Texas Section.

Evidently, Goldbeck drafted the Bylaws and sent them to committee members as he said he would. There is very little correspondence indicating changes needing to be made from Goldbeck's draft. What there was addressed the description of duties and succession of the Vice-Chairman. The Bylaws were approved by the Texas Section at the meeting at Texas A&M University on April 20, 1968; and, later that year, approved by the Board of Governors of the Association.

Colleges and universities continued to enjoy, and suffer, a dramatic growth in enrollment during the decade of the sixties. Faculty sizes grew correspondingly and the attendance at the meetings of the Texas Section did too. In 1963 at the meeting at North Texas State University, the attendance was 211; and by 1966, the attendance at the meeting at Southern Methodist University was 287. The programs became more complex. In 1968 at the meeting at Texas A&M University, there were forty-seven contributed papers. The burden on the officers was mounting and the growing resource of talented members with energy and skills and ideas was not being tapped to the fullest advantage.

When the Bylaws were adopted in 1968, the structure of the Executive Committee was small. It consisted of the Chairman, the ViceChairman, the Secretary-Treasurer and the Section Governor. But in 1972, Article III on Officers was amended to become the Article on Officers and Directors, and the Executive Committee was enlarged by the addition of the Immediate Past-Chairman and three elected directors. The Level-I Director was to be "selected from among those members of the Texas Section whose teaching and interests are primarily concerned with the mathematics program of the first two collegiate years." The Level-II Director was to be "selected from among those members of the Texas Section whose teaching and interests are primarily concerned with the mathematics program of the first four collegiate years." The Director-At-Large was to be selected from any constituency, but especially the non-academic members. The Level-II Director and the Level-II Director were to be elected for two-year terms, and the Director-At-Large for a one-year term.

In the early years of the Texas Section, it was possible for the Chairman to succeed himself. L. R. Ford of Rice Institute was Chairman in 1922-23-24; G. T. Whyburn apparently was Chairman in 1928-29-30-31; and E. H. Hanson of North Texas State Teachers College served, more-or-less by default, from his election in 1941 until April 1947, when he was succeeded by R. S. Underwood of Texas Technological College. However, there were no meetings held in 1942, 1943, 1944 or 1945 because of the war. At some point after that, it was stipulated in the Bylaws that the Chairman should not be eligible for immediate reelection to that office and that the Vice-Chairman "shall succeed to the Chairmanship for the year following his tenure as Vice-Chairman." It was further stipulated that the Vice-Chairman be elected from the members of the Section resident at the institution scheduled to host the annual meeting in the succeeding year. The Secretary-Treasurer could be reelected.

The Bylaws as amended in 1972 provided that the Vice-Chairman, the Chairman and the Immediate Past Chairman be ineligible for election as Vice-Chairman immediately after the conclusion of their terms, but that the Secretary-Treasurer and the Directors may succeed themselves in office.

Amendments to the Bylaws proposed in 1973 again broadened participation on the Executive Committee by replacing the office of Vice-Chairman by a First Vice-Chairman and a Second Vice-Chairman. It provided that the Second Vice-Chairman be elected from the members at the institution scheduled to host the annual meeting two years after his election. The succession was specified to be from Second Vice-Chairman to First Vice-Chairman to Chairman to Immediate Past Chairman. Persons in these positions could not be immediately reelected as Second Vice-Chairman. Part of the rationale for these changes was to allow the person who was to be in charge of local arrangements for a meeting to have at least one year on the Executive Committee in which to observe what went into planning a meeting of the Section.

An amendment to the Bylaws in 1975 added the State Contest Director for the American High School Mathematics Examination to the Executive Committee.

In 1977 the Executive Committee began discussion of the fact that the only way anyone could have an opportunity to serve the Section as Chairman was to be at an institution which was chosen to host an annual meeting of the Section. This automatically eliminated persons, regardless of their potential for service and no matter how deserving they might be, simply because they were not employed in one of the colleges or were at a college which because of its size or geographic location was unlikely ever to be chosen to host an annual meeting of the Texas Section. In 1978 amendments to the Bylaws designed to remedy the situation were proposed. The changes provided for a Chair-Elect who would succeed after one year to become the Chair for one year, and who did not have to be from an institution scheduled to host a meeting. These changes also established an Arrangements Chair-Elect who would succeed to become the Arrangements Chair, responsible for arranging the annual meeting at their institution. With these changes, the title "Chairman" was replaced by "Chair" in all occurrences.

At the same time another change was made which increased the membership of the Executive Committee from ten to twelve. It was the addition of a Level-III Director who was to be elected from one of the institutions which have "a full range mathematics program extending to the doctoral level." Also, term of office for the Level-I Director, the Level-II Director and the Level-III Director was set at three years with one of the three elected each year. The term of office for the Director-At-Large was increased to two years with election in even numbered years.

The most recent changes in the Bylaws which affect the officers and the Executive Committee was the deletion of the State Contest Director from the Executive Committee in 1990. The rationale for this move was that the Regional Contest Director (formerly the State Contest Director) became an appointed post, with the appointment being made by Walter Mientka, the Executive Director of the MAA Committee on High School Contests, in consultation with Association officers. It was felt that all members of the Executive Committee should be elected by the Texas Section and not appointed by the Association. The most recent version of the Section Bylaws can be found in Appendix Number 12, beginning on page 363.

1. CHAIRMEN

Section, the Chair shall preside at all business meetings of the Section, the Chair shall preside at all business meetings of the Section and all meetings of the Executive Committee; shall have general charge of and shall execute the affairs of the Section; shall appoint all committees except the Nominating Committee unless otherwise directed by the members at a meeting; and shall be an *exofficio* member of all committees. The holder of the Chair shall become the Immediate Past Chair in the year immediately succeeding his or her term and will serve as the representative from the Texas Section of The Mathematical Association of America to the Texas Academy of Science.

The chairmen of the Section have come from thirty different schools. Seven came from the University of Texas, six from Rice, five from Texas A&M, five from Texas Christian University and five from Texas Tech, four from Southern Methodist University, three from East Texas and three from North Texas, two each from Baylor, Southwest Texas, Stephen F. Austin, and the University of Texas at Arlington. Eighteen chairmen came, one each from: Abilene Christian College, Angelo State University, Austin College, Eastfield College, Hardin-Simmons University, Lamar University, Midwestern State University, Sam Houston State University, San Antonio College, Texas Woman's University, Trinity University, University of Houston, University of St. Thomas, University of Texas at Tyler, and West Texas State Teachers College. Only four individuals have served more than one year as chairman: H. J. Ettlinger, L. R. Ford, E. H. Hanson and G. T. Whyburn. H. J. Ettlinger was named Temporary Chairman in 1920 when the Association approved the formation of the Texas Section, and he presided at the first meeting in 1921. He was reelected to the post in 1938-39 and again in 1949-50.

E. H. Hanson was elected in 1941 in the meeting at North Texas State Teachers College, and he should have presided at the 1942 meeting at Texas Technological College had it been held, but the travel restrictions imposed as a result of World War II forced the suspension of meetings of the Texas Section for the duration of the war. The next meeting of the Section was at Texas Christian University on December 6-7, 1946, five years after the Japanese attack on Pearl Harbor. Professor Hanson presided at that meeting. So technically E. H. Hanson was only elected Chairman once, but he served by default for five years.

L. R. Ford served two years, 1922-23 and 1923-24 and was elected again for 1936-37. There was no meeting of the Texas Section in 1930 reported in the MONTHLY. The report of the 1931 meeting stated that L. R. Ford presided over that meeting; so, it is probable that Ford also served in 1930-31. G. T. Whyburn apparently served as chairman from his election in 1928 until Ford was elected in 1930 or until H. E. Bray was elected in 1931.

Thus far, there has been one "father-son act" in the chairmanship. Don Cude at Southwest Texas State Teachers College was Chairman of the Texas Section in 1956-57 and his son, Joe Cude at Tarleton State University, was Chair of the Section in 1988-89. There has been one "brother act" in the chairmanship. W. M. Whyburn at Texas A&M College was Chairman of the Texas Section in 1927-28, and his brother, G. T. Whyburn of the University of Texas was Chairman of the Section from 1928-1931. There have been three women to hold the position: Margaret R. Hutchinson, University of St. Thomas, 1984-85; Rose Marie Smith, Texas Woman's University, 1992-93; and Vivian A. Dennis, Eastfield College, 1993-94.

The chairmen and chairs of the Texas Section, past and present, along with the institution where they resided and the years of their service are listed in the table below. (Names printed in boldface type indicate serving more than one year):

Chairman	Institution	Years
H. J. Ettlinger	University of Texas	1920-21
G. C. Evans	Rice Institute	1921-22
L. R. Ford	Rice Institute	1922-24
A. A. Bennett	University of Texas	1924-25
No meeting reported.		1925-26
No meeting reported.		1926-27
W. M. Whyburn	Texas A&M College	1927-28
G. T. Whyburn	University of Texas	1928-31
H. E. Bray	Rice Institute	1931-32
C. R. Sherer	Texas Christian University	1932-33
No election reported.		1933-34
W. L. Porter	Texas A&M College	1934-35
F. W. Sparks	Texas Technological College	1935-36
L. R. Ford	Rice Institute	1936-37
J. H. Binney	Texas A&M College	1937-38
H. J. Ettlinger	University of Texas	1938-39
E. D. Mouzon, Jr.	Southern Methodist University	1939-40
J. E. Burnam	Hardin-Simmons University	1940-41
E. H. Hanson	North Texas State Teach. Coll.	1941-47
R. S. Underwood	Texas Technological College	1947-48
F. E. Ulrich	Rice Institute	1948-49
H. J. Ettlinger	University of Texas	1949-50
C. A. Murray	West Texas State Teach. Col.	1950-51
D. W. Starr	Southern Methodist University	1951-52
C. B. Wright	East Texas State Teach. Col.	1952-53
Landon A. Colquitt	Texas Christian University	1953-54
E. A. Hazlewood	Texas Technological College	1954-55
M. E. Mullings	Abilene Christian College	1955-56
Don Cude	S'west Texas State Teach. Col.	1956-57
Martin Wright	University of Houston	1957-58
E. K. McLachlan	Baylor University	1958-59
W. T. Guy	University of Texas	1959-60
P. R. Cullwell	San Antonio College	1960-61
W. I. Layton	Stephen F. Austin State College	1961-62
G. R. MacLane	Rice Institute	1962-63
H. C. Parrish	North Texas State University	1963-64
E. R. Heineman	Texas Technological College	1964-65
Charles R. Deeter	Texas Christian University	1965-66
C. J. Pipes	Southern Methodist University	1966-67

Chairman	Institution	Years
Dale W. Maness	Austin College	1967-68
H. A. Luther	Texas A&M University	1968-69
Carmon McFerran	Texarkana College	1969-70
George R. Vick	Sam Houston State University	1970-71
Louie C. Huffman	Midwestern State University	1971-72
Robert A. Northcutt	Southwest Texas State Univ.	1972-73
Bobby L. Sanders	Texas Christian University	1973-74
Don E. Edmondson	University of Texas	1974-75
James E. Hodge	Angelo State University	1975-76
G. R. Blakley	Texas A&M University	1976-77
Howard L. Rolf	Baylor University	1977-78
R. G. Dean	Stephen F. Austin State Univ.	1978-79
Chair	Institution	Years
J. Dalton Tarwater	Texas Tech University	1979-80
Bill D. Anderson	East Texas State University	1980-81
Robert L. Tennison	Univ. of Texas at Arlington	1981-82
John Ed Allen	University of North Texas	1982-83
Robert H. Cranford	University of Texas at Tyler	1983-84
Margaret R. Hutchinson	University of St. Thomas	1984-85
R. Vic Morgan	Sul Ross State University	1985-86
George Berzsenyi	Lamar University	1986-87
Donald F. Bailey	Trinity University	1987-88
Joe E. Cude	Tarleton State University	1988-89
C. Roy Combrink	Texas Christian University	1989-90
Dale R. Bedgood	East Texas State University	1990-91
Larry Heath	Univ. of Texas at Arlington	1991-92
Rose Marie Smith	Texas Woman's University	1992-93
Vivian Dennis	Eastfield College	1993-94
Montie G. Monzingo	Southern Methodist University	1994-95

2. VICE-CHAIRMEN

The "number two" position has gone through several changes of name and changes of responsibility. For over fifty years, the position was called the Vice-Chairman. In 1974-75, in a move designed in part to increase the size of the Executive Committee, the

title of the position was changed to First Vice-Chairman and a Second Vice-Chairman was added to the list of officers. Since by that time, the Vice-Chairman was serving as Arrangements Chairman, the Second Vice-Chairman would have a year on the Executive Committee in which to observe the planning of a meeting. James E. Hodge from Angelo State University and G. R. Blakley of Texas A&M University were the first two to hold those positions. In 1979-80, the title of the second position was changed to Chair-Elect and the position of Second Vice-Chairman was eliminated in favor of an Arrangements Chair-Elect and an Arrangements Chair. Bill D. Anderson from East Texas State University was the first to hold the title of Chair-Elect.

The Vice-Chairmen of the Section have come from thirty-one different schools. Six came from Texas Tech; five from each of Texas Christian University and the University of Texas; four from each of three schools, Rice Institute, Southern Methodist University and Texas A&M; three from East Texas State; two from each of the five schools, Baylor University, North Texas State, Southwest Texas State, Stephen F. Austin State, and the University of Texas at Arlington; and one each from the nineteen schools, Abilene Christian College, Angelo State University, Austin College, Eastfield College, Hardin-Simmons University, Houston Junior College, Lamar University, Midwestern State University, Sam Houston State University, San Antonio College, Sul Ross State University, Tarleton State University, Texarkana College, Texas Woman's University, University of Texas at Tyler, Trinity University, University of Houston, University of St. Thomas, and West Texas State Teachers College.

Prior to 1932, there was no pattern of succession from Vice-Chairman to Chairman and no connection between the meeting site and the institution of the Vice-Chairman. Since 1932, when C. R. Sherer from Texas Christian University was elected Vice-Chairman, every "vice-chairman," with one or two exceptions, has gone on to become chairman. W. A. Rees from Houston Junior College was elected Vice-Chairman at the meeting at the University of Texas on January 30, 1932, but there was no election of officers reported for the meeting at Southern Methodist University, February 11, 1933, so it is unclear whether or not he was elected Chairman. Also, E. F. Beckenbach of Rice Institute was elected Vice-Chairman at the Monthly reported later in 1940 [M47; 580] that Dr. E. F. Beckenbach of Rice Institute had been appointed an assistant professor at the University of Michigan,

so he was not eligible for election to the office of Chairman of the Texas Section. Instead, E. H. Hanson was elected Chairman in 1941.

At some point between 1932 and 1968, the succession from Vice-Chairman to Chairman became standard procedure, and when the first Bylaws were adopted by the Section, the practice was incorporated into the Bylaws of the Texas Section. Article III, Section 6(b) of the Bylaws adopted in 1968 stated that "The Vice-Chairman shall not be eligible for immediate reelection but shall succeed to the Chairmanship for the year following his tenure as Vice-Chairman." It continued, "In any given year, the Vice-Chairman shall be selected from among the members of the Texas Section who are in residence at the institution hosting the annual meeting the succeeding year." Section 6(a) stated "The Chairman shall not be eligible for immediate reelection." Similar "succession requirements" have remained in effect to the present.

From 1951 through 1974, the vice-chairman was at the institution hosting the annual meeting and was responsible for local arrangements for the meeting. From 1975 through 1979, the first vice-chairmen followed that pattern; and in 1980, Bill D. Anderson was the first to be called "Chair-Elect," and he was also the Arrangements Chair for that year. Ray Tebbetts at San Antonio College was the Arrangements Chair-Elect that year, and in 1981; Tebbets was the Arrangements Chair for the meeting held at San Antonio College. Since that time, the local arrangements for meetings has been the responsibility of that officer.

Those who have served as Vice-Chairman with its various names are the following (Names printed in boldface type indicates serving more than one year):

Vice-Chairman	School	Year
A. A. Bennett	University of Texas	1921-24
W. M. Whyburn	Texas A. & M. College	1924-28
F. W. Sparks	Texas Technological College	1928-31
C. R. Sherer	Texas Christian University	1931-32
W. A. Rees	Houston Junior College	1932-33
No election reported.		1933-34
F. W. Sparks	Texas Technological College	1934-35
L. R. Ford	Rice Institute	1935-36

Vice-Chairman	School	Year
J. H. Binney	Texas A&M College	1936-37
H. J. Ettlinger	University of Texas	1937-38
E. D. Mouzon, Jr.	Southern Methodist University	1938-39
J. E. Burnam	Hardin-Simmons University	1939-40
E. F. Beckenbach	Rice Institute	1940-41
R. S. Underwood	Texas Technological College	1941-47
F. E. Ulrich	Rice Institute	1947-48
H. J. Ettlinger	University of Texas	1948-49
C. A. Murray	West Texas State Teachers College	1949-50
D. W. Starr	Southern Methodist University	1950-51
C. B. Wright	East Texas State Teachers College	1951-52
Landon A. Colquitt	Texas Christian University	1952-53
E. A. Hazlewood	Texas Technological College	1953-54
M. E. Mullings	Abilene Christian College	1954-55
Don Cude	S'west Texas State Teachers College	1955-56
Martin Wright	University of Houston	1956-57
E. K. McLachlan	Baylor University	1957-58
W. T. Guy	University of Texas	1958-59
P. R. Cullwell	San Antonio College	1959-60
W. I. Layton	Stephen F. Austin State College	1960-61
G. R. MacLane	Rice Institute	1961-62
H. C. Parrish	North Texas State University	1962-63
E. R. Heineman	Texas Technological College	1963-64
Charles R. Deeter	Texas Christian University	1964-65
C. J. Pipes	Southern Methodist University	1965-66
Dale W. Maness	Austin College	1966-67
H. A. Luther	Texas A&M University	1967-68
Carmon McFerran	Texarkana College	1968-69
George R. Vick	Sam Houston State University	1969-70
Louie C. Huffman	Midwestern State University	1970-71
Robert A. Northcutt	Southwest Texas State University	1971-72
Bobby L. Sanders	Texas Christian University	1972-73
Don E. Edmondson	University of Texas at Austin	1973-74
First Vice-Chairman	School	Year
James E. Hodge	Angelo State University	1974-75

James E. Hodge	Angelo State University	1974-75
G. R. Blakley	Texas A&M University	1975-76
Howard L. Rolf	Baylor University	1976-77

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Year

School	Year
Stephen F. Austin State University	1977-78
Texas Tech University	1978-79
School	Year
East Texas State University	1979-80
University of Texas at Arlington	1980-81
University of North Texas	1981-82
University of Texas at Tyler	1982-83
University of St. Thomas	1983-84
Sul Ross State University	1984-85
Lamar University	1985-86
Trinity University	1986-87
Tarleton State University	1987-88
Texas Christian University	1988-89
East Texas State University	1989-90
University of Texas at Arlington	1990-91
Texas Woman's University	1991-92
Eastfield College	1992-93
Southern Methodist University	1993-94
East Texas State University	1994-95
	School Stephen F. Austin State University Texas Tech University School East Texas State University University of Texas at Arlington University of North Texas University of Texas at Tyler University of St. Thomas Sul Ross State University Lamar University Trinity University Tarleton State University Texas Christian University East Texas State University University of Texas at Arlington Texas Woman's University Eastfield College Southern Methodist University East Texas State University

3. SECRETARY-TREASURERS

The officer most responsible for the continued success of the Texas Section is undoubtedly the Secretary-Treasurer. Several sections in the Bylaws of the Texas Section assign the duties of the Secretary-Treasurer. Section 8(a-g) of Article III on Officers and Directors is as follows:

- 8. The Secretary-Treasurer bears the following responsibilities:
 - (a) Keep all the books, accounts, and records of the Section.
 - (b) Keep the minutes of all Section meetings and meetings of the Executive Committee.

(c) Prepare and mail all notices relative to Section meetings or other important business of the Section.

- (d) Acquaint new electees of the Section with their responsibilities of the corresponding provisions of the Bylaws.
- (e) Prepare and file the Section's income tax return.
- (f) Receive all monies paid into the Section for membership fees and dues and all other purposes and deposit all such monies in a bank or trust account to the account of the Section, taking regular receipt of deposit thereof.
- (g) Pay all bills of the Section out of Section funds.

The fact that the Section has functioned as well as it has for most of seventy-five years and the fact that there are records on which to base this history is primarily because the Texas Section has been fortunate to have nine dedicated and competent individuals as Secretary-Treasurer over those years.

Throughout most of the seventy-five years, the Secretary-Treasurer has been responsible for assembling the program and working with the person in charge of local arrangements in scheduling the increasingly complex programs. [Bylaws; Article IV, Section 3]

Although it is not required by the Bylaws, the Secretary-Treasurer also functions as the Newsletter Editor. For several years, there was a Fall newsletter, a Winter newsletter and a Spring newsletter, with the Spring newsletter containing the program of the Spring meeting. In 1975, increasing mailing costs, as the membership grew and the postage rates increased, made it impractical to continue three such mailings each year, so the Fall newsletter and the Winter newsletter were combined into a Fall and Winter newsletter.

When the Association granted authority for the formation of a Texas Section, J. L. Riley of John Tarleton Agricultural College was named temporary Secretary, and it was he who reported on the first meeting of the Section. [M29; 3-6] At that meeting, W. D. Baten was elected Secretary-Treasurer. However, he was unable to attend the second meeting in 1922, so A. A. Bennett reported on the meeting. [M30; 414-416] H. J. Ettlinger was elected Secretary-Treasurer at the 1922 meeting and he served for nine years. In 1931, Nat Edmonson, Jr., of Texas A&M College was elected to the post, and he continued until after Texas Section meetings were suspended for the War in 1942.

When the Texas Section resumed meetings with a "special meeting" held at Texas Christian University on December 6-7, 1946, Edmonson was no longer in Texas, so C. R. Sherer at Texas Christian University was named Acting-Secretary and he reported on that meeting. [M55; 274-275] At the 1947 meeting, Sherer was elected Secretary-Treasurer and continued in that position until his retirement in 1964, a total of eighteen years. Sherer was followed by Ben T. Goldbeck, Jr., who served for six years, until mounting health problems caused him to decline reelection.

James C. Bradford of Abilene Christian College served as Secretary-Treasurer from 1970 until 1978, a total of eight years. He was followed by Glen E. Mattingly of Sam Houston State University. Mattingly served as Secretary-Treasurer for twelve years. He declined reelection in 1990 and Charles D. Robinson of Hardin-Simmons University was elected to the post. Robinson is serving his second three-year term of office.

One cannot gain a full picture of the extent to which the Section depends on the Secretary-Treasurer just by reading the duties listed in the Bylaws or by observing the Secretary-Treasurer at the Section meetings. One needs to be on the Executive Committee, or better yet, to be the Arrangements Chair to see what a cohesive, driving force the Secretary-Treasurer exerts. He is truly the "glue" which holds the Section together.

4. GOVERNORS

t the 1938 Summer Meeting of the Association, the Trustees established a committee to review the activities of the Association and to make recommendations which would help ensure the continued existence of the Association and to enable it to look to a future which might not have been envisioned by the founders. The initial report of that committee was presented at the 1939 Summer Meeting of the Association at the University of Wisconsin on September 4-5, 1939, and printed in the MONTHLY in February 1940. [M47; 64-84.] That report observed that the Association was at that time "an organization of something over twenty-one hundred individual and one hundred institutional members" [M47; 65] and that its Bylaws proclaimed its object to be "to assist in promoting the interests of mathematics in America, especially in the collegiate field, by holding meetings for the presentation and discussion of mathematical papers, by publishing mathematical books, monographs and reports, by conducting investigations for the purpose of improving the teaching of mathematics, by accumulating a library and by cooperating with other organizations whenever that may be desirable for attaining these or similar objects." [M47; 65] The report quoted J. W. Young who said, "Everything that is worth doing for mathematics, other than research, is a function of the Association." [M39; Jan.]

Until that time, the Association was governed by a staff of eight officers and twelve additional Trustees. The report observed that "With the single exception of the Secretary-Treasurer the officers of the Association are in a position to give their leadership only during relatively brief terms." and that "Unfortunately, moreover, very little responsibility for the Association's affairs seems by custom to have attached itself to some of its offices, notably the vice-presidencies." [M47; 66] The committee expressed its belief "that there would be definite advantage in so modifying the present adjustments as to cloak the principal officers more equitably with responsibility for the organization's direction, and by aggregating these officers into an executive committee charged explicitly with the conscious planning of the Association's program, to assure greater stability and continuity for that program." [M47; 66]

The general need for organizations of a local compass with the purposes of the Association as their own has palpably disclosed itself in the calls for the formation of Sections in increasing number. Sections now exist in all parts of the country, and in them one may see at least in theory, a decentralization of the organization's functioning. We believe that such decentralization embraces many desirable features, and that in it the Association may well find the potential means for carrying out its future work with a high degree of effectiveness. As to their practical aspect, however, we believe that the arrangements which at present maintain could be very materially improved. [M47; 66] The report observed that "There is no provision in the way of regular channels through which information regarding situations which locally affect the welfare of the Sections or the good of mathematics as a whole may be communicated from the Sections to the Association, and in turn none through which the Sections may be kept officially informed of, or made responsive to, any program to which the national organization devotes itself." [M47; 66] It said "We believe . . . that the Association should establish means of more direct contact with its local units, and that it should, insofar as may be feasible, give to the local units material assistance and the opportunity to take part in its councils." [M47; 66]

The committee recommended that the administrative structure of the Association undergo a reorganization which would include a Board of Governors to consist of the President, a First Vice-President, a Second Vice-President, the Editor-in-Chief of the MONTHLY, the Secretary-Treasurer, an Associate Secretary, the Ex-Presidents for terms of six years after the end of their presidential terms, and of additional elected members called "Governors." [M47; 67] They recommended that the Officers and Governors be elected in part by the board, in part by the general membership and in part by the membership in "Regions" to be established by the Board. They also stipulated that the membership at large should "elect each year two Governors, for terms of three years" and that the "membership in each Region . . . elect biennially a Governor for a term of two years." [M47; 68] The Texas Section was grouped with the Oklahoma Section to form Region 11.

Albert A. Bennett, University of Texas, was one of the Trustees designated to become a Governor at Large through 1941. It was recommended that "Regions 3, 4, 6, 8, 9, 11, and 14 begin their regular elections of a Governor at the annual meeting of 1940." [M47; 70]

The committee made its final report at the 1939 Annual Meeting in Columbus, Ohio, on December 28-30, 1939. At that meeting the Trustees accepted the report and the membership approved the changes. The first meeting of the Board of Governors was held on December 30, 1939. [May; 41-42]

The annual meeting which was expected in December 1940 was actually held on January 1-2, 1941 in Baton Rouge, Louisiana. It was announced at this meeting that H. J. Ettlinger of the University of Texas was elected by the membership of Region 11 to serve as Governor for 1941-43. [M48; 170] According to one listing of Officers of the Association [M58; 729-733], H. E. Bray of Rice Institute served as a governor from 1943-1945 and again from 1947-1950. It is not clear whether the 1943-1945 term of office was as Governor representing Region 11 or as a Governor-at-Large; probably the former since it was a two-year period of service.

At the 1944 Summer Meeting at Wellesley College, Wellesley, Massachusetts, President W. D. Cairns was authorized to appoint a committee to study the question of regional governors and their election. [M51; 549] This led to a recommendation by the Board at the 1945 Annual Meeting at Chicago that the Bylaws be amended to do away with the regions and that governors be elected from each Section of the Association. [M53; 177] At the 1946 Annual Meeting at Swarthmore College, Swarthmore, Pennsylvania, the Bylaws were amended to provide for election of governors for three-year terms by the membership of each Section and in territories where no Sections exist. [M54; 194] H. E. Bray became the first governor to represent just the Texas Section when he was elected to the term from July 1, 1947-June 30, 1950.

The list of governors from the Texas Section, including A. A. Bennett, a Governor at Large, and H. J. Ettlinger and H. E. Bray, both regional governors, consists of:

Name	School	Term
Governor at Large		
A. A. Bennett	University of Texas	1939-1942
Region 11 Governor		
H. J. Ettlinger H. E. Bray	University of Texas Rice Institute	1941-1943 1943-1945
Texas Section Govern	ıor	
H. E. Bray E. H. Hanson E. R. Heineman C. R. Sherer	Rice Institute North Texas State College Texas Tech College Texas Christian University	1947-1950 1950-1953 1953-1956 1956-1959
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W. T. Guy, Jr.	University of Texas	1959-1962
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H. C. Parrish	North Texas State College	1962-1965
Martin Wright	University of Houston	1965-1968
D. E. Edmondson	University of Texas	1968-1971
Charles Pipes	Southern Methodist University	1971-1974
Charles R. Deeter	Texas Christian University	1974-1977
James N. Younglove	University of Houston	1977-1980
John T. Mohat	North Texas State University	1980-1983
James C. Bradford	Abilene Christian University	1983-1986
Robert A. Northcutt	Southwest Texas State Univ.	1986-1989
Louie C. Huffman	Midwestern State University	1989-1992
John Ed Allen	University of North Texas	1992-1995

Texas Section Governor

The Board of Governors has functioned well for the Association for over fifty-five years. In addition to serving as liaisons between the Sections and the Association, they comprise a policy-making body which, along with the Executive Board, has guided the Association in the promotion of high standards of excellence in the pursuit of and teaching of mathematics.

In the Texas Section, in addition to reporting on the activities at the meetings of the Board, the governor presides over the annual meeting of the Institutional Representatives. The outgoing governor also serves as chairman of the nominating committee for a new governor. This helps insure continuity of capable representation since the governor is aware of the demands and expectations placed on someone in that position.

5. DIRECTORS

In a letter to the Association officers, dated April 28, 1972, Secretary-Treasurer James C. Bradford stated that the article in the Bylaws dealing with officers had been completely rewritten. Prior to the April 15 meeting of the Section, the article on Officers, had read: "The officers of the Section shall be a Chairman, Vice-Chairman and Secretary-Treasurer"; and Article III.2, had read: "The Executive Committee shall consist of the officers of the Section and the Sectional Governor.

In the Bylaws adopted at the April 15, 1972 meeting at San Marcos, Article III was entitled "Officers and Directors." The new Article III.1 also read: "The officers of the Section shall be a Chairman, Vice-Chairman and Secretary-Treasurer," but Article III.2, read: "The Executive Committee shall consist of the officers of the Section, the Sectional Governor, the Immediate Past-Chairman and three elected Directors. The Directors shall be designated Level-I Director, Level-II Director, and Director-at-Large."

The Bylaws continued to stipulate in Article III.4.c that the Level-I Director and Level-II Director should serve two-year terms with the Level-I Director being elected in even numbered years, the Level-II Director being elected in odd numbered years, and the Director-at-Large being elected annually. Article III.6.e stated that "The Level-I Director shall be selected from among those members of the Texas Section whose teaching and interests are primarily concerned with the mathematics program of the first two collegiate years." Article III.6.f stated that "The Level-II Director shall be selected from among those members of the Texas Section whose teaching and interests are primarily concerned with the mathematics program of the first four collegiate years." There was no stipulation concerning the Director-at-Large.

The first Directors elected were: for Level-I Director, June Wood of South Texas College, elected in 1972 for a two-year term; for Level-II Director, Robert Tennison of the University of Texas at Arlington, elected in 1972 for a one-year term; and for Director-at-Large, A. D. Stewart of Prairie View A and M College, elected in 1972 for a oneyear term. At the 1973 meeting at Texas Christian University, George Copp of North Texas State University was elected a Level-II Director for a full two-year term, and Vivienne Mayes of Baylor University was elected Director-at-Large.

The next changes in the Bylaws concerning the Directors were approved by the Section at the meeting at Texas Tech University on April 7, 1979 and approved by the Association in August, 1979. A Level-III Director, who is to be selected from among those members of the Texas Section whose teaching and interests encompass a full range mathematics program extending to the doctoral level, was added. Also, the term of office for the Level-I, Level-II, and Level-III Directors was changed

to three years, with the Level-I Director elected in years numbered 3n, the and the Level-III Director elected in years numbered 3n+1. The term of office for the Director-at-Large was increased to two years, with election occurring in even-numbered years.

David Sanchez of San Antonio College had been elected Level-I Director in 1978; Margaret Hutchinson of the University of St. Thomas had been elected Level-II Director in 1977; and Robert Thrall of Rice University had been elected Director-at-Large in 1978. They were all allowed to continue serving, and B. B. Williams of the University of Texas at Arlington was elected Level-III Director, all contingent on the approval of the changes by the Board of Governors.

According to the Bylaws adopted in 1979, a Level-II Director should have been elected in 1979, a Level-I Director in 1980 and a Level-III Director in 1981, but that is not what happened. Whether by accident or design, David Sanchez served a full three-year term and Vivian A. Dennis of Eastfield College was elected the Level-I Director in 1981 instead of in 1980. Also, Margaret Hutchinson served a full three-year term, and Vic Morgan of Sul Ross State University was elected the Level-II Director in 1980 instead of in 1979. Landon Colquitt was elected the Director-at-Large in 1980, which was according to the Bylaws, but none of the other directors were being elected in the year specified in the Bylaws. It seems our Executive Committee could do arithmetic mod 2 but couldn't handle arithmetic mod 3.

By 1982 the discrepancy began to worry someone, and a corrected copy of the Bylaws, dated October 7, 1982 states that the Level-I Director shall be elected in a year numbered 3n+1, the Level-II Director shall be elected in a year numbered 3n, and the Level-III Director shall be elected in a year numbered 3n+2, thereby bringing the instrument into agreement with the practice.

Of the thirty-five members who have been elected a director of the Texas Section, only one of them has resigned from the position without serving the full term for which they were elected, John Ed Allen was elected the Level-III Director for the years, 1991-1994, but in 1992, when he was elected Governor of the Texas Section, he resigned from the Directorship. Efraim Armendariz of the University of Texas was elected to fill out the unexpired term, and then was reelected for the 1994-97 term in 1994. Armendariz became the fourth director to be elected a director more than once. R. G. Dean was elected Director-at-

Large twice, David Sanchez has been elected the Level-I Director twice and John T. White was elected the Level-III Director once and the Director-at-Large once.

Nine of the directors: Landon Colquitt, R. G. Dean, Robert Tennison, John Ed Allen, Bob Cranford, Margaret Hutchinson, Vic Morgan, Rose Marie Smith and Vivian A. Dennis have also served as the Chair of the Texas Section. Two of the directors, James N. Younglove and John Ed Allen have also served as Governor.

A list of the directors is contained in Appendix Number 6.

6. ARRANGEMENTS CHAIRS

Prior to 1951 there were four meetings held in the city or at the institution where the Chairman was located. The 1922 meeting was held in Houston and G. C. Evans of Rice was Chairman. The 1928 meeting was held at Texas A&M College and W. M. Whyburn of that school was Chairman. The 1937 meeting was held at Rice and L. R. Ford of Rice was Chairman. And the 1940 meeting was held at Southern Methodist University and E. D. Mouzon, Jr., of that school was Chairman. It seems highly likely that the Chairman during those years was integrally involved in the local arrangements whether he had the primary responsibility for arrangements or not.

During that time there were three meetings at the institution where the Vice-Chairman was located. The 1935 meeting was held at Texas Technological College and F. W. Sparks of that school was Vice-Chairman. The 1947 meeting was held at Texas Technological College and R. S. Underwood of that school was Vice-Chairman. And the 1948 meeting was held at Rice Institute and F. E. Ulrich of that school was Vice-Chairman. It seems highly likely that the Vice-Chairman during those years was integrally involved in the local arrangements whether he had the primary responsibility for arrangements or not.

Beginning in 1951 there was a consistent pattern by which the annual meeting of the Section was held at the institution where the Vice-Chairman was located. I found no records to indicate whether a decision was made at that time that the Vice-Chairman should be elected from the institution scheduled to host the meeting during the year of his service; however, I do know that it had become the practice by 1961 when the meeting was at Stephen F. Austin State College and W. I. Layton was Vice-Chairman.

In 1967 when Ben T. Goldbeck, Jr., and the Bylaws Committee were drawing up proposed Bylaws to "describe our practices, customs and methods," the practice described above was formalized. When the Bylaws were adopted in 1968, Article III, Section 6(b) included the stipulation: "The Vice-Chairman shall be selected from among the members of the Texas Section who are in residence at the institution hosting the annual meeting during his term as Vice-Chairman." And in Article III, Section 9: "The Vice-Chairman of the Section shall be responsible for the plans and preparations of all meetings, except for the program."

Changes to the Bylaws in 1973 replaced the Vice-Chairman with a First Vice-Chairman and added a Second Vice-Chairman. The Bylaws adopted in 1973 state in Article III, Section 4(a): "The Second Vice-Chairman shall be elected annually. He shall serve one year in this capacity, after which he shall become First Vice-Chairman. After one year of service as First Vice-Chairman, he shall become Chairman for a term of one year. Finally, he shall serve one year on the Executive Committee following his term as Chairman.

Also in the Bylaws adopted in 1973, in Article III, Section 6(d), we read "The second Vice-Chairman shall normally be selected from among the members of the Texas Section who are in residence at the institution hosting the annual meeting two years from the date of the election." This change was made to insure that the person responsible for local arrangements for a meeting of the Section would have at least one year on the Executive Committee in which to observe the planning of a meeting before they had to do it.

The first member to hold the position of Second Vice-Chairman was R. G. Dean of Stephen F. Austin State University.

The First Vice-Chairman continued to function as Arrangements Chair, having the duty but not the title, until the Bylaws were changed in 1979 to separate the succession to the Chair from the meeting site. In the Bylaws adopted in 1979, the First Vice-Chairman was replaced by a Chair-Elect, the Second Vice-Chairman was eliminated, and the positions of Arrangements Chair and Arrangements Chair-Elect were added. The Arrangements Chair-Elect, "shall normally be selected from among the members of the Texas Section who are in residence at the institution hosting the annual meeting two years from the date of the election."

Bill Anderson of East Texas State University was elected as Second Vice-Chairman in 1978; so he was scheduled to serve as Second Vice-Chairman in 1979, as First Vice-Chairman in 1980, and as Chairman in 1981. When the Bylaws were changed in 1979, it was agreed that Anderson would be both the Chair-Elect and the Arrangements Chair for 1980. This would allow him to arrange the 1980 meeting at East Texas State University and succeed to the Chair for 1981.

The first member elected as Arrangements Chair-Elect was Ray Tebbetts of San Antonio College.

When in 1995, Howard L. Rolf serves as Arrangements Chair, he will become the third member of the Section to be responsible twice for arranging a meeting, having first arranged the 1977 meeting at Baylor. The other two are Melvin Hagan, who arranged meetings in 1983 and 1990 at North Texas; and R. G. Dean, who arranged meetings in 1978 and 1991 at Stephen F. Austin.

Having arranged meetings twice, I can readily attest to the fact that it is much more of a challenge than it once was. There are several reasons for this. The increased size and complexity of the program is part of the difference. Instead of one or only two concurrent sessions of contributed papers, we are now having five or six sessions of faculty papers, plus as many as three sessions of student papers. Also, having two or three short courses requires more planning, especially if computers are involved. Every year the schedule of events for students gets longer. In the early days, the only meal that was scheduled was the banquet. Now, in addition to the banquet, there is normally a TAAAMS Luncheon, a breakfast meeting of the Institutional Representatives, and a breakfast meeting of the Mathematical Association of America Student Chapters Sponsors and Student Representatives, plus other meetings of special groups. All of these are signs that the Section is healthy and growing.

I have missed only one meeting since my first one in 1961. Some of them are more memorable than others, but I have never been to one where the local arrangements would not rate between good and excellent. If anything really major went wrong at any of them, probably the Arrangements Chair was about the only one who knew it. I have often wondered if other Arrangements Chairs had worries similar to some I



E. Richard Heineman, Texas Tech University



J. Dalton Tarwater, Texas Tech University Arrangements Chair-Elect, 1994-95

had during meetings we hosted. In 1978, I planned an outdoor barbecue with the East Texas String Ensemble for entertainment. During most of the day of the event, it was cloudy and dripping rain. Just about the time I had to make a decision whether to try to move the event indoors, the sum came out and the sky cleared, and we were able to go ahead as planned.

In 1991, after most of the planning for our Section meeting had been made and the new President of our university had agreed to welcome the visitors to our campus, someone in the administration or on the Board of Regents decided that weekend would be the optimum time to hold the Gala Inauguration for the president of Stephen F. Austin State University, Donald E. Bowen. Not only was he forced to cancel his commitment to us, we were placed into competition for meeting space and facilities. For a while it looked as if there might be competition for space for the banquet. In spite of all the hassles we had, we had a successful meeting.

> If I but knew what has gone on behind the scenes, I probably could fill a lengthy chapter with stories about what went wrong or almost went wrong wherever we have held

meetings. Maybe no one else does, but I have the deepest respect for everyone who has ever served as Arrangements Chair for a meeting of the Texas Section.

CHAPTER 4.

OTHER ASPECTS

1. FINANCIAL HISTORY

ther than reports of the meetings of the Section published in the MONTHLY, there are very few records of the Section prior to 1965. The earliest financial records are contained in one of several notebooks compiled by Ben T. Goldbeck, Jr., when he was Secretary-Treasurer.

The first entry on the first ledger sheet is dated May 31, 1965 and it reads "Rec'd cash from C. R. Sherer -- \$813.64." At that time, the registration fee for the annual meeting was \$1.00. Also, at that time, the national Association was providing a supplement, based on the number of members in the section, to sections to pay for a part of the cost of mailings. In 1966, the supplement from the Mathematical Association of America was \$120.00 and the registration fees collected at the meeting at Southern Methodist University totaled \$208.00. These were the only sources of direct income for the Section. Total income for the year was \$328 and total expenses amounted to 379.34, leaving a balance on May 18, 1966 of \$763.30.

The balance on May 16, 1967 was \$804.34, and on May 5, 1968, it was \$834.64. In a letter, dated October 16, 1968, from the Chairman, H. A. Luther of Texas A&M University to Ben T. Goldbeck, Jr., Luther says: "Dear Ben: I agree that we should meet to discuss our financial embarrassment. I also agree that more than the Section Officers should be represented." He continues to discuss possible location for the proposed meeting and make some suggestions for participants.



The meeting was scheduled to be held at Texas Christian University on December 7, 1968. On October 24, Luther wrote letters to Don E. Edmondson of the University of Texas, C. P. Benner of the University of Houston, C. J. Pipes of Southern Methodist University, Carmon McFerran of Texarkana College, Patrick L. Odell of Texas Tech University, and Jim C. Bradford of Abilene Christian College inviting them to serve on the Finance Committee and attend the meeting. His letter said in part:

As you well know the Texas Section of the Mathematical Association of America is currently not collecting enough money to pay its way. During the last two years we have kept out of the red because Austin College and Texas A&M contributed to the Association. I do not mean that this was a direct contribution. For example, in the case of A&M I did it by having the University pay Dr. Greenwood's expenses. Next year, something similar is to be arranged by Texarkana. The National Association does not choose to act at present on collecting for us a modest additional sum from the members of our Section.

All of them accepted the appointment except Pat Odell who replied that his membership in the Mathematical Association of America had lapsed and he asked that John T. White of Texas Tech University serve instead. The committee met with all members present, and prepared the following report to present at the business meeting April 19, 1969 at Texarkana.

First the committee recommended that registration fees, which may be set by the Executive Committee of the Section, be increased from \$1.00 to \$2.00. This action was taken by the Executive Committee.

Secondly, in order to finance the Section on a longer term basis and to finance it more adequately, the committee recommends the following course of action to the Texas Section: "It is recommended that the Texas Section investigate the creation of a classification of membership known as a Sectional Institutional Membership. It is further suggested that dues for such membership should be on a sliding scale. After discussion, the committee suggests \$10.00 for Junior Colleges, \$20.00 for Senior Colleges, \$30.00 for colleges supporting a graduate program in mathematics. The registration fees of \$2.00 will be reduced to \$1.00 for employees of institutional members. The committee further recommends that Professor H. A. Luther of Texas A&M University be empowered by the Section at this meeting to write to the chairmen of the various mathematics departments involved to determine the feasibility of such a plan and report at the annual meeting in 1970, for final action."

Apparently the report was never made. On March 26, 1969, Don E. Edmondson, Governor of the Texas Section reported to Secretary-Treasurer Goldbeck: "I discussed the plan with the Executive Secretary Willcox in January at the New Orleans meeting. He had me write Secretary Alder about the plan." Edmondson said Alder gave him "a discouraging answer." Nevertheless, Edmondson asked that it be put on the agenda of the Executive and Finance Committee meeting. He added:

There is some good information for you however. In a telephone discussion with Alder, I pointed out that the national dues had gone up and were going up again without any appreciable increase in the amount rebated to sections. He reported that the Executive Committee will discuss the possibility of substantially increasing the section allocation and indicated that our petition and others might stimulate favorable action.

In a letter from Henry L. Alder to Edmondson, dated April 4, 1969, Alder reported the Texas plan for creating "Academic" Members had been rejected. He quoted from the minutes:

The Executive and Finance Committee voted to commend the Texas Section on its initiative in trying to improve its sectional programs and, in particular, to increase their service to the two-year colleges, but feel that the method proposed by the Texas Section for solving its financial problems is not appropriate, . . .

The Executive and Finance Committee, on the other hand, agree that some mechanism should be devised to increase the financial resources available to the Sections who are in need of them and who show initiative and willingness to put such additional funds to good work.

He went on to explain that the Association was planning to budget \$3000 each year and that Sections could apply for "an amount not to exceed \$300 per Section per year." In a letter from Don Edmondson to H. A. Luther on April 9, 1969, Edmondson said: "I would judge that we will be able to get \$300 from the sectional funds to assist in our next program, which with an increased registration fee may do us."

There was at least one grant of \$300 received by the Texas Section from this fund. In 1972, the Section got a grant to help in the publication of the first edition of the book published by the "Transfer Data Committee," UNDERGRADUATE MATHEMATICS IN TEXAS. Also, in 1978, the Section received another \$300 grant from the Association to assist in setting up a high school lecture program.

The increased registration fee did seem to help, because the closing balance began a slow climb. The next time the registration fee was increased was for the meeting at Angelo State University in 1975, when it was raised to \$3.00.

In 1983, a \$4.00 fee was charged for pre-registration or a \$5.00 registration fee at the meeting. No registration fee was charged for students. It stayed at this level until 1989 when Pre-registration for the meeting was \$13.00 and registration at the meeting was \$15.00. There was no registration fee charged of students.

The Texas Section received a \$500 grant from Exxon in 1990-91 to support Student Activities in the section. It was used to duplicate the tapes of Marilyn Durkin's shortcourse at Stephen F. Austin State University and to help with the expenses in bringing her to Texas.

The registration fee was increased to \$15 and \$18 in 1991 and to \$20 and \$25 in 1992. It has remained at that level through the 1994 meeting.

One of the most financially responsible moves the Texas Section has taken occurred at the annual meeting in Houston on April 11, 1992, when the Section voted "to establish Section annual dues in the amount of \$10.00 for each non-student member of the Section." Billing for the dues is done through the *Fall Newsletter* each year. In 1992-93, 193 members paid their dues and sent in \$565 in additional contributions for a total of \$2495. In 1993-94, 235 members paid their dues and sent in \$262.50 in additional contributions for a total of \$2612.50.

It took twenty-five years from the time that Ben T. Goldbeck, Jr., and H. A. Luther recognized the almost desperate financial situation of the Texas Section until it has finally begun to get on a solid footing. It is reasonable to expect the Section to begin to do more creative projects in the future than in the past or at the present.

A summary of the financial history of the Texas Section is contained in the following table. During the earlier years in the table, the reporting periods span about one year, reaching from May of one year to May of the next. During the early 1970's, the reporting periods shifted to a different year, one spanning from a Fall date to a Fall date the next year. The "financial year" is left to the discretion of the Secretary-Treasurer; and presumably, having a Fall closing date allows more time to get all accounts associated with the annual meeting closed out. Also, the fact that an up-to-date financial report can be included in the *Fall Newsletter* is another good reason for such a fiscal year. Some consideration should be given to establishing an official fiscal year for the Section in some future revision of the Bylaws.

Year	MAA	Meeting	Lecture	Book	s Dues	Interest	Expenses	Balance
1965	0	0	0	0	0	0	0	813.64
1966	120	208.00	0	0	0	0	379.34	762.30
1967	120	151.65	0	0	0	0	229.61	804.34
1968	130	179.40	0	0	0	0	279.10	834.64
1969	130	203.00	0	0	0	0	245.07	922.57
1970	130	140.00	0	0	0	0	177.23	1015.34
1971	130	260.15	0	0	0	0	160.37	1245.12
1972	130	507.73	0	0	0	0	308.76	1574.09
1973	130	175.70	0	0	0	0	426.18	1453.61
1974	120	202.07	0	0	0	0	301.20	1474.48
1975	120	436.29	0	0	0	0	355.14	1675.63
1976	130	672.00	0	0	0	0	938.12	1539.51
1977	130	415.99	0	0	0	0	378.34	1707.16
1978	280	477.86	372.01	0	0	0	863.14	1973.89
1979	280	118.50	0	91.50	0	0	898.17	1565.82
1980	280	665.97	0	0	0	45.06	734.04	1822.81
1981	380	786.00	0	51.12	0	45.55	1416.68	1868.80
1982	260	367.60	0	0	0	37.37	993.14	1540.63
1983	280	848.15	0	0	0	8.38	1247.28	1429.88
1984	280	679.34	0	0	0	45.14	512.84	1921.52
1985	280	1226.26	0	0	0	35.67	1066.19	2397.25
1986	300	1111.97	0	0	0	40.94	1739.74	2110.42
1987	360	1000.44	0	0	0	25.72	1827.23	1669.35
1988	360	1949.00	0	0	0	0	1242.61	2734.74
1989	360	3644.91	0	0	0	0	2971.31	3769.34 ¹
1990	400	1997.24	0	0	0	83.18	3243.64	3006.12
1991	800	3072.50	825.00	2 0	0	188.75	3497.46	4394.91
1992	840	2826.29	0	88.15	1415.00^3	104.22	4320.16	5348.51
1993	1384	3968.79	0	0	2275.00^4	198.68	4477.58	8697.40
1994	1400	5527.83	0 (250.00^{5}	1427.50^{6}	162.09	3616.37	13848.45

¹ This balance is in variance by \$1.00 from the balance reported in the financial report for 1989. The variance continues until 1994 when \$13847.45 was reported on September 1, 1994.

² This includes a \$500 Exxon grant to support student activities and a \$325 gift from HSU to assist with operating expenses.

³ This includes \$1160 for member dues and \$255 contributions by members.

 4 This includes \$1730 for member dues and \$545 contributions by members.

⁵ This was collected for advertisements in the Newsletter.

⁶ This includes \$1400 for member dues and \$27.50 contributions by members.

2. AHSME HISTORY

t any point in time, the next generation of mathematicians is still in high school. With that in mind, it should be obvious that one of the most significant things the Mathematical Association of America does is to sponsor the American High School Mathematics Examination. This contest provides opportunities for budding mathematicians to sharpen their skills in problem solving, to use mathematics creatively and to get recognition for their accomplishments. In a society in which almost everyone talks about the importance of mathematics, while at the same time, having poor skills in mathematics borders on being a social grace, this recognition is most important.

Most members of the Mathematical Association of America in general, and of the Texas Section specifically, probably know less about this program than about any other activity of the Section and of the Association.

In a talk to the Texas Section on April 8, 1960 at San Antonio College in San Antonio, W. H. Fagerstrom of Pan American College in Edinburg spoke of the beginning of the contest. He said that the Committee on the National High School Contest was an outgrowth of the Contest Committee of the Metropolitan New York Section, which was organized on October 30, 1949. At that time, Fagerstrom, who was at the City College of New York, was elected Chairman. The first contest was held in May 1950, with fewer than 5,000 students from about 200 schools participating. The contest grew steadily, and at the Thirty-Seventh Summer Meeting of the Association, August 20-21, 1956, at the University of Washington in Seattle, the scope of the contest became international as it was extended to Canada. At that time the contest was jointly sponsored by the Association and the Society of Actuaries, but it was still under the control of the Committee on the National High School Contest. [M67;736] In 1957 the examination was given to 43,000 students in 1469 high schools. [M66;171]

The Mathematical Association of America and the Society of Actuaries assumed control of the contest in the spring of 1958. "On March 27, 1958, an eighty-minute test, consisting of fifty questions, was given to over 80,000 students in 2889 high schools." [M66;171] By this

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time, W. H. Fagerstrom, the Executive Director of the Contest, was teaching at Pan American College in Edinburg, Texas.

At the annual meeting of the Texas Section at Baylor University on April 18-19, 1958, the Section decided to participate in the National High School Mathematics Contest in 1959 on a trial basis. H. J. Ettlinger of the University of Texas was named chairman of the committee in charge. [M65;731] At the annual meeting of the Texas Section at the University of Texas on April 17-18, 1959, Ettlinger gave a detailed report on the contest. The results were deemed "very satisfactory" and the Section decided to continue participating in the contest. [M66; 751]

In a letter from W. H. Fagerstrom, the Executive Director of the Contest, to C. R. Sherer, the Secretary-Treasurer of the Texas Section, dated February 11, 1960, Fagerstrom reported that "At the Chicago meeting of the Board of Governors of the MAA, it was stated that the Annual Contest in High School Mathematics is one of the most important projects of the MAA." He offered to give a short paper at a meeting of the Texas Section on the history and scope of the Contest and he said "it has grown from a one-man affair to a group of forty-seven Section scattered throughout the United States and Canada."

It is not clear from records available how long H. J. Ettlinger served as State Contest Director, but in a letter from James R. Boone of Texas A&M University to Don Bailey of Trinity University when Bailey was Chair of the Texas Section, Boone said that Robert E. Greenwood of the University of Texas had inherited the job from Ettlinger, that "It had traditionally been passed around to the last one who would accept it, like a hot potato." In any event, on September 5, 1965, Greenwood wrote to the Section Chairman, Charles R. Deeter of Texas Christian University, informing Deeter that he was resigning as Contest Chairmen, and informing him that Dale E. Walston of the University of Texas had agreed to replace him (Greenwood).

On October 5, 1965, Deeter wrote to Walston, giving him some information about the upcoming 1966 Contest and sending him a list of thirty areas and area chairmen. At that time the Section was employing a contest committee which included these area chairmen who were

responsible for promoting the Contest to high schools in their area and for mailing out materials to schools. The committee for 1966 included: M. E. Mullings, Abilene Christian College; Roger Osborn, University of Texas; Laverne MacMillian, Thomas Jefferson High School, Port Arthur; Rachel LaRoe, Mary Hardin Baylor College; S. V. Neely, Texas Southmost College; Hal B. Lane, Jr., Howard Payne University; David E. Lasher, West Texas State University; E. C. Klipple, Texas A&M University; Glen T. Corley, East Texas State College; Robert Lee Davis, Del Mar College; Douglas Chrane, Crane High School; Frank Palas, Southern Methodist University; B. L. Fincher, Texas Woman's University; John W. Hook, Pan American College; Charles W. Gladmen, Texas Western College; D. D. Shore, Texas Christian University; Margaret R. Wiscamb, University of St. Thomas; Daniel H. Reeves, Sam Houston State Teachers College; Virginia Roberts, Texas Technological College; W. I. Layton, Stephen F. Austin State College; Ruby K. Jones, Permian High School, Odessa; Irvin E. Justice, Prairie View A & M College; George L. Hill, Angelo State College; Lillian R. Carlson, San Antonio College; Lynn H. Tullock, Southwest Texas State College; Kenneth Parmley, Texarkana College; Marvin P. Davis, Tyler Junior College; Lois Garner, Victoria; Lucille Brigham, Baylor University; and Louie C. Huffman, Midwestern University.

Dale E. Walston reported that in 1966, about 9000 students from 224 schools in Texas took the examination and that the range of scores was minus eight to 116 out of a possible 200 points, and for 1977, he reported a similar number of students from 225 Texas schools.

In a letter from Dale Maness, Chairman of the Texas Section, on September 14, 1968, to Dale Walston, Maness mentioned that the State Director of the National High School Contest is appointed annually, and that he was reappointing Walston to the post.

On July 25, 1968, H. A. Luther, Chairman of the Texas Section, wrote to Dale Walston, accepting with regret Walston's resignation as State Contest Director. Luther said that William S. McCulley of Texas A&M University had agreed to accept the responsibility. McCulley served as Contest Director for six years. The minutes of the annual meeting of the Texas Section for 1971, held at Midwestern University, indicate that W. S. McCulley was elected Regional Chairman of the MAA High School Contest. The title of the position had changed and the position had changed from appointive to elective. Changing the position to elective was an indication of the increasing significance the Section placed on the High School Contest.

At the business meeting of the 1973 annual meeting of the Texas Section at Texas Christian University, H. A. Luther of Texas A&M University reported for W. S. McCulley that in 1973, there were nine contestants from Texas on the honor roll with scores above eighty, and that for the second year, three students from Cleveland had finished in the top four.

A three-year summary of scores from the Texas Contest for 1972-74 indicated that at that time, the American High School Mathematics Examination was sponsored jointly by the National Council of Teachers of Mathematics, the Mu Alpha Theta, and the Casualty Actuarial Society in addition to the Mathematical Association of America and the Society of Actuaries. Cleveland High School had captured the top team score in each of the three years. Twenty-three students scored eighty or higher to make the honor roll. Ellen Hahne of Memorial High School in Houston had the top individual score, 144, in 1994.

In 1975, the annual meeting of the Texas Section was held at Angelo State University. At that meeting, James R. Boone of Texas A&M University was elected Regional Chairman of the MAA High School Contest, and also at that meeting, by vote of the Section, the Regional Chairman was added to the Executive Committee. The latter action was another indication of the significance the Section placed on the High School Contest.

One hundred thirty-two Texas schools participated in the 1975 contest with Cleveland High School having the highest team score, 426. The honor roll listed forty-seven students, of whom, seventeen were from Cleveland.

In his Contest Report for 1975, J. R. Boone said: "State awards do not exist. I would like to initiate a state awards policy for the top teams in the various interscholastic divisions." Boone might also have been asking that hurricane warnings be posted, had he known what a storm was brewing.

On May 13, 1975, Richard Rhoad of the New Trier Township High School in Winnetka, Illinois wrote to the MAA Committee on High School Contests, raising questions about the administration and scor

ing

of the examination, and suggesting some new procedures. For example, he recommended that "the Principal and the math teacher in charge . . . both sign statements that the exams did remain unopened in the possession of the Principal until the time of the exam." At that time, security and scoring of the examination was the responsibility of the teacher administering the exam, usually the team coach. Rhoad gave as reasons for his concern, the following:

The National Math Exam, given nationwide since the fifties, was taken in 1975 by 350,000 students from 6,000 high schools. The top three scores in each school are added together for the school score.

Winner of this year's contest was Cleveland High School of Cleveland, Texas, a town with a population of 6,000. Second place went to Linsly Military Institute in Wheeling, West Virginia, with a school enrollment of 400 (Grades 5--12).

Cleveland's winning total of 426 and Linsly's score of 408 both set all time records. Only three schools had made the 400 plateau previously--Brooklyn Technical of New York in 1959 with a 404, Lexington High School in Massachusetts in 1974 with a 402, and Stuyvesant High School of New York in 1959 with a 400.

Of the 350,000 scores, the top three all came from Cleveland and the next two (three way tie for third place) came from Linsly. Never before had the three highest scores come from the same school. Eight of the nation's highest eleven individual tallies came from Cleveland and Linsly.

Cleveland also tied another all time record set by Bronx High School of Science of New York in 1968 by having 17 honor roll students (individual scores of 80 or more). In the past five years, both Cleveland and Linsly had ranked among the nation's top twelve schools each year except in 1974 when Linsly did not.

In 1972, the top 8 students came from 8 different high schools; in 1973, the top 25 came from 25 different schools; in 1974, the top 25 came from 21 different schools; and in 1975,

from 24 different schools. Neither Cleveland nor Linsly had ever had a student place in the top 25.

The 1975 results at Cleveland and Linsly may have been obtained honestly. If so, both schools and the teachers and students involved deserve enormous praise and publicity for their achievement. To serve the cause of quality education, articles should also be published to benefit other teachers.

Frankly, I must admit I am skeptical about the results. I believe the National Committee should investigate and include interviews with the students and teachers involved.

On May 16, 1975, Niel Shilkret of the Committee on High School Contests wrote to the other committee members: "We must make a decision as to whether or not to accept the anomalous results of the 1975 Examination reported by the Cleveland, Texas high school." And on June 2, 1975, in a letter to Henry Alder, Shilkret wrote that he thought the Cleveland results were improbable. He pointed out that "The school . . . is in an isolated area . . . and had an enrollment of about 500 students. He said: "Ten of their students, whose Mathematics SAT scores ranged between 380 and 560, were among the eighty high scorers on the Examination, including the three highest scores and five of the eleven highest scores. . . . five of the eight students declining invitations for the Olympiad came from Cleveland."

The new Regional Contest Director for Texas, Jim Boone, was unaware of the severity of the storm which was raging, and in early June 1975, he wrote to H. M. Cox, Executive Director of the MAA Committee on High School Contests: "Professor McCulley, Past Regional Chairman for Texas, who accompanied me on one of my two day-long visits to Cleveland, and I plan to write an article on the success of the Cleveland team." He indicated their intention to submit it to the MONTHLY and to the MATHEMATICS TEACHER. He was understandably proud of the publicity that Sally Daniel's Cleveland team was bringing to Texas. People at the national office of the Association were not so happy. On June 17, 1975, H. L. Alder wrote to David P. Roselle, Secretary of the Association:

Professor Cox has sent me a copy of the letter he has received from Professor James R. Boone of Texas A&M University, ... I am writing to let you know that I am very much con cerned about this and see here a potential for disastrous consequences on the whole Annual High School Mathematics Contest. The reasons I believe this are obvious: from the evidence available and past history on such matters, I cannot conceive that anybody will believe that the results of the Cleveland team were honestly achieved. To reward such dishonesty by articles in our publications can only have the most serious consequences. I have given a great deal of thought to what might be done to avoid a disaster. I think that whatever is done should have two objectives:

1. To stop Professors Boone and McCulley from writing their intended article and, if that does not succeed, to see that it does not get published.

2. To stop the obvious dishonesty which goes on at Cleveland High School. I have learned only now from Professor Cox's evidence that Cleveland High School has won first place in the State of Texas for the last five years.

I have thought of various schemes how to achieve both objectives, of which the following appears to me the most promising:

Either you or the Chairman or the Executive Director of the Committee on High School Contests (you should decide who among you) writes to Professor Boone explaining to him that, in spite of his view that the results at Cleveland High School were honestly achieved, there is widespread doubt among many that this is the case; in particular, there is doubt among those on the Committee on High School Contests and the officers of the Association, and then present some of the reasons for this doubt, . . . One nagging suspicion many have is that the teacher leaked the problems to the students prior to the examination, as is known to have occurred at other places in the past. To remove all doubts of such or other possible sources of dishonesty, it is suggested that next year the contest at Cleveland High School be administered by Professor Boone himself or some other member of the Texas Contest Committee or someone else from Texas A&M University selected by Professor Boone.

In any case, I urge that we don't place the sensitivities of the Cleveland High School teacher above the vital interests of continuing a successful Annual High School Mathematics Contest.

On June 23, 1975, David Roselle wrote to Jim Boone, expressing concern over the proposed article about the Cleveland results. He said:

I know that you and Professor McCulley have visited Cleveland High School and were very impressed with the training program with which Mrs. Sally Daniel prepares her students to take the Annual High School Mathematics Examination. However, you also know that the tremendous success of her students has caused more than a little skepticism as to whether the results are legitimate. Therefore, I would like to suggest a plan where you will be able to publicize the effectiveness of the training program <u>and</u> be able to answer any doubts of the final results. My proposal is that next year you, or a person of your choosing, be able to vouch for the validity of the results of the examination. The only change involved would be that the examinations would be sent to you and you would handle all of the administration of the examination.

It would not be difficult to explain this to the officials at Cleveland High School. You only need explain that you and Professor McCulley intend to write an article on the success of the Cleveland team, but that, in view of the nagging doubts which exist among some, you need to include convincing proof that such doubts are totally unwarranted and that the procedure described above is the obvious way to lay all such doubts to rest.

Without any guarantee of the security of the examination, I feel that your article would not meet with the success that it would if you were to follow the procedure I have outlined. In fact, I am certain that the security aspect would be the first question raised by most people who read of the great success of the Cleveland students.

I think that Mrs. Daniel would understand a request of the type which I have described. The performance of her students is by far the most outstanding of any school in the country.

Such a performance deserves the type of article you and Professor McCulley have described, but the article would be very incomplete if it did not present unambiguous evidence that the results were honestly obtained.

On the same day, Niel Shilkret wrote to David Roselle, a letter in which he said "I am firmly opposed to having Professor Boone's article appear in either the MONTHLY or in The MATHEMATICS TEACHER." Also on that day, Shilkret wrote to Jim Boone: "I am writing to express my pleasure with the excellent job you have done in obtaining publicity in Texas for the Annual High School Mathematics Examination.

If you have suggestions for publicity at the national level, please submit them to us. Please do not submit articles or other news releases concerning the results of Annual High School Mathematics Examination to magazines or other news media with nation wide coverage. All such news releases will be made from the national office.

Like many of us in the Texas Section, Jim Boone was anxious for a Texas school to make an extraordinary showing on the examination, and reluctant to suspect that the performance of the Cleveland team was the result of anything other than extraordinary preparation and effort by both coach and team. When he became aware of the controversy, Boone initiated his own investigation, and found no reason to believe that anything improper had taken place.

The Committee on the High School Contest was seriously disturbed about "the Cleveland incident" and since Boone was a relatively new Regional Contest Director, they had no knowledge of him or of his integrity. On June 26, 1975, Niel Shilkret wrote a letter to H. L. Alder in which he stated the possibility of refusing to accept the Cleveland results. He said:

Enclosed is a draft of a letter showing what we planned to do to justify refusing to accept the results. These plans were abandoned (at the very time the enclosed draft was being typed) when Professor Boone told Professor Roselle that he (Boone) was prepared to vouch for the legitimacy of the Cleveland results.

Professor Boone and Professor McCulley had gone to Cleveland High School, soon after the contest, to investigate the situation and found no evidence (other than the remarkable

results) to suggest anything was wrong. Ms. Daniel, the Cleveland contest manager, claimed she and the team worked very hard all year for the contest; and two of the students said there was no cheating. Ms. Daniel explained that she declined the Olympiad invitation for two reasons: first, there was a death in her family; second, the Olympiad was very different from the contest, and her team took The Olympiad in 1974 with disastrous results. I learned of the results of Professor Boone's investigation when I called him and confronted him with the facts I had (including the refusal to take the Olympiad and the College Board scores of the students). He seemed almost convinced the results were legitimate before I told him about the College Board scores and somewhat in doubt after I told him. Without informing Professor Roselle or me of his plans, he then asked Ms. Daniel directly whether the results were legitimate. Her reaction was the obvious one: a shocked claim of total innocence. Thereafter he has taken a firm position backing Ms. Daniel and done all he can to bring her team recognition. His telephone conversations seem to indicate more than average emotion concerning Ms. Daniel.

He also said: "Professor Boone is well aware, from my call and from a deluge of calls from Texas schools, that there are many people who are skeptical of the results from Cleveland." He stated that: "One proposal under consideration is to suggest to all regional chairman that the (say) five highest scoring schools (in each region) on the 1975 Contest not proctor or grade their own 1976 Contest." and that he "would welcome . . . any further reactions . . ., particularly concerning Professor Boone's effectiveness as a regional chairman."

On July 3, 1975, David Roselle wrote to Niel Shilkret:

There is very little likelihood that an article about the Cleveland affair will be published. My recent letter to Professor Boone and yours of June 23 will probably be adequate to stop any serious planning he has done to prepare such an article. Failing that, any such article would almost certainly not be accepted by an MAA journal and Professor Cox has assured me that he will be sure that such an article is not published in any NCTM journal.

It seems to me that the problem which must be faced is how to better insure the validity of the test results. A statement to the effect that teams can be reexamined would probably stop some potential abuses and would give the Committee the necessary statement of policy to give a retest. . . . My worry about some of the proposals to stop cheating I have seen is that they will greatly increase the administrative duties associated with giving the examination.

On July 8, 1975, H. L. Alder wrote to Niel Shilkret:

I feel quite confident that the letters you and Professor Roselle have written to Professor Boone will make it virtually certain that the article he had planned to write will not be written. I think the letters you and he have written take care of the situation very-well.

As to the "proposal under consideration to suggest to all regional chairmen that the (say) five highest scoring schools (in each region) on the 1975 contest not proctor or grade their own 1976 contest", I am not in favor of this for the following reasons: during the many years the Annual High School Mathematics Contest has been run there have been very few cases of obvious dishonesties, and, in each case, at least up [to] the case with the Cleveland, Texas, school, it has been possible to deal with it successfully on an individual basis without any publicity about the cheating. By suggesting to all regional chairmen that the highest scoring schools on the 1975 contest not proctor or grade their own 1976 contest, the impression is given that those administering the contest on the national level suspect widespread cheating. This is likely to have several negative effects: it may cast serious doubts on the validity of the entire contest, which would be very unfortunate and might be resented as unwarranted suspicion for which there is no evidence. In addition, it would greatly increase the administrative burden of running the contest.

I would much prefer to see the Committee on High School Contests take the action recommended in the next to last paragraph of my letter of June 17. Judging from Professor Roselle's letter of July 3, he seems to share this view. As to your questions concerning Professor Boone's effectiveness as a regional chairman it is obvious that one must have some doubts from the correspondence, which is all I know about him. I do not know him personally. Since regional contest Chairmen are appointed by the Sections of the Association, it might perhaps be well for you to alert the Section Officers, in particular, the Secretary of the Texas Section, Professor J. C. Bradford, concerning the problems which have arisen with Professor Boone.

On July 9, 1975, Boone wrote to Henry M. Cox, Executive Director of the MAA Contest Committee

I am writing to you about the matters discussed below because I believe you are the proper person to be informed as to my situation and present attitudes. Also recently a variety of people appear to be of the opinion that I should answer to them. I do wish that it would be clearly defined as to whom the regional contest manager is accountable.

When I assumed the responsibilities of regional manager, I was pleased and honored to have this opportunity to provide a valuable professional service. I was proud to be associated with this effort. Since March and the beginning of the Cleveland controversy, my attitudes have changed drastically. Quite honestly I resent continuously being put in the position of reasserting my belief in the integrity of Mrs. Daniel and the Cleveland scores. Apparently there is some doubt in the eyes of various committee members as to my ability to assess the situation. The credibility of the contest is in question not only at the state level but the national level also. The writing of this letter has been precipitated by a series of inquiries of various forms

It has been suggested by some that the only way the controversy about Cleveland can be resolved is for me to receive, administer and grade next year's examination at Cleveland myself. If I were to monitor the examination at Cleveland and this were the only school in the nation, or state, being monitored for security reasons, this would constitute an inexcusable insult to the integrity of Mrs. Daniel. I will not do that. When I felt forced to confront her last spring with point blank ques tions which implied that she was cheating, she was, understandably very insulted. This confrontation occurred after I had received calls from contest committee members. I had visited with Mrs. Daniel, her students, and the school administration extensively before that time. There was no question in my mind as to the validity of the Cleveland scores.

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Some have indicated that it would not be difficult to explain to the officials at Cleveland why I would be monitoring only Cleveland's examination. (Apparently, this would be done under the guise of lending validity to an article I would be writing.) Can you imagine yourself saying this to a public school official? The officials at Cleveland have unlimited faith in Mrs. Daniel, in every respect. They are familiar with her procedures and know each of her students personally. She is held in high regard in the community.

As to the article Dr. and I were planning to write, we had in mind a simple exposition of the environment at Cleveland, the training program and the spirit of the team. We did not intend to plead a case of Cleveland's legitimacy.

I have received information indicating that there is substantial bitterness at various schools in Texas. Some schools threaten that they may not participate in the future examinations. In my opinion, some people must feel rather threatened by the possibility that a school of 550 students in the Big Thicket of East Texas can field a team with such scores. The problem is either their personal pride and regionalism or that the past examinations are of such a nature that a well-trained group of above average students can earn extremely high scores.

I have tried to track down the sources of the rumors relative to Cleveland. The anonymous letters, notes and cryptic remarks in phone conversations are of no use. When I have been able to get a name, third or fourth hand, this has in each case ultimately resulted in the statement that, "Cleveland's score is so high, they must be cheating."

I will not pursue this matter further and I will not be a party to the destruction of Mrs. Daniel. If this is to be pursued further, then it must be the responsibility of the national committee. I should hope that if the committee, or its designated representative, does continue its inquiries, then it should be prepared to assume full professional and personal responsibility for the effects of its actions, accusations and references on the future of Mrs. Daniel.

As you can tell from the tone of this letter, I feel that I have extended myself as far as my ethics will allow. If my opinions on this matter are not acceptable to the committee or if the committee feels that my continuing as regional chairman is not in the interest of the contest then please inform me of this.

Actions taken by the Committee on High School Contests to try to insure the integrity of the examinations were detailed in the minutes of the meeting of the Committee on August 19, 1975, at Western Michigan University, Kalamazoo Michigan. Committee members in attendance were: H. M. Cox, W. F. Dice, A. M. Gaglione, S. L. Greitzer, M. S. Klamkin, R. S. Pieters, N. Shilkret:, J. R. Smart. Also at the meeting were: H. L. Alder, H. Hunzeker, F. Kocher, H. O. Pollak, D. P. Roselle, A. Schwartz, J. F. K. Stauffer, A. B. Willcox.

The following motion was passed: The Committee on High School Contests reserves the right to reexamine any student whose Annual High School Mathematics Examination results have official status.

A motion to mail the Annual High School Mathematics Examination to high school principals, rather than to school mathematics contest managers, was tabled. The motion was to be considered again after regional chairmen were queried about the feasibility of mailing the examinations to principals, while still mailing registration material to contest managers.

The following motion was brought before the committee, but not seconded: The Committee on High School Contests will recommend to all regional chairmen that, where possible, the schools with the three highest team scores in each region not administer their own examinations the following year.

The Contests Committee recommended that beginning in 1977, the Olympiad Subcommittee consider the following guidelines for selection of USA Mathematical Olympiad, International Mathematical Olympiad and International Mathematical Olympiad preparation class: Invitations will be sent to (i) approximately one hundred of the highest scoring students on the Annual High School Mathematics Examination, and (ii) a number of members of previous International Mathematical Olympiad preparation classes who were still high school students.

The preparation class was to have approximately 24 members. All International Olympiad team members would be invited to participate in the preparation class. Some members of the preparation class would be chosen from those students who were invited to take the USA Mathematical Olympiad and who would still be high school students the following year. Selection of International Olympiad team members and preparation class members was to be made on the basis of all previous USA Olympiad and International Olympiad information.

The committee voted to recommend that regional chairmen adopt central scoring wherever possible.

On October 21, 1975, David P. Roselle wrote to Niel Shilkret: concerning a response to Richard Rhoad, whose letter had initiated the "Cleveland incident." Roselle's letter suggested emphasizing the security measures adopted, including countersigning and retesting. He added:

You might also want to mention to Mr. Rhoad both that NO student from Cleveland, Texas took the USA Mathematical Olympiad and that the selection procedure for participants at the training session was clarified at the August 19, 1975 meeting.

And, on October 22, 1975, Shilkret: wrote the following to Richard Rhoad:

Results from the Annual High School Mathematics Examination are examined by regional contest chairmen and by the chairman and the executive director of the Committee on High School Contests, and unusual results (which arise most frequently simply as a result of clerical errors) are investigated. The results from Cleveland High School and Linsly Military Institute were investigated this spring by their respective regional chairmen, and the investigations did include interviews with students and high school contest managers from these schools. In both cases the regional chairmen found no irregularities in the administration of the examination and recommended acceptance of the results.

The problem of providing adequate security for the examination was discussed at length by the Committee on High School Contest this August; in addition to the committee members, the president, president-elect, secretary, past secretary and executive director of the Mathematical Association of America participated in the discussion. All those in attendance agreed that it was essential that additional steps be taken to avoid irregularities in the administration of the examination. Excerpts of the minutes of this meeting are enclosed. As the minutes indicate, your suggestion of mailing the examination materials to principals, rather than high school contest managers, was considered. Suggestions are always welcome.

We echo your closing sentiments: The Annual High School Mathematics Examination is a learning experience and a source of encouragement and pleasure for more than a third of a million students annually. On behalf of these students we ask for your continued support.

On October 27, 1975, Jim Boone wrote to the local contest managers, reminding them of deadlines and informing them of the new security procedures. He pointed out that the National Contest Committee required the signatures of both the local contest manager and the principal or the assistant principal verifying that all contest procedures and security procedures had been observed. Boone also required that the examination be shipped to and stored, unopened, by the principal or the assistant principal until the morning of the Contest. He explained: "I insist that a school official be placed in the chain of events as protection of you the Local Contest Manager."

On January 5, 1976, Niel Shilkret: wrote to H. L. Alder, H. M. Cox, H. O. Pollak, D. P. Roselle, and A. B. Willcox:

The following is a revision, based on suggestions contained in Professor Alder's letter of December 8, 1975 and Professor Roselle's letter of December 11, 1975, of my suggested proce dure for investigating irregularities in the results of the Annual High School Mathematics Examination.

- 1. The regional chairman would notify the chairman of the Contests Committee
- 2. The chairman of the Contests Committee would decide on one of the following courses of action.
 - (a) accept the results as they are;
 - (b) authorize the regional chairman to investigate, with the understanding that the chairman of the Contests Committee will accept the contest results unless the investigation discloses substantial evidence of irregularities; or
 - (c) ask the members of the Contests Committee to vote on a motion, formulated as a result of discussions between the chairman and executive director of the Contests Committee and the president and the secretary of the MAA, to establish an investigating committee.

In the event the Contests Committee votes to establish an investigating committee,

- 3. The chairman of the Contests Committee appoints the members of the investigating committee, in accordance with the motion of the Contests Committee and after consultation with the executive director of the Contests Committee and the president and executive director of the MAA. The investigating committee reports its findings to the chairman of the Contests Committee.
- 4. The chairman of the Contests Committee submits the report of the investigating committee and a motion to take appropriate action for a vote by mail ballot to the Committee on High School Contests.

Concerning Professor Alder's point 2., I believe it is better not to commit ourselves in advance concerning the composition of the investigating committee. Concerning Professor Roselle's suggested change, I note that alternatives 2(a) and 2(b) are intended to be simple procedures for dealing with minor irregularities.

I believe reexamination is a potentially more controversial action than investigation. The reexamination procedure deserves some thought before there is pressure to include a reexamination procedure in a motion to act on an investigating committee's report. I believe that first some information should be obtained as to what legal obligations one has in running a contest. Is there a way of obtaining this without charge? I list below three possible procedures for reexamining students, together with difficulties that might arise in connection with them:

- 1. Reexamine only the students whose results are found suspicious; accept the original result if the new score is greater than or equal to half the original score. Objections: Singling out students because their scores are unexpectedly high (as in the Cleveland incident) sounds arbitrary. Also, students doing poorly on a second examination might claim the second examination was more difficult (and they might be correct!).
- 2. Reexamine, at the time the U.S. Olympiad is given, all students who are invited to participate in the U.S. Olympiad. In schools with suspicious results, have the second examination proctored by an individual not associated with those schools. Accept the original score if the new score is greater than or equal to one half the original score times the ratio of the mean of all scores on the new exam to the mean of all scores on the original exam obtained by reexamined students. Objections: This involves a large administrative problem. There may be complaints of "double jeopardy" unless it is conspicuously stated beforehand that, at the discretion of the Committee on High School Contests, a second examination may be administered to all Olympiad participants.
- 3. Do not reexamine anyone. Objection: Someone calling our bluff will seriously harm the integrity of the examination.

In a letter to Jim Bradford, Secretary-Treasurer of the Texas Section, on January 30, 1976, Boone added an "Extra Note": "Cleveland did not enter the Contest. At the suggestion of the executive director Prof. Cox, I have requested an explanation. I have stuck my neck out so far to protect her [Sally Daniel] and this makes me look like the complete jackass."

On April 19, 1976, Henry L. Alder wrote to the Members of the Executive and Finance Committees:

As you recall, last year there was considerable discussion in the Executive and Finance Committees concerning the fact that Cleveland, Texas, had the highest team score in the Annual High School Mathematics Examination. Since I was the invited officer of the Association to the Texas Section earlier this month, I thought I should report to you what I learned there in this connection:

1. Cleveland, Texas, exists. When Larry and Betty Hinman very kindly drove me from Texas A & M to the Houston airport, I saw a sign pointing to Cleveland. We successfully resisted the temptation to visit the place. It is quite close to the Houston airport. In fact, the Hinmans told me that a normal takeoff from the Houston airport is right over Cleveland.

At the business meeting of the Texas Section, Professor 2. James R. Boone gave his report as the Chairman of the Texas Section Contest Committee. He reported that, when he had agreed to assume the chairmanship of that Committee, he did not realize what he was getting into and that last year's results in the Texas Section had attracted the attention of the national officers. He recalled that certain awards to high ranking Texas students in the Contest were voted by the Texas Section last year, but that he had decided not to put them into effect in view of the credibility questions which had been raised. He felt that it was his first responsibility to restore credibility to the Texas results. He then announced that this year's results were available and could be obtained by anyone interested at the registration desk. He felt that the new procedures which had been instituted in the Texas Section had been effective and that they would be continued.

Clearly nothing would please Professor Boone more than never to hear about Cleveland, Texas, again or see it mentioned anywhere.

That this hope is likely to be fulfilled is clear from the results of this year's Contest in Texas, copy of which I enclose. As you will note, Cleveland does not appear on that list at all. Whether this means that they did not participate this year or were one of the 7 schools in Texas that chose not to turn in their results, I do not know. Note that all 123 schools which submitted their results are listed, so that only the two reasons given in the previous sentence could apply. I had the distinct impression that, if I would raise my question about this, I would be banished from the State of Texas for the rest of my life, and I certainly did not want to incur that risk, especially in view of the fine reception I had been given by the Texas Section and, in particular, Professor Boone who also happened to be the Chairman of the Committee on Arrangements for the meeting of the Texas Section this year and who is a most pleasant person and who did a superb job on the arrangements for the meeting.

No matter what the reason is why Cleveland, Texas, is not listed this year, it is clear that the measures adopted by the Committee on High School Contests at its meeting last summer to increase the security of the Examination have been effective in solving this problem.

In September 1976, Henry M. Cox, Director Emeritus of the MAA Committee on High School Contests, wrote to the MAA Section Officers and Regional Contest Chairmen announcing Walter Mientka of the University of Nebraska as his successor as Director of the MAA Committee on High School Contests. He stated that there were more than 365,000 examinations in about 7000 schools.

Boone reported that nine-thousand students in 124 Texas schools took the 1977 examination and that Texas had forty-three honor roll students (A score of 80 or higher out of a possible score of 150.)

In his announcement of the 1978 examination, Jim Boone announced that the National Committee on High School Contests was revising the exam to consist of thirty problems worth four points each. Contestants would be given thirty base points and one point would be deducted for each wrong answer, so the maximum possible score would remain at 150 points. The honor roll score was raised to 100. When Boone reported on the 1978 examination, the effect of the changes could be seen. The number of honor roll students in Texas was down to fifteen, even though the number of participants was up to 10,000. Nationwide, 370,000 exams were used.

More than 400,000 students in the United States took the 1979 examination. Participation in Texas increased to 11,500 students from 146 schools. Twenty-seven students in Texas made the National Honor Roll. Regional Examination Coordinator, Jim Boone, established the "Texas Honor Roll" which included 262 students who scored 80 or higher, putting them in the top 2% of all participants in Texas. At the meeting of the Executive Committee of the Texas Section on April 6, 1979, Jim Boone was asked to bring recommendations concerning funding of awards for winners of the High School Contest to the fall meeting of the Executive Committee.

In 1980, participation in Texas jumped to 21,552 students from 294 schools. Total participation in the nation was 425,000. Boone reported that in spite of the fact that the 1980 examination was much more difficult, ten Texas students made the National Honor Roll and that 134 made the Texas Honor Roll. At the April 1980, meeting of the Executive Committee, Boone requested that the committee support his proposal that the Texas Section set aside \$120 annually to purchase awards for Contest winners.

For whatever reason, 1980 proved to be a watershed year for Texas. participation dropped steadily until it bottomed-out at 12,609 in 1985. In the same period, the number of schools participating dropped from 294 to 147. Then a steady climb began. By 1988, Jim Boone's last year as Regional Examination Coordinator, the number of Texas students taking the examination had risen to 16,365 and the number of schools to 193. In 1985, the American Junior High School Mathematics Examination was begun. One might speculate that it contributed to the increase in the number taking the High School Examination. The financial report of the Texas Section for 1987-88 showed a \$300 expenditure for the AHSME.

James R. Boone was succeeded as the Regional Examination Coordinator in 1988 by Vince Schielack of Texas A&M University. In 1989, participation climbed to 17,218 in 226 Texas schools, and the Section again contributed \$300 toward the expense awards for the winners. At the business meeting on April 16, 1988 at Trinity University, Jim Boone presented an award to George Berzsenyi of Lamar University for his service to the high school mathematics examination program in the Section and an award to Melinda Morris McCracken for assistance in operating the contest program.

Also, in 1989, the Texas Section awarded the first Edith May Sliffe awards to Rosemary Maguire-Kelley of Clark High School in San Antonio and Pamela Calder of Memorial High School in Houston, coaches of the first and second place teams respectively.

Schielack began efforts to get the awards endowed, and invited contributions toward the endowment. He also pointed out the in some states, scholarships are given to outstanding AHSME students. He also asked the Section for \$400 support for buying awards, and in 1990 the contribution was increased to \$400, where it has remained.

At the 1993 annual business meeting, in Abilene, Jim Boone gave the AHSME report for Vince Schielack. He reported that the participation was back up to 20,830 from a record number of schools, 322.

Janie Schielack became the Co-Regional Examination Coordinator with Vince Schielack in 1993. She was also the Texas Coordinator for the American Junior High School Mathematics Examination.

Participation in the American High School Mathematics Examination increased to 20,840 in 1994.

Some statistics for the American High School Mathematics Examination in Texas are given below. Records for the students with the top scores in Texas are available, beginning in 1970. Multiple listings for a given year indicate ties. For example, there was a ten-way tie for top score in 1994.

Texas AHSME Top Students

Year	Student	School
1970	James Lyon	El Paso Austin
1971	James Lyon	El Paso Austin
1972	Larry Richardson	Cleveland

Year	Student	School
1973	Keith Ellisor	Cleveland
1974	Ellen Hahne	Houston Memorial
1975	Julie Croley	Cleveland
1975	Kevin West	Cleveland
1976	Davis Finley	Austin
1977	Kerry Jones	Cleburn
1978	David Chenevert	Houston Memorial
1979	Michael Hsu	Houston Sharpstown
1980	Pang Chen	Wichita Falls Rider
1981	Jerome De La Cruz	San Antonio Marshall
1982	Alison McDonald	Houston Clear Lake
1983	John Steinke	San Antonio Madison
1984	Mark Yarbrough	San Antonio Clark
1985	Ed Bailey	Austin LBJ
1986	Richard Spoonts	Lubbock Monterey
1987	Hubert Bray	Houston Westbury
1988	Ted Mao	Bellaire
1989	Joseph DeVincentis	Corpus Christi King
1990	Perry Cheng	Houston Memorial
1991	Kenneth Hsu	Dallas St. Mark's
1992	Eric Antokoletz	Austin LBJ
1993	Piotr Liszak	Austin LBJ
1993	Bradley Null	Sugar Land Dulles
1994	James Ayers	Houston Langham Creek
1994	Jacob Chen	Plano
1994	Daniel Cohan	Dallas Hillcrest
1994	Edward Early	Austin LBJ
1994	Tony Jacobs	Dallas Talented and Gifted
1994	Samuel Klein	Bellaire
1994	Cary Lasher	Klein
1994	Bradley Null	Sugar Land Dulles
1994	Alexander Saltman	Austin LBJ
1994	Mikhail Shubov	Lubbock
Scores for the top ranking schools in all classifications are available only since 1988.

Texas AHSME State Champion Schools (by classification)

Year	5A	4A
1988	Houston Westbury	San Antonio Alamo Heights
	Richardson Berkner	
1989	San Antonio Clark	San Antonio Alamo Heights
1990	Richardson Berkner	Dallas Highland Park
1991	Austin LBJ	Dallas Hillcrest
1992	Austin LBJ	Katy Taylor
1993	Bellaire	Austin LBJ
1994	Bellaire	College Station A&M Consolidated
Year	3A	2A
1988	Hardin-Jefferson	Mason
1989	Southlake Carroll	San Antonio Lackland
1990	Graham	Anson
1991	Austin Lake Travis	Anson
1992	Ingleside	Anson
1993	Brownsboro	China Spring
1994	Seminole	Gainsville Callisburg
Year	1A	Private
1988	Lago Vista	Dallas St. Mark's
1989	Eden	Dallas St. Mark's
1990	Eden	Dallas St. Mark's
1991	Lago Vista	Dallas St. Mark's
1992	Lago Vista	Houston St. John's
1993	Rule	Dallas Greenhill
1994	Wink	Houston St. John's

Over the years, several members of the Texas Section have been members of various committees associated with the American Mathematics Competitions. The Committee on the American Mathematics Competitions is responsible for the overall administrative operations. The following members have served or are serving on that committee:

William K. McNabb . . St. Mark's High School(Dallas) 1976-78 Richard S. Pieters . . . Hockaday School(Dallas) 1976-79

Mary Ann Norton Spring Land I.S.D	1978-81
George Berzsenyi Lamar University	1980-87
Sharon Morgan Long Middle School(Dallas)	1990-
Bonnie Lietch New Braunfels H.S	1993-

Douglas A. Hensley, Texas A&M University, served, 1987-90, on the United States Mathematical Olympiad Committee, which is responsible for test construction. George Berzsenyi of Lamar University was Chair of the American Invitational Mathematics Examination Committee, 1980-87, and George T. Gilbert of Texas Christian University has served on that committee since 1992. It is responsible for test construction.

Paul A. Foerster of Alamo Heights High School in San Antonio, and Vincent P. Schielack, Jr. of Texas A&M University, have served on the American High School Mathematics Examination Committee. It too is responsible for test construction. Foerster served 1987-92 and Schielack has been on it since 1992. Schielack is also on the Executive Advisory Committee. Thomas R. Butts of the University of Texas at Dallas; Stephen B. Rodi of Austin Community College; and Sharon Morgan of Long Middle School in Dallas, have served on the American Junior High School Mathematics Examination Committee. It too is responsible for test construction. Butts served 1982-90, Rodi served 1985-89, and Morgan has served since 1990.

The American Mathematics Competitions Advisory Panel assists with test construction. The following Texans have served or are serving on it:

In 1989, the first Texas Edith May Sliffe Award Winners were named. Edith May Sliffe was born in Fox Valley, Oregon, May 4, 1901 and grew up in John Day, a small lumber town in eastern Oregon. Her father, who delivered supplies with a two-horse wagon to the lumber camps, taught her the fundamentals of investment. After graduating from the University of Oregon, with a major in music, she moved to California, where she enrolled in several mathematics courses at the University of California at Berkeley. She began her teaching at Emery High School, in Emeryville, California, where she taught for thirty-six years, until her retirement in 1962.

Sliffe's principle interests during retirement were ballroom dancing and managing her investments portfolio. In 1978 she contacted Professor Kenneth Rebman, Governor of the Northern California Section of the Mathematical Association of America, expressing interest in making a gift to the MAA to provide awards to high school teachers whose students do well on the American High School Mathematics Examination. She indicated that her students had always done well on that examination, but that she had never received any recognition for it. Rebman contacted Henry Alder, who was President of the MAA at that time. They arranged with Sliffe for her will to stipulate that the majority of her estate go to the MAA to be used to recognize, annually, twenty mathematics teachers who were responsible for the success of the highest scoring school teams on the American High School Mathematics Examination.

Sliffe died on December 11, 1986, and the awards were begun in 1989. Edith May Sliffe Award winners in Texas have been:

Year	Teacher	School
1989	Rosemary Maguire-Kelley	San Antonio Clark
1989	Pamela Calder	Houston Memorial
1990	J. T. Sutcliffe	Dallas St. Mark's
1990	John Beam	Bellaire
1991	Douglas Sharp	Houston St. John's
1991	Sam Baethge	Austin LBJ
1992	Eva Costa	Bellaire
1993	Shirley Stigler	Lubbock
1994	Sam Baethge	Austin LBJ
1991 1991 1992 1993 1994	Douglas Sharp Sam Baethge Eva Costa Shirley Stigler Sam Baethge	Houston St. John' Austin LBJ Bellaire Lubbock Austin LBJ

[Most of the correspondence concerning the "Cleveland Incident" was obtained from the MAA Records in the Math Archives at The Center for American History at The University of Texas in Austin.]

LIST OF MEETING DATES AND SITES

- 1. November 25-26, 1921 at Bryan High School in Dallas.
- 2. December 1-2, 1922 at the First Presbyterian Church in Houston.
- 3. December 1, 1923 in Ft. Worth.
- 4. November 28, 1924 at the First Presbyterian Church in San Antonio.
- 5. 1925: No meeting reported.
- 6. 1926: No meeting reported.
- 7. 1927: No meeting reported.
- 8. January 28, 1928 at Texas A&M College in College Station.
- 9. January 26, 1929 at Rice Institute in Houston.
- 10. 1930: No meeting reported.
- 11. January 31, 1931 at Texas Christian University in Ft. Worth.
- 12. January 30, 1932 at the University of Texas in Austin.
- 13. February 11, 1933 at Southern Methodist University in Dallas.
- 14. May 5, 1934 at Texas A&M College in College Station.
- 15. April 20, 1935 at Texas Technological College in Lubbock.
- 16. April 11, 1936 at Texas A&M College in College Station.
- 17. April 23, 1937 at Rice Institute in Houston.
- 18. April 22-23, 1938 at Texas Christian University in Ft. Worth.
- 19. March 31-April 1, 1939 at Abilene Christian College, Hardin-Simmons University and McMurry College in Abilene.
- 20. March 29, 1940 at Southern Methodist University in Dallas.
- 21. April 4-5, 1941 at North Texas State Teachers College in Denton.
- 22. 1942: No meeting held.
- 23. 1943: No meeting held.
- 24. 1944: No meeting held.
- 25. 1945: No meeting held.
- 26. December 6-7, 1946 at Texas Christian University in Ft. Worth.
- 27. April 26-26, 1947 at Texas Technological College in Lubbock.
- 28. April 23-24, 1948 at Rice Institute in Houston.
- 29. April 8-9, 1949 at North Texas State College & Texas State College for Women in Denton.
- 30. April 14-15, 1950 at Abilene Christian College, Hardin-Simmons University and McMurry College in Abilene.
- 31. April 27-28, 1951 at Southern Methodist University in Dallas.
- 32. April 25-26, 1952 at East Texas State Teachers College in Commerce.
- 33. April 24-25, 1953 at Texas Christian University in Ft. Worth.
- 34. April 23-24, 1954 at Texas Technological College in Lubbock.
- 35. April 22-23, 1955 at Abilene Christian College, Hardin-Simmons University and McMurry College in Abilene.
- 36. April 20-21, 1956 at Southwest Texas State Teachers College in San Marcos.
- 37. April 26-27, 1957 at University of Houston in Houston.
- 38. April 18-19, 1958 at Baylor University in Waco.
- 39. April 17-18, 1959 at University of Texas in Austin.
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- 40. April 8-9, 1960 at San Antonio College in San Antonio.
- 41. April 14-15, 1961 at Stephen F. Austin State College in Nacogdoches.
- 42. December 8-9, 1961 at Galveston.
- 43. April 6-7, 1962 at Rice Institute in Houston.
- 44. November 30-December 1, 1962 at University of Texas in Austin.
- 45. April 19-20, 1963 at North Texas State University in Denton.
- 46. December 6-7, 1963 at Abilene Christian College in Abilene.
- 47. April 10-11, 1964 at Texas Technological College in Lubbock.
- 48. December 11-12, 1964 at Baylor University in Waco.
- 49. April 9-10, 1965 at Texas Christian University in Ft. Worth.
- 50. April 15-16, 1966 at Southern Methodist University in Dallas.
- 51. April 14-15, 1967 at Austin College in Sherman.
- 52. April 19-20, 1968 at Texas A&M University at College Station.
- 53. April 18-19, 1969 at Texarkana College in Texarkana.
- 54. April 10-11, 1970 at Sam Houston State University in Huntsville.
- 55. April 16-17, 1971 at Midwestern State University in Wichita Falls.
- 56. April 14-15, 1972 at Southwest Texas State University in San Marcos.
- 57. April 6-7, 1973 at Texas Christian University in Ft. Worth.
- 58. April 5-6, 1974 at University of Texas in Austin.
- 59. April 11-12, 1975 at Angelo State University in San Angelo.
- 60. April 2-3, 1976 at Texas A&M University at College Station.
- 61. April 1-2, 1977 at Baylor University in Waco.
- 62. March 31-April 1, 1978 at Stephen F. Austin State University in Nacogdoches.
- 63. April 6-7, 1979 at Texas Tech University in Lubbock.
- 64. April 11-12, 1980 at East Texas State University in Commerce.
- 65. April 10-11, 1981 at San Antonio College in San Antonio.
- 66. April 2-3, 1982 at Lamar University in Beaumont.
- 67. April 8-9, 1983 at North Texas State University in Denton.
- 68. April 6-7, 1984 at University of Texas at Tyler.
- 69. April 11-13, 1985 at Texas A&M University at Galveston.
- 70. April 11-12, 1986 at Eastfield College in Mesquite.
- 71. April 2-4, 1987 at Tarleton State University in Stephenville.
- 72. April 14-16, 1988 at Trinity University in San Antonio.
- 73. April 6-8, 1989 at Texas Lutheran College in Seguin.
- 74. April 5-7, 1990 at University of North Texas in Denton.
- 75. April 4-6, 1991 at Stephen F. Austin State University in Nacogdoches.
- 76. April 9-11, 1992 at University of Houston-Downtown in Houston.
- 77. April 1-3, 1993 at Abilene Christian University in Abilene.
- 78. April 7-9, 1994 at Texas A&M University at College Station.
- 79. March 30-April 1, 1995 at Baylor University in Waco.
- 80. March 29-31, 1996 at Texas Tech University in Lubbock.
- 81. 1997 at Southwest Texas State University in San Marcos.
- 82. 1998 at Southern Methodist University in Dallas.
- 83. 1999 at Texas Lutheran College in Seguin.

LISTS OF CHAIRMEN AND CHAIRS

	Chairman	Institution	Years
1.	H. J. Ettlinger	University of Texas	1920-21
2.	G. C. Evans	Rice Institute	1921-22
3.	L. R. Ford	Rice Institute	1922-24
4.	A. A. Bennett	University of Texas	1924-25
5.	No meeting reported.		1925-26
6.	No meeting reported.		1926-27
7.	W. M. Whyburn	Texas A&M College	1927-28
8.	G. T. Whyburn	University of Texas	1928-31
9.	H. E. Bray	Rice Institute	1931-32
10.	C. R. Sherer	Texas Christian University	1932-33
11.	No election reported.		1933-34
12.	W. L. Porter	Texas A&M College	1934-35
13.	F. W. Sparks	Texas Technological College	1935-36
14.	L. R. Ford	Rice Institute	1936-37
15.	J. H. Binney	Texas A&M College	1937-38
16.	H. J. Ettlinger	University of Texas	1938-39
17.	E. D. Mouzon, Jr.	Southern Methodist University	1939-40
18.	J. E. Burnam	Hardin-Simmons University	1940-41
19.	E. H. Hanson	North Texas State Teach. Coll.	1941-47
20.	R. S. Underwood	Texas Technological College	1947-48
21.	F. E. Ulrich	Rice Institute	1948-49
22.	H. J. Ettlinger	University of Texas	1949-50
23.	C. A. Murray	West Texas State Teach. Col.	1950-51
24.	D. W. Starr	Southern Methodist University	1951-52
25.	C. B. Wright	East Texas State Teach. Col.	1952-53
26.	Landon A. Colquitt	Texas Christian University	1953-54
27.	E. A. Hazlewood	Texas Technological College	1954-55
28.	M. E. Mullings	Abilene Christian College	1955-56
29.	Don Cude	S'west Texas State Teach. Col.	1956-57
30.	Martin Wright	University of Houston	1957-58
31.	E. K. McLachlan	Baylor University	1958-59
32.	W. T. Guy	University of Texas	1959-60
33.	P. R. Cullwell	San Antonio College	1960-61

34.	W. I. Layton	Stephen F. Austin State College	1961-62
35.	G. R. MacLane	Rice Institute	1962-63
36.	H. C. Parrish	North Texas State University	1963-64
37.	E. R. Heineman	Texas Technological College	1964-65
38.	Charles R. Deeter	Texas Christian University	1965-66
39.	C. J. Pipes	Southern Methodist University	1966-67
40.	Dale W. Maness	Austin College	1967-68
41.	H. A. Luther	Texas A&M University	1968-69
42.	Carmon McFerran	Texarkana College	1969-70
43.	George R. Vick	Sam Houston State University	1970-71
44.	Louie C. Huffman	Midwestern State University	1971-72
45.	Robert A. Northcutt	Southwest Texas State Univ.	1972-73
46.	Bobby L. Sanders	Texas Christian University	1973-74
47.	Don E. Edmondson	University of Texas	1974-75
48.	James E. Hodge	Angelo State University	1975-76
49.	G. R. Blakley	Texas A&M University	1976-77
50.	Howard L. Rolf	Baylor University	1977-78
51.	R. G. Dean	Stephen F. Austin State Univ.	1978-79

Chair

Years

52.	J. Dalton Tarwater	Texas Tech University	1979-80
53.	Bill D. Anderson	East Texas State University	1980-81
54.	Robert L. Tennison	Univ. of Texas at Arlington	1981-82
55.	John Ed Allen	University of North Texas	1982-83
56.	Robert H. Cranford	University of Texas at Tyler	1983-84
57.	Margaret R. Hutchinso	n University of St. Thomas	1984-85
58.	R. Vic Morgan	Sul Ross State University	1985-86
59.	George Berzsenyi	Lamar University	1986-87
60.	Donald F. Bailey	Trinity University	1987-88
61.	Joe E. Cude	Tarleton State University	1988-89
62.	C. Roy Combrink	Texas Christian University	1989-90
63.	Dale R. Bedgood	East Texas State University	1990-91
64.	Larry Heath	Univ. of Texas at Arlington	1991-92
65.	Rose Marie Smith	Texas Woman's University	1992-93
66.	Vivian Dennis	Eastfield College	1993-94
67.	Montie G. Monzingo	Southern Methodist University	1994-95

Institution

LISTS OF VICE-CHAIRMEN, FIRST VICE-CHAIRMEN AND CHAIR-ELECTS

Vice-Chairman		School	Year
1.	A. A. Bennett	University of Texas	1921-24
2.	W. M. Whyburn	Texas A. & M. College	1924-28
3.	F. W. Sparks	Texas Technological College	1928-31
4.	C. R. Sherer	Texas Christian University	1931-32
5.	W. A. Rees	Houston Junior College	1932-33
6.	No election reported		1933-34
7.	F. W. Sparks	Texas Technological College	1934-35
8.	L. R. Ford	Rice Institute	1935-36
9.	J. H. Binney	Texas A&M College	1936-37
10.	H. J. Ettlinger	University of Texas	1937-38
11.	E. D. Mouzon, Jr.	Southern Methodist University	1938-39
12.	J. E. Burnam	Hardin-Simmons University	1939-40
13.	E. F. Beckenbach	Rice Institute	1940-41
14.	R. S. Underwood	Texas Technological College	1941-47
15.	F. E. Ulrich	Rice Institute	1947-48
16.	H. J. Ettlinger	University of Texas	1948-49
17.	C. A. Murray	West Texas State Teachers College	1949-50
18.	D. W. Starr	Southern Methodist University	1950-51
19.	C. B. Wright	East Texas State Teachers College	1951-52
20.	Landon A. Colquitt	Texas Christian University	1952-53
21.	E. A. Hazlewood	Texas Technological College	1953-54
22.	M. E. Mullings	Abilene Christian College	1954-55
23.	Don Cude	S'west Texas State Teach. College	1955-56
24.	Martin Wright	University of Houston	1956-57
25.	E. K. McLachlan	Baylor University	1957-58
26.	W. T. Guy	University of Texas	1958-59
27.	P. R. Cullwell	San Antonio College	1959-60
28.	W. I. Layton	Stephen F. Austin State College	1960-61
29.	G. R. MacLane	Rice Institute	1961-62
30.	H. C. Parrish	North Texas State University	1962-63
31.	E. R. Heineman	Texas Technological College	1963-64
32.	Charles R. Deeter	Texas Christian University	1964-65

33.	C. J. Pipes	Southern Methodist University	1965-66
34.	Dale W. Maness	Austin College	1966-67
35.	H. A. Luther	Texas A&M University	1967-68
36.	Carmon McFerran	Texarkana College	1968-69
37.	George R. Vick	Sam Houston State University	1969-70
38.	Louie C. Huffman	Midwestern State University	1970-71
39.	Robert A. Northcutt	Southwest Texas State University	1971-72
40.	Bobby L. Sanders	Texas Christian University	1972-73
41.	Don E. Edmondson	University of Texas at Austin	1973-74

First Vice-Chairman School

Year

42.	James E. Hodge	Angelo State University	1974-75
43.	G. R. Blakley	Texas A&M University	1975-76
44.	Howard L. Rolf	Baylor University	1976-77
45.	R. G. Dean	Stephen F. Austin State University	1977-78
46.	J. Dalton Tarwater	Texas Tech University	1978-79

School

Chair-Elect

Year

47.	Bill D. Anderson	East Texas State University	1979-80
48.	Robert L.Tennison	University of Texas at Arlington	1980-81
49.	John Ed Allen	University of North Texas	1981-82
50.	Robert H. Cranford	University of Texas at Tyler	1982-83
51.	Margaret R.Hutchinso	on University of St. Thomas	1983-84
52.	R. Vic Morgan	Sul Ross State University	1984-85
53.	George Berzsenyi	Lamar University	1985-86
54.	Donald F. Bailey	Trinity University	1986-87
55.	Joe E. Cude	Tarleton State University	1987-88
56.	C. Roy Combrink	Texas Christian University	1988-89
57.	Dale R. Bedgood	East Texas State University	1989-90
58.	Larry Heath	University of Texas at Arlington	1990-91
59.	Rose Marie Smith	Texas Woman's University	1991-92
60.	Vivian Dennis	Eastfield College	1992-93
61.	Montie G. Monzingo	Southern Methodist University	1993-94
62.	Stuart Anderson	East Texas State University	1994-95

LIST OF SECRETARY-TREASURERS

1.	Joseph L. Riley	John Tarleton Agri. College	1920-21
2.	W. D. Baten	Grubbs Vocational College	1921-22
3.	Hyman J. Ettlinger	University of Texas	1922-31
4.	Nat Edmonson, Jr.	Texas A&M College	1931-42
5.	Charles R. Sherer	Texas Christian University	1946-64
6.	Ben T. Goldbeck, Jr.	Texas Christian University	1964-70
7.	James C. Bradford	Abilene Christian College	1970-78
8.	Glen E. Mattingly	Sam Houston State University	1978-90
9.	Charles D. Robinson	Hardin-Simmons University	1990-

LISTS OF GOVERNORS

Governor at Large

1. A. A. Bennett	University of Texas	1939-1942
Region 11 Governor		
2. H. J. Ettlinger	University of Texas	1941-1943
3. H. E. Bray	Rice Institute	1943-1945
Texas Section Governor		
4. H. E. Bray	Rice Institute	1947-1950
5. E. H. Hanson	North Texas State College	1950-1953
6. E. R. Heineman	Texas Tech College	1953-1956
7. C. R. Sherer	Texas Christian University	1956-1959
8. W. T. Guy, Jr.	University of Texas	1959-1962
9. H. C. Parrish	North Texas State College	1962-1965
10. Martin Wright	University of Houston	1965-1968
11. D. E. Edmondson	University of Texas	1968-1971
12. Charles Pipes	Southern Methodist University	1971-1974
13. Charles R. Deeter	Texas Christian University	1974-1977
14. James N. Younglove	University of Houston	1977-1980
15. John T. Mohat	North Texas State University	1980-1983
16. James C. Bradford	Abilene Christian University	1983-1986
17. Robert A. Northcutt	Southwest Texas State Univ.	1986-1989
18. Louie C. Huffman	Midwestern State University	1989-1992
19. John Ed Allen	University of North Texas	1992-1995

LISTS OF DIRECTORS

Level-I Director

1972-74	June Wood	South Texas College
1974-76	Amogene Devaney	Amarillo College
1976-78	B. D. Langston	Tarrant County Jr. College
1978-81	David Sanchez	San Antonio College
1981-84	Vivian A. Dennis	Eastfield College
1984-87	George Brewer	Odessa College
1987-90	Patricia A. Juelg	Bee County College
1990-93	James C. Bolen	Tarrant County Junior College, NE
1993-96	David Sanchez	San Antonio College

Level-II Director

1972-73	Robert L.Tennison	University of Texas at Arlington
1973-75	George Copp	North Texas State University
1975-77	Archie Brock	East Texas State University
1977-80	Margaret R.Hutchinson	University of St. Thomas
1980-83	Vic Morgan	Sul Ross State University
1983-86	Darwin Peek	Trinity University
1986-89	Arnold Vobach	University of Houston
1989-92	Michael Murphy	University of Houston-Downtown
1992-95	John F. Lamb, Jr.	East Texas State University

Level-III Director

1979-82	Bennie B. Williams	University of Texas at Arlington
1982-85	James N. Younglove	University of Houston
1985-88	Melvin R. Hagan	North Texas State University
1988-91	John T. White	Texas Tech University
1991-92*	John Ed Allen	University of North Texas
1992-94	Efraim P. Armendariz	University of Texas
1994-97	Efraim P. Armendariz	University of Texas

* John Ed Allen resigned his position as Level-III Director after he was elected Governor of the Texas Section. Efraim Armendariz was elected to fill the unexpired term of office.

Director-at-Large

A. D. Stewart	Prairie View A and M College
Vivienne M. Mayes	Baylor University
R. G. Dean	Stephen F. Austin State University
Bob Cranford	Texas Eastern University
Robert M. Thrall	Rice University
Landon A. Colquitt	Texas Christian University
Nancy C. Ogden	Garland I. S. D.
Rose Marie Smith	Texas Woman's University
John R. Durbin	University of Texas
Barbara Montalto	Texas Education Agency
James R. Boone	Texas A&M University
John T. White	Texas Tech University
Mary Parker	Austin Community College
	A. D. Stewart Vivienne M. Mayes R. G. Dean Bob Cranford Robert M. Thrall Landon A. Colquitt Nancy C. Ogden Rose Marie Smith John R. Durbin Barbara Montalto James R. Boone John T. White Mary Parker

LIST OF ARRANGEMENTS CHAIRS

Year	Vice-Chairman	School
1951	D. W. Starr	Southern Methodist University
1952	C. B. Wright	East Texas State Teachers College
1953	Landon A. Colquitt	Texas Christian University
1954	E. A. Hazlewood	Texas Technological College
1955	M. E. Mullings	Abilene Christian College
1956	Don Cude	S'west Texas State Teach. College
1957	Martin Wright	University of Houston
1958	E. K. McLachlan	Baylor University
1959	W. T. Guy	University of Texas
1960	P. R. Cullwell	San Antonio College
1961	W. I. Layton	Stephen F. Austin State College
1962	G. R. MacLane	Rice Institute
1963	H. C. Parrish	North Texas State University
1964	E. R. Heineman	Texas Technological College
1965	Charles R. Deeter	Texas Christian University
1966	C. J. Pipes	Southern Methodist University
1967	Dale W. Maness	Austin College
1968	H. A. Luther	Texas A&M University
1969	Carmon McFerran	Texarkana College
1970	George R. Vick	Sam Houston State University
1971	Louie C. Huffman	Midwestern State University
1972	Robert A. Northcutt	Southwest Texas State University
1973	Bobby L. Sanders	Texas Christian University
1974	Don E. Edmondson	University of Texas at Austin
Year	First Vice-Chairman	School
1975	James E. Hodge	Angelo State University
1976	G. R. Blakley	Texas A&M University
1977	Howard L. Rolf	Baylor University

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1977	Howard L. Rolf	Baylor University
1978	R. G. Dean	Stephen F. Austin State University
1979	J. Dalton Tarwater	Texas Tech University

1980	Bill D. Anderson	East Texas State University
1981	Ray Tebbetts	San Antonio College
1982	Richard A. Alo	Lamar University
1983	Melvin R. Hagan	North Texas State University
1984	Thomas A. Keagy	University of Texas at Tyler
1985	Joseph M. Szucs	Texas A&M Univ. at Galveston
	Anthony Blozinski	Texas A&M Univ. at Galveston
1986	Vivian A. Dennis	Eastfield College
1987	Timothy L. Flinn	Tarleton State University
1988	Darwin Peek	Trinity University
1989	Jack Tennison	Texas Lutheran College
1990	Melvin R. Hagan	University of North Texas
1991	R. G. Dean	Stephen F. Austin State University
1992	Elias Y. Deeba	University of Houston-Downtown
1993	Bo Green	Abilene Christian University
1994	James R. Boone	Texas A&M University
1995	Howard Rolf	Baylor University

Year Arrangements Chair School

LIST OF DISTINGUISHED SERVICE AWARDS

- 1977 H. J. Ettlinger of the University of TexasC. R. Sherer of Texas Christian University (Posthumously)
- 1978 H. E. Bray of Rice University
- 1979 E. Richard Heineman of Texas Tech University Emmett Hazlewood of Texas Tech University
- 1981 Robert Greenwood of The University of Texas
- 1986 R. H. Bing of the University of Texas
- 1990 Glen E. Mattingly of Sam Houston State University John T. Mohat of the University of North Texas Herbert C. Parrish of the University of North Texas
- 1991 James C. Bradford of Abilene Christian University Don E. Edmondson of the University of Texas
- 1992 Landon A. Colquitt of Texas Christian University (Posthumously)Joe Cude of Tarleton State University
- 1993 Louie Huffman of Midwestern State University Margaret R. Hutchinson of the University of St. Thomas Robert A. Northcutt of Southwest Texas State University
- 1994 James R. Boone of Texas A&M University
- 1995 Dale R. Bedgood of East Texas State University R.G. Dean of Stephen F. Austin State University Cherles R. Deeter of Texas Christian University John F. Lamb, Jr. of East Texas State University



R.H. Bing, a student of R.L. Moore at The University of Texas of the Mathematical Association of America, 1963-64 Photo courtesy of the Mathematical Association of America

LIST OF DISTINGUISHED TEACHING AWARDS

- 1992 Robert S. Doran of Texas Christian University
- 1993 James R. Boone of Texas A&M University
- 1994 Montie G. Monzingo of Southern Methodist University
- 1995 Frank Jones of Rice University

PAPERS AND TALKS PRESENTED AT MEETINGS OF THE TEXAS SECTION OF THE MATHEMATICAL ASSOCIATION OF AMERICA

November 25-26, 1921 at Bryan High School in Dallas:

- (1) "Dante and science" by G. C. Evans, Rice Institute.
- (2) "What the college or university expects of the freshman in the way of mathematics" by H. J. Ettlinger, University of Texas.
- (3) "An actuary: his training, functions and service" by C. P. Rockwell, State Actuary of Texas.
- (4) "The role of logic in the refinement of geometric intuition" by R. L. Moore, University of Texas.
- (5) "What the state section of the MAA can do for mathematics in Texas" by J. L. Riley, John Tarleton Agricultural College.
- (6) "On teaching the fractional exponent" by W. D. Baten, Grubbs Vocational College, Arlington.
- (7) "The number system of algebra" by A. A. Bennett, University of Texas.

December 1-2, 1922 at the First Presbyterian Church in Houston

- (1) "Address on the principles of relativity" by H. Halperin, Texas A&M College.
- (2) "Operations with negative numbers, formal and intuitional justification" by Miss Lel Red (by invitation).
- (3) "A series of rational functions analogous to Fourier series" by W. P. Udinski, San Antonio (by invitation).
- (4) "Some applications of Duhamel's theorem" by H. J. Ettlinger, University of Texas.
- (5) "Descriptive geometry with applications to axomometry and photogrammetry" by Elizabeth Dice, North Dallas High School.
- (6) "Significant figures" by A. A. Bennett, University of Texas.
- (7) "Interest and annuities" by E. H. Jones,

- (8) "History and theory of workmen's compensation insurance" by C.P. Rockwell, State Actuary of Texas.
- (9) "Simple examples of variable annuities" by L. R. Ford, Rice Institute.
- (10) "Training in mathematics as preparation for studies in our schools of commerce" by L. H. Fleck (by invitation).
- (11) "Mathematical principles of economics" by G. C. Evans, Rice Institute.

December 1, 1923 in Ft. Worth

- (1) "Some interesting theorems of elementary geometry" by J. M. Bledsoe, East Texas State Teachers College.
- (2) "The esthetic element in mathematics" by J. W. Calhoun, University of Texas.
- (3) "Plane geometry constructions by means of the compasses alone" by H. J. Ettlinger, University of Texas.
- (4) "Numerical integration of differential equations" by L. R. Ford, Rice Institute.
- (5) "Some further applications of Duhamel's theorem including integration a non-uniformly convergent series termwise" by H.
 J. Ettlinger, University of Texas.
- (6) "Mathematics of economics" by G. C. Evans, Rice Institute.

November 28, 1924 at the First Presbyterian Church in San Antonio

- (1) "Junior high school mathematics" by J. F. Howard, San Antonio Junior High Schools.
- (2) "The viewpoint governing mathematical instruction" by Elizabeth Dice, North Dallas High School.
- (3) "A theorem concerning parallelograms" by J. E. Burnam, Simmons College.
- (4) "Economic value of the study of mathematics" by H. J. Ettlinger, University of Texas.
- (5) "Reorganization of secondary education in the light of survey findings" by F. J. Kelly, University of Minnesota.
- (6) "Why young women should include one year of mathematics in their college training" by Edna Graham, West Texas State Teachers College.
- (7) "The beauties of geometry" by J. W. Calhoun, University of Texas.

- (8) "The solution of equations by successive approximation" by L. R. Ford, Rice Institute.
- (9) "Darboux integrals" by G. P. Horton, University of Texas.
- (10) "Some properties of the annulus" by J. E. Burnam, Simmons College.
- (11) "Geometrography" by A. A. Bennett, University of Texas.
- (12) "Anharmonic ratios" by A. S. Hathaway, Boerne, Texas.
- (13) "Fourier series" by H. J. Ettlinger, University of Texas.
- (14) "Statistical correlation and linear independence" by H. E. Bray, Rice Institute.
- (15) "Approximation formula" by A. J. Maria, Rice Institute (by invitation).
- (16) "On explosion transformations" by C. A. Rupp, University of Texas.
- (17) "On an extension of a definition of a Green's function" by W. M. Whyburn, Texas A&M College.

January 28, 1928 at Texas A&M College in College Station

- (1) "A line conic camera" by L. R. Ford, Rice Institute.
- (2) "Accessibility problems" by G. T. Whyburn, University of Texas.
- (3) "Forced vibrations with small resistance approximating resonance" by L. W. Blau, University of Texas.
- (4) "Accessible points on the boundary of a three dimensional region" by J. J. Gergen, Rice Institute (by invitation).
- (5) "Some elementary aspects of Heaviside's operational methods" by H. J. Ettlinger, University of Texas.
- (6) "N-ic surfaces in S₃ generated by triples of N-ic involutions on a line" by F. Ayres, Texas A&M College.
- (7) "The golden section" by Dean J. J. Quinn, St. Edward's University.
- (8) "A prescribed course for freshmen and their mathematical habits," by H. E. Bray, Rice Institute.
- (9) "Preparation for College mathematics" by Charles E. Puryear, Dean of the College, Texas A&M College (by invitation).

January 26, 1929 at Rice Institute in Houston

 " Generalized Vandermonde determinants and their applications to symmetric functions" by E. R. Heineman, Texas Technological College (by invitation).

- (2) "A generalization of Hadamard's theorem on the absolute value of a determinant" by E. F. Beckenbach, Rice Institute (by invitation).
- (3) "A fundamental continuity theorem in algebra" by W. T. Reid, University of Texas.
- (4) "Some properties of mortality curves" by L. R. Ford, Rice Institute.
- (5) "Some topics relating to the foundations of geometry" by J. L. Dorroh, University of Texas.
- (6) "Rates of foreign exchange" by G. C. Evans, Rice Institute.
- (7) "The polar form of a second order linear differential system" by H. J. Ettlinger, University of Texas.
- (8) "A report of the committee on requirements for teachers of mathematics" by F. W. Sparks, Texas Technological College.
- (9) "Results of tests in mathematics given to freshman physics students" by L. W. Blau, University of Texas.
- (10) "Query: What should be the contents of the freshman mathematics course?" by C. R. Sherer, Texas Christian University. Discussion.

January 31, 1931 at Texas Christian University in Ft. Worth

- (1) "Universal quadratic null forms in five variables" by R. S. Underwood, Texas Technological College.
- (2) "Isothermic harmonic functions" by E. F. Beckenbach of Rice Institute (by invitation).
- (3) "A general Vandermondian determinant" by Elizabeth T. Stafford, Texas Technological College.
- (4) "Note on the double points of certain plane curves" by L. M. Blumenthal, Rice Institute.
- (5) "A proof of a theorem of Popovici" by H. E. Bray, Rice Institute.
- (6) "An elementary treatment of the definite integral" by H. J. Ettlinger, University of Texas.

January 30, 1932 at the University of Texas in Austin

- (1) "The isometric circle" by L. R. Ford, Rice Institute.
- (2) "Relations between projective geometry and trigonometry" by M.B. Porter, University of Texas (by invitation).
- (3) "The postulate of continuity in dynamics" by C. H. Dix, Rice Institute (by invitation).

- (4) "The cooling problem for spherical regions" by W. M. Rust, Rice Institute (by invitation).
- (5) "Some recent trends and applications of statistics" by E. L. Dodd, University of Texas.
- (6) "Simplifications for high school mathematics" by G. W. Evans.

February 11, 1933 at Southern Methodist University in Dallas

- "Some applications of mathematics in geophysics" by L. W. Blau, Director of Geophysical Research, Humble Oil and Refining Company.
- (2) "A geometric study of the equation $dy/dx = (l_1x+m_1y)/(l_2x+m_2y)$ " by L. R. Ford, Rice Institute.
- (3) "Certain criteria in the interpretation of statistical coefficients" by Lonnie Langston, Texas Technological College (by invitation).
- (4) "A determinantal characterization of d-cyclic and pseudo dcyclic sets of points" by G. A. Garrett, Rice Institute (by invitation).
- (5) "Psychological principles applied to the learning process and to testing in mathematics" by B. P. Reinsch, Southern Methodist University.
- (6) "Does the present high school curriculum in mathematics prepare students for college?" by C. R. Sherer, Texas Christian University.

May 5, 1934 at Texas A&M College in College Station

- (1) "Subharmonic functions and the differential geometry of surfaces" by E. F. Beckenbach, Rice Institute (by invitation).
- (2) "Some properties of minimal surfaces" by J. H. Hahn, Rice Institute (by invitation).
- (3) "Waring's Problem" by P. M. Batchelder, University of Texas.
- (4) "Dirac negative energy transformations" by C. H. Dix, Rice Institute.
- (5) "On a certain contact transformation of differential equations" by Hillel Halperin, Texas A&M College (by invitation).
- (6) "An elliptic system of integral equations on summable surfaces" by J. H. Binney, Texas A&M College.
- (7) "Preparation for graduate study" by C. R. Sherer, Texas Christian University.
- (8) "Frozen credits" by Mary E. Decherd, University of Texas.

April 20, 1935 at Texas Technological College in Lubbock

- "Non-unique solutions of ordinary differential equations" by O. H. Hamilton, San Antonio Junior College, introduced by Professor Sparks.
- (2) "An expansion for an *n*-dimensional determinant" by F. W. Sparks, Texas Technological College.
- (3) "Roots of the derivative of a polynomial" by H. E. Bray, Rice Institute.
- (4) "Generalized Vandermonde determinants," second paper, by E.
 R. Heineman, Texas Technological College, introduced by Professor Porter.
- (5) "Symbolic cubic forms in six variables" by Ruth W. Stokes, North Texas State Teachers College.
- (6) "Rational fractions" by W. L. Scott, Rice Institute, introduced by Professor Bray.
- (7) "A grossly neglected convergence test" by R. S. Underwood, Texas Technological College.
- (8) "On certain meromorphic functions" by F. E. Ulrich, Rice Institute.
- (9) "Transforms of Fuchsian groups" by P. K. Rees, Texas Technological College.
- (10) "A new proof of Minkowski's theorem on the product of two linear forms" by R. Q. Seale, Southern Methodist University, introduced by Professor Mouzon.
- (11) "On the generation of conics by certain non-projective pencils of lines" by Hillel Halperin, Texas A&M College.
- (12) "On curves of bounded turning" by J. T. Hurt, Rice Institute, introduced by Professor Bray.
- (13) "Developing mathematical power in freshman classes" by E. O. Box, East Texas State Teachers College.

April 11, 1936 at Texas A&M College in College Station

- (1) "The necessity for quantum mechanics" by L. J. Lacoste, University of Texas, introduced by Professor Ettlinger.
- (2) "Linear fractional transformations in two complex variables" by J. H. Hahn, Rice Institute, introduced by Professor Bray.
- (3) "Mathematics for the engineer" by L. W. Blau, Director of Goephysical Research, Humble Oil and Refining Company.

- (4) "Matrix functions defined by differential equations" by J. O. Mayhugh, University of Texas, introduced by Professor Ettlinger.
- (5) "Properties of lemniscates" by J. W. Green, Rice Institute introduced by Professor Bray.
- (6) "The sum of a nil-potent matrix and the identical matrix" G. B. Huff, Southern Methodist University, introduced by Professor Mouzon.
- (7) "Jordan curves" by A. A. Aucoin, Rice Institute, introduced by Professor Bray.

April 23, 1937 at Rice Institute in Houston

- (1) "Roots of polynomials" by H. E. Bray, Rice Institute.
- (2) "Polynomial expansions in a Borel region" by J. T. Hurt, Texas A&M College, introduced by Professor Ford.
- (3) "Simple types of semi-rings" by H. S. Vandiver, University of Texas.
- (4) "The relations between solutions and integrals of systems of differential equations with applications to the three-body problem" by H. E. Buchanan, Tulane University.
- (5) "The structure of continua" by R. L. Moore, University of Texas.
- (6) "On surfaces of negative curvature" by E. F. Beckenbach, Rice Institute.
- (7) "A new approach to Euler summability" by W. C. Mitchell, Texas A&M College, introduced by Professor Edmonson.
- (8) "Fuchsian groups of genus 2" by E. C. Kennedy, Rice Institute.
- (9) "Mathematics as a prescribed subject for graduation from college" by J. N. Michie, Texas Technological College.

April 22-23, 1938 at Texas Christian University in Ft. Worth

- (1) "The role of isomorphism in scientific systems" by A. J. Kempner, University of Colorado.
- (2) "On continued fractions" by Walter Leighton, Rice Institute, introduced by Professor Bray.
- (3) "A highly irregular boundary value problem of order 2n" by H. A. Luther, Texas A&M College.
- (4) "Interior and exterior means obtained by the method of moments" by E. L. Dodd, University of Texas.
- (5) "A generalization of the theorems of Cauchy and Morera" by Maxwell Reade, Rice Institute.

- (6) "On the measure of linear point sets" by A. A. Blumberg, Texas A&M College.
- (7) "On the limit of a sequence of integrals" by J. P. Nash, Rice Institute, introduced by Professor Bray.
- (8) "Extended expansion theorems" by J. G. Chaney, Texas A&M College.
- (9) "The Texas Curriculum Revision Movement in the field of mathematics from the viewpoint of the secondary schools" by Bee Grissom, Austin High School, introduced by Professor Ettlinger.
- (10) "The Texas Curriculum Revision Movement from the college and university viewpoint" by H. J. Ettlinger, University of Texas.
- (11) "The need for cooperation between high school teachers and college teachers of mathematics" by A. J. Kempner, University of Colorado.

March 31-April 1, 1939 at Abilene Christian College, Hardin-Simmons University and McMurry College in Abilene

- (1) "The problem of type for Riemann surfaces" by F. E. Ulrich, Rice Institute.
- (2) "On the consequences of the continuum hypothesis" by Walter Jennings, Texas A&M College, introduced by Professor Edmonson.
- (3) "The evaluation of a binomial determinant" by E. R. Heineman, Texas Technological College.
- (4) "A new approach to the Hermite polynomials" by Robert Greenwood, University of Texas, introduced by Professor Ettlinger.
- (5) "The development of the problem of Bolza in the calculus of variations" by C. P. Brady, Texas Technological College, introduced by Professor Sparks.
- (6) "The Bartky method of solving linear matrix equations" by H. J. Ettlinger, University of Texas.
- (7) "Regular curve families in the plane" by Wilfred Kaplan, Rice Institute, introduced by the Secretary.
- (8) "Computations for three dimensional seismographic shooting" by J. T. Hurt, Texas A&M College, introduced by Professor Edmonson.
- (9) "Reducing the number of failures in freshman mathematics" by C. A. Murray, West Texas State Teachers College.

March 29, 1940 at Southern Methodist University in Dallas

- (1) "A geometry associated with Cremona's equations" by G. B. Huff, Southern Methodist University.
- (2) "Space analogs of function-theoretic results" by E. F. Beckenbach, Rice Institute.
- (3) "A note on transforms of Fuchsian groups" by P. K. Rees, Southern Methodist University.
- (4) "Mean-value surfaces" by Maxwell Reade, Rice Institute.
- (5) "Further properties of matrix solutions of linear systems of ordinary differential equations" by H. J. Ettlinger, University of Texas.
- (6) "On the Fourier series of a class of continuous functions" by J. P. Nash, Rice Institute, introduced by E. F. Beckenbach.
- (7) "Prerequisites and requirements for mathematics teaching in high schools from the view-point of the colleges and universities" by C. A. Murray, West Texas State Teachers College.
- (8) "Teaching freshman mathematics from a scientific standpoint" by C. R. Sherer, Texas Christian University.
- (9) "Teacher training requirements in mathematics from the viewpoint of the State Department of Education" by Dr. E. H. Hereford, State Department of Education, introduced by Professor Ettlinger.
- (10) "Practice and background in the training of high school teachers of mathematics" by Hob Gray, University of Texas, introduced by Professor Ettlinger.
- (11) "Improving the teaching of high school mathematics" by Elizabeth Dice, North Dallas High School, introduced by Professor Ettlinger.

April 4-5, 1941 at North Texas State Teachers College in Denton

- "On the regularization of sequences and infinitely differentiable functions" by S. Mandelbrojt, Rice Institute, introduced by Professor Bray.
- (2) "Quasi-analyticity and singularities of analytic functions" by F. E. Ulrich, Rice Institute.
- (3) "Some properties of quasi-linear oscillators" by H. J. Ettlinger, University of Texas.
- (4) "The relation of mathematics to the practice of navigation" by A. A. Blumberg, Texas A&M College.

- (5) "Some aspects of point set theory" by F. B. Jones, University of Texas, introduced by Professor Ettlinger.
- (6) "On compact unicoherent continua" by Harlan C. Miller, University of Texas, introduced by Professor Ettlinger.
- (7) "A topological generalization of Schwarz's lemma" by George Piranian, Rice Institute, introduced by Professor Bray.
- (8) "Arithmetical continued fractions" by J. D. Bankier, Rice Institute.
- (9) "Report and discussion of the work of Professor C. A. Murray's committee." This committee was appointed to study the reasons for the excessive number of failures in mathematics among college students.

December 6-7, 1946 at Texas Christian University in Ft. Worth

- (1) "A plane version of solid analytical geometry" by R. S. Underwood, Texas Technological College.
- (2) "Note on the zeros of $P_n^m(\cos \theta) = 0$ and $dP_n^m(\cos \theta)/d\theta = 0$, considered as functions of n" by C. W. Horton, Defense Research Laboratory Staff, University of Texas, introduced by H. J. Ettlinger.
- (3) "Recent high speed methods of computation developed for war research" by H. J. Ettlinger, University of Texas.
- (4) "Riemann surfaces, aspects of the type problem" by F. E. Ulrich, Rice Institute.
- (5) "On the roots of the derivatives of a complex polynomial" by H.E. Bray, Rice Institute.
- (6) "Long range navigation" by R. E. Greenwood, University of Texas.
- (7) "Some pages from the history of trigonometric analysis" by R. E. Langer, University of Texas. This was an extended address delivered at the invitation of the Section.
- (8) "Round table discussion of teaching problems in mathematics" by Mabel Williams, Tyler Junior College; Elizabeth Dice, North Dallas High School; and W. L. Porter, Texas A&M College; all introduced by the Secretary.
- (9) "The Role of Mathematics in the Post World War II Educational Programs" by W. M. Whyburn, President, Texas Technological College.

April 26-26, 1947 at Texas Technological College in Lubbock

- (1) "Regions in which an analytic function is flat" by F. E. Ulrich, Rice Institute.
- (2) "The strong law of large numbers" by H. D. Brunk, Rice Institute.
- (3) "Extended analytic geometry" by R. S. Underwood, Texas Technological College.
- (4) "A general criterion for convergence of Fourier series" by H. E. Bray, Rice Institute.
- (5) "Application of continued fractions to the location of roots of polynomials" by H. S. Wall, University of Texas. This was an invited address of an hour's duration.
- (6) "Round table discussion on examination papers" by E. R. Heineman, Texas Technological College and C. R. Sherer, Texas Christian University.

April 23-24, 1948 at Rice Institute in Houston

- "The application of group theory to the normal vibration of a cubic crystal" by W. V. Houston, President, Rice Institute. This paper was delivered by special invitation.
- (2) "On a differential equation of infinite order" by H. D. Brunk, Rice Institute.
- (3) "College level problems from seismic prospecting" by E. J. Stulken, Geophysical Service, Inc.
- (4) "Some applications of extended analytic geometry" by R. S. Underwood, Texas Technological College.
- (5) "The exact square root of any positive number by construction" by P. J. C. Lauback, Westminister College, introduced by the Secretary.
- (6) "Freshman mathematics for business students" by C. R. Sherer, Texas Christian University.
- (7) "The training of mathematics teachers for secondary schools" byE. H. Hanson, North Texas State Teachers College.

April 8-9, 1949 at North Texas State College & Texas State College for Women in Denton

(1) "Regions of flatness of analytic functions" by F. E. Ulrich, Rice Institute.

- (2) "Paths of minimum flight time" by L. A. Colquitt, Texas Christian University.
- (3) "Exponential numerical integration" by R. E. Greenwood, University of Texas.
- (4) "Concerning certain topics in the calculus" by H. E. Bray, Rice Institute.
- (5) "Polynomials" by G. R. MacLane, Rice Institute.
- (6) "A Mongean projection board" by E. K. McLachlan, Baylor University.
- (7) "The kind of mathematics text I would like" by C. A. Murray, West Texas State Teachers College.
- (8) Panel Discussion: "What mathematics should be taught during the first four years in college?" The participants in this discussion were Ina M. Bramblett, Texas Christian University, M. M. Slotnick, Humble Oil and Refining Company, F. E. Ulrich, Rice Institute, E. C. Klipple, Texas A&M College, C. R. Sherer, Texas Christian University.

April 14-15, 1950 at Abilene Christian College, Hardin-Simmons University and McMurry College in Abilene

- "Functions of three variables--a geometric interpretation" by R.
 S. Underwood, Texas Technological College.
- (2) "On the relation between the singularities of the two series $\sum a_n z^n$, $\sum z^n / a_n$ " by Samuel Agmon, Rice Institute, introduced by the Secretary.
- (3) "Some recent developments in the theory of abstract semigroups" by J. M. Hurt, University of Texas.
- (4) "Determination of type and properties for a class of Riemann surfaces" by H. E. Taylor, Rice Institute.
- (5) "Loci of parametric equations on planes of three and four axes" by Mrs. A. Hays, Abilene Christian College, introduced by the Secretary.
- (6) "The possibilities of weird boundary behavior of analytic functions" by G. R. MacLane, Rice Institute, introduced by the Secretary.
- (7) "The tangent in drawing conic sections in analytic geometry" by M. E. Mullings, Abilene Christian College.
- (8) "The effects of the Gilmer-Aiken law on mathematics teachers" by J. V. Cooke, North Texas State College.

- (9) Panel discussion: "Freshman mathematics" by E. R. Heineman, and E. A. Hazlewood, Texas Technological College, and C. R. Sherer, Texas Christian University.
- (10) "A Mathematician's Hobby" by L. W. Ramsey, Texas Christian University.
- (11) "Mathematics and Science" by Dr. A. S. Householder of Oak Ridge Institute of Nuclear Studies.

April 27-28, 1951 at Southern Methodist University in Dallas

- (1) "Surfaces" by G. R. MacLane, Rice Institute.
- (2) "On the equation $\phi(n) = \pi(n)$ " by Leo Moser, Texas Technological College.
- (3) "Theorem concerning exact differential equations" by R. S. Underwood, Texas Technological College.
- (4) "A representation of a certain class of Riemann surfaces" by J.D. Rice, Rice Institute, introduced by the Secretary.
- (5) "A theory concerning point sets" by C. J. Pipes, Southern Methodist University.
- (6) "The use of complex elements in metric geometry" by F. E. Ulrich, Rice Institute.
- (7) "Preparation and certification of teachers in Texas" by Lee Wilburn, Assistant Commissioner for Instructors, Texas Education Agency, introduced by the Secretary.
- (8) "Relative values in the teaching of mathematics" by F. L. Wren, George Peabody College for Teachers (by invitation).

April 25-26, 1952 at East Texas State Teachers College in Commerce

- (1) "Some characterizations of certain set properties" by H. C. Parrish, North Texas State College.
- (2) "The relaxation method as a projection method" by Samuel Agmon, Rice Institute, introduced by the Secretary.
- (3) "On exhaustibility and certain related properties of a real function" by J. C. Bradford, North Texas State College.
- (4) "Stirling's approximation formula for n!" by C. L. Riggs, East Texas State Teachers College.
- (5) "An equivalence method for sequences of random variables" by Jim Douglas, Jr., Rice Institute.

- (6) "Potential functions for particles moving with relativistic velocities in given orbits" by M. L. Coffman, Texas A&M College.
- (7) "Union curves in differential geometry" by C. E. Springer, University of Oklahoma (by invitation).
- (8) "Loci on the four-axes plane" by R. S. Underwood, Texas Technological College.
- (9) "Differential equations of infinite order" by T. M. Gallie, Jr., Rice Institute, introduced by the Secretary.
- (10) "A little-used method of solving a system of linear equations" byE. R. Heineman, Texas Technological College.
- (11) "Fractional integration and differentiation" by W. T. Guy, Jr., University of Texas (by title).
- (12) "Computing the Kendall tau coefficient" by H. F. Bright, University of Texas (by title).
- (13) "The place of the mean value theorem in the differential calculus course" by J. M. Hurt, University of Texas.
- (14) "A program of correlated mathematics in secondary schools" by Sister Antonietta, Incarnate Word College, introduced by the Secretary.
- (15) "What do mathematicians do?" by W. T. Guy, Jr., University of Texas.
- (16) Panel discussion: "Certification of teachers in Texas" by J. E. Franklin and Everett Shepherd, East Texas State Teachers College; H. E. Bray, Rice Institute; C. R. Sherer, Texas Christian University; E. A. Hazlewood, Texas Technological College, Moderator.

April 24-25, 1953 at Texas Christian University in Ft. Worth

- (1) "The summation of certain trigonometrical series by undergraduate methods" by E. C. Klipple, Texas A&M College.
- (2) "Partial difference equations of elliptic type" by Horace Flatt, Rice Institute, introduced by the Secretary.
- (3) "The first two weeks of calculus" by L. R. Ford, University of Mississippi.
- (4) "A technique for simultaneous quadratics" by R. S. Underwood, Texas Technological College.
- (5) "The analytic and geometric definitions of the trigonometric functions" by E. R. Keown, Texas A&M College, introduced by the Secretary.
- (6) "Certain polynomial approximations" by R. M. McLeod, Rice Institute, introduced by the Secretary.

- (7) "A solution of the differential equation for a stationary mass of gas" by J. T. Hurt, Texas A&M College, introduced by the Secretary.
- (8) "Entire functions associated with a class of Riemann surfaces" by H. C. Filgo, Jr., Rice Institute, introduced by the Secretary.
- (9) "Definitions and the questioning mind" by W. T. Guy, Jr., University of Texas.
- (10) "Converses of theorems" by L. K. Durst, Rice Institute.
- (11) "A digression on 'The Things I Should Have Done, I Did Not Do" by Hazel L. Mason, Junior High School, Grand Prairie.
- (12) "The importance of mathematics to the petroleum engineers" by T. A. Abouhalkah, University of Texas.
- (13) "The content of business mathematics" by Bob Parker, Texas Technological College.
- (14) "Recent developments in the certification of teachers in Texas" by E. A. Hazlewood, Texas Technological College.

April 23-24, 1954 at Texas Technological College in Lubbock

- "On the general solution of certain second order linear partial differential equations" by M. L. Coffman, Texas A&M College.
- (2) "Certain pulsations and pressures in an ideal fluid" by J. R. Foote, University of Oklahoma.
- (3) "Parallax' in mathematics" by R. S. Underwood, Texas Technological College.
- (4) "Extensors of non-integral order" by W. T. Guy, Jr., University of Texas.
- (5) "Some remarks concerning commutative reflexive Banach algebras" by E. R. Keown, Texas A&M College, introduced by the Secretary.
- (6) "Mathematical games" by Dr. S. M. Ulam, Los Alamos, New Mexico (by invitation).
- (7) "Regions of flatness of analytic functions" by Guy Johnson, Jr., Rice Institute.
- (8) "Block designs" by B. W. Jones, University of Colorado.
- (9) "Some aspects of Dirichlet series" by R. W. Randall, Jr., Rice Institute, introduced by the Secretary.
- (10) "High-speed digital computation" by Dr. D. R. Clutterham, Consolidated Vultee Aircraft Corporation, Fort Worth, Texas.
- (11) "Requirements in mathematics by the states for graduation from high school" by W. I. Layton, Stephen F. Austin State College.
- (12) "An analysis of the functional method of teaching geometric topics" by Sister Claude Marie, Incarnate Word College, introduced by the Secretary.
- (13) "Common objectives in the teaching of high school and college mathematics" by J. O. Hassler, University of Oklahoma.
- (14) "Recent trends toward coordination of higher education in Texas" by E. A. Hazlewood, Texas Technological College.

April 22-23, 1955 at Abilene Christian College, Hardin-Simmons University and McMurry College in Abilene

- (1) "A Mathieu integral transform" by W. T. Guy, Jr., University of Texas.
- (2) "A Taylor's series" by H. A. Luther, Texas A&M College
- (3) "On bounded families of analytic functions" by Guy Johnson, Jr., Rice Institute.
- (4) "A course on sets" by W. L. Duren, Jr., Tulane University.
- (5) "Combinatorial relations and chromatic graphs" by R. E. Greenwood, Jr., University of Texas.
- (6) "Birth and death processes" by P. W. M. John, University of Oklahoma.
- (7) "An extension of gap theorems to expansions in Gontcharoff polynomials" by R. M. McLeod, Rice Institute.
- (8) "Related algebraic and geometric curiosities" by R. S. Underwood, Texas Technological College.
- (9) "How to solve it" by J. I. Tracey, Texas Christian University.
- (10) "A theorem on the roots of the derivative of a polynomial" by H.E. Bray, Rice Institute.
- (11) "Engineers and mathematicians" by T. A. Abouhalkah, Railroad Commission of Texas.
- (12) "Current legislation affecting higher education" by E. A. Hazlewood, Texas Technological College.

April 20-21, 1956 at Southwest Texas State Teachers College in San Marcos

- "Algebraic properties of classes of functions" by B. T. Goldbeck and Professor A. A. Grau, The University of Oklahoma, presented by Mr. Goldbeck.
- (2) "The singularities of a function defined by a Taylor series with gaps" by Mr. Alan Wilson, Rice Institute, introduced by the Secretary.

- "Euler's diagrams showing all 2ⁿ-minterms" by R. E. Greenwood, University of Texas.
- (4) "Extremal elements of a convex cone of concave functions" by E.K. McLachlan, Baylor University.
- (5) "Special series expansions of three Jacobian inverse elliptic functions" by Mr. R. P. Kelisky, University of Texas.
- (6) "Concerning two theorems of R. L. Moore" by Mr. J. R. Boyd, Chance Vaught Aircraft, Dallas.
- (7) "Spirals and their whirl points and windings" by R. L. Moore, University of Texas (by invitation).
- (8) "Growth of entire functions" by G. R. MacLane, Rice Institute.
- (9) "A non-modular compact connected topological lattice, by D. E. Edmondson, Southern Methodist University.
- (10) "Geometric interpretations related to the mean value theorem" by R. C. Osborn, University of Texas.
- (11) "Operational analysis of certain nonlinear systems" by W. T. Guy, Jr., University of Texas.
- (12) "On the contingent of G. Bouligand at the points of a line" by H.C. Parrish, North Texas State College.
- (13) "Approximation of functions which have harmonic support" by Guy Johnson, Jr., Rice Institute.
- (14) "College mathematical training for students specializing in agriculture" by W. I. Layton, Stephen F. Austin State College.
- (15) "Texas Tech's special committee for the advancement of the study of the sciences" by J. W. Lindsay, Texas Technological College.
- (16) "Revisions in the 1956 engineering curricula at Texas Tech" byE. R. Heineman, Texas Technological College.
- (17) "Types of mathematics used in aeronautical engineering" by Nat Edmonson, Jr, Convair, Fort Worth.

April 26-27, 1957 at University of Houston in Houston

- "Some loci of the lemoine point of a triangle" by C. P. Benner, University of Houston.
- (2) "Wronskian determinants and linear dependents" by W. T. Guy, Jr., University of Texas.
- (3) "8-Rings in minimal maps" by B. T. Goldbeck, Jr., Texas Christian University.
- (4) "Prime divisors of sequences of integers" by L. K. Durst, Rice Institute.

- (5) "Some formulas and congruences involving Bernoulli numbers and Fibonacci numbers" by R. P. Kelisky, University of Texas.
- (6) "Analytic functions of a bicomplex variable" by G. B. Price, University of Kansas (by invitation).
- (7) "A class of k-sets of polynomials" by F. J. Palas, Southern Methodist University.
- (8) "A generalization of Bernoulli numbers and Bernoulli polynomials" by L. L. Silverman, University of Houston.
- (9) "A non-reflecting solution of Maxwell's equations" by J. T. Hurt, Texas A&M College, introduced by the Secretary.
- (10) "Axioms of a generalized projective geometry" by D. E. Edmondson, Southern Methodist University.
- (11) "Properties of the family of curves generated from a base curve $\rho_o = \rho_o(\theta)$ by the transformation $\rho_n = g^n \rho_o$ " by Professor F. S. Nowlan, University of Illinois, and A. A. Aucoin, University of Houston, presented by Mr. Aucoin.
- (12) "On the Gaussian curvature of modular surfaces" by Daniel Weiser, Rice Institute.
- (13) "Some probability distributions for sociometric matrices" by P.D. Minton, Southern Methodist University.
- (14) "The plane in life and mathematics" by R. S. Underwood, Texas Technological College.
- (15) "Mathematics in the general education program of colleges and universities in the United States" by W. I. Layton, Stephen F. Austin State College.

April 18-19, 1958 at Baylor University in Waco

- (1) "On the method of undetermined coefficients" by Arlen Brown, Rice Institute.
- (2) "A Rodriguez formula" by F. J. Palas, Southern Methodist University.
- (3) "The inversion of a certain matrix using generating functions" by R. P. Kelisky, University of Texas.
- (4) "Congruences and a certain geometrical construction" by R. E. Greenwood, University of Texas.
- (5) "Properties of functions which uniformize certain classes of Riemann surfaces" by H. B. Curtis, Jr., Rice Institute.
- (6) "A theorem on determinants" by W. E. Roth, Austin, Texas.
- (7) "The behavior of functions harmonic and positive in an angular neighborhood" by Daniel Weiser, Rice Institute.

- (8) "A mechanical model which approximates the sum of an annuity" by R. C. Osborn, University of Texas.
- (9) "Concerning some types of connected point sets" by J. R. Boyd, Chance Vaught Aircraft, Dallas, Texas.
- (10) "Integrable functions" by J. L. Cornette, University of Texas.
- (11) "An interpretation of improper integrals" by Hadi Haddad, University of Texas, introduced by the Secretary.
- (12) "A set of equations for gas dynamics during combustion" by J. T. Hurt, Texas A&M College, introduced by the Secretary.
- (13) "Can high school plane geometry and solid geometry be taught by means of analytic geometry?" by H. J. Ettlinger, University of Texas.
- (14) "Some Aspects of Dimensional Analysis" by Louis J. Brand, University of Houston, (invited address).

April 17-18, 1959 at University of Texas in Austin

- "Diagonal forms of odd prime degree over finite fields" by J. F. Gray, St. Mary's University of San Antonio, introduced by the Secretary.
- (2) "Some mathematical aspects of the problem of stability" by W. S. McCulley, Texas A&M College.
- (3) "The accumulation of round-off error in the numerical integration of ordinary differential equations" by Peter Henrici, University of California, Los Angeles (by invitation.)
- (4) "An overall look at extended analytic geometry" by R. S. Underwood, Texas Technological College.
- (5) "Extended quadrics of Darboux" by Dale Maness, Howard Payne College.
- (6) "The unitary equivalence of 3X3 matrices" by Carl Pearcy, Rice Institute, introduced by the Secretary.
- (7) "Numerical integration with weight functions X and X²" by R. E. Greenwood, University of Texas.
- (8) "Inversion of Jacobian matrices" by Louis Brand, University of Houston.
- (9) "Sub-structure vs. super-structure in presenting real algebra on the secondary and elementary collegiate level" by J. F. Gray, St. Mary's University of San Antonio.
- (10) "Equilibrium position of a certain flexible cable" by Guy Johnson, Rice Institute.
- (11) "Concerning matrix norms" by Ben Fitzpatrick, Jr., University of Texas.

- (12) "Peculiar sort of power series" by G. R. MacLane, Rice Institute.
- (13) "Coverings" by Terence Reed, Rice Institute, introduced by the Secretary.
- (14) "Advanced calculus for undergraduate majors" by Fred Bamforth, Texas Christian University, introduced by the Secretary.

April 8-9, 1960 at San Antonio College in San Antonio

- (1) "The mapping function for a class of Riemann surfaces" by H. B. Curtis, Jr., University of Texas.
- (2) "The embedding of a lattice in a disjunctive lattice" by D. E. Edmondson, Southern Methodist University.
- (3) "An analysis of rounding errors in a solution of a symmetric tridiagonal matrix" by P. M. Blair, Rice Institute, introduced by the Secretary.
- (4) "Use of a digital computer to build the multiplication table for the symmetric group on n elements" by H. A. Luther, Texas A&M College.
- (5) "Curves with bounded turning" by Guy Johnson, Rice Institute.
- (6) "Test for the rank of a matrix" by Louis Brand, University of Houston.
- (7) "Concerning a generalization of convexity for functions of one variable" by Larry Armijo, Rice Institute.
- (8) "An interesting identity" by W. S. McCulley, Texas A&M College.
- (9) "Conformal invariants and quasiconformal mapping" by George Springer, University of Kansas.
- (10) "Some theorems on sequences" by R. K. Meany, Texas Christian University.
- (11) "Backward continuation in time of the solution to the heat equation" by J. R. Cammon, Rice Institute, introduced by the Secretary.
- (12) "A correction to a theorem on semi-metric topological spaces" by J. R. Boyd, Arlington State College.
- (13) "Estimation of parameters for linear regression subject to certain restraints, by P. D. Minton and A. E. Crofts, Southern Methodist University.
- (14) "Systematic method for building the permutations of N numbers in a digital computer" by R. E. Kilmer, Texas A&M College, introduced by the Secretary.
- (15) "An observed property of primitive roots of primes of the form 4n 1" by Roger Osborn, University of Texas.

- (16) "The mathematics program in the small college" by W. I. Layton, Stephen F. Austin State College.
- (17) "The justification for a new course" by R. S. Underwood, Texas Technological College.
- (18) "SMSG twelfth. grade course" by L. K. Durst, Rice Institute.
- (19) "The national high school mathematics contest" by W. H. Fagerstrom, Pan American College.
- (20) "What, besides mathematics, should the mathematics teacher be teaching?" by E. R. Heineman, Texas Technological College.
- (21) "Research on ordinary linear differential equation of second order" by Visiting Professor Ping Chang Van, Texas Technological College, introduced by the Secretary.

April 14-15, 1961 at Stephen F. Austin State College in Nacogdoches

- "A lemma for maximum and minimum values of functions of many variables" by H. A. Luther, Texas A&M College.
- (2) "Invariants in extended analytic geometry" by R. S. Underwood, Texas Technological College.
- (3) "Wiener's smoothing and prediction technique as an extension of the least squares technique" by E. R. Keown, Texas A&M College.
- (4) "On developments in an arithmetic theory of the Bernoulli numbers" by H. S. Vandiver, University of Texas.
- (5) "The use of a second order correct boundary condition in the numerical solution of parabolic differential equations" by G. W. Batten, Jr., Rice University.
- (6) "The discrete harmonic kernel function" by C. R. Deeter, Texas Christian University.
- (7) "On the geometry of functions holomorphic in the unit circle, of arbitrarily slow growth, which tend to infinity on a sequence of curves approaching the circumference" by G. R. MacLane, Rice University.
- (8) "Velocities in two-dimensional potential flow" by George Copp, North Texas State College.
- (9) "The summability of some Newton series" by Louis Brand, University of Houston.
- (10) "Estimation of parameters in a translated log-normal distribution with incomplete data" by P. D. Minton and Frederick Backer, Jr., Southern Methodist University.

- (11) "Some decomposition theorems for some classes of matrix summability operators" by E. P. Kelly, Jr., Stephen F. Austin State College.
- (12) "Regularized set operations" by Arlen Brown, Rice University.
- (13) "Holmgen-Riesz (H = R) transform equations of Riemannian type" by M. A. Al-Bassam, Texas Technological College.
- (14) "Ratio estimators in the balanced incomplete block design, by V. Seshadri, Southern Methodist University.
- (15) "A sufficient condition that the topological space of a topological group be a Moore space" by L. R. Carry, North Texas State College.
- (16) "An embedding of a ring in a ring with unity" by D. E. Edmondson, University of Texas.
- (17) "Trace preserving isomorphism of operator algebras" by Carl Pearcy, Rice University.
- (18) "Cluster sets and pseudoanalytic functions" by A. A. Armendarez, Rice University.

December 8-9, 1961 at Galveston

- "The geometrical and physical interpretation of the Weyl conformal curvature tensor" by Alfred Schild, University of Texas, and Dr. F. A. E. Pirani, King's College, London, England, presented by Professor Schild.
- (2) "An endomorphism theorem and summability" by E. P. Kelly, Stephen F. Austin State College.
- (3) "A 'random' number generating subroutine for the 1620" by M. H. Burns and G. H. Dubay, Texas Institute for Rehabilitation and Research and University of St. Thomas.
- (4) "Matrices over the real field with specified characteristic and minimum equations" by Louis Brand, University of Houston.
- (5) "The role of the solution set in mathematics" by H. J. Ettlinger, University of Texas.
- (6) "On quasi-inverses" by Elbert Pirtle, undergraduate at Stephen F. Austin State College, introduced by E. P. Kelly.
- (7) "Linear mappings on two-dimensional Hansen spaces" by D. E. Edmondson and D. J. Hansen, University of Texas.
- (8) "A Laplace integral and a related moment problem" by J. T. White, University of Texas.
- (9) "Finding primitive roots of primes using synthetic division" by Roger Osborn, University of Texas.

- (10) "On certain relations between Szàsz summability and Cesàro summability" by Louis Silverman, University of Houston.
- (11) "A distortion theorem for certain conformal maps" by G. S. Innis, Jr., University of Texas.
- (12) "Some practical aspects of power spectral analysis" by A. A. J. Hoffman, University of Texas.
- (13) "Confidence intervals for sums and products of binomial probabilities" by P. D. Minton, Southern Methodist University.
- (14) "A topological space of analytic functions" by P. J. Knopp, University of Texas.
- (15) "A perturbation method for detecting ill-conditioned matrices" by J. M. Nash, Texas A&M College.
- (16) "On the boundary behavior of holomorphic functions in the unit disk" by Sister Claude Marie Faust, C. C. V. I., Incarnate Word College.

April 6-7, 1962 at Rice Institute in Houston

- (1) "On the adjoint of a closed transformation" by Arlen Brown, Rice University.
- (2) "Certain p-primary groups" by E. R. Keown, Texas A&M College.
- (3) "A structure theorem for a certain class of primary Abelian groups" by H. E. Heatherly, Texas A&M College.
- (4) "Matrices over the ring of continuous complex valued functions on a Stonian space" by Messrs. Don Deckard and Carl Pearcy, Humble Oil and Refining Company.
- (5) "Proof of theorems on Cauchy product by a theorem of Toeplitz" by L. L. Silverman, University of Houston.
- (6) "On functional representation by a certain type of generalized power series and some of its applications" by M. A. Al-Bassam, Texas Technological College.
- (7) "A generalization of Hölder's inequality" by Richard O'Neill, Rice University.
- (8) "Asymptotic values of holomorphic functions of slow growth" by G. R. MacLane, Rice University.
- (9) "On the geometry of meromorphic functions with small characteristic and no asymptotic values" by K. F. Barth, Rice University.
- (10) "An interesting meromorphic function" by J. E. McMillan, Rice University.

- (11) "The problem of type for a certain class of simply connected Riemann surfaces" by G. S. Innis, Jr., University of Texas.
- (12) "Some classes of integral solutions to a²+b²+c²=d²" by J. F. Gray, S. M., St. Mary's University.
- (13) "Total differential equations in the light of dimensional analysis" by Louis Brand, University of Houston.
- (14) "Modification of Bairstow iteration" by H. A. Luther, Texas A&M College.
- (15) "A finite sequentially compact process for the adjoints of matrices over arbitrary integral domains" by L. G. Guseman, Jr., and H. A. Luther, Texas A&M College.
- (16) "The symmetric method for compactly inverting a real symmetric matrix, by J. E. Strub, Texas A&M College.
- (17) "The growth of Sylvester's cyclotomic numbers" by L. K. Durst, Rice University.
- (18) "A representation theorem for the Laplace transform" by J. T. White, University of Texas.
- (19) "A theorem on nonconstant, nonunivalent analytic functions" by P. J. Knopp, University of Texas.
- (20) "A model for an atmospheric jet-stream" by J. T. Hurt, Texas A&M College.
- (21) "A characterization of the gamma distribution" by V. Seshadri, Southern Methodist University.
- (22) "Approximate confidence intervals for the product of two binomial parameters" by B. S. Shannon and P. D. Minton, Southern Methodist University.
- (23) "Distribution of estimates of parameters from incomplete bivariate samples" by P. D. Minton, Southern Methodist University, and Manus Foster, Socony Mobil Company, Inc.
- (24) "On a class of truncated sequential sampling plans" by W. T. Tucker, Southern Methodist University.
- (25) "On sequence to sequence transformations" by J. P. Brannen, University of Texas.
- (26) "Mathematics training for prospective elementary school teachers" by H. H. Walbesser, University of Texas.
- (27) "An evaluation of the effectiveness of a collegiate general mathematics course" by Lillian K. Bradley, Texas Southern University.
- (28) "Mathematical truth in lending" by R. A. Hassell, Southern Methodist University.
- (29) "A mathematics in-service education project in Dallas Elementary Schools" by Roger Osborn, University of Texas.

- (30) "A proposed new mathematics course for business majors" by L.A. Colquitt, Texas Christian University.
- (31) "CUPM recommendations are what now?" by W. T. Guy, Jr., University of Texas.
- (32) "The structure of topological semigroups--recent advances." byA. D. Wallace, Tulane University, by invitation of the Section.

November 30-December 1, 1962 at University of Texas in Austin

- "Some uses of block orthogonalization in the iterative solution of simultaneous linear equations" by H. A. Luther, Texas A&M College.
- (2) "The solution of difference equations by convolution" by Louis Brand, University of Houston.
- (3) "Operator solution of the wave equation" by H. J. Ettlinger, University of Texas.
- (4) "Diagonal forms of odd primes over p-adic fields" by J. F. Gray, St. Mary's University.
- (5) "A group-theoretical proof of det (AB) =det A det B" by D. E. Edmondson, University of Texas.
- (6) "Convergence of infinite products" by T. A. Atchison, University of Texas.
- (7) "On the convergence rate of an iterative process" by R. T. Gregory, University of Texas.
- (8) "A discussion and generalization of the weak basis problem" by B. L. Sanders, Texas Christian University.
- (9) "On the rational normal form of a matrix" by S. N. Afriat, Rice University.
- (10) "A test for the exclusion of an independent variable in multiple linear regression" by J. T. Webster, Southern Methodist University.
- (11) "Recovery of fluid mass or energy from stratified media with crossflow" by Messrs. R. A. Axford and P. B. Crawford, Texas A&M College.
- (12) "Representations of stationary time series" by A. A. J. Hoffman and G. B. Dobbins, Jr., Texas Christian University.
- (13) "Necessary and sufficient conditions for a class of groups" by Barbara Clinger, University of Texas.
- (14) "Finite almost topological groups" by J. E. Cude, University of Texas.
- (15) "Gradient methods of solving a problem in the calculus of variations" by P. L. Odell, University of Texas.

(16) "Certain function spaces and the calculus of variations" by C. B. Morrey, Jr., of the University of California, Berkeley.

April 19-20, 1963 at North Texas State University in Denton

- "Asymptotic normality of estimates of parameters using a dynamic censored sample" by B. S. Shannon, Jr., and P. D. Minton, Southern Methodist University.
- (2) "A convergence problem concerning doubly stochastic matrices" by R. D. Sinkhorn, University of Houston.
- (3) "Commutators of operators on Hilbert space" by Carl Pearcy, Humble Oil and Refining Company.
- (4) "Subnormal subgroups of division rings" by C. J. Stuth, East Texas State College.
- (5) "A general group of infinitesimal point transformations which leave a family of curves invariant" by D. R. Myrick, Texas Technological College.
- (6) "The base vectors of Euclidean space" by Louis Brand, University of Houston.
- (7) "Hellinger-type integrals" by H. S. Wall, University of Texas.
- (8) "An operational representation for the Laguerre polynomial" by W. A. Al-Salam, Texas Technological College.
- (9) "Minimization of functions having Lipschitz continuous first partial derivatives" by Larry Armijo, Rice University.
- (10) "Iterative solution of integral equations of first kind with applications to continuation problems" by G. W. Batten, Jr., Rice University.
- (11) "An integral transform" by John Perryman, University of Texas.
- (12) "Application of the Holmgren-Reisz transform to differential equations" by H. L. Gray, Texas Technological College.
- (13) "On choosing alternating direction iteration parameters for an elliptic problem with mixed boundary conditions" by A. O. Garder, Humble Oil and Refining Company.
- (14) "Some comments on a property of the mean Stieltjes integral" byJ. A. Dyer, Southern Methodist University.
- (15) "Harmonic functions in the unit circle" by Guy Johnson, Jr., Rice University.
- (16) "Asymptotic values of functions holomorphic in a half-plane" by R. L. Hall, Rice University.
- (17) "Some sequence transformations and related convergence criteria for continued fractions" by D. F. Dawson, North Texas State University.

- (18) "An extension of Hölder's inequality" by Richard O'Neill, Rice University.
- (19) "A criterion for the convergence of certain infinite products" by T. A. Atchison, University of Texas.
- (20) "Alternating direction iteration for singular operators" by Jim Douglas, Jr., and Carl Pearcy, Rice University and Humble Oil and Refining Company.
- (21) "Estimation of parameters in a Weibull distribution" by Lowell Gregory, Chance Vaught Corporation.
- (22) "Formulation of the planetary jet stream problem for N bands of constant vorticity on a sphere" by J. T. Hurt, Texas A&M College.
- (23) "Extremal elements of the convex cone of B_n functions" by E. K. McLachlan, Oklahoma State University.
- (24) "Theory of two-dimensional linear operators and their frequency domain representations" by A. A. J. Hoffman, Texas Christian University.
- (25) "On the determinant of some matrices of order *n* whose entries are 0 and 1" by Naoki Kimura, University of Oklahoma.
- (26) "The extended field properties of three dimensional matrices" by Bob Boyer, Kingsville High School.
- (27) "Training of mathematics teachers" by Mary Folsom, University of Miami.
- (28) "Hellinger type integrals" by H. S. Wall of the University of Texas, an invited address.
- (29) "As I see it from here" by W. L. Ayres, Vice-President of Southern Methodist University.

December 6-7, 1963 at Abilene Christian College in Abilene

- "A class of iterative techniques for the factorization of polynomials" by H. A. Luther, Texas A&M University.
- (2) "The joint distribution of the sums of squares of blocks and treatments (unadjusted) for a symmetric balanced incomplete block design" by J. T. Webster, Southern Methodist University.
- (3) "A necessary condition for a nontrivial solution in integers of $X^{p}+Y^{p}+Z^{p}=0$, p an odd prime" by W. E. Christilles, Saint Mary's University.
- (4) "Order statistics" by S. S. Wilks, Princeton University. (An invited hour address through the cooperation of the NSF-Visiting Lecturer Program in Statistics.)

- (5) "A characterization of compact operators" by H. E. Lacey, Abilene Christian College.
- (6) "A linear space of functions which is a two sided ideal in C'" by D. E. Ryan, University of Texas.
- (7) "A theorem on cubics" by E. E. Moyers, Tidewater Oil Company.
- (8) "Primary Abelian groups: their history and some recent developments" by H. E. Heatherly, Texas A&M University.
- (9) "Some milestones in the development of group theory" by W. S. McCulley, Texas A&M University.
- (10) "An arithmetic identity and its application to the Fermat problem" by Don Edmondson, University of Texas.
- (11) "The place of modern algebra methods in the current public school mathematics curriculum" by Woodard Robbins, Abilene Christian College.
- (12) "On an alternate definition of the pseudo-inverse" by Patrick Odell and James Scroggs, University of Texas.
- (13) "Remarks on closed convex curves of constant width" by Brock Barton, Abilene Christian College (undergraduate).
- (14) "A behavioral science test of multiple standard errors of estimate" by Ray Whiteside, University of Texas.
- (15) Panel discussion: "Pro's and con's, problems and potential of the freshman combined analytics and calculus course" by Professors J. F. Gray, S.M., St. Mary's University (moderator); Dale Maness, Howard Payne College; M. E. Mullings, Abilene Christian College; and H. C. Parrish, North Texas State University.

April 10-11, 1964 at Texas Technological College in Lubbock

- "Near rings with identities defined on simple groups" by J. J. Malone Jr., University of Houston.
- (2) "Structural determination of a class of primary Abelian groups" by Henry E. Heatherly, Texas A&M University.
- (3) "On subgroups of primary Abelian groups" by Charles Megibben, Texas Technological College.
- (4) "Nonparametric statistical classification" by Carl F. Kossack, Graduate Research Center, Dallas, Texas.
- (5) "On the problem of choosing the largest mean" by R. P. Bland, Department of Mathematical and Experimental Statistics, Southern Methodist University.

- (6) "Optimum provisioning policies for reparable spaces" by C. H. Boll, Department of Mathematical and Experimental Statistics, Southern Methodist University.
- (7) "A class of Riemann surfaces" by T. A. Atchison, Texas Technological College.
- (8) "On differential equations of generalized order" by M. A. Al-Bassam, Texas Technological College.
- (9) "On a system of nonlinear differential equations in Hilbert space" by A. D. Stewart, Prairie View A. and M. College.
- (10) "Relations between two classes of singular integral operators" by Chang-Char Tu, Rice University.
- (11) "Some reproducing kernels for the unit disk" by G. S. Innis, Jr., Rice University.
- (12) "A predictor-corrector adaptation of Runge-Kutta methods" by A.F. Burger and H. A. Luther, Texas A&M University.
- (13) "Generalized second order recurring sequences" by C. R. Wall, Texas Christian University.
- (14) "Concerning the center of the doubly stochastic operators on a Hilbert space" by R. D. Sinkhorn, University of Houston.
- (15) "A space of connectivity functions" by S. K. Hildebrand, Texas Technological College.
- (16) "The inversion of a class of linear operators on QC_{OL}" by J. A. Dyer, Southern Methodist University.
- (17) "Complete continuity conditions in spaces of type C(K) -- Preliminary Report" by H. E. Lacey, Abilene Christian College.
- (18) "A quadric surface and related identities" by R. S. Underwood, Texas Technological College.
- (19) "A division algebra for sequences and its associated operational calculus" by Louis Brand, University of Houston.
- (20) "Implementing CUPM in a school of engineering" by P. W. Latimer, Lamar State College of Technology.
- (21) "Report of the commission to study college programs for the preparation of mathematics teachers" by Don Cude, Southwest Texas State College.
- (22) "A topological characterization of countable functions" by Arthur W. J. Ullman, Rice University.
- (23) "Homogeneity" by R. H. Bing, President of the Mathematical Association of America.

December 11-12, 1964 at Baylor University in Waco

- (1) "On generating normal random vectors" by P. L. Odell, University of Texas.
- (2) "An abstract approach to the inversion of linear operators on finite dimensional vector spaces" by J. A. Dyer, Southern Methodist University.
- (3) "On closed ideals in B(X)" by H. E. Lacey, University of Texas.
- (4) "Equivalence of connectivity maps and peripherally continuous transformations" by Melvin R. Hagan, Stephen F. Austin State College.
- (5) " On square-free divisors" by A. A. Gioia and A. M. Vaidya, Texas Technological College.
- (6) "A time dependent boundary condition for the neutron transport equation" by K. W. Reed, Jr., Texas Southern University.
- (7) "The development of fractional order derivatives using the Laplace transformation" by J. W. Fitzpatrick, Trinity University.
- (8) "A family of fifth-order Runge-Kutta formulas" by H. A. Luther and H. P. Konen, Texas A&M University.
- (9) "E¹ and E² as topological spaces" by H. J. Ettlinger, University of Texas.
- (10) "Formulas for series obtained from generalized Pascal triangle" by H. P. Rogers, San Angelo College.
- (11) "Friendly numbers" by H. L. Rolf, Baylor University.
- (12) "A derivation of the Ahmes Unit Fraction Table" by G. D. Smetzer, Trinity University.
- (13) "Categories and universal algebras" by C. R. Williams, Midwestern University.
- (14) "Stopping rules in a Coin Tossing Problem" by J. H. Abbott, Graduate Research Center of the Southwest.
- (15) "The mathematics curriculum in Texas" by Irene St. Clair, Texas Education Agency.
- (16) "The mathematics program in the Fort Worth Public Schools" by Jim Bezdek, Fort Worth Public Schools.

April 9-10, 1965 at Texas Christian University in Ft. Worth

- (1) "An elementary proof of the spectral theorem for unbounded operators" by Richard Bagby, Rice University.
- (2) "A characterization of finite dimensional linear spaces" by James Harvey, Texas Christian University.

- (3) "A property of the σ mean Stieltjes integral" by J. A. Dyer, Southern Methodist University.
- (4) "Continuous dependence in a two-way scaling problem" by R. D. Sinkhorn, University of Houston.
- (5) "Application of the Euler Transform" by H. L. Gray, University of Texas and TRACOR Inc.
- (6) "Approximating solutions of differential equations by series of Chebychev polynomials" by S. A. Sims and Gil Kim, Texas A&M University.
- (7) "A multiple step method for estimating solutions to differential equations at Lobatto quadrature points" by S. A. Sims, and M. T. O'Hara, Texas A&M University.
- (8) "Regularity of unknown coefficients of parabolic equations" by B. F. Jones and C. C. Tu, Rice University.
- (9) "On the sign and magnitude of the error function connected with square free integers" by A. M. Vaidya, Texas Technological College.
- (10) "On amicable numbers with opposite parity" by A. A. Gioia and A. M. Vaidya, Texas Technological College.
- (11) "Two simple lower bounds for the Euler φ-function" by R. P. Kendall and Roger Osborn, University of Texas.
- (12) "Evaluation of Bergman integral operators" by J. M. Stark, Lamar State College of Technology.
- (13) "Aerodynamic drag modeling" by Mark Lotkin, Flight Operations Laboratory, General Electric Co.
- (14) "A generalized law of motion applied to a linear oscillator" by J. T. Hurt, Texas A&M University.
- (15) "Right-distribution" by J. J. Malone, Jr., University of Houston.
- (16) "Supersolvable wreath products" by J. R. Durbin, University of Texas.
- (17) "On conjugate and similar correspondences" by M. W. Weaver, University of Texas.
- (18) "Theorem on congruence relations of a relatively complemented lattice" by D. E. Edmondson, University of Texas.
- (19) "The uniformization of a hyperbolic Riemann surface" by G. S. Innis, University of Texas.
- (20) "Matrices with specified eigenvalues and associated vectors proper or generalized" by Louis Brand, University of Houston.
- (21) "A generalization of Euler's constant" by J. P. Vogiatzis, University of Houston.

- (22) "Matrix methods for calculating zeros, coefficients, Christoffel numbers and derivatives of some orthogonal polynomials" by H. A. Luther and J. M. Nash, Texas A&M University.
- (23) "On generating a sample covariance matrix" by P. L. Odell, University of Texas, and A. H. Feivenson, NASA-Manned Spacecraft Center.
- (24) "Properties of topological spaces which are hereditary, productive, and divisible" by Arthur Ullman, Texas Christian University.
- (25) "Metrization in normal Moore spaces" by D. R. Traylor, University of Houston.
- (26) "On symmetric neighborhood systems in strongly paracompact, completely paracompact, and strongly metrizable spaces" by Margaret R. Wiscamb, Texas Christian University.
- (27) "The process for manual extraction of N-th roots of real numbers" by John Reynolds, Texas Christian University.
- (28) "Cylindrical surfaces" by R. S. Underwood, Texas Technological College.
- (29) "Infinite Abelian groups" by William R. Scott, University of Kansas
- (30) "The undergraduate program to prepare students for graduate study" by Richard D. Anderson, Louisiana State University.

April 15-16, 1966 at Southern Methodist University in Dallas

- (1) "Discrete harmonic kernels" by Robert E. Huddleston, Texas Christian University.
- (2) "Extension of a φ-derivation" by Tom Davis, Sam Houston State College.
- (3) "Bounded connectedness and Chebychev Sets" by Daniel Wulbert, University of Texas.
- (4) "Near-rings with identities defined on cyclic groups" by J. J. Malone and J. R. Clay, University of Houston.
- (5) "A proof of the decomposition theorem for a modular lattice with a least element" by Alfred E. Borm, Southwest Texas State College.
- (6) "A characterization of reducibility for doubly stochastic matrices" by Richard D. Sinkhorn, University of Houston.
- (7) "In binary sequences" by G. S. Innis, University of Texas.
- (8) "On a singular Abel-type integral Equation on E²" by A. D. Stewart, Prairie View A & M College.

- (9) "Matrix summability of sequences of bounded variation" by David F. Dawson, North Texas State University.
- (10) "Some structure theorems on compact commutative integral domains with characteristic *p*" by Joe E. Cude, University of Texas.
- (11) "A theorem on polynomial identities" by Thomas P. Kezlan, University of Texas.
- (12) "A first order iteration process for simultaneous equations" by H. A. Luther and W. F. Stewart, Texas A&M University.
- (13) "Convolution and Fourier series" by Jack Bryant, Texas A&M University.
- (14) "An embedding theorem for topological semigroups" by Glen E. Mattingly, Sam Houston State College.
- (15) "On the set of idempotents in a convex cone" by Ronald V. McPherson, University of Texas.
- (16) "Interlocking sequences on completely regular spaces" by Peter Morris, University of Texas.
- (17) "Periodic solutions of linear differential equations" by Louis Brand, University of Houston.
- (18) "Quotients of the space c_0 " by H. Elton Lacey, University of Texas .
- (19) "The identification of fundamental truth functions by decimal arithmetization" by T. J. Bradshaw, Texas Christian University.
- (20) "Formulas of propositional logic containing countably many variables" by A. Ullman, Texas Christian University.
- (21) "On a substructure in certain semirings" by R. G. Dean, Texas Christian University and Arlington State College.
- (22) "The lattice of congruences on an inverse semi-group" by H. E. Scheiblich, University of Texas.
- (23) "Nonnegative matrices with doubly stochastic powers" by Nancy Bedford, University of Houston.
- (24) "Dilation Theory" by Paul R. Halmos, University of Michigan; University of Miami.
- (25) "The abstract nature of computer programs" by John Reynolds, Texas Christian University.
- (26) "Number systems with irrational bases" by Robert R. Bunten, 6570th USAF Per. Res. Lab.
- (27) "Isomorphisms, homeomorphisms, etc." by A. Ullman, Texas Christian University.
- (28) "Matrices, conics and quadrics" by Ali R. Amir-Moéz, Texas Technological College.
- (29) "The role of intuition" by R. L. Wilder, University of Michigan.

April 14-15, 1967 at Austin College in Sherman

- (1) "Periodic solutions of linear difference equations" by Louis Brand, University of Houston.
- (2) "On the weight of a metric space" by J. C. Bradford, Abilene Christian College.
- (3) "Metrizability conditions in a Moore space" by Geraldine Fuller Daunis, Texas Christian University and University of Texas at Arlington.
- (4) "Breadth, connectedness, modularity" by D. E. Edmondson, University of Texas.
- (5) "Schauder decompositions of some product spaces" by Jean B. Richmond, Southern Methodist University.
- (6) "Restriction of zeros of polynomials to sectors of the complex plane" by Ruth Goodman, Texas A&M University.
- (7) "Some set properties of relative extreme points" by W. J. Matthews, Southwest Texas State College.
- (8) "Some properties of generalized Orlicz spaces" by Richard O'Neill, Rice University.
- (9) "On a generalization of separability, the Lindelof property and countable compactness" by Margaret R. Wiscamb, University of St. Thomas.
- (10) "Fourier series and convolution" by A. F. Kleiner, Jr., Texas A&M University.
- (11) "Doctoral programs in mathematics and education as related to instructional needs of junior colleges and four year colleges" by Wingo Hamilton, University of Texas at Arlington.
- (12) "Extensions of topologies" by C. D. Tabor, Texas Christian University and Texas Woman's University.
- (13) "Mapping induced topologies and everywhere disconnected spaces" by M. G. Monzingo, Southern Methodist University.
- (14) "On convolution and moduli of continuity" by Jack Bryant, Texas A&M University.
- (15) "Symbols of parabolic singular integrals" by Max Jodeit, Jr., Rice University.
- (16) "Some remarks on the pointwise convergence of singular integrals with nonhomogeneous kernels" by C. C. Tu, Rice University.
- (17) "A multi-ordered iteration process for solution of nonlinear simultaneous equations" by A. R. Crawley and H. A. Luther, Texas A&M University.

- (18) "Matrix powers as solutions of a difference equation" by Louis Brand, University of Houston.
- (19) "n-Abelian varieties of groups" by J. R. Durbin, University of Texas at Austin.
- (20) "Pseudo involutory linear transformations" by Shannon Smyrl, Texas Technological College.
- (21) "A note on numerical differentiation" by S. A. Sims, Texas A&M University, and Sallie Nelson, Lockheed Electronics Company.
- (22) "Junior college mathematics--objectives and curriculum revision--as viewed by a junior college teacher" by F. L. Ermis, Jr., Wharton County Junior College.
- (23) "How to tell that a simple over-hand knot is really knotted" by E.E. Moise, Harvard University.
- (24) "Nonlinear transformations related to the evaluation of improper integrals" by T. A. Atchison, Ling-Temco-Vaught.

April 19-20, 1968 at Texas A&M University at College Station

- (1) "Generalized semirings of quotients" by James R. Mosher, Texas Christian University.
- (2) "Pseudoinverses of positive semi-definite matrices" by Truman Lewis and Tom Newman, Texas Technological College.
- (3) "Pseudo-6-mixing measure-preserving transformations on a probability space" by Charles H. Farmer, TRACOR, Inc.
- (4) "Invariants associated with plane curves" by G. L. Shurbet and H. W. Milnes, Texas Technological College.
- (5) "Matrices in dyadic form" by Louis Brand, University of Houston.
- (6) "A class of nonlinear transformations" by H. L. Gray and T. A. Atchison, Texas Technological College.
- (7) "Subtended area and determinant integration" by W. S. McCulley, Texas A&M University.
- (8) "Concerning weak topologies" by W. B. Sconyers, Texas Christian University.
- (9) "Decimal representations of sums and products" by Margaret R. Wiscamb, University of St. Thomas.
- (10) "Certain properties of R. K. Hilbert spaces" by D. L. Drennan, Jarvis Christian College and Texas Christian University.
- (11) "The endomorphism near-ring on the non-Abelian group of order six" by Carter Lyons, Texas A&M University.
- (12) "Characterizations of Blunberg metric pairs" by J. C. Bradford, Abilene Christian College.

- (13) "On duals of spaces of affine continuous functions" by H. E. Lacey, NASA-Manned Spacecraft Center-Houston, University of Texas at Austin.
- (14) "The Hilbert basis theorem for a class of halfrings" by H. E. Stone, Texas Christian University.
- (15) "An example relating to Jacobi's necessary condition in the Calculus of Variations" by H. W. Milnes and S. K. Hildebrand, Texas Technological College.
- (16) "Expansive mappings" by R. K. Williams, Southern Methodist University.
- (17) "Cohen's theorem for Noetherian semirings" by P. J. Allen, The University of Alabama.
- (18) "Polyhedral star-shaped sets" by F. E. Tidmore, Texas Technological College.
- (19) "On the universality of diagonal forms over fields" by Brother Joseph Heisler, St. Edwards University.
- (20) "A birthday holiday problem" by Arthur Richert, University of Texas.
- (21) "A transformation for projecting a functional surface onto a plane" by M. E. Harris, University of St. Thomas.
- (22) "Young's inequality for non-unimodular groups" by Richard O'Neill, Rice University.
- (23) "Geometrical characterizations of certain ordered Banach spaces" by L. F. Guseman, Jr., NASA-Manned Spacecraft Center.
- (24) "An extension of the simple iteration method for finding roots of an equation" by Dianne Kleuser, University of St. Thomas.
- (25) "A technique for obtaining moments for a class of discrete distributions" by T. L. Boullion, Texas Technological College.
- (26) "Comparison of two approaches to the teaching of plane and solid geometry" by Jim Bezdek, North Texas State University.
- (27) "Near-rings on certain groups" by H. E. Heatherly, Texas A&M University.
- (28) "Results of a bilingual program in mathematics in the Primary grades" by Bertha G. Trevino, Laredo Junior College.
- (29) "Metrization of developable spaces" by J. R. Boone, Texas Christian University.
- (30) "Near-ring homomorphisms" by J .J. Malone, Jr., Texas A&M University.
- (31) "Borel summability of Fourier series" by Jack Bryant, Texas A&M University.
- (32) "Matrix rotation and centro-symmetric matrices" by Louis Brand and Steve Ligh, University of Houston and Texas A&M University.

- (33) "Convergence characterizations" by Norm Howes, Texas Christian University.
- (34) "Non-negative matrices with prescribed row and column sum" by Jean R. Edwards, University of Houston.
- (35) "On product formulas for the Gamma function" by Russell Cowan, Lamar State College of Technology.
- (36) "A characterization of parabolic Lesbegue spaces" by C. H. Sampson, Texas A&M University.
- (37) "Problems involving diagonal sums in non-negative matrices" by Mark Hedrick, Houston, Texas.
- (38) "Some characterizations of hemidomains" by Linda D. Lindsey, Tarleton State College and Texas Christian University.
- (39) "Some results in discrete analytic function theory" by George Berzsenyi, Northeast Louisiana State College and Texas Christian University.
- (40) "Cardinality of an ultrafilter" by J. D. Price, North Texas State University.
- (41) "A reproducing kernel function for discrete analytic functions" by J. C. Bolen, Texas Christian University.
- (42) "Integration of the exponential function in *n*-space: A computational problem" by R. R. Bunten, USAF Personnel Research Laboratory.
- (43) "A spectral realization for rectangular matrices" by Jay Amburgey, Texas Technological College.
- (44) "Lesbeque classes of functions with parabolic weights" by Richard Bagby, Rice University.
- (45) "What every young college teacher should know" by M. L. Curtis, Rice University.
- (46) "Topological aspects of complex variables" by Gail S. Young, Tulane University.
- (47) "Putnam Prize competition" by R. E. Greenwood, University of Texas.

April 18-19, 1969 at Texarkana College in Texarkana

- (1) "On expansive mappings" by Richard K. Williams, Southern Methodist University.
- (2) "Distributive defining relations of a lattice" by Howard L. Rolf, Baylor University.
- (3) "The discrete analog of a minimum problem in conformal mapping" by C. Wayne Mastin, Texas Christian University.
- (4) "On plane curves on surfaces" by Montie G. Monzingo, Southern Methodist University.
- (5) "Generalized classical forces applied to planetary orbits" by John T. Hurt, Texas A&M University.

- (6) "Proof of a conjecture concerning the product of singular symmetric matrices" by Louis Brand, University of Houston.
- (7) "On the existence of certain relative complements in the lattice of invariant subspaces" by Don E. Edmondson, University of Texas.
- (8) "Fixed points for tree-like continua" by O. H. Hamilton, Texas Christian University.
- (9) "Non-linear least squares solutions" by David L. Nelson and T. L. Boullion, Texas Technological College.
- (10) "A generalized, non-linear, sequence-to-sequence transformation" by W. D. Clark, Stephen F. Austin State College.
- (11) "Summation of unbounded series" by A. F. Kleiner, Jr., Texas A&M University.
- (12) "Every topological space is a subspace of a product of finite spaces" by C. R. Williams and Joseph Warndof, Midwestern University and University of Arkansas.
- (13) "Extreme properties of products of quadratic forms" by A. R. Amir-Moéz and G. E. Johnston, Texas Technological College and Wayland Baptist College.
- (14) "A combinatorial lemma concerning permutations" by R. C. Juola, University of Texas.
- (15) "Polynomials defined by a certain class of generating functions" by Russell Cowan, Lamar State College of Technology.
- (16) "Some new methods of integration for discrete analytic functions" by George Berzsenyi and R. S. Birchler, Northeast Louisiana State College.
- (17) "Some generalizations of metric spaces" by Farhad Aslan, East Texas State University.
- (18) "A characterization of the distribution function of n discrete ordered sample random variables" by W. A. Coberly and T. O. Lewis, Texas Technological College.
- (19) "An extension of Morley's theorem" by R. G. Dean, Stephen F. Austin State College.
- (20) "Homogeneities of an open subspace" by R. L. Poe and C. R. Perry, Texas Technological College.
- (21) "Concerning measurability preserving functions" by K. G. Johnson and C. E. Smith, Northeast Louisiana State College.
- (22) "A characterization of finite groups" by Don Burleson and Charles R. Williams, Midwestern University.
- (23) "A homomorphism theorem for halfrings" by H. E. Stone, Texas Christian University.

- (24) "Uniform approximation by almost everywhere continuous simple functions with values in an arbitrary metric space" by K. G. Johnson, Northeast Louisiana State College.
- (25) "A class of similarity functions" by C. R. Hallum, Texas Technological College.
- (26) "A fourth-order Runge-Kutta formula of optimum stability" by H.A. Luther and H. G. Sierra, Texas A&M University.
- (27) "Infinite dimensional simplexes" by Elton Lacey, University of Texas. 15-minute discussion period.
- (28) "Residue classes and string figures" by Ali R. Amir-Moéz, Texas Technological College. 15-minute discussion period.
- (29) "The interface of mathematics and statistics" by Paul Minton, Southern Methodist University. 15-minute discussion period.
- (30) "A unified theory of integration" by E. J. McShane, University of Virginia.
- (31) "The Integrating Factor Method of solving second order linear differential equations with constant coefficients" by W. S. McCulley, Texas A&M University.
- (32) "Shapes of the Future" by Victor Klee, University of Washington.

April 10-11, 1970 at Sam Houston State University in Huntsville

- (1) "A generalization of alternative algebras" by R. V. Morgan, Jr., Southern Methodist University.
- (2) "Solutions to the congruence $Q^{P-1} = 1 \pmod{P^2}$ " by Robert Giese, Mandrel Industries.
- (3) "Restricted properties of rings" by K. E. Hummel, Trinity University.
- (4) "External characterization of normal subgroups and factor groups of finite groups" by George Berzsenyi, Lamar State College of Technology.
- (5) "A sufficient condition for the universality of some matrix diagonal forms over finite fields" by Brother Joseph Heisler, St. Edward's University.
- (6) "Operators associated with a pair of nonnegative matrices" by G.E. Suchan, University of Houston.
- (7) "On a matrix solution of systems of linear differential equations each of arbitrary order k≤n" by A. D. Stewart, Prairie View A and M College.

- (8) "An algorithm for solving systems of non-linear equations" by M. P. Williams, Texas Tech University.
- (9) "Fixed point theorems for mappings with a contractive iterate at a point" by L. F. Guseman, Jr.. Texas A&M University.
- (10) "Extension maps in $C_{I}(T)$ " by Bill Anderson, East Texas State University.
- (11) "Multipliers and compact multipliers on $C_o(G)$, $L^I(G)$ and M(G)" by D. H. Anderson, Southern Methodist University.
- (12) "A note on semi-metrizability of A_i-space, i =0,1,2..." by F. T. Aslan, East Texas State University.
- (13) "On expansive functions" by R. K. Williams, Southern Methodist University.
- (14) "Discrete generalized functions" by E. L. Perry, Jr., Baylor University and Texas Christian University.
- (15) "Certain simple relations among particular values of the gamma function and its derivatives" by Russell Cowan, Lamar State College of Technology.
- (16) "Adjoints of differential-difference operators" by D. K. Hughes, Abilene Christian College.
- (17) "Characterization of circles and spheres" by W. J. Zimmerman, University of Texas.
- (18) "An uncountable extension to the ring of integers" by Farhad Aslan and Howard Duck, East Texas State University.
- (19) "Transfinite sequences" by Norm Howes, University of Dallas.
- (20) "Nearness" by C. B. Murray, University of Houston.
- (21) "Mathematics in the life sciences" by R. M. Thrall, Rice University.
- (22) "Mathematics for liberal arts students" by J. R. Durbin, University of Texas.
- (23) "Infinite dimensionality of delay differential equations" by Russell Bilyeu, North Texas State University.
- (24) "A study of secondary mathematics teacher dropouts in Texas" by Margaret H. Kneitz, Texas Southern University.
- (25) "Invariants for Abelian groups" by E. A. Walker, New Mexico State University.
- (26) "Mathematical aspects of electric network theory" by Harley Flanders, Purdue University.

April 16-17, 1971 at Midwestern State University in Wichita Falls

 "Arguments of proper values of normal transformations" by A. Donnell and A. R. Amir-Moéz, Texas Tech University.

- (2) "Hermitian transformations restricted to subspaces and inequalities among their eigenvalues" by C. R. Perry, Jr., and A. R. Amir-Moéz, Texas Tech University.
- (3) "L'Hospital's rule for matrices" by Jean Richmond, Southern Methodist University.
- (4) "Density bounds for the sum of divisors function" by C. R. Wall, P. L. Crews, and D. B. Johnson, East Texas State University.
- (5) "A generalization of a problem in number theory" by M. G. Monzingo, Southern Methodist University.
- (6) "Some theorems on the semidirect product of groups" by D. E. Edmondson, University of Texas.
- (7) "Addition chains" by Robert Giese, University of Houston.
- (8) "Boolean near rings" by J. R. Courville, University of Southwestern Louisiana.
- (9) "Research in near rings using a digital computer" by Russell Schexnayder, University of Southwestern Louisiana.
- (10) "Commutator near rings" by H. E. Heatherly, University of Southwestern Louisiana.
- (11) "Ultrafilters and C₁ fields" by Brother Joseph Heisler, St. Edward's University.
- (12) "Relations between critical point theory and differential systems" by W. M. Whyburn, Southern Methodist University and East Carolina University.
- (13) "Reducible linear differential operators" by. D. H. Anderson, Southern Methodist University.
- (14) "Canonical forms for an almost linear partial differential equation of third order" by Russell Cowan, Lamar State College of Technology.
- (15) "Solutions of second-order partial differential equations and conditions for existence of complementary functions" by L. V. Robinson, Argyle, Texas.
- (16) "A class of polynomials generated by $exp(x/3)^3 d^n/dx^n exp(-x/3)^3$ " by T. M. Howle, Jr., and John Perryman, University of Texas at Arlington.
- (17) "A complex inversion formula for an integral transform with kernel $exp(-st^3) H_n(s, t)$ " by Stephen West and John Perryman, University of Texas at Arlington.
- (18) "A linear integral transform with a simple kernel" by W. W. Bolton and S. C. Crim, Lamar State College of Technology.
- (19) "Expansive flows" by R. K. Williams, Southern Methodist University.

- (20) "A note on sequential convergence in compact Hausdorff spaces without perfect subsets" by R. V. McPherson, University of Texas.
- (21) "P_n functions and n-convex sets" by M. W. Jeter, Stillwater, Oklahoma.
- (22) "A generalization of a theorem of F. Riesz" by F. N. Huggins, University of Texas at Arlington.
- (23) "An old soldier looks at academic freedom" by J. W. Strain, Midwestern University.
- (24) "Testing unusual hypotheses about a contingency table" by Ronald Harrist and Wanzer Drane, Southern Methodist University.
- (25) "Using the computer in courses in calculus and logic" by Joe Wimbish and Dale Maness, Oklahoma College of Liberal Arts.
- (26) "On extrema at the boundary" by A. R. Amir-Moéz, Texas Tech University.
- (27) "Some applications of nonstandard analysis to theory of differential equations" by Vadim Komkov, Texas Tech University.
- (28) "Some mathematical foundations for interdisciplinary studies" by Dale Maness and Joe Wimbish, Oklahoma College of Liberal Arts.
- (29) "On the problem of transfer of credits" by Glen Mattingly, Sam Houston State University.
- (30) "Some modifications of Muller's method for finding roots of illconditioned polynomials" by B. L. Turlington and Donna K. Dunaway, Southern Methodist University.
- (31) "Spherical programming: a new approach to convex programming" by S. W. McGuire, Lamar State College of Technology.
- (32) "An exact partition of Wilk's chi-square" by Ronald Harrist, Southern Methodist University.
- (33) "A survey of approximation theory" by Ward Cheney, University of Texas.
- (34) "England was lost on the playing fields of Eton: A parable for Mathematics" by A. B. Willcox, Executive Director of the MAA.

April 14-15, 1972 at Southwest Texas State University in San Marcos

(1) "An asymptotic estimate for $\psi_k(x^t, x)$ " by D. G. Hazlewood, Southwest Texas State University.

- (2) "Unitary amicable numbers" by H. L. Rolf, Baylor University.
- (3) "Density bounds for Jordan's totient" by Michael Wommack and Charles Wall, East Texas State University.
- (4) "Bi-unitary perfect numbers" by Charles Wall, East Texas State University.
- (5) "On the congruence x^a≡a (mod p)" by M. G. Monzingo, Southern Methodist University.
- (6) "A lattice theoretic version of the Chinese Remainder Theorem" by D. E. Edmondson, University of Texas.
- (7) "A characterization of semisimple semi-subtractive halfrings" by R. E. Dover, Lubbock Christian College.
- (8) "Counter-examples to two conjectures on distributive near-rings" by H. E. Heatherly, University of Southwestern Louisiana.
- (9) "Rings with D. C. C. on essential left ideals" by E. P. Armendariz, University of Southwestern Louisiana.
- (10) "Quasi-Frobenius rings and annihilator conditions" by Baxter Johns, Baylor University.
- (11) "Extending matrix fields over Prime Fields" by J. T. B. Beard, University of Texas at Arlington.
- (12) "An extension of the Mellin transform to a class of generalized functions" by Jim Hickey, Baylor University.
- (13) "Some product integral identities" by L. L. Clarkson, Texas Southern University.
- (14) "An application of the implicit function theorem" by J. R. Cannon, University of Texas.
- (15) "Applications of linear statistical models in radar location techniques" by J. L. Poirot, Southwest Texas State University.
- (16) "Polynomial solutions of certain Riccati equations" by Russell Cowan, Lamar University.
- (17) "An elementary consequence of the area theorem" by R. K. Williams, Southern Methodist University.
- (18) "On length and variation of simple graphs" by E. B. Hibbs, Southwest Texas State University.
- (19) "Collinear subsets of certain point sets" by Jack Hardy, Texas A & I University.
- (20) "Some strict inclusions for matrix summability methods" by D.F. Dawson, North Texas State University.
- (21) "Compact multipliers on groups" by David Anderson, Southern Methodist University.
- (22) "A new class of interesting calculus problems" by George Berzsenyi, Lamar University.

- (23) "Mathematical modeling, an alternative to teaching" by Robert Giese, Mandrel Industries.
- (24) "An application of the Perron-Frobenius theorem" by R. M. Thrall, Rice University, D. R. Howes, U. S. Army STAG.
- (25) "Mathematics and Reality, or discretion is the better part of mathematics" by C. R. Deeter, Texas Christian University.
- (26) "A self-paced program for math deficient students" by Patrick Sullivan and J. C. Traweek, Jr., Amarillo College.
- (27) "The effects of a laboratory on achievement in college freshmen mathematics" by C. B. Douthitt, Alvin Junior College.
- (28) "An audio-tutorial approach to Precalculus" by Vivienne Mayes, Baylor University.
- (29) "The pseudoinverse of a centrosymmetric matrix" by W. C. Tye, T. L. Boullion, T. A. Atchison, Texas Tech University.
- (30) "Some applications of concepts from classical mechanics to the theorem of non-linear differential equations" by Vadim Karnkov, Texas Tech University.
- (31) "Cauchy-Euly analogs for abstract hyperbolic partial differential equations" by John Spellman, Pan American University.
- (32) "Abstract L_p spaces" by H. E. Lacey, University of Texas.
- (33) "Birkhoff interpolation and properties of matrices" by G. G. Lorentz, University of Texas.
- (34) "Some open questions in Euclidean 3-space" by R. H. Bing, University of Texas (Visiting).
- (35) "The work of some of the CUPM panels" by L. L. Clarkson, Texas Southern University and John Jewett, Oklahoma State University and Vice President of the Association.
- (36) "Competency based teacher education" by W. A. Bennie, Department of Curriculum and Instruction, University of Texas.
- (37) "Implications for Mathematics" by Ray Carry, Department of Mathematics and Education, University of Texas.

April 6-7, 1973 at Texas Christian University in Ft. Worth

- "A comparison of lecture with audio-tutorial instruction for Pre-Calculus" by Vivienne M. Mayes, Baylor University.
- (2) "Calculus by the Keller method" by E. L. Perry, Jr., Baylor University.
- (3) "Minimum straight paths" by A. R. Amir-Moéz, Texas Tech University.

- (4) "A guided discovery approach to σ " by J. A. Bell, Texas A & I University at Laredo.
- (5) "A geometric look at binary operations" by Margaret R. Hutchinson, University of St. Thomas.
- (6) "A population growth model assuming time-invariant birth and survival rates" by D. H. Anderson, Southern Methodist University.
- (7) "A finite transform of discrete time functions" by S. C. Crim, Lamar University.
- (8) "Curves generated by cones" by R. L. Tennison, University of Texas at Arlington.
- (9) "Summability of sequences which are regular transformations of a sequence" by D. F. Dawson, North Texas State University.
- (10) "When are integrals equivalent?" by F. N. Huggins, University of Texas at Arlington.
- (11) "Extension operators and approximations" by B. D. Anderson, East Texas State University.
- (12) "A universal mapping theorem concerning modular lattices" by D. E. Edmondson, University of Texas.
- (13) "Cyclically ordered semigroups" by Allen Walker, Lubbock Christian College.
- (14) "The direct additive property of modules" by D. P. Grantham, East Texas State University.
- (15) "On order relations for positive semidefinite matrices" by E. B. Hibbs, Jr., Southwest Texas State University
- (16) "A symbolic logic approach to Calculus and Abstract Algebra using a computer" by Robert Korfhage, Southern Methodist University.
- (17) "Error analysis in scientific computing" by Alton Goddard, East Texas State University.
- (18) "A sample problem; theory, answer, and simulation" by Bill Moore, Texas A&M University.
- (19) "A low budget start in the use of computer techniques in mathematics" by F. A. Wright, Jr., Tyler Junior College.
- (20) "What is a Fourier transform?" by Edwin Hewitt, University of Texas (by invitation).
- (21) "Consequences of continuity" by R. P. Boas, Northwestern University and President of the Association.
- (22) "Some Mathematical models in decision theory" by R. M. Thrall, Rice University.

- (23) Panel discussion: "Planning and executing a mathematics laboratory in two-year and four-year institutions" moderated by Chaney Anderson, South Texas Junior College.
- (24) Panel discussion: "Computers in mathematics" moderated by F.A. Wright, Jr., Tyler Junior College.

April 5-6, 1974 at University of Texas in Austin

- "A progress report on phase A of MAP" by D. M. Kulvicki, University of Texas.
- (2) "The volume of the convex hull of a set of vectors" by A. R. Amir-Moéz and R. E. Long, Texas Tech University.
- (3) "Finite reductive modular lattices" by D. E. Edmondson, University of Texas.
- (4) "A class of reflexive lattices of subspaces" by Gretchen Mooningham, Texas Tech University.
- (5) "Projective representations of wreath products" by Bolling Farmer, University of Texas.
- (6) "Holomorphic extension for certain non-CR-submanifolds" by J. W. Mooningham, Texas Tech University.
- (7) "On the structure of certain linear extensor operators via multitensor transform analysis" by D. M. Kulvicki, University of Texas.
- (8) "Linear best approximation mappings onto C₀" by Russell Bilyeu, North Texas State University.
- (9) "Generalized Lipschitz conditions" by F. N. Huggins, University of Texas at Arlington.
- (10) "Irreducibly confluent mappings" by D. R. Read, Lamar University.
- (11) "Continued fractions and totally monotone sequences" by D. F. Dawson, North Texas State University.
- (12) "On canonical tangential Lie group resolutions and associated Lie algebra resolutions" by D. M. Kulvicki, University of Texas.
- (13) "Cubic programming" by S. W. McGuire and J. F. Harvill, Lamar University.
- (14) "A nonlinear least-squares model for spectral analysis" by S. W. McGuire and B. D. Read, Lamar University.
- (15) "Computing and elementary linear algebra" by C. B. Murray, University of Houston.
- (16) "Academic and financial aspects of a time-sharing network" by D. A. Caughfield, Abilene Christian College.

- (17) "A multi-discipline computer science course" by Fred Wright, Tyler Junior College.
- (18) "Computer Science service courses for the math student" by G.G. Early and J. L. Poirot, Southwest Texas State University.
- (19) "Computer Science department organization and its relationship to other disciplines" by A. R. Goddard, East Texas State University.
- (20) "A Computer Science degree within the math department" by J.L. Poirot and G. G. Early, Southwest Texas State University.
- (21) "The self-paced Calculus course at Rice University" by M. L. Curtis, Rice University.
- (22) "Self-paced instruction and the transfer student" by J. A. Nickel, University of Texas of the Permian Basin.
- (23) "A Liberal Arts mathematics course with laboratory" by B. J. Dulin, McMurry College.
- (24) "Proof' that all triangles are isosceles" by John F. Lamb, Jr., East Texas State University.
- (25) "Rational triangles with a 60° angle" by George Berzsenyi, Lamar University.
- (26) "Eccentricity As Appolonius might have defined it" by Margaret R. Hutchinson, University of St. Thomas.
- (27) "Cuisenaire rods in College Algebra" by J. A. Bell, Texas A & I University at Laredo.
- (28) "The game of Tick-Tack-Toe" by Jack Hardy, Texas A & I University.
- (29) "Some sufficient conditions for prime regular rings to be primitive" by E. P. Armendariz, University of Texas.
- (30) "On Gaussian integers all of whose prime factors are large" byD. G. Hazlewood, Southwest Texas State University.
- (31) "A gap theorem for complex Taylor series" by J. M. Stark, Lamar University.
- (32) "The radius of convergence of a generalized power series" by Kenny Zuber and Bill Anderson, East Texas State University.
- (33) "Summation of certain infinite series by using the gamma functions" by Russell Cowan, Lamar University.
- (34) "Experience with self-paced computer courses" by K. W. Kennedy, Rice University.
- (35) "n-th order vector differential equations with matrix coefficients" by A. D. Stewart, Prairie View A & M University.
- (36) "Separable quotients of Banach spaces" by Elton Lacey, University of Texas.

- (37) "Anatomy of the ordinary differential equation" by W. T. Reid, University of Oklahoma.
- (38) "How to make and break codes" by Dorothy L. Bernstein, Goucher College and Vice President of MAA.
- (39) "The Cauchy initial value problem" by H. J. Ettlinger, Professor Emeritus, University of Texas.
- (40) Panel discussion: "Basic mathematics courses in college" moderated by Amogene Devaney, Amarillo College. Panelists: Mary K. Bell, Lamar University; Larry Kerbel, El Centro College; Nancy Hamilton, University of Texas; Patrick Sullivan and J. C. Traweek, Amarillo College; Robert Northcutt, Southwest Texas State University; and Chaney Anderson, South Texas College.

April 11-12, 1975 at Angelo State University in San Angelo

- "Completions of commutative rings" by J. L. Hein, University of Texas of the Permian Basin.
- (2) "Rings generated by their units" by J. W. Fisher, University of Texas.
- (3) "Graph theoretic decomposition of a poset" by E. L. Perry, Baylor University.
- (4) "One algebraic system" by Ernest Ratliff, Jr., Southwest Texas State University.
- (5) "Groups of infinite exponent whose proper quotient groups are of finite exponent" by Shirley Tucker, Texas Christian University.
- (6) "Linearization of expansive homeomorphisms" by R. K. Williams, Southern Methodist University.
- (7) "Some branch point covering theorems for n-pseudo-confluent mappings" by D. R. Read, Lamar University.
- (8) "A classification of continua" by M. R. Hagan, North Texas State University.
- (9) "The Wallman compactification and the product topology" by S. E. Green, East Texas State University.
- (10) "Convergence of the sequence of successive approximations for nonexpansive mappings through abstract cones" by J. C. Bolen, A. A. Gillespie, B. B. Williams, University of Texas at Arlington.
- (11) "Bounded slope variation and generalized convexity" by F. N. Huggins, University of Texas at Arlington.

- (12) "On the structure of Zermelo and Hamiltonian operators via multitensor transform analysis" by D. M. Kulvicki, University of Texas.
- (13) "A three-dimensional surface equation for 'smooth' solids via a two-parameter family of polynomials" by D. V. Goulet, University of Houston and J. R. Cuzzi, Texas Institute for Rehabilitation and Research.
- (14) "Report on an alternate structuring of high school geometry" by Don Edmondson, University of Texas.
- (15) "Personalized instruction in mathematics at UTA" by G. B. Turney, University of Texas at Arlington.
- (16) "Predicting success in college algebra at Tarleton State University" by Linda M. Neal, Tarleton State University.
- (17) "Sound page as a tutorial aid" by L. F. Heath, University of Texas at Arlington.
- (18) "Teaching the unwilling the unwanted (or life in the pits of finite mathematics)" by J. W. Strain, Midwestern University.
- (19) "A panel on uses of hand calculators" by Martha Daley, Texas Southern University; Chris Boldt, Eastfield College; Omer Jenkins, Texas A&M University; Tom Bohanon, Tarleton State University, Moderator.
- (20) "Techniques of linear algebra in geometry" by A. R. Amir-Moéz, Texas Tech University.
- (21) "Some problems Kepler did not solve" by J. M. Stark, Lamar University.
- (22) "Applying mathematics to the computer" by K. L. Park, East Texas State University.
- (23) "Constrained optimization in finite dimensional Euclidean spaces" by D. K. Hughes, Abilene Christian College.
- (24) "Transposing the impossible dream" by Bonnie Kelterborn, East Texas State University.
- (25) "On mathematical aesthetics" by A. A. Mullin, Killeen, Texas.
- (26) "Factoring with Cuisenaire rods" by J. A. Bell, Texas A & I University at Laredo.
- (27) "An experiment in secondary teacher preparation" by Pat Hickey, Baylor University.
- (28) "Some recent projects of CUPM" by Paul Knopp, University of Houston.
- (29) "A new Association and a New Journal: The Graduate Mathematical Association and the Mathematics Micro journal" by Dennis Kulvicki, University of Texas.

- (30) "What an engineer wants to know about linear algebra" by Betty Barr, University of Houston.
- (31) "Using Boolean logic in developing probability functions" by J.A. Nickel, University of Texas of the Permian Basin.
- (32) "Function collection characterizations and Hellinger type integrals for bounded finitely additive set functions" by W. C. Bell, North Texas State University.
- (33) "Orthogonality and derivatives of the norm in spaces of measures" by Russell Bilyeu, North Texas State University.
- (34) "A generalization of the Hermite polynomials, by Russell Cowan, Lamar University.
- (35) "Solutions of differential systems in K-Banach spaces with applications to non-linear operators" by R. L. Tennison and A. R. Mitchell, University of Texas at Arlington.
- (36) "Some Tauberian theorems for a class of regular summability methods" by T. A. Keagy, North Texas State University.
- (37) "Matrix identities and substitutions in summability" by D. F. Dawson, North Texas State University.
- (38) "A look at mathematics for business administration majors" by R. J. Martin, Amarillo College.
- (39) "Developmental mathematics-What are the results?" by Jim Bennett, Eastfield College.
- (40) "Partial fractions and invertible prime ideals" by Jurgen Schmidt, University of Houston.
- (41) "On the nature of applied mathematics" by H. O. Pollak, Bell Laboratories and President of the Association.

April 2-3, 1976 at Texas A&M University at College Station

- "Two theorems characterizing increasing k-set contraction mappings" by K. L. Singh, Texas A&M University.
- (2) "Banach lattices whose duals are l₁" by H. E. Lacey, University of Texas.
- (3) "Closed subsets of compact groups" by A. Y. W. Lau, North Texas State University.
- (4) "Orthogonal complements in C(K) spaces" by R. G. Bilyeu, North Texas State University.
- (5) "Further results on expansive mappings" by R. K. Williams, Southern Methodist University.
- (6) "Absolute summability and stretchings of sequences" by T. A. Keagy, Wayland Baptist College.

- (7) "On the summation of infinite series and the gamma function" by Russell Cowan, Lamar University.
- (8) "Summability of sequences determined by certain difference properties" by D. F. Dawson, North Texas State University.
- (9) "On the space BSV^m[a,b]" by F. N. Huggins, University of Texas at Arlington.
- (10) "Endomorphism rings of totally projective Abelian groups" by R.K. O'Callaghan, University of Texas of the Permian Basin.
- (11) "Critical maximal ideals" by R. W. Yeagy, Stephen F. Austin State University; H. S. Butts, Louisiana State University; N. H. Vaughan, North Texas State University.
- (12) "Automata that recognize free monoids" by Tom Head, University of Alaska and Department of Mathematical Sciences, Rice University.
- (13) "On consecutive primitive roots" by M. G. Monzingo, Southern Methodist University.
- (14) "Monogenic near-rings" by Henry Heatherly, University of Southwestern Louisiana.
- (15) "The coloring of graphs" by R. R. Korfhage, Serban Constantin, Judith Feld, and Fred Reagor, Southern Methodist University.
- (16) "Characterizations of normed algebras with multiplicative norms" by R. S. Doran, Texas Christian University.
- (17) "A unified method of solving second order linear partial differential equations with constant coefficients" by W. S. McCulley, Texas A&M University.
- (18) "A new computer oriented development of linear algebra" by Robert Ducharme, University of Texas at San Antonio.
- (19) "The rug cutting paradox" by John F. Lamb, Jr., East Texas State University.
- (20) "Graffiti on teacher evaluations" by J. W. Strain, Midwestern State University.
- (21) "Proofs by coloration" by George Berzsenyi, Lamar University.
- (22) "A survey of models in energy related research" by C. R. Deeter and A. A. J. Hoffman, Texas Christian University.
- (23) "Estimating parameters in mixtures of normal distributions by maximum likelihood" by H. F. Walker, University of Houston; and B. C. Peters, NRS Postdoctoral Fellow, NASA/Johnson Space Center.
- (24) "Estimating mixture proportions by maximum likelihood" by B.C. Peters, NRC Postdoctoral Fellow, NASA/Johnson Space Center.
- (25) "Householder transformations and optimal linear combinations" by H. P. Decell, Jr., University of Houston.
- (26) "A two-stage classifier for remotely sensed data" by Demetrios Kazakos, State University of New York at Buffalo.
- (27) "An iterative scheme for estimating an affine transformation" by T. F. McCabe, Pan American University; and J. L. Solomon, Mississippi State University.
- (28) "On canonical complete Tchebycheff systems" by L. L. Shumaker, University of Texas.
- (29) "On compact perturbations of operators" by J. D. Ward, Texas A&M University.
- (30) "On L-ideals" by R. R. Smith, Texas A&M University.
- (31) "Padé approximation of a class of operator-valued analytic functions" by F. J. Narcowich, Texas A&M University.
- (32) "The use of fixed point theorems in approximation theory" by E.W. Cheney, University of Texas.
- (33) "Some questions related with the projection constants" by C. Franchetti, University of Texas.
- (34) "The Eberlein integral and optimal interpolation projections" by D. L. Barrow, Texas A&M University.
- (35) "Norm inequalities for the radial projection" by G. Votruba, University of Montana and University of Texas.
- (36) "The dimension of F^{α} over F is 2^{α} " by Liam O'Callaghan, Odessa College.
- (37) "Remarks on fuzzy sets and fuzzy topology" by Dennis M. Kulvicki, University of Texas.
- (38) "Project map phase B: A proposed model for the utilization of micro-fiche as a primary medium for mathematical science general and research communication" by Dennis Kulvicki, University of Texas.
- (39) "Eccentricity for assorted configurations" by J. M. Stark, Lamar University.
- (40) "A theorem on difference equations" by D. K. Cohoon, School of Aerospace Medicine, Biometrics Div., Brooks AFB.
- (41) "Spaces of solvability for linear transformations on vector spaces" by D. K. Cohoon, School of Aerospace Medicine, Biometrics Div., Brooks AFB.
- (42) "Effective teaching of mathematics for business and economics" by Dorothy Lynn Chesnut and Marian Paysinger, University of Texas.

- (43) "Pitfalls in illustrating limits and derivatives on the handheld calculator" by R. V. Morgan and T. T. Warnock, Sul Ross State University.
- (44) "An interpolative method of computing implicit Runge-Kutta constants" by S. A. Sim and Jane Morris Able, University of Texas at Arlington.
- (45) "Some result of fixed points through abstract cones" by B. B. Williams, University of Texas at Arlington.
- (46) "Recent developments in the theory of partition identities" by H.L. Alder, President-Elect of the MAA.
- (47) "Bounded matrices" by P. R. Halmos.
- (48) "Combinatorial problems in elementary geometry" by Paul Erdös, Centennial Professor of Mathematics at Texas A & M.

April 1-2, 1977 at Baylor University in Waco

- (1) "Quasisimilarity and the essential spectrum" by L. R. Williams, University of Texas.
- (2) "Beurling subalgebras of L¹" by G. L. Wiggins, Texas Tech University.
- (3) "The trace norm on tensor products of Banach Space" by Russell Bilyeu, North Texas State University.
- (4) "Methods of solution for the linear l_1 approximation problems" by W. Fraser, University of Texas.
- (5) "Convolution operators in complex function theory" by C. N. Kellogg and R. W. Barnard, Texas Tech University.
- (6) "On summation of certain infinite series" by Russell Cowan, Lamar University.
- (7) "Rate invariance and Cesàro summability" by D. F. Dawson, North Texas State University.
- (8) "Summability of subsequences and rearrangements of sequences" by T. A. Keagy, Wayland Baptist College.
- (9) "The solution of a functional equation using transport of structure" by D. K. Cohoon, School of Aerospace Medicine and University of Texas at San Antonio.
- (10) "More generalized Lipschitz conditions" by F. N. Huggins, University of Texas at Arlington.
- (11) "Applications of fixed-point theory to number theory" by A. A. Mullin, Fort Hood, Texas.
- (12) "Integers that are the product of n k primes less than or equal to 2^{n} " by Roy Brooks, University of Texas of the Permian Basin.

- (13) "Left identities in Noetherian rings" by Baxter Johns, Baylor University.
- (14) "Rings with an almost Noetherian ring of fractions" by E. P. Armendariz, University of Texas.
- (15) "On the algebraic structure of pre-rings" by A. A. Mullin, Fort Hood, Texas.
- (16) "On an algebraic property of ultra products of fields" by Joseph Heisler, St. Edward's University.
- (17) "Tiling space and splitting groups" by Joe Falkner, Texas Tech University.
- (18) "A note on the golden ellipse" by M. G. Monzingo, Southern Methodist University.
- (19) "R_o spaces, R₁ spaces and hyperspaces" by C. I. Dorsett, North Texas State University.
- (20) "Geometric solutions of quadratic equations" by Jean Richmond, Southern Methodist University.
- (21) "Alternative approach to certain geometry problems" by J. M. Stark, Lamar University.
- (22) "Should linear algebra be rated R?" by Betty Barr, University of Houston.
- (23) "Introducing the computer to non-science majors" by George Berzsenyi, Lamar University.
- (24) "A program for recycling students in small units of foundation mathematics" by Douglas Tharp, Michael Murphy, and Nancy Holder, University of Houston-Downtown.
- (25) "Technical mathematics course development" by Chris Boldt, Eastfield College.
- (26) "Polya and the mathematically ungifted in non-technical freshman mathematics" by John Hunsucker, Sam Houston State University.
- (27) "Internal variables, thermodynamic states and duality" by Vadim Komkov, Texas Tech University.
- (28) "On the linearity of one-to-one entire functions" by R. K. Williams, Southern Methodist University.
- (29) "Numerical quadrature: The trapezoidal rule and modifications" by Bill Copeland and Bill Anderson; East Texas State University.
- (30) "Relative derivatives and chain rules" by C. R. Williams, Midwestern State University.
- (31) "Some properties of valuation rings" by Nick Vaughan, North Texas State University.

- (32) "On matrix inverses and sensitivity analysis" by Eugene Tidmore, Baylor University.
- (33) "Lattice path problems and combinatorial sequences" by David Roselle, Virginia Polytechnic Institute and Secretary of the MAA.
- (34) "Modeling coalitional values" by W. F. Lucas, Cornell University.
- (35) Panel discussion: "Undergraduate mathematics applications" by R. M. Thrall of Rice University, E. L. Perry of Baylor University, and W. F. Lucas of Cornell University.

March 31-April 1, 1978 at Stephen F. Austin State University in Nacogdoches

- (1) "Equivalence of certain summability conditions" by David F. Dawson, North Texas State University.
- (2) "Limit preserving summability of subsequences" by Thomas A. Keagy, Wayland Baptist College
- (3) "On the summation of series by using the Gauss multiplication theorem" by Russell Cowan, Lamar University.
- (4) "Minimizing sums of distribution of integrals of distributions" by E. Green, Abilene Christian University.
- (5) "Functions representable as integrals of functions" by Frank N. Huggins, University of Texas at Arlington.
- (6) "Fixed point theorems in Banach spaces with uniformly normal structure" by A. A. Gillespie and B. B. Williams, University of Texas at Arlington.
- (7) "The 3-2 intersection property and extreme functional" by Russell Bilyeu, North Texas State University.
- (8) "The Minkowski-Farkas Lemma and the Namioka-Bauer Theorem, Ronald Teemley, North Texas State University.
- (9) "A unified method for some geometry of the triangle" by J. M. Stark, Lamar University.
- (10) "Enrichment materials for secondary mathematics" by WilliamE. Beeman, University of Texas at Arlington.
- (11) "The Skyline Center Talented Mathematics Student Program" by William K. McNabb, Dallas Independent School District.
- (12) "Statistics for high school students" by R. S. Pieters, Hockaday School, Dallas.
- (13) "Teaching the reading of mathematics" by Shirley Tucker, Austin.

- (14) "An evaluation of PSI in Introductory College Mathematics" by J. C. Bolen and G. B. Turney, University of Texas at Arlington.
- (15) "Teaching mathematics on television" by Larry F. Heath, University of Texas at Arlington.
- (16) "Quotients of vector subspace lattices are hardly ever complete" by Don E. Edmondson, University of Texas.
- (17) "S^P algebra" by Gary Wiggins, Texas Tech University.
- (18) "Translates of (unitary) perfect polynomials over GF(q) are (unitary) perfect" by Jacob T. B. Beard, Jr., University of Texas at Arlington.
- (19) "An integral domain with an 'Almost Division Algorithm'" by Nick Vaughan, North Texas State University.
- (20) "Dedekind-like conditions in commutative rings" by H. S. Butts and Robert W. Yeagy, Stephen F. Austin State University.
- (21) "Large collections of group preserving block disjoint group divisible designs" by William B. Poucher, Abilene Christian University.
- (22) "Roots of polynomials" by Ali R. Amir-Moéz, Texas Tech University.
- (23) "Circular and hyperbolic functions-A transformation approach" by John Huber, Pan American University.
- (24) "An analytic approach to the Nine Point Circle" by John F. Lamb, Jr., East Texas State University.
- (25) "A concise introduction and derivation of the Normal Density Function" by Lawrence P. Maher, North Texas State University.
- (26) "Right answer, wrong reasoning, but why did it work 90% of the time?" by James Caristi, Texas Lutheran College.
- (27) "Relating mathematics to the real world: Industrial needs for mathematics" by Fred S. Patterson, Execucom System Corporation.
- (28) "Regulated functions: Bourbaki's alternative to the Riemann integral" by S. K. Berberian, University of Texas.
- (29) "Isomorphisms of classical groups" by Morton L. Curtis, Rice University.
- (30) "A model for discrete analysis in the complex plane" by J. C. Harman, Lamar University (Visiting).
- (31) "Mathematics in atomic energy during the war" by S. Ulam, Los Alomos Scientific Laboratory (invited address).

- (32) "Peer Group instruction: Alternative to lecture-discussion" by Calvin A. Lathen, editor of Two-Year College Mathematics Journal.
- (33) Panel discussion: "Preparing for college mathematics: Recommendations of MAA and NCTM" presented by W. K. McNabb of Skyline Center, R. S. Pieters of Hockaday School, Bob Langston of Tarrant County Junior College, and Margaret Hutchinson of the University of St. Thomas.

April 6-7, 1979 at Texas Tech University in Lubbock

- (1) "Teaching the reading of mathematics: A follow-up" by Shirley Tucker, Austin.
- (2) "An applications module in spherical trigonometry" by Carol Congleton, Moody College.
- (3) "A study of the effect of selected mathematics instruction sequences on retention and transfer with logical reasoning controlled" by Vera R. King, Prairie View A & M.
- (4) "Mathematics and Esperanto" by Michael Jones, ELA.
- (5) "The diagnostic capabilities of the computer" by Betty Travis, St. Philip's College.
- (6) "The Mexican Connection: A Division Algorithm from South of the Border" James A. Bell, Laredo State University.
- (7) "A geometrical approach to determinants" by John Huber, Pan American University.
- (8) "Monotone operators and convexity of Chebyshev sets" by Russell Bilyeu, North Texas State University.
- (9) "Minkowski-Farkas operators defined by an infinite matrix" by Ronald Teemley, Texas Christian University.
- (10) "Summability factors for Cesàro methods" by David F. Dawson, North Texas State University.
- (11) "Semi-open sets and semi-separation axioms" by Charles Dorsett, North Texas State University.
- (12) "Hyperspaces of compactifications of the half-line" by Ann Petrus, Our Lady of the Lake University.
- (13) "Dimensions of projections of cells in Eⁿ" by Carl P. Pixley, Southwest Texas University.
- (14) "Generalized omology theories" by Robert M. Nehs, Texas Southern University.
- (15) "An observation concerning Whitford's Binet formula generalized" by Montie G. Monzingo, Southern Methodist University.

- (16) "The factorization of integers in algebraic number fields" by RoyG. Brooks, University of Texas of the Permian Basin.
- (17) "Embedding a class of modular lattices in projective geometries" by Don E. Edmondson, University of Texas.
- (18) "On positive integers with a fixed number of small prime factors (preliminary report) by Donald G. Hazlewood, Southwest Texas State University.
- (19) "Construction of three-dimensional geometric models with the aid of computer drawn nets" by Norman W. Naugle, Texas A&M University.
- (20) "A mathematical model of general equilibrium in economic theory" by L. E. Broome and George Carter, Moody College.
- (21) "Mathematical aspects of a problem concerning a talk on a lunar shuttle landing simulation" by John F. Lamb, Jr., East Texas State University.
- (22) "New bases of monodiffric polynomials" by Charles R. Deeter and Kiritkumar Talati, Texas Christian University.
- (23) "Normal = Binomial + Continuity Correction?" by L. Dwayne Snider, Tarleton State University.
- (24) "Euler's nth difference formula and applications" by Mark D. Bray, East Texas State University.
- (25) "A note on the summability of infinite series" by Thomas A. Keagy, Texas Eastern University.
- (26) "Geometric applications of symmetric functions" by J. N. Stark, Lamar University.
- (27) "Texas Mathematical Olympiad" by George Berzsenyi, Lamar University.
- (28) "Progress report on *College Mathematics in Texas*" by C. P. Benner, The University of Houston.
- (29) "The use of mathematical models for a national energy policy" by Dr. Milton Holloway, Executive Director of the Texas Energy Advisory Council.
- (30) "An experimental algorithm for N-dimensional adaptive quadrature" by Dr. Mark Wells, Los Alamos Scientific Laboratory.
- (31) "Interval graphs, traffic phasing, ship building, and mobile radio frequencies" by Fred Roberts of Rutgers University.
- (32) "Mathematics: Where are we going and what can educators do about it?" Dr. A. B. Willcox, Executive Director of the MAA. Dr. Willcox was the official MAA representative to the meeting. He also presented a slide program on the new Washington Headquarters.

- (33) Panel discussion: "Trends in the two-year college Mathematics curriculum" presented by William Keils, San Antonio College; Joe McMillian, North Harris County Community College; Mary Parker, Austin Community College; Betty Travis, St. Phillips College and David Sanchez, San Antonio College, moderator.
- (34) Panel discussion: "Trends in the undergraduate mathematics curriculum in Texas" presented by George Berzsenyi, Lamar University; Larry Guseman, Texas A&M University and Ernest Ratliff of Southwest Texas State University. The program was arranged by Margaret Hutchinson of St. Thomas University and moderated by Richard Alo of Lamar University.

April 11-12, 1980 at East Texas State University in Commerce

- (1) "The College Board Mathematics Level I Test and placement at UT Austin" by John R. Durbin, University of Texas.
- "Geometrical and functional insights concerning the consequences of relativity theory for a Liberal Arts Mathematics course" by Chris Boldt, Eastfield College.
- (3) "Vectors and spherical trigonometry" by Ali R. Amir-Moéz, Texas Tech University.
- (4) "The creation, care, and feeding of the math-anxious" by James W. Daniel, University of Texas.
- (5) "Mathematics and Esperanto" by Michael Jones, Monthly Mathematics Bulletin.
- (6) "Further results on the summation of certain infinite series by using the gamma function" by Russell Cowan, Lamar University.
- (7) "A note on the summability of split series" by Tom Keagy, University of Texas at Tyler.
- (8) "The Cesàro method compared to certain summability processes with respect to absolute summability" by David F. Dawson, North Texas State University.
- (9) "Approximating curves by piecewise linear curves" by Russell Bilyeu, North Texas State University.
- (10) "Another interesting property of the variation function" by Frank N. Huggins, University of Texas at Arlington.
- (11) "Mean Value Theorem for integrals" by W. Vance Underhill, East Texas State University.
- (12) "Semi-open sets and semi-compactness" by Charles Dorsett, Texas A&M University.

- (13) "Hyperspace and the normal Moore space problem" by Carl P. Pixley, Southwest Texas State University.
- (14) "On the distribution of quadratic residues" by Montie G. Monzingo, Southern Methodist University.
- (15) "Impulse functions on projective geometries" by Don E. Edmondson, University of Texas.
- (16) "A way to get some routine three-space surface perspectives from a plotter" by Joe Allison, Eastfield College.
- (17) "Graphing complex roots of a quadratic equation" by John Huber, Pan American University.
- (18) "Computer generated cardboard models of a = f (x,y)" by Norman W. Naugle, Texas A&M University.
- (19) "Optimal strategies in sports" by Leonard Gillman, University of Texas and Treasurer of the MAA. Professor Gillman was the official MAA representative to the meeting.
- (20) "Mathematical models of nerve signal transmission through axons" by Margaret Waid, University of Delaware, visiting The University of Texas.
- (21) "MAA Placement Testing Program." by Bernard Madison, Chairman of Mathematics at the University of Arkansas and Chairman of the Panel on Basic Skills of the MAA Committee on Placement Examinations.
- (22) Panel discussion: "Developing computer science programs" presented by Richard Alo, Lamar University; Bill Pervin, University of Texas at Dallas; Grady Early, Southwest Texas State University and Robert Tennison, University of Texas at Arlington. Alo served as moderator.

April 10-11, 1981 at San Antonio College in San Antonio

Faculty Papers:

- "The left singular ideal in semi prime rings" by Baxter Johns, Baylor University.
- (2) "Some properties of valuation rings (expository)" by Nick Vaughan, North Texas State University.
- (3) "A geometric view of the equation $a^2 + ab + b^2 = 3c^2$ " by George Berzsenyi, Lamar University.
- (4) "Why are the times 8:18 and 10:09 so pleasant?" by Montie G. Monzingo, Southern Methodist University.

- (5) "More About the Mathematical Aspects of a Lunar Shuttle Landing" by Bill Anderson and John F. Lamb, Jr., East Texas State University.
- (6) "Archimedes mind" by Ali R. Amir-Moéz, Texas Tech University.
- (7) "Analysis of the effect of electromagnetic pulses on penetrable bodies" by David Cohoon, School of Aerospace Medicine, Brooks AF Base.
- (8) "Distribution: A 'real' approach" by James A. Bell, Laredo State University.
- (9) "Statistical technique selection models" by Chris Boldt, Eastfield College.
- (10) "College Mathematics: Four points of view" by Ralph W. Cain, The University of Texas.
- (11) "Applied mathematical sciences: An undergraduate program for the 80's" by Michael G. Murphy, University of Houston-Downtown.
- (12) "A mathematics correspondence course" by M. K. Jones
- (13) "The interaction of student characteristics & instructional style" by Patricia S. Hickey, Baylor University.
- (14) "Cartoons in the classroom" by Joe F. Allison, Eastfield College.
- (15) "Semi-regular and semi-normal spaces" by Charles Dorsett, Texas A&M University.
- (16) "The lattice of upper semi-continuous functions and compact Hausdorff spaces" by Don E. Edmondson, University of Texas.
- (17) "P. L. approximate fibrations" by Robert E. Goad, Sam Houston State University.
- (18) "Constable cellular decompositions of S^3 " by Richard T. Denman
- (19) "Quasi expanding maps and fixed points" by B. B. Williams (with A. A. Gillespie), University of Texas at Arlington.
- (20) "Differentiability of infinite dimensional curves" by Russell Bilyeu, North Texas State University.
- (21) "The monodiffric Laplace transform" by Tahereh Daneshi/C. R. Deeter, Texas Christian University.
- (22) "Steady state solutions of differential equations and the Laplace transform" by Jean Richmond, Southern Methodist University.
- (23) "Fitting surfaces to scattered data" by Larry Schumaker of Texas A&M University.
- (24) "Current status of mathematics laboratories" by Charles David Miller of American River College in Sacramento, California.

- (25) "Review and comments on the Whitehouse Report on 'Science and Engineering Education for the 1980's and Beyond'" by Dr. Preston D. Kronkosky, Deputy Executive Director of the Southwest Educational Development Laboratory
- (26) "Mathematics at Work in Society: A career awareness package for secondary school students" by John Jobe of Oklahoma State University (representing the MAA).
- (27) Panel discussion: "The status of mathematical research and graduate programs in Texas" presented by Jim Daniel, Chairman of Mathematics at the University of Texas; John Ed Allen, Chairman of Mathematics at North Texas State University; Elton Lacey, Chairman of Mathematics at Texas A&M University; Robert M. Thrall of Rice University and Dalton Tarwater of Texas Tech University. Professor Daniel arranged this presentation and served as moderator.
- (28) Panel discussion: "Remedial/Developmental Mathematics in Colleges and Universities" presented by Vic Morgan, Sul Ross State University; Richard Alo, Lamar University; Douglas Tharp, the University of Houston-Downtown; and Bennie Zinn, San Antonio College. Morgan reviewed Remedial/Developmental Mathematics in Colleges and Universities across the country and other panelists detailed practices at representative institutions within the state. Morgan arranged the presentation and served as moderator.

- (29) "A characteristic of the characteristics function" by Fred Curtis, University of Dallas.
- (30) "Deriving distribution functions for characteristic functions" by Larry Ketchersid, Trinity University.
- (31) "Generalized circular and hyperbolic functions" by Craig Finley, East Texas State University.
- (32) "Physics and mathematical modeling" by Jim Armstrong, University of Texas at Arlington.
- (33) "The game of blockade" by Jeffrey A. Conly, University of Texas at Arlington.

April 2-3, 1982 at Lamar University in Beaumont

Faculty Papers:

- (1) "A mathematical model for short-term enrollment projections" by Dorothy Lynn Brooks, University of Texas at Austin.
- (2) "The Branch *-algebra L^{*}₁^{*}(G) is P-commutative" by Robert S. Doran, Texas Christian University.
- (3) "Some weak-star ergodic theorems" by Joseph Szucs, Texas A&M University at Galveston.
- (4) "Strongly additive measures and a theorem of Edwards" by Tommy L. Leavelle, North Texas State University.
- (5) "Matrix transformations of gap sequences" by Tom Keagy, The University of Texas at Tyler.
- (6) "Convergence factors and matrix maps of sequence spaces" by David F. Dawson, North Texas State University.
- (7) "A new Edgeworth-type expansion" by ^{*}James Galloway and E.
 D. McCune, Stephen F. Austin State University.
- (8) "The Fundamental Principle of Job Hunting" by Howard Penn, Mountain View College.
- (9) "Torsion theory related to finite group actions on rings" by Kae Park, The University of Texas at Austin.
- (10) "The double centralizer theorem" by Efraim P. Armendariz and Jae Keol Park, The University of Texas at Austin.
- (11) "Two pass solution of Poisson's equation on a pocket computer" by *John C. Freeman and Jill F. Hasling, Institute for Storm Research, University of St. Thomas.
- (12) "Functional differential equations: Oscillations caused by delays" by David Hughes, Abilene Christian University.
- (13) "The monodiffric gamma function" by Tahereh Daneshi, Cameron University, Lawton, Oklahoma.
- (14) "Numerical weather prediction on a pocket computer" by "Jill F. Hasling and John C. Freeman, Institute for Storm Research, University of St. Thomas.
- (15) "Still more about the mathematical aspects of a lunar shuttle landing" by Bill Anderson, Dennis Grantham and John F. Lamb, Jr., East Texas State University.
- (16) "Independence in graphs with maximum degree four" by Kathryn Fraughnaugh Jones, University of Houston, Central Campus.
- (17) "A note in fixed point theory" by A. A. Gillespie and B. B. Williams, University of Texas at Arlington.
- (18) "S-Regular and S-Normal spaces" by Charles Dorsett, Texas A&M University.

- (19) "A simplified approach to open extensions of mappings" by J. K. Kohli, Lamar University.
- (20) "Decision making and stopping strategies for generalized information systems" by Richard Alo, Lamar University.
- (21) "ITPACK: A Fortran package for solving large sparse linear systems by adaptive accelerated iteratice methods" by David R. Kincaid, University of Texas at Austin.
- (22) "Minimal paths across a grid" by James C. Bradford, Abilene Christian University.
- (23) "Programs and proofs" by Andrew J. Berner, University of Dallas.
- (24) "A course in microcomputer mathematics" by Roy Dean Alston, Stephen F. Austin State University.
- (25) "A status report on calculus sequences in Texas" by Chris Boldt, Eastfield College.
- (26) "The new American Invitational Mathematics Examination (AIME) and other national contests for talented high school students" by George Berzsenyi, Lamar University.
- (27) "Report on local math contests" by Howard B. Lambert, East Texas State University.
- (28) "Calculators to motivate infinite compositions of functions" by *W. D. Clark, R. G. Dean & E. D. McCune, Stephen F. Austin State University.
- (29) "A look at three open questions in the MAGAZINE and MONTHLY" by J. M. Stark, Lamar University.
- (30) "Cartoons in the classrooms, II" by Joe F. Allison, Eastfield College.
- Presiders: R. G. Dean, Stephen F. Austin State University; Charles Roy Combrink, Texas Christian University; P. W. Latimer, Lamar University (Prof. Emeritus); Tuvia Adar, San Antonio College; Joe Allison, Eastfield College; John Huber, Pan American University; Ray Carry, The University of Texas at Austin; and William McNabb, Skyline Center, Dallas.

Invited Papers:

- (31) "Almost Discrete Periodic Processes," by Constantine Corduneanu, University of Texas at Arlington.
- (32) "Elementary Theory of the Euler Characteristic," by Gian-Carlo Rota, Massachusetts Institute of Technology.

- (33) "Using Microcomputers in the (College) Classroom," by John A. Holland, Trinity University.
- (34) "National Initiatives Affecting Pre-College Mathematics Education" by R. D. Anderson, Louisiana State University and President of the Mathematical Association of America.

No record of the student papers is currently available.

April 8-9, 1983 at North Texas State University in Denton

Invited Lectures

- (1) "Paradoxical coverings of the real line" by Ivan Niven, University of Oregon and President of MAA.
- (2) "Duality in mathematics (The role of compact Hausdorff spaces in mathematics)" by S. Kakutani, Yale University.
- (3) "Perceptions regarding discrete mathematics and calculus for the freshman year" by R. D. Anderson, Louisiana State University.
- (4) "The state of school mathematics in Texas" by Barbara Montalto, Texas Education Agency.

- (5) "Coloring graphs and combinatorial geometries" by Joseph Kung, North Texas State University.
- (6) "A Note on $D_X(x^r)$ for rational r" by Peter Lindstrom, North Lake College.
- (7) "Some theory and application of geometric inequalities" by J. M. Stark, Lamar University.
- (8) "Some mappings of sequence spaces" by David F. Dawson, North Texas State University.
- (9) "Commutativity and norm conditions in Banach algebras" by Victor A. Belfi, Texas Christian University.
- (10) "Approximating a function by means of an M-polynomial" by Frank N. Huggins, University of Texas at Arlington.
- (11) "S-essentially T₁ spaces" by Charles Dorsett, Louisiana Tech University.
- (12) "Local weights in metric spaces" by Jim Bradford, Abilene Christian University.

- (13) "Approximating the length of material on a cylindrical roll" by Frank H. Mathis and Danny W. Turner, Baylor University.
- (14) "Symmetric positive systems with nonlinear boundary conditions" by Alfonso Castro, Southwest Texas State University.
- (15) "Expanding mappings and fixed points" by A. A. Gillespie and B. B. Williams, University of Texas at Arlington.
- (16) "Differential equations with piecewise constant delays" by Joseph Wiener, Pan American University.
- (17) "An application of discrete cross-correlation" by Philip R. Sanfilippo, Farmers Branch, Texas.
- (18) "Cloud and precipitation analysis" by C. Bandy and R. Torrejon, Southwest Texas State University.
- (19) "TeX at Texas A&M University" by Norman W. Naugle, Texas A&M University.
- (20) "Scientific output problems in microcomputers" by Roy Dean Alston, Stephen F. Austin State University.
- (21) "Obtaining Sommerfeld's diffraction integral via Fourier transform" by E. Dennis Huthnance, Midwestern State University.
- (22) "Some recent experiences with Logo" by Norman W. Naugle, Texas A&M University.
- (23) "Computer Literacy: A call for the problem-solving approach" by Michael Murphy and Nancy Rich, University of Houston-Downtown.
- (24) "A proof-teaching computer system" by Michael K. Jones, Fort Worth, Texas.
- (25) "Teaching mathematics in Africa" by Neal Hart, Sam Houston State University.
- (26) "Secondary mathematics dilemma: An elementary solution" by Bill Aslan, East Texas State University.
- (27) "Another approach in teaching arithmetic and algebraic fractions" by Bella Wiener, Pan American University.
- (28) "The fascinating fur farmer" by G. Marvin Eargle, Appalachian State University, Boone, North Carolina.
- (29) "Injecting vigor as a prelude to rigor or how to teach college algebra like a real math course" by G. Edgar Parker, Pan American University.
- (30) "Preradicals induced by homomorphisms" by Ed Oxford, Baylor University.
- (31) "The splitting of the Kunneth Sequence" by Andre Deutz, Texas A&M University at Galveston.
- (32) "Solving radical equations" by John Huber, Pan American University.

- (33) "Axioms for C*-algebras: A survey from 1943-1983" by Robert S. Doran, Texas Christian University.
- (34) "The Dunford-Pettis property" by Tommy L. Leavelle, North Texas State University.
- (35) "The existence of nonzero maps from injectives to projectives." by Jeffrey W. Neslen, Texas Christian University.
- (36) "On G-finite algebras" by Joseph M. Szucs, Texas A&M University at Galveston.

- (37) "A linear analysis of Liniger and Ruegsegger's mathematical model of fibrinolysis" by Joseph F. Gerda, Jr., University of Texas at Arlington.
- (38) "Approximation of a^X using Maclaurin series and range reduction" by Robert F. Jones, Sam Houston State University.
- (39) "Oscillation properties of solutions of first order linear difference equations" by Errol Moncriffe, Texas Southern University.
- (40) "Schensted's algorithm and Young tableaux" by David C. Sutherland, North Texas State University.
- (41) "On the domain of existence of first order partial differential equations" by N. E. Brewster and R. Kannan, University of Texas at Arlington.
- (42) "Group representation theory with applications" by Brice McIntyre, East Texas State University.
- (43) "Unconditional and absolute convergence" by Catherine Abbott, North Texas State University.

April 6-7, 1984 at the University of Texas at Tyler

Invited Addresses:

- (1) "Mathematical time exposures; Some recurrent geometry" by Mary Ellen Rudin, University of Wisconsin.
- (2) "Mathematics and computer science: A case study in marriage and divorce" by Lynn Steen, St. Olaf College, President Elect, MAA.

Special Sessions:

(3) "Forum on mathematics resource centers and other aids in managing large classes" by Eddie Warren, University of Texas at Arlington.

Responses: John Hardy, University of Houston; John Durbin, University of Texas; Bill Perry, Texas A&M University.

Special Reports:

- (4) "A mathematician's tour of China" by Linda Kyle, Tarrant County Junior College.
- (5) "New school mathematics curriculum and new standards for mathematics teacher certification" by Barbara Montalto, Texas Education Agency.
- (6) "Report on MAA TEAM Project" (Teaching Experimental Applied Mathematics) Bo Green, Abilene Christian University.
- (7) "Computers in schools in Texas (Pre-college & college); Impact on curriculum and pedagogy" John Huber, Pan American University.

- (8) "The James space revisited" by Tommy L. Leavelle, North Texas State University.
- (9) "On a pair of non-linear functional equations" by Elias Deeba, University of Houston Downtown.
- (10) "Some results on Boxer's hyperspace" by Stuart Anderson, East Texas State University.
- (11) "A class of mappings containing all continuous mappings" by J.K. Kohli, Lamar University.
- (12) "Computer software packages in the applied mathematical sciences" by Sudhir Goel & Dr. Ron Barnes, University of Houston Downtown College.
- (13) "A computer investigates the Bernoulli Roses" by E. Dennis Huthnance, Midwestern State University.
- (14) "The influence of numerical linear algebra on the development of computers" by George Poole, Lamar University.
- (15) "Collapsible series" by Donald F. Bailey, Trinity University.
- (16) "The American Invitational Mathematics Exam." by George Berzsenyi, Lamar University.
- (17) "How not to teach math" by Joe F. Allison, Eastfield College.

- (18) "Pascal's tetrahedron: A geometric interpretation of the trinomial theorem and its applications" by Richard A. Cooper, Trinity University.
- (19) "Geometric formulations of concavity" by Victor A. Belfi, Texas Christian University.
- (20) "Cooperative Education-What can it do for me?" by Robert E. Goad, Sam Houston State University.
- (21) "The polar compensating planimeter" by Chris Boldt, Eastfield College.
- (22) "P-commutative Banach *-algebras" by Robert S. Doran, Texas Christian University.
- (23) "How many squares in a grid?" by David Hughes, Abilene Christian University.
- (24) "An example of a Kaplansky structure without the singleton property" by Don E. Edmondson, University of Texas.
- (25) "Solving polynomial equations by radicals" by Joseph Kung, North Texas State University.
- (26) "On 2x2 matrix square roots" by Timothy P. Donovan, East Texas State University.
- (27) "Uniqueness results for homeomorphism groups" by Robert R. Kallman, North Texas State University.
- (28) "Numbers with Missing Digits" by Michael Laidacker, Lamar University.
- (29) "Existence in uniqueness of solutions of the second order boundary value problem" by Reza Aftabazadeh, Pan American University.
- (30) "The TeX typesetting system and its status at TAMU" by Norman Naugle, Texas A&M University.

(31) "The mathematical foundations of sentence structure" by Sandra Wheeler, East Texas State University.

April 11-13, 1985 at Texas A&M University at Galveston

Invited Addresses:

(1) "Lacunary Fourier series, from Sidon to Pisier" by Kenneth Ross, University of Oregon, Secretary of the MAA.

- (2) "The Examinations of the MAA Committee on American Mathematics Competitions" by Walter Mientka, Executive Director, American High School Mathematics Examination.
- (3) "Approximation of matrices" by P. R. Halmos, The University of Santa Clara, Editor of Mathematics Monthly.

Special Reports:

 (4) "Progress report on new mathematics curriculum and new standards for mathematics teacher certification" by Barbara Montalto, Texas Education Agency.

Panel Discussion:

(5) "Mathematics course work - Who's calling the shots?" by Rose Marie Smith, Moderator, Texas Woman's University; John Allen, North Texas State University; Don Bailey, Trinity University; Don Edmondson, University of Texas; Peter Lindstrom, Northlake College.

- (6) "A theorem on planar continua and an application to automorphisms of the field of complex numbers" by Robert R. Kallman, North Texas State, University.
- (7) "Banach algebras satisfying Ax²=Ax" by Victor A. Belfi, Texas Christian University.
- (8) "Evaluating special limits using Riemann sums" by Sudhir K. Goel and Dennis Rodriguez, University of Houston-Downtown.
- (9) "New characterizations using feebly open and regular open sets" by Charles Dorsett, Louisiana Tech University.
- (10) "Integration techniques using parametric integrals" by Aurel J. Zajta and Sudhir K. Goel, University of Houston-Downtown.
- (11) "The Cauchy-Bunyakovsky-Swarz Inequality--1821 to the Present" by Robert S. Doran, Texas Christian University.
- (12) "An Interesting Subset of l_{∞} " by Elizabeth M. Bator, North Texas State University.
- (13) "An alternate proof of the 'Mean Mean Value Theorem'" by Vincent P. Schielack, Jr., Texas A&M University.
- (14) "The problem of Non-T, -Special spaces" by Joseph C. Warndof, Midwestern State University.

- (15) "Kaplansky's theorem on C(X) revisited" by Don E. Edmondson, University of Texas.
- (16) "On infinite periodic rings" by Efraim P. Armendariz, University of Texas.
- (17) "The norm-closed convex hull of the orbit of an automorphism group of a W*-algebra" by Joseph M. Szucs, Texas A&M University at Galveston.
- (18) "SDP transforms of the quartic Diophantine equation of Euler" by Aurel J. Zajta. University of Houston-Downtown.
- (19) "On equivalent endormorphisms of finite groups" by John R. Durbin, University of Texas.
- (20) "Independence spaces" by Wynne Johnson, University of Texas at Arlington.
- (21) "Generalized absolute neighborhood retracts" by Stuart Anderson, East Texas State University.
- (22) "Painting a fence derives the Fundamental Theorem of Calculus" by Lawrence Maher, North Texas State University.
- (23) "A spiral approach to discrete and continuous mathematics instruction" by Richard A. Alo and Michael G. Murphy, University of Houston-Downtown.
- (24) "Accreditation of undergraduate Computer Science programs" by Ashok Kumar and Sudhir Kumar Goel, University of Houston-Downtown.
- (25) "A new mathematics degree Bachelor of Science in Quantitative Methods" by Ron Barnes, University of Houston-Downtown
- (26) "In search of excellence A comparative study in the mathematics teacher program between the Province of Taiwan, Republic of China and the United States" by Ping-Tung Chang, Laredo State University.
- (27) "Technical mathematics program at Eastfield College" by Vivian Dennis, Eastfield College.
- (28) "Calculus teaching and the role of testing" by Gregory D. Foley, Austin Community College.
- (29) "A Plea for 'Nothing'" by Tammie Ann Hill, Prairie View A&M University.
- (30) "Projectionally exposed cones in convex programming" by George D. Poole, Lamar University.
- (31) "Uses of the microcomputer for mathematics classroom demonstrations" by Timothy P. Donovan, East Texas State University.
- (32) "An interactive graphics package for spline approximation" by Susan Hunt, Baylor University.

- (33) "Third order iteration techniques" by Donald F. Bailey, Trinity University.
- (34) "On the oscillation of solutions of certain third order difference equations" by Beverly Smith, Texas Southern University.
- (35) "Solving polynomial and rational function inequalities" by Bella Wiener, Pan American University.
- (36) "The microcomputer as an aid in teaching business math" by Carol Ghomi and Dennis Rodriguez, University of Houston-Downtown.
- (37) "Searching for narcissistic numbers by computer" by John F. Lamb, Jr., East Texas State University.
- (38) "A classroom note on numerical singularity" by John Dennis, Rice University.

April 11-12, 1986 at Eastfield College in Mesquite

- Invited Address: "Developmental/remedial mathematics Current view and future outlook" by Dr. William Sanford, Assistant Commissioner for Universities and Research, Coordinating Board, Texas College and University Systems.
 - Resource Panel: R. D. Anderson, Louisiana State University, Past President, The MAA; Elbert A. Walker, New Mexico State University, Past Governor, Southwest Section, MAA; Charles "Chuck" Miller, American River College, California; Louie Huffman, Midwestern University; Sam Tinsley, Eastfield College; John Huber, Sam Houston State University.
- (2) Invited Address: "Applications of mathematics" by Professor John D. Neff, Georgia Institute of Technology.
- (3) Invited Address: "'Lap' computer demonstration" by Chuck Aldrich, Radio Shack.
- (4) Invited Address: "My experiences in becoming a mathematician" by R. H. Bing
- (5) Invited Report: "PREP, A program for high ability middle and high school students" by Manuel P. Berriozábal, University of Texas at San Antonio.
- (6) Invited Report: "School mathematics now" by Barbara Montalto, Texas Education Agency.
- (7) Standards in Entry Level College Mathematics Invited Report: "A comparison of ACT scores with grades in entry level courses" by Elbert A. Walker, New Mexico State University.
 - Two Samples: L. Dwayne Snider, Tarleton State University. E. Wesley Sanders, Sam Houston State University.

- (8) Invited Address: "Infinite dimensional intuition" by R. D. Anderson, Louisiana State University, Past President of The MAA.
- (9) "Waring's problem for polynomials" by Joseph Kung, North Texas State University.
- (10) "G.C.D.'s and the uniqueness theorem for finite Abelian groups" by Don Edmondson, University of Texas.
- (11) "The worm problem" by Michael Laidacker and George Poole, Lamar University.
- (12) "Jacobson rings with a polynomial identity" by Jae Keol Park, Efraim P. Armendariz and Hyeng Keun Koo, University of Texas and Busan National University, Korea.
- (13) "Ore extensions of von Neuman regular rings" by Efraim P. Armendariz:, Hyeng Keun Koo and Jae Keol Park, University of Texas and Busan National University, Korea.
- (14) "Burnside's counting theorem applied to 0-1 rings" by *Ed Oxford and Eugene Tidmore, Baylor University.
- (15) "An easy computation of an nxn determinant" by Robert L. Sartain, Wayland Baptist University.
- (16) "Simple solutions for special overdetermined systems" by James C. Kirby, Tarleton State University.
- (17) "Comparing t-tests for two means, independent samples vs paired samples" by Carol Jones, University of Houston-Downtown.
- (18) "A pseudo microcomputer network for computer literacy students" by Marjorie S. Freeman, University of Houston-Downtown.
- (19) "Combinations in locks" by Bo Green, Abilene Christian University.
- (20) "Artificial intelligent production systems in Logo" by Will Watkins, Pan American University.
- (21) "On a generalization of Meijer transformation" by Elias Deeba, University of Houston-Downtown.
- (22) "Proving theorems with microcomputers" by E. Dennis Huthnance, Midwestern State University.
- (23) "Do you really need primes for R.S.A. public key encryptions?" by Joseph Warndof and Dennis Huthnance, Midwestern State University.
- (24) "A function-theoretic proof of a theorem of Stampfli" by Peng Fan, Texas Christian University.
- (25) "Feebly compactness" by Charles Dorsett, Louisiana Tech University.

- (26) "A naive approach to concurrent calculations for a twodimensional diffusion equation" by *Michael G. Murphy, R. Bower Loftin and Suresh Agrawal, University of Houston-Downtown.
- (27) "An application of the theory of Pettis integration to operator theory" by Elizabeth Bator, North Texas State University.
- (28) "Geometric representations of geometric series" by Vincent P. Schielack, Jr., Texas A&M University.
- (29) "Generalization of Kaprekar transformation for three digit numbers" by Seok Sagong, Hardin-Simmons University.
- (30) "Special integration techniques for trig integrals" by Sudhir K. Goel and Ashok Kuwar, University of Houston-Downtown.
- (31) "Hypnotherapeutic restructuring for mathematics anxiety" by Richard M. Trent and Richard A. Croley, Jr., East Texas State University.
- (32) "An interesting pedagogical technique" by Sudhir K. Goel and Dennis M. Rodriguez, University of Houston-Downtown.
- (33) "Oral and written communication skills in the math sciences" by *Ron Barnes and Kenneth Oberhoff, University of Houston-Downtown.
- (34) "College freshman high school math." by Larry Dwayne Snider and Cathy Crawford, Tarleton State University.
- (35) "Assessment and placement for developmental/remedial mathematics courses" by Charles "Chuck" Miller, American River College.
- (36) "Some motivational items for elementary algebra including a relationship between the Fibonacci sequence, the golden rectangle, and some complex fractions" by Charles P. McKeague, Cuesta College
- (37) "A conceptual mathematics primer for college students" by Chris Boldt, Eastfield College.

- (38) "A third order iteration technique without second derivative dependence" by Gregory S. Ellis, Trinity University.
- (39) "Observations on power of the Golden Ratio" by Karen Knorr, Trinity University.
- (40) "A new approach to software design for math education" by Neven JurKovic, Southwest Texas State University.
- (41) "A general algorithm for generating permutations and combinations" by Mario Grimani, Southwest Texas State University.

*presenters

April 2-4, 1987 at Tarleton State University in Stephenville

Invited Addresses:

- "Axioms for C*-algebras: Flying by instruments" by Robert S. Doran, Texas Christian University.
- (2) "Forces for change in mathematics education" by Henry Pollak, Bell Communications Research.
- (3) "Solutions and their applications to physical systems" by Henry A. Warchall, North Texas State University.
- (4) "Applications in the mathematical sciences (Instructional Media)" by John Jobe, Oklahoma State University.
- (5) "On artificial intelligence" by W. W. Bledsoe, Microelectronics and Computer Technology Corporation.
- (6) "Making mathematicians count: the role of mathematics in public policy" by Christine Stevens, Arkansas State University.

Special Reports:

- (7) "School Mathematics" by Barbara Montalto, Texas Education Agency.
- (8) "Long Range Planning Committee" by Jim Bradford, Abilene Christine University.

- (9) "Mathematics for elementary school teachers" by Bill Aslan, East Texas State University.
- (10) "Mathematical models and simulation: three courses for undergraduates" by Ron Barnes, University of Houston-Downtown.
- (11) "An analysis of the D'Ocagne approximation for trisecting an angle" by John F. Lamb, Jr., East Texas State University.
- (12) "Are they learning what you're teaching or 'You did what?!!"" by Timothy L. Flinn, Tarleton State University.
- (13) "Eastfield + 1" by L. Dwayne Snider, Barbara Jinks, Tarleton State University.
- (14) "Geometric inequalities in probability" by Bill Beckner, University of Texas.

- (15) "Guidelines for selection of proof techniques & the utilization of the function concept in delta-epsilon and mathematical induction" by Chris Boldt, Eastfield College.
- (16) "A computer analysis of Rawinsonde (Atmospheric Soundings) data" by Marjorie S. Freeman, University of Houston-Downtown.
- (17) "Experiments with bracketing methods for solving f(x) 0" by William F. Trench, Trinity University.
- (18) "Operational calculus of the Legendre transform" by Elias Y. Deeba, University of Houston-Downtown.
- (19) "Problems in defining a generalized ANR theory" by Stuart Anderson, East Texas State University.
- (20) "Nonlinear dynamical systems: An introduction" by Thomas A. Atchison, Stephen F. Austin State University.
- (21) "Options for concurrent calculations for a two-dimensional diffusion equation" by Michael G. Murphy and *Kenneth E. Oberhoff, University of Houston-Downtown.
- (22) "On oscillators with a pregiven set of limit cycles" by Yuly Sact, Lamar University.
- (23) "A class of Noetherian subrings of K[x]" by Scott Chapman, North Texas State University.
- (24) "A class of relatively complemented modular lattices" by Don E. Edmondson, University of Texas.
- (25) "Inverting restrictions of transformations determined by 0, 1 matrices" by Eugene Tidmore, Baylor University.
- (26) "Obstinate ideals in BCK-algebras" by Sudhir Kumar Goel, University of Houston-Downtown.
- (27) "Deriving (not Proving) the formulas for sums of powers of integers by mathematical induction" by Vincent P. Schielack, Jr., Texas A&M University.
- (28) "On prime divisors of sequences of integers involving squares" by Montie G. Monzingo, Southern Methodist University.
- (29) "Cramer's rule and its extension" by Michael Laidacker, Lamar University.
- (30) "Derivative of sine and cosine functions via arc length formula" by Peter A. Lindstrom, North Lake College.
- (31) "On the convex hull of a set of vectors" by Ali R. Amir-Moéz, Texas Tech University.
- (32) "Gradient type differential operators and unitarizable highest weight modules of SU(p,q)" by Ronald J. Stanke, Baylor University.

- (33) "Inequalities and the Darboux integral" by Kennard Reed, Jr., Houston Community College System.
- (34) "An introduction to the Pettis decomposition" by Elizabeth M. Bator, North Texas State University.
- (35) "Boundary properties of analytic functions" by A. Matheson, Lamar University.
- (36) "On the probability that a matrix is singular" by Patrick L. Odell, University of Texas at Dallas.

(37) "Statistical analysis of cost estimates on the space station" by Marcus A. Bailey, University of Houston-Downtown.

April 14-16, 1988 at Trinity University in San Antonio

Invited Addresses:

- "An Obvious Introduction" by President Leonard Gillman, Mathematical Association of America, The University of Texas, introduced by Darwin Peek, Trinity University.
- (2) "The dilemma of modern computing: accuracy vs stability vs parallelism" by George Fix, The University of Texas at Arlington.
- (3) "Mathematical ideas Their origin and spread in Texas" by Robert Greenwood, University of Texas.

Special Reports:

- (4) "College testing" by Joe Cude, Tarleton State University.
- (5) "Calculus for a new century" by Charles Deeter, Texas Christian University.
- (6) Panel Discussion: "Mathematics enrichment programs for underrepresented groups in the mathematical professions." Moderator, Darwin Peek, Trinity University. Panelists: Manuel P. Berriozábal, TEXPREP, University of Texas at San Antonio; Jo Ann Fitts, Harlandale Middle School, Harlandale ISD; Jo Ann Fitts, Upward Bound, Trinity University; Rose Marie Smith, Denton PREP, Texas Woman's University; Antonio P. Garza, Jr., Thomas A. Edison H.S., San Antonio ISD;

Antonio P. Garza, Jr., San Antonio PREP, University of Texas at San Antonio.

- (7) "An eigen problem for transformations of spaces of homogeneous functions" by William F. Trench, Trinity University.
- (8) "A differential operator approach to realizing unitary highest weight representations of semi simple Lie groups" by Ronald J. Stanke, Baylor University.
- (9) "Some results concerning orbit polynomials" by Don E. Edmondson, University of Texas.
- (10) "Generating ideals in subrings of k[x] generated by monomials" by Scott T. Chapman, Trinity University.
- (11) "The Peter-Weyl theorem for compact groups" by Robert S. Doran, Texas Christian University.
- (12) "Some preliminary results on periodicity in residue class sequences" by R. G. Dean and Keith Dean, Stephen F. Austin State University.
- (13) "Global dimensions of Noetherian rings" by Efraim P. Armendariz, University of Texas.
- (14) "An application of graph theory to thermodynamics" by Victor A. Belfi, Texas Christian University.
- (15) "Adventures among pt-sets" by George Berzsenyi, Lamar University.
- (16) "Weakly precompact and GSP operators on continuous function spaces" by Catherine Ann Abbott, North Texas State University.
- (17) "A generalization of the Mean Mean Value Theorem" by Donald F. Bailey, Trinity University.
- (18) "Remarks on completely continuous operators" by Elizabeth M. Bator, North Texas State University.
- (19) "An analysis of the Kopf-Perron angle trisection method" by John F. Lamb, Jr., (Presenter) and Bill Aslan, East Texas State University.
- (20) "The fundamental theorem of projective geometry" by Robert Piziak, Baylor University.
- (21) "A note of a Kolmogorov inequality for the binomial distribution" by Danny W. Turner (Co-authors: Dean M. Young and John W. Seaman), Baylor University.

- (22) "The Cauchy Mean Mean Value property" by Vincent P. Schielack, Jr., Texas A&M University.
- (23) "Why only odd" by James W. Petticrew, Pan American University.
- (24) "The effect of fatigue on running A classroom note in optimization" by Frank Mathis, Baylor University.
- (25) "Mathematical modeling in cardiovascular research" by Sherwood Samn, USAF School of Aerospace Medicine.
- (26) "Computer analysis of mathematical relations" by Timothy P. Donovan, Midwestern State University.
- (27) "Bernoulli numbers and trigonometric functions" by Elias Y. Deeba (Presenter) and Dennis M. Rodriguez, University of Houston-Downtown.
- (28) "Another look at systems dynamics modeling" by John T. Sieben, Texas Lutheran College.
- (29) "Using computer algebra to teach business calculus" by Phoebe T. Judson, Trinity University.
- (30) "Microcomputer graphics for calculus and precalculus" by Ronald D. Ferguson and Jack V. Shaw, San Antonio College.
- (31) "Sharing session on software for math class" by Vivian Dennis, Eastfield College.
- (32) "Undergraduate participation in mathematics: Some suggestions" by Ken Oberhoff (Presenter) and Ron Barnes, University of Houston-Downtown.
- (33) "Making abstract thought concrete" by Carmen Hinds Lee, Theodore Roosevelt High School.
- (34) "What can you do with a degree in math besides teach?" by Dalton Tarwater, Texas Tech University.
- (35) "Critical value analysis in one-variable calculus" by Chris Boldt, Eastfield College.
- (36) "Effects of class size on achievement and attitudes of first semester calculus students" by Eddie Warren, University of Texas at Arlington.
- (37) "A simple derivation of fundamental trigonometric formulas and identities" by Bella Wiener, Pan American University.
- (38) "Let's put the fun back in math courses" by Marjorie S. Freeman, University of Houston-Downtown.

- (39) "Inscribing cubes in hypercubes" by Andrew Chamblin, Trinity University.
- (40) "Induction on checkerboards" by Ruben Worley, Baylor University.
- (41) "An optimal systolic design for matrix multiplication" by Robert W. Green, Southwestern University.
- (42) "Computer generated hypercubes: An aid to four dimensional understanding" by Robert Stimets, Austin Community College, Rio Grande Campus.
- (43) "Numerical solution of the eigenvalue problem for banded symmetric Toeplitz matrices" by Rebecca R. McGowan, Trinity University.
- (44) "Important algebraists: Observations on George Boole and Sir William Rowan Hamilton" by Charlotte Simmons, East Texas State University.
- (45) "Topologies generated by set operators: interior and exterior" by Lea Ligon, Abilene Christian University.
- (46) "Topology generated by the derivative set operator" by Mace Williamson, Abilene Christian University.

April 6-8, 1989 at Texas Lutheran College in Seguin

Invited Addresses:

- "Variety is the spice that motivates students" by George Brewer, Odessa College. Moderator: Shelba Morman, North Lake Community College.
- (2) "Job opportunities and challenges in applied mathematics" by James W. Daniel, University of Texas.
- (3) "Mathematics from applications some examples" by Clyde F. Martin, Texas Tech University.
- (4) "Calculus: the bell cow of curricular reform" by Bernard L. Madison, The University of Arkansas.

TASP Panel:

(5) "Survey of developmental mathematics programs" Pat Juelg, Moderator, Bee County College; George Brewer, Odessa College; Vivian Dennis, Eastfield College; Montie Monzingo, Southern Methodist University; Robert Northcutt, Southwest Texas State University; Vincent Schielack, Texas A&M University.

Report:

(6) "A 'Texas Mathematical Sciences Education Board'?" by Robert A. Northcutt, Southwest Texas State University and R. O. Wells, Jr., Rice University.

- (7) "Quasi-geometric series and the baseball card problem" by Vincent P. Schielack, Jr., Texas A&M University.
- (8) "Validation studies in computational fluid dynamics" by Sherwood Sean, USAF School of Aerospace Medicine.
- (9) "And-Or trees for teaching combinatorics" by Alfred E. Borm, Southwest Texas State University.
- (10) "The role of programming assignments in Computer Science I" by Timothy P. Donovan, Midwestern State University.
- (11) "More fun with an HP28S" by Bo Green, Abilene Christian University.
- (12) "Are clocks made of trees" (Student paper) by Elizabeth L. Egan, Texas Christian University.
- (13) "Stirling's series And Bernoulli numbers" by ^{*}Elias Deeba and Dennis Rodrigues, University of Houston-Downtown.
- (14) "Evolution of a parser for function evaluation (I)" by Ronald D. Ferguson, San Antonio College.
- (15) "Evolution of a parser for function evaluation (II)" by Jack V. Shaw, San Antonio College.
- (16) "A survey of the theory of p-commutative Banach *-algebras" by Robert S. Doran, Texas Christian University.
- (17) "Numerical solution of the eigenvalue problem for efficiently structured Hermitian matrices" by William F. Trench, Trinity University.
- (18) "Differential equations with piecewise constant delays" by *Will Watkins and Joseph Wiener, Pan American University.
- (19) "Graphical substitution and inverses" by James W. Petticrew, Pan American University.
- (20) "Isomorphism classes of the groups $Q^{(3)} + Q^{(5)} + Z(m^{2^{-k}}, n^{2^{-l}})$ " by Ed Oxford, Baylor University.
- (21) "Functions which cycle through composition" by John Spellman, Southwest Texas State University.
- (22) "Commutativity Of rectangular matrices" by Patrick L. Odell, Baylor University.

- (23) "Some properties of element factorization in Dedekind domains" by Scott Chapman, Trinity University.
- (24) "The remainder of power series problem" by James D. McCall, Jr., Texas A&M University. (25) "Symmetry in algebra" by ^{*}Joseph Wiener and Will Watkins,
- Pan American University.
- (26) "Can we ever see a crescent Mars from Earth?" by John F. Lamb, Jr., East Texas State University.
- (27) "Special cases of critical values and inflection points" by Chris Boldt, Eastfield College.
- (28) "An analysis of the Durer angle trisection method" by Farhad (Bill) Aslan^{*} and John F. Lamb, Jr., East Texas State University.
- (29) "Pi lore: Some historical notes on Pi" by John T. Sieben, Texas Lutheran College.
- (30) "The effect of calculator use on the performance of students taking a test of mathematics applications" by Lynda O'Gorman, The Psychological Corporation.
- (31) "Teaching quadratic equations on the basis of the Vieta formulas" by Bella Wiener, Pan American University.
- (32) "Keys to successful remedial mathematics programs at four-year colleges and universities" by Eddie Warren, University of Texas at Arlington.
- (33) "Linear Diophantine equations, geometry and vectors" by William S. McCulley, Texas A&M University (Retired).
- (34) "On the concept of being 'Well Defined'" by Jim Bradford, Abilene Christian University.
- (35) "Do philosophies of mathematicians converge?" by Sherill Easterling, Tarleton State University.
- (36) "Calculating before calculators" by Timothy L. Flinn, Tarleton State University.
- (37) "The 'write' thing in mathematical sciences" by *Marjorie S. Freeman and Michael Murphy, University of Houston.
- (38) "Models for developmental courses" by "Doug Tharp and Ken Oberhoff, University of Houston-Downtown.
- (39) "Mathematical issues in neural networks" by Mike Murphy, University of Houston-Downtown.
- (40) "An evidential approach to problem solving based on conditional basic probability assignments" by *Ron Barnes, A. de Korvin, R. Kleyle, and R. Lea, University of Houston-Downtown.

^{*}presenter

April 5-7, 1990 at University of North Texas in Denton

- (1) "Lebesgue's 'Fundamental Theorem of Calculus' revisited" by Sterling K. Berberian, University of Texas.
- (2) "What ever happened to My Dear Aunt Sally?" by Ronald D. Ferguson, San Antonio College.
- (3) "Catalan's Triangle" by Rick Denman, Southwestern University.
- (4) "Award Winning Teaching; Reflections of a Piper Professor and CASE Gold Medalist" by Robert S. Doran, Texas Christian University.
- (5) "A note on workshops for retraining teachers" by Bill Aslan, East Texas State University.
- (6) "Texas in the 90's Before the 21st Century" by Robert Northcutt, Southwest Texas State University.
- (7) "Humor in Victorian mathematics" by Elizabeth L. Egan, Texas Christian University.
- (8) "How we teach a "History of Mathematics" course without a historian" by Stuart Anderson and Dale Bedgood, East Texas State University.
- (9) "Never say 'no slope' again" by John F. Lamb, Jr., East Texas State University.
- (10) "Partial Credit---We're going too far" by Martha M. Harvey, Midwestern State University.
- (11) "Some relationships between continuous and discrete logistic population models" by Linda J. S. Allen, Texas Tech University.
- (12) "Computer Graphics and the Polar Graph of r=q-int(q)" by Jack V. Shaw, San Antonio College.
- (13) "A mechanical verification of a number theoretic function" by Ross Phillips, Southwest Texas State University.
- (14) "A computer search for regular and semi-regular tessellations" by John F. Lamb, Jr., East Texas State University.
- (15) "Extending the limits of calculators with built-in graphing function keys" by Joe F. Allison, Eastfield College.
- (16) "A Bayesian approach to reliability and confidence" by Ron Barnes, University of Houston-Downtown.
- (17) "Adaptive and fuzzy information systems" by Michael G. Murphy, University of Houston-Downtown.
- (18) "Three ways of counting ordered partitions" by Bo Green, Abilene Christian University.

- (19) "A recursive algorithm for finding all paths in a directed graph" by Jean Richmond, Southern Methodist University.
- (20) "Identification of parameters for partial differential equations" by Frank Mathis, Baylor University.
- (21) "Some Kolmogorow inequalities for the binomial distribution" by Danny W. Turner, Baylor University.
- (22) "A glimpse on abstract Volterra equations" by C. Corduneanu, University of Texas at Arlington.
- (23) "Guidelines for infinite series convergence test selection" by Chris Boldt, Eastfield College.
- (24) "Covariant differential operators" by Ronald J. Stanke, Baylor University.
- (25) "The Fourier method for partial differential equations with discontinuous delay" by Joseph Wiener, University of Texas-Pan American.
- (26) "Properties of topological spaces and feebly open sets" by Charles Dorsett, Louisiana Tech University.
- (27) "A simple method for continued fractions of square roots" by Bella Wiener, University of Texas-Pan American.
- (28) "Two Grothendieck-Pietach type theorems for multilinear summing operators" by David Ruch, Tarleton State University.
- (29) "p² and p³ variations of Lucas' theorem" by Donald F. Bailey, Trinity University.
- (30) "How many remainders?" by James W. Petticrew, University of Texas-Pan American.
- (31) "Constructing sets of ordered matrices" by Patrick L. Odell, Baylor University.
- (32) "Disjointness in the class of all *f*-Modules" by Mona Cherri, Texas Woman's University and Wayne Powell, Oklahoma State University.
- (33) "Fractorization in Dedekind domains with finite class group" by Scott Chapman, Trinity University.
- (34) "A note on sums of the kth powers of integers" by Joseph Chance and Alejandro Necochea, University of Texas-Pan American.
- (35) "Lattice ideals of bounded commutative BCK-Algebras" by Elias Y. Deeba, University of Houston-Downtown.
- (36) "Point stabilizers in permutation groups" by Walter M. Potter, Southwestern University.
- (37) "What's happening in Texas Calculus: Anybody know?" by Charles R. Deeter, Texas Christian University.
- (38) "A summary of texts and course coverage in main-stream Calculus in Texas" by Chris E. Boldt, Eastfield College.

- (39) Remarks MS 2000 Project Conference at University of Maryland, October 1989: "Mathematical Sciences: Servant to Other Disciplines" by Rose Marie Smith, Texas Woman's University.
- (40) "Calculus: Louisville Report" by Jim Bradford, Abilene Christian University.
- (41) "Calculus & Technology" by Timothy L. Flinn, Tarleton State University.
- (42) "The Emerging Scholars Program A Calculus project" by Efraim Armendariz, University of Texas.
- (43) "Teaching Calculus II with Computer Algebra" by Phoebe T. Judson, Trinity University.
- (44) "A profile of freshman mathematics classes at ETSU using PreTASP, MAA Algebra Test and Math ACT Scores" by Archie D. Brock and Richard Dubes, East Texas State University.
- (45) "Real-world applications of the conic sections" by Dalton Tarwater, Texas Tech University.
- (46) "An analysis of the 1989 and 1990 AHSME in Texas" by Vincent P. Schielack, Jr., Texas A&M University.

- (47) "A distributed algorithm for Gaussian elimination" by Travis Burnal Rowell, Southwestern University.
- (48) "Hyperspaces of continua" by Charlotte Simmons, University of North Texas.
- (49) "Minimal surfaces The helicoid and catenoid" by Michael Green, University of North Texas.
- (50) "The Boolean binary operation rings" by Guy Lovan, Sam Houston State University.

Keynote Address:

(51) "Infinite games" by Professor Donald A. Martin, The University of California at Los Angeles.

Panel Discussion:

(52) "Texas Prefreshman Engineering Program (A Statewide Summer Mathematics Enrichment Program)." Panelists: Darwin Peek, Moderator, Trinity University; Rose Marie Smith, Texas Woman's University; Richard Cooper, Trinity University; Catherine Banks, Texas Woman's University at Dallas.

Invited Addresses:

- (53) "Fractals" by R. Daniel Mauldin, University of North Texas.
- (54) "Calculus Reform: An Overview" by Tom Tucker, Colgate University, Vice President, MAA, Chair of CUPM Subcommittee on Calculus Reform.

April 4-6, 1991 at Stephen F. Austin State University in Nacogdoches

MAA Address:

(1) "Let's not move from rote pencil manipulations to technology mimicry" by John Kenelly, Clemson University.

Invited Address:

- (2) "Some good attitudes learned from Euler and Polya" by Lester H. Lange, San Jose State University.
- (3) "Graphing calculators in the mathematics classroom" by Sharon Sledge, San Jacinto College.
- (4) "Encouraging minority achievement in mathematics" by Efraim Armendariz, University of Texas.
- (5) "Notes toward a holiday reader in good mathematics" by Lester H. Lange, San Jose State University.
- (6) "Curriculum and enrollment trends in high school mathematics" by Dr. Bill Hopkins, Mathematics Specialist, Texas Education Agency.
- (7) "The role of the counselor in the placement of students in high school mathematics courses" by Mrs. Carolyn Melton, Past President, Texas School Counselors' Association; Director of Guidance and Counseling, Fort Worth Independent School District.

- (8) "Minimax assignment" by Eugene Tidmore, Baylor University.
- (9) "An intuitive derivation of the formula for number of unordered samples with replacement" by Thomas A. Boynton, Texas Lutheran College.
- (10) "Some binomial coefficient congruences" by Donald F. Bailey, Trinity University.
- (11) "Approximate solutions of a generalized birthday problem" by Frank Mathis, Baylor University.
- (12) "How valuable is a .300 hitter to his team?" by Timothy P. Donovan, Midwestern State University.
- (13) "More applications of semi-open sets and the semi-closure operator" by Charles Dorsett, Louisiana Tech University.
- (14) "Regular relations, functions, and equivalences" by James W. Petticrew, University of Texas - Pan American.
- (15) "Cauchy product of Taylor series and trigonometric identities" by Roy Dean Alston, Stephen F. Austin State University.
- (16) "Rings with few zero divisors" by Nick Vaughan, University of North Texas.
- (17) "Exchangeable trees and random distributions" by Michael G. Monticino, University of North Texas.
- (18) "A Kolmogorov inequality for partial sums of independent Bernoulli random variables" by Danny W. Turner, Baylor University.
- (19) "Global convergence in models of population genetics" by Joseph M. Szucs, Texas A&M University at Galveston.
- (20) "Nonoscillatory solutions of $D^3Vn P_{n+1}DV_{n+1} + Q_{n+1}V_{n+1} = 0$ " by Beverly Smith, Texas Southern University.
- (21) "Chaos and the 3x + 1 problem" by Stuart Anderson, East Texas State University
- (22) "An efficient algorithm for generating yield per recruit isopleths" by S. Eugene Sims, St. Mary's University.
- (23) "Linear algebra and the energy consumption signature of a building" by David Rueh, Sam Houston State University.
- (24) "Quasiconformal extension and univalency criteria" by Delin Tan, Texas A & I University.
- (25) "A taxonomy of conditions for matrix diagonalization" by ^{*}Patrick L. Odell and Doug Wielenga, Baylor University.
- (26) "Continuity of the involution in Banach *-algebras" by Robert S. Doran, Texas Christian University.
- (27) "Generalizations of Jensen functional equation" by Elias Y. Deeba, University of Houston-Downtown.
- (28) "Fuzzy logic control system for collision avoidance" by Michael G. Murphy, University of Houston-Downtown.
- (29) "Compound estimation procedures in Bayesian reliability" by Ron Barnes, University of Houston-Downtown.
- (30) "Extrapolation techniques in solving elliptic partial differential equations" by Reza O. Abbasian, Texas Lutheran College.
- (31) "Multivariate Banach function spaces" by Anthony P. Blozinski, Texas A&M University at Galveston.
- (32) "Systems of equations with coefficients in a commutative ring" by W. D. Clark, Stephen F. Austin State University.
- (33) "Visualizing the limit concept using MATHEMATICA" by "Ongard Sirisaengtaksin, "Linda Becerra, and Kenneth Oberhoff, University of Houston-Downtown.
- (34) "Limits without epsilons" by Darwin R. Peek, Trinity University.
- (35) "Using HyperCard to create your own tutorial software for the Macintosh" by Christopher P. Benton, Alvin Community College.
- (36) "That Mean Ol' Mr. Sun--Comments on Kepler's Third Law for Planetary Motion" by Joe Chance, University of Texas-Pan American.
- (37) "Business Calculus with Derive" by Howard B. Lambert, East Texas State University.
- (38) "A generic Fundamental Theorem of Calculus (and Why the Riemann integral doesn't Fit)" by S. K. Berberian, University of Texas.
- (39) "Representations of an n x n matrix of linear maps" by Ching-Yun Suen, Texas A&M University at Galveston.
- (40) "Parabolic Trigonometry" by Julius M. Burkett, Stephen F. Austin State University.
- (41) "Using the TI-81 Graphics Calculator to solve some important problems in college algebra" by Kenneth J. Word, Central Texas College.
- (42) "Testing and Placement in Freshman Mathematics" by Don Williams, Brazosport College.
- (43) "Summary of selected calculus and business sequences in Texas" by Chris Boldt, Eastfield College.
- (44) "Math anxiety: Real or imagined? Does it make any difference?" by Jack B. Tennison, Texas Lutheran College.
- (45) "Considerations in setting up and implementing a mathematics computer laboratory" by Michael Laidacker and ^{*}John Harvill, Lamar University.

- (46) "Proper values of matrices and central conics" by Ali R. Amir-Moéz, Texas Tech University
- (47) "Strategies for successful mathematics teaching" by Robert S. Doran, Texas Christian University.
- (48) "Searching for narcissistic loops by computer" by John F. Lamb, Jr., East Texas State University.
- (49) "An analysis of the 1991 American High School Mathematics Examination in Texas" by Vincent P. Schielack, Jr., Texas A&M University.

Student Papers:

- (50) "The heat equation" by Susan Paulson, University of North Texas.
- (51) "Markov Chain models of games" by James W. Miller, Baylor University.
- (52) "Interval designs" by Mouhamad Bismar, University of Houston-Downtown.
- (53) "Surface Approximation by B-Spline and Generalized Cross-Validation" by Hongmin Lu, Baylor University.

April 9-11, 1992 at University of Houston-Downtown in Houston

(1) "SUMMA Proposal writing workshop" by Dr. Florence Fasanelli, Mathematical Association of America.

MAA Address:

(2) "Problems with an American Mathematical Monthly Connection" by Deborah Haimo, President, Mathematical Association of America.

Invited Address:

- (3) "Future of manned space flights" by Dr. Aaron Cohen, Director of the Johnson Space Center in Houston.
- (4) "Humor in calculus or toward a fat and funny calculus" by James C. Bradford, Abilene Christian University, 1992 Recipient of MAA Meritorious Service Certificate.
- (5) "Calculus in context" by James Callahan, Smith College and Professor Kenneth Hoffman, Hampshire College.
- (6) "Parallel algorithms for modeling flow in porous media problems" by Mary F. Wheeler, Rice University.

Contributed Papers:

- (7) "A diffusion model for dispersal of cholla on rangeland" by Linda J. S. Allen, Texas Tech University.
- (8) "Persistence-time models for use in viability analyses of vanishing species" by Edward J. Allen, Texas Tech University.
- (9) "Differential equations with jumping nonlinearities" by Alexandra Kurepa, Texas Christian University.
- (10) "Equivariant bifurcation analysis in superconductivity" by Jacek Turski, University of Houston-Downtown.
- (11) "Latest version of the polytope models in cosmology" by Eric Sepulveda, Ana-lab Corporation
- (12) "An approach to inverse calculation of heat conduction in an annular region" by Shishen Xie, University of Houston-Downtown.
- (13) "Some unusual factorizations of ordinary differential operators" by Alan Wiederhold, San Jacinto College.
- (14) "A Note on the accuracy of the Rule of 72" by "Bill Aslan, Dale R. Bedgood, and John F. Lamb, Jr., East Texas State University.
- (15) "Mathematics education dilemma, with a solution" by Bill Aslan, East Texas State University.
- (16) "L-series and modular forms of halfintegral weight" by Rhonda L. Hatcher, Texas Christian University.
- (17) "Smoothing scattered noisy data" by Frank Mathis, Baylor University.
- (18) "A glimpse of fractional calculus" by Howard B. Lambert and *Annelle E Fowler, East Texas State University and Tyler Junior College.
- (19) "Database optimization and M/M/n queuing" by David Breese, Austin Texas.
- (20) "Controlling a process which leads to a goal" by Michael Monticino, University of North Texas.
- (21) "Generating functions and their use in problem solving" by Joseph E. Chance, University of Texas-Pan American.
- (22) "Stability of certain recurrence relations" by Saber N. Elaydi, Trinity University.
- "Undergraduate dynamical systems" by Stuart Anderson, East Texas State University.
- (23) "On an orthogonal projection onto the intersection of column spaces" by Patrick L. Odell, Baylor University.

- (24) "Narcissistic loops in other number bases" by John F. Lamb, Jr., East Texas State University.
- (25) "Relationships between the even and odd spectra of real symmetric Toeplitz matrices" by William F. Trench, Trinity University.
- (26) "Cuspidal coverings for pairs of congruence subgroups" by George T. Gilbert^{*} and Matthew Richey, Texas Christian University and St. Olaf College.
- (27) "P = NP: The proof simplified" by David Otway Wray, Texas A&M University.
- (28) "Partition Z_m into multiplicative groups" by Ayman Badawi, University of North Texas.
- (29) "Systems of equations with coefficients in a commutative ring II" by W. D. Clark, Stephen F. Austin State University.
- (30) "Divisibility by seven" by L. Dwayne Snider, Tarleton State University.
- (31) "A trigonometric derivation of the point-to-line and point-toplane distance formulas" by Bella Wiener and Joseph Wiener, University of Texas-Pan American.
- (32) "Instructional sequence effects of recursion and mathematical induction in college algebra" by Kenneth J. Word, Central Texas College.
- (33) "A necessary and hopefully sufficient approach to proof in algebra and trigonometry" by Chris Boldt, Eastfield College.
- (34) "On interval inverse trigonometric functions and their evaluations" by Chenyi Hu, University of Houston-Downtown.
- (35) "Monty's dilemma and other interesting problems" by Mike Dellens, Austin Community College.
- (36) "Surprise: Improper integral" by Howard B. Lambert, East Texas State University.
- (37) "Newer ideas in Old Mathematics" by Ali R. Amir-Moéz, Texas Tech University.
- (38) "It's not what we are teaching, but what they are learning that's frightening" by Patricia A. Juelg, North Harris College.
- (39) "The effect of computer-aided lab instruction on achievement in fundamentals of college algebra" by Sherill Easterling, Tarleton State University.
- (40) "An evaluation of student grading of the work of peers" by Vincent P. Schielack, Jr., Texas A&M University.
- (41) "A laboratory course in differential equations using phaser" by Mark Farris, Hardin-Simmons University.

- (42) "Including undergraduates in mathematical research" by M. Jean McKemie, St. Edward's University.
- (43) "We've come a long way. . . Or have we? Winning women to mathematics" by Mary Wagner-Krankel, Hardin-Simmons University.
- (44) "Calculus as a mathematics discipline" by Joseph Wiener and Will Watkins, University of Texas-Pan American.
- (45) "Calculus Reform: Project CALC at St. Mary's University" by Samuel R. Thompson, III, St. Mary's University.
- (46) "Use of a graphing calculator in Calculus I at Baylor University" by Robert Piziak, Baylor University.
- (47) "Use of a Graphing Calculator in Calculus II at Baylor University" by Ray Cannon, Baylor University.
- (48) "A Model MATHEMATICA Lecture on Continuity" by ^{*}Linda Becerra, Ongard Sirisaengtaksin, and Bill Waller, University of Houston-Downtown.

Student Papers:

- (49) "Root locus for Birkhoff regular distributed parameter control systems" by Jianqiu He, Texas Tech University.
- (50) "An algorithm for computing the k-complexity of binary sequences with period 2"" by Mark Stamp, Texas Tech University.
- (51) "Differential equations in the heroic age of mathematics" by Paul Price, Southwestern University.
- (52) "Algorithm design and analysis for genome sequencing" by Louis Revor, Hardin-Simmons University.
- (53). "Some comparisons of procedures using ranks for testing interaction in two-way layouts" by Guang-Hwa Andy Chang, Texas Tech University.
- (54) "Probability's early history and the mathematicians associated with it" by Jeffery A. Greathouse, Southwestern University.
- (55) "Analysis of performance in college algebra" by Patrick M. Tarwater, Texas Tech University.
- (56) "Using mathematica to determine the smallest size of interval tdesigns" by Julie Faulkner, University of Houston-Downtown.
- (57) "Summer research experience with numerical techniques for solving partial differential equations" by Cassandra Moore, Southwestern University.
- (58) "The dynamics of a quadratic family, in pictures" by Connie Yarema, East Texas State University.

- (59) "Quasisymmetric mappings of the line" by Kelly McMann, St. Edward's University.
- (60) "Quasisymmetric Mappings of R² into R⁴" by Tres Harrell, St. Edward's University.
- (61) "A Model for the Spread of a Disease in a Predator-Prey System" by Pam Lockwood, Texas Tech University.
- (62) "Diffusivity Estimation Using Non-Linear Model Arising in Water Uptake in Plants" by *A. G. Bian, R. Anderson, and F. Mohamed, Texas Tech University.
- (63) "Addition, Multiplication, Exponentiation, Tetration" by David Bixler, Tarleton State University.
- (64) "Power Series Expansions of Discretization Errors for Non-Linear Functional Equations" by Chian Du Stamp, Texas Tech University.

April 1-3, 1993 at Abilene Christian University in Abilene

MAA Address:

(1) "Moving to the meta-level" by Dr. Marcia Peterson Sward, Executive Director, The Mathematical Association of America.

Invited Addresses:

- (2) "Some of my students' favorite things" by Robert S. Doran, Texas Christian University, 1992 Recipient of the Texas Section Distinguished College or University Teaching of Mathematics Award.
- (3) "Assessment and research in undergraduate mathematics curriculum reform" by Ed Dubinsky, Purdue University, Editor of UME Trends.
- (4) "Models of epidemics" by Linda J. S. Allen, Texas Tech University.

Contributed Papers:

(5) "Functional equations in distribution" by Elias Deeba, University of Houston-Downtown.

- (6) "A characteristic-based numerical method for hyperbolic conservation law equations" by Roger Zarnowski, Angelo State University.
- (7) "Pelczynski property (v) and property' weak- (v) in spaces of continuous functions" by Elizabeth M. Bator, University of North Texas.
- (8) "Recent discoveries about extremally' disconnectedness" by Charles Dorsett, University of North Texas.
- (9) "Oscillations of a singular nonlinear differential equation" by Alexandra Kurepa, Texas Christian University.
- (10) "A practical approach to hybrid iterative algorithms" by Reza O. Abbasian, Texas Lutheran College.
- (11) "Observational evidence for the small expanding hypersphere" by Lorenzo Eric Sepulveda, Ana-Lab Corporation, Kilgore.
- (12) "The case of die deranged derivative" by L. Dwayne Snider, Tarleton State University
- (13) "Spreadsheets vs graphing calculators" by David S. Tucker, Midwestern State University.
- (14) "Problems with parameters: how technology changes the questions we can ask" by Mark Farris, Midwestern State University.
- (15) "Linear algebra and the TI-81" by Robert Piziak, Baylor University.
- (16) "Using the graphing calculator in calculus and pre-calculus" by "George Tintera and Alvin Kay, Texas A&I University.
- (17) "A financial mathematics course with emphasis on personal finance; prerequisite--college algebra" by Floyd Vest, University of North Texas.
- (18) "Teaching: nature and mathematics" by Suji Singh, Southwest Texas State University.
- (19) "The need to reshape the secondary school mathematics" by Farhad B. Aslan, East Texas State University.
- (20) "Wagering in final jeopardy!" by "Rhonda L. Hatcher and George T. Gilbert, Texas Christian University.
- (21) "From Keno, Nevada to Lotto, Texas" by Ernest F. Ratliff, Southwest Texas State University.
- (22) "Candy bars, statistics, and students" by John T. Sieben, Texas Lutheran College.
- (23) "Stars and bars--ordered linear arrangements with repetitions" by *Ed Oxford and Danny Turner, Baylor University.
- (24) "A selective computer search for hexadecimal narcissistic numbers and loops" by John F. Lamb, Jr., East Texas State University.

- (25) "The mathematics of the mercator projection. some pleasures and pitfalls" by Victor A. Belfi, Texas Christian University.
- (26) "The Mean-Mean Value Theorem revisited, again" by Donald F. Bailey, Trinity University.
- (27) "Systems of equations with coefficients in a commutative ring, III" by W. D. Clark, Stephen F. Austin State University.
- (28) "Application of full rank factorization to solve various matrix equations" by Patrick L. Odell, Baylor University.
- (29) "The real number system versus a system called 10-adic" by Bill Aslan and *Howard Duck, East Texas State University.
- (30) "Khayyam, Al-Biruni, Gauss, Archimedes, and quartic equations" by Ali R. Amir-Moéz, Texas Tech University.
- (31) "Partition rings" by Ayman Badawi, University of North Texas.
- (32) "An introduction to the stable marriage problem" by Timothy P. Donovan, Midwestern State University.
- (33) "A look at problems that have appeared in the problems sections of mathematics journals" by Joe Chance, University of Texas-Pan American.

Student Papers:

- (34) "An algorithm for analyzing DNA fingerprints" by Erin Manning, Southwestern University.
- (35) "An investigation of facial expression exhibition within human computer interaction" by William J. King, Southwestern University.
- (36) "Evaluation of simulated tempering for optimization problems" by Thomas M. Rose, University of Texas of the Permian Basin.
- (37) "Graceful graphs" by Juan Saavedra, St. Edwards University.
- (38) "An energy, minimizing solution to a problem of design in biomechanics" by Yancy Lee Nuñez, Texas Tech University.
- (39) "An inverse problem arising in estimation of hydraulic conductivity in plants" by A. G. Bian, Texas Tech University.
- (40) "Statistical analysis of wind erosion data" by Tim H. Orsak, Texas Tech University.
- (41) "Inversion through a circle or a sphere" by Donna L. Flint, University Of Texas at Arlington.
- (42) "The study of a nonlinear recurrence yielding binary digits" by Nicole C. Duenez, St. Edwards University.
- (43) "Different views on tie convergence of some sequences" by Elaine White, McMurry University.

- (44) "A Stieltjes integral defined on arbitrary sets" by Philip Muth, University of Dallas.
- (45) "On the field of quotients of a discrete valuation domain" by Ronald Dee Winn, Stephen F. Austin State University.
- (46) "Music through iterated functions" by Jeff Smith, University of North Texas.
- (47) "Weak and norm convergence of sequences in Banach spaces" by Arthur J. Hymel, University of North Texas.
- (48) "A continuous no-where differentiable function" by Mark Huggins, University of North Texas.
- (49) "Translational prototiles on a lattice" by Roxanna Rubio, St. Edward's University
- (50) "Mellin transforms of a generalization of Legendre polynomials" by ^{*}Michael K. Oberle, Oklahoma State University; Steven L. Scott, George T. Gilbert, Rhonda L. Hatcher, and David F. Addis, Texas Christian University.
- (51) "Historical comparisons in dynamical systems" by Sharon Cates, East Texas State University.
- (52) "Quasisymmetric embeddings of the line into 3-space" by Tai Nguyen, St. Edward's University.
- (53) "Image compression using fractal methods" by Wayne D. Young, Stephen F. Austin State University.
- (54) "A three-species SIR epidemic model" by Deanna Dick, Texas Tech University.
- (55) "Generating functions and problem solving" by Dawn Slavens, Stephen F. Austin State University.

*Presenter

April 7-9, 1994 at Texas A&M University at College Station

MAA Address:

 "Roots of recursion in mathematics and Computer Science" by Professor Donald L. Kreider, Dartmouth College and President of The Mathematical Association of America.

Invited Addresses:

(2) "The Moise plane-My favorite geometric example" by James R. Boone, Texas A&M University, 1993 Recipient of the Texas Section Distinguished College or University Teaching of Mathematics Award.

- (3) "Mathematical vision and learning through scientific computation" by Dr. Richard Ewing, Director, Institute for Scientific Computing and Dean College of Science, Texas A&M University.
- (4) "Wavelets for precise time-frequency localization" by Charles K. Chui, Director, Center for Approximation Theory, Texas A&M University.

Contributed Papers:

- (5) "ALGEBRATOR A symbolic manipulator for elementary algebra" by Neven Jurkovic, Palo Alto College.
- (6) "The computer laboratory component of engineering mathematics at Texas A&M University" by Al Boggess, Texas A&M University.
- (7) "Problems with parameters.' how technology changes the questions we can ask, Part II" by Mark Farris, Midwestern State University.
- (8) "Using a complex number system based calculator (TI-85) in a real number system based course" by Linda M. Neal, San Jacinto College, South Campus.
- (9) "Interactive Maple functions for teaching calculus" by Elias Deeba and *Shishen Xie, University of Houston-Downtown.
- (10) "Interactive Maple functions for teaching linear algebra" by Elias Deeba and "Ananda Gunawardena, University of Houston-Downtown.
- (11) "College Algebra and CO₂" by David Hughes, Abilene Christian University.
- (12) "Using the TI-85 Calculator in linear algebra" by Linda M. Neal, San Jacinto College, South Campus.
- (13) "Teaching Business Calculus with MATHEMATICA higher-level functions" by Linda Becerra, Ongard Siirisaengtaksin, and William Waller, University of Houston-Downtown.
- (14) "Using discrete steepest descent to find energy-minimizing maps satisfying nonlinear constraints" by Javier Garza, University of North Texas.
- (15) "ODE's on MIMD" by Mel Damodaran, University of Houston-Victoria.

- (16) "Optimizing basic linear algebraic operations: How much can we gain?" by Marcia Paprzycki, University of Texas of the Permian Basin.
- (17) "A software library for interval computations" by Chenyi Hu, University of Houston-Downtown.
- (18) "Reform in college mathematics before calculus" by Marilyn Mays, North Lake College.
- (19) "Calculus in context, a calculus reform project" by W D. Clark and Roy Dean Alston, Stephen F. Austin State University.
- (20) "Calculus for comprehensive universities and two-year colleges, a preliminary report" by David K. Ruch, Sam Houston State University.
- (21) "Cooperation + projects + technology = alternative assessment" by Sharon Sledge and June Bjercke, San Jacinto College.
- (22) "Reforming calculus with a traditional text: ideas, efforts, and lessons learned" by Heidi Staebler, East Texas State University.
- (23) "Higher order thinking skills and its assessment in the mathematics class" by Connie Yarema, East Texas State University.
- (24) "The intermediate-value theorem for polynomials" by Franklin Kemp, East Texas State University.
- (25) "Making business math courses more profitable" by Sherill Johnson, Tarleton State University.
- (26) "Using a spreadsheet in business calculus" by David Joyner, Lubbock Christian University.
- (27) "On the immutability of the slope of a straight line" by Julie Roman, Incarnate Word College.
- (28) "Finding derivatives without the notion of limit" by D. Reginald Traylor, Incarnate Word College.
- (29) "Some elementary problems with counterintuitive answers" by Vince Schielack, Texas A&M University.
- (30) "Teaching with project calculus-what have we learned?" by Mary Wagner-Krankel, St. Mary's University.
- (31) "Calculus in transition at Baylor University: A progress report" by Eugene Tidmore, Baylor University.
- (32) "Mathematics teacher education: The role of colleges and universities for America 2000" by Bill Aslan, East Texas State University.
- (33) "A mathematical analysis of a traffic problem" by John T. Sieben, Texas Lutheran College.

- (34) "A statistical analysis of the Texas Lotto Lottery" by ^{*}John F. Lamb, Jr., Ron Huffstutler, Archie Brock, and Bill Aslan, East Texas State University.
- (35) "Problems and solutions from the journals" by Joe E. Chance, University of Texas-Pan American.
- (36) "Finding cubic splines using spreadsheets" by David S. Tucker, Midwestern State University.
- (37) "Polars of Descartes foliums" by Ali R. Amir-Moéz, Texas Tech University.
- (38) "Gerschgorin circles, Brauer regions, and Cassini ovals via MATHEMATICA" by Robert Piziak and Danny W. Turner, Baylor University.
- (39) "Direct measuring of area, volume, and 3-D angles using rulers and the TI-85 calculator" by John J. Edgell, Jr., Southwest Texas State University.
- (40) "An application of mathematical programming to hospital management" by Frank Mathis, Baylor University.
- (41) "A uniqueness theorem for an inverse problem in optics" by Shishen Xie, University of Houston-Downtown.
- (42) "Examples important in the study of continuously ray extendible continua" by C. Wayne Proctor, Stephen F. Austin State University.
- (43) "(Boolean) algebraic topology" by Richard Kreminski, East Texas State University.
- (44) "Semi-topological associated topologies" by Charles I. Dorsett, Louisiana Tech University.
- (45) "On Crandall's conjecture concerning the qx + 1 problem" by Zachary Franco, Texas A&M University.
- (46) "Counting arrangements of l's and -1's" by Donald F. Bailey, Trinity University.
- (47) "Asymptotic behavior for abstract Volterra functional differential equations" by C. Corduneanu, University of Texas at Arlington.
- (48) "Uniformly contractive systems" by David K. Ruch, Sam Houston State University.
- (49) "Resonances in the problem of vibrations of a nonhomogeneous damped string" by Marianna A. Shubov, Texas Tech University.

Student Papers:

- (50) "The Chinese remainder theorem and object-oriented programming" by Davin M. Potts, Texas A&M University.
- (51) "Integrating sound into teaching of mathematics-A multimedia project" by Carlos Uribe, University of Houston-Downtown.
- (52) "Testing for lossless compression of data for the gas chromatograph/mass spectrometer on the Huygens probe" by Amy Garrison, Hardin-Simmons University.
- (53) "Knots and DNA" by Maribel Martinez, St. Edward's University.
- (54) "Mathematical modeling of an environmental issue" by Michele Bryant, David Gritzmacher, and Holly Tiemann, Southwestern University.
- (55) "Square roots of some 2x2 matrices" by Elaine White, McMurry University.
- (56) "Quasisymmetric mappings on the line" by Robert A. DeSarro, St. Edward's University.
- (57) "The strong shadowing property on the unit interval" by James Warren, Texas A&M University.
- (58) "Dilation equations in Banach spaces" by Ronald D. Winn, Stephen F.Austin State University.
- (59) "Inverse limits of intervals" by Maurice A. Peugh, Stephen F. Austin State University.
- (60) "Percolation on the random Sierpinski carpet" by James A. Mendoza, University of Texas.

*Presenter

March 30-April 1, 1995 at Baylor University in Waco.

March 29-31, 1996 at Texas Tech University in Lubbock.

1997 at Southwest Texas State University in San Marcos.

1998 at Southern Methodist University in Dallas.

1999 at Texas Lutheran College in Segin.

APPENDIX NUMBER 11

NATIONAL MEETINGS OF THE MATHEMATICAL ASSOCIATION OF AMERICA HELD IN TEXAS

- 39th Annual Meeting Rice Institute in Houston December 30, 1955
- 50th Annual Meeting Rice Hotel in Houston January 26-28, 1967
- 53rd Annual Meeting . .San Antonio Convention Center in San Antonio January 24-26, 1970
- 56th Annual Meeting Fairmont Hotel in Dallas January 27-29, 1973
- 59th Annual Meeting . .San Antonio Convention Center in San Antonio January 24-26, 1976
- 63rd Annual Meeting . .San Antonio Convention Center in San Antonio January 5-7, 1980
- 70th Annual Meeting . .San Antonio Convention Center in San Antonio January 21-24, 1987
- 76th Annual Meeting . .San Antonio Convention Center in San Antonio January 13-16, 1993

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APPENDIX NUMBER 12

TEXAS SECTION MATHEMATICAL ASSOCIATION OF AMERICA

BYLAWS

ARTICLE I Name and Purpose

- 1. The name of this Section shall be the Texas Section of the Mathematical Association of America, Inc.
- 2. The purposes of the Texas Section shall be to assist in the improvement of education in the mathematical sciences at the collegiate level by carrying out the purposes of the national organization within the territory defined below in Article II, Section 1.

ARTICLE II Membership

- 1. The membership of the Texas Section shall be as follows:
 - (a) Members of The Mathematical Association of America, Inc. resident in Texas (excluding El Paso County), ZIP codes 75000-79899, and who have not notified the Secretary otherwise;
 - (b) Members of The Mathematical Association of America, Inc., not being resident in the territory of this Section, who have become members of this Section in accordance with Article VI of the Bylaws of The Mathematical Association of America, Inc.

ARTICLE III Officers and Directors

1. The officers of the Section shall be a Chair, Chair-elect, and the Secretary-Treasurer.

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- 2. The Executive Committee shall consist of the officers of the Section, the Section Governor, the Immediate Past Chair, the Arrangements Chair, the Arrangements Chair-Elect, and four elected Directors. The Directors shall be designated Level-I Director, Level-II Director, Level-III Director and Director-at-large.
- 3. The members of the Executive Committee shall be members of the Section.
- 4. Elections shall be conducted annually at the annual business meeting of the Section. Newly elected officials shall assume office upon the adjournment of that meeting. Terms of offices are as follows:
 - (a) The Arrangements Chair-Elect shall be elected annually. After one year of service as Arrangements Chair-Elect, the office holder becomes the Arrangements Chair for a term of one year.
 - (b) The Secretary-Treasurer shall serve a three-year term of office.
 - (c) The Level-I, Level-II, and Level-III Directors shall serve threeyear terms. The Level-I Director will be elected in years numbered 3n + 1, the Level- III Director will be elected in years numbered 3n + 2, and the Level-II Director will be elected in years numbered 3n. The Director-at-Large shall serve a twoyear term and shall be elected in even numbered years.
 - (d) The Chair-Elect shall be elected annually. The holder of this office shall serve for one year and then become Chair for a period of one year. Should the Chair be unable to complete a term of office, the Director who is serving the third year of a threeyear term shall serve the unexpired portion of that year as Acting Chair.
- 5. Nominations for the above-mentioned offices are to be made as required by a committee chosen by the Institutional Representatives at their annual meeting. This meeting is to be convened by the Governor of the Section. The Nominations Committee is to be charged by the Chair and to be chaired by the Immediate Past Chair. The list of the positions to be filled, and the corresponding duties will be delineated by the Secretary-Treasurer. Additional

nominations for the available offices will also be accepted from the members of the Section at the following year's Business Meeting.

- 6. Election requirements are:
 - (a) The Chair-Elect, the Chair, and the Immediate Past Chair shall not be eligible for election as Chair-Elect at the immediate end of their terms.
 - (b) The Secretary-Treasurer may succeed himself in office.
 - (c) Directors may succeed themselves in office.
 - (d) The Arrangements Chair-Elect shall normally be selected from among the members of the Texas Section who are in residence at the institution hosting the annual meeting two years from the date of the election.
 - (e) The Level-I Director shall be selected from among those members of the Texas Section whose teaching and/or interests are principally concerned with the overall undergraduate mathematics program of the first two collegiate years.
 - (f) The Level-II Director shall be selected from among those members of the Texas Section whose teaching and/or interests are principally concerned with the overall undergraduate mathematics program of the first four collegiate years.
 - (g) The Level-III Director shall be selected from among those members of the Texas Section whose teaching and/or interests encompass a full range mathematics program extending to the doctoral level.
 - (h) The Director-at-large shall be charged with the representation of those members of the Texas Section whose interests are not necessarily represented by the other directors.
- 7. The Chair shall preside at all business meetings of the Section and all meetings of the Executive Committee. The Chair shall have general charge of and shall execute the affairs of the Section. The Chair shall appoint all committees except the Nominating Committee unless otherwise directed by the members at a meeting and

shall be an *ex-officio* member of all committees. The holder of the Chair shall be designated as the Immediate Past Chair in the year immediately succeeding his or her term and will serve as the representative from the Texas Section of The Mathematical Association of America to the Texas Academy of Science.

- 8. The Secretary-Treasurer bears the following responsibilities:
 - (a) Keep all the books, accounts, and records of the Section.

(b) Keep the minutes of all section meetings and meetings of the Executive Committee.

- (c) Prepare and mail all notices relative to Section meetings or other important business of the Section.
- (d) Acquaint new electees of the Section with their responsibilities of the corresponding provisions of the Bylaws.
- (e) Prepare and file the Section's income tax return.
- (f) Receive all monies paid into the Section for membership fees and dues and all other purposes and deposit all such monies in a bank or trust account to the account of the Section, taking regular receipt of deposit thereof.
- (g) Pay all bills of the Section out of Section funds.
- 9. The Section Arrangements Chair shall be responsible for plans and preparations of meetings, except for the program, and shall be in charge and preside over all social functions connected with any meeting. The Arrangements Chair-Elect shall assist the Arrangements Chair in the planning of all meetings, taking note of details so that improvements may be made in the conduct of the next meeting.
- 10. The Directors shall be responsible for representing the membership of the Section on the Executive Committee and in the generation of programs effectively meeting the mathematical needs of the membership of this Section. In particular, the duties of the Level-I Director shall include the responsibility of promoting the objectives

- of the Section that relate to the two-year colleges located within its geographical area.
- 11. The Executive Committee shall conduct the affairs of the Section between meetings. It is empowered to fill any vacancy among the officers and the Executive Committee of the Section by electing a member to finish the term of office except as indicated in Article III, Section 4(e).

ARTICLE IV Meetings

- 1. The Section shall hold one regular meeting each year.
- 2. The time and place of this meeting shall be decided by the Executive Committee.
- 3. The Chair shall call an annual Fall Meeting of the Executive Committee each year in order to plan the program of the regular meeting of the Section. The Secretary-Treasurer shall be responsible for assembling the program in consultation with the Chair and the Arrangements Chair.
- 4. The section may hold special meetings, the time and place of which shall be determined by the Executive Committee, unless otherwise designated by a resolution by members at a meeting.
- 5. The members of the Section shall be notified of any regular or special meeting at least fifteen days in advance of the meeting. A quorum shall consist of those members present at the meeting.

ARTICLE V Dues

1. Each member of the Section shall pay annual dues to the Treasurer. The amount of these dues shall be determined from time to time at the business meeting of the Section. These dues shall be used to help pay the expenses of conducing the business of the Section. 2. The assets of the Texas Section shall be used exclusively to further the purposes of the Section, and in the event of the dissolution of the Section the remaining assets will be returned to the national organization to be used for a purpose consistent with the purposes of the national organization.

ARTICLE VI Amendments

- 1. These Bylaws may be amended by a majority of the votes cast by members at any meeting of the Section, subject to the approval of the Board of Governors of the Mathematical Association of America
- 2. Proposed amendments shall be submitted in writing by the Secretary-Treasurer to all members of the Section at least fifteen days prior to the time of voting.

Bylaws revised April 8, 1989 (Texas Lutheran College Meeting).

Revision approved by MAA Board of Governors August 6, 1990.

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