The Mathematical Association of America

Summary of Information from 1994 Annual Reports from Sections, Section

Meeting Reports, Newsletters, and Meeting Programs

Advance Copy

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Prepared by the MAA Committee on Sections

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News From The Sections

Allegheny Mountain:

The Allegheny Mountain Section held its annual meeting on April 8 and 9, 1994, on the campus of West Virginia University in Morgantown, West Virginia. About 100 persons were in attendance, including about twenty students.

John Maceli of Ithaca College, Ithaca, New York, presented a minicourse entitled "Student Projects in Calculus," in which twelve members of the Section participated.

There were four invited addresses. Susan Forman, of the Mathematical Sciences Education Board, spoke on "Promoting Faculty Growth in Undergraduate Mathematics." The Section's 1993 Distinguished Teacher, Professor George Andrews, of the Pennsylvania State University, spoke on "Ramanujan, Continued Fractions, and Educational Reform." Robert Davis, of Rutgers University spoke on "Analyzing How Students Think About Mathematics." Sonja Sandberg, of Framingham State College, spoke on "The Mathematics of Epidemics."

There was a social hour followed by a banquet Friday evening at which the 1994 Distinguished Teaching Award was presented *in absentia* to Professor David M. Bressoud of Penn State - University Park. Faculty and students talks followed, and the evening finished with a pizza party. Saturday featured eight sessions of contributed papers, thirteen by faculty members and ten by students. The Section's business meeting was held at breakfast on Saturday.

The Section held its Tenth Annual Allegheny Mountain Section Summer Short Course "A Mathematical Sampler, 1647 - 1900," by William Dunham of Muhlenberg College, on June 13 - 17, 1994.

Eastern Pennsylvania and Delaware:

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The EPADEL Section sponsored two regular Section meetings and a one-day student conference on careers in mathematics. The fall Section meeting, on November 13, 1993, at Cedar Crest College, in Allentown, PA, featured invited speakers Joseph Gallian, University of Minnesota, Duluth, Carl Pomerance, Kenneth Brakke, and Mary Ellen Rudin. speaking on "The Mathematics of Identification Numbers;" Carl Pomerance, University of Georgia, on "Fermat's Little Theorem;" Kenneth A. Brakke, Susquehanna University, on "Soap Films and Covering Spaces;" and Mary Ellen Rudin, University of Wisconsin, on "The Rationals and the Irrationals." JoAnne S. Growney, Bloomsburg University of Pennsylvania, gave a luncheon presentation, "Mathematics in Poetry." Outgoing President Nancy Hagelgans, Ursinus College, was presented with a plaque for her many contributions to the EPADEL Section.

The spring Section meeting was held jointly with PSMATYC, the Pennsylvania State Mathematical Association of Two-Year Colleges at Harrisburg Area Community College in Harrisburg, Pennsylvania on March 12, 1994, and featured talks related to the teaching of mathematics. The four invited addresses were "Calculus: Concepts, Computation, Composition, and Cooperation," by David A. Smith of Duke University; "The Harvard Calculus Consortium and the Reform Program in Mathematics," by Andrew Gleason of Harvard University; "Using a Graphing Calculator to Enhance the Teaching of College and Intermediate Algebra," by Stanley R. Clemens of Bluffton College; and "Teaching Undergraduate Mathematics Using Technology," by Roseanne Hofmann of Montgomery County Community College. Nine workshops were presented.

Sessions for student-contributed papers were held at each meeting, with a total of 11 student presentations. The student paper contest winner, Jennifer Orehowsky, Ursinus College, was presented

with a certificate and a check by Professor Ayoub Ayoub, organizer of the contest. Profesor William Dunham of Muhlenberg College received the 1994 EPADEL Section Distinguished Teaching Award.

A one-week summer workshop entitled "Mathematical Modeling Workshop," presented by Jefferson Hartzler of Pennsylvania State University and directed by Marvin Brubaker of Messiah College, was held at that College.

Florida:

Four regional meetings occurred this year in addition to the annual meeting.

Professor Fredric Zerla of the University of South Florida received the Distinguished Service Award for 1994. Professor James Wahab of Rollins College was the recipient of the Distinguished Teaching Award.

The Section gave a volume of the New Mathematical Library to each of the 35 top scorers in Florida on the AHSME. In addition, the Section assisted with expenses for three students presenting papers at the annual Section meeting, and for two students to go to the national summer meeting in Minneapolis this summer.

Illinois:

The seventy-third annual meeting of the Illinois Section was held at Parkland College in Champaign, Illinois on April 2-23, 1994, organized by LaVerne McFadden and Caroline Goodman of that College. There were 142 registrants.

The group heard 15 invited talks; 4 student papers; an opening address, "Promoting Faculty Growth in Teaching and Scholarship," by Susan Forman, Director of College and University Programs for the Mathematical Sciences Education Board, on leave from Bronx Community College; and a closing address, "Breaking Drivers' License Codes," by Joseph Gallian, University of Minnesota, Duluth. Graham Evans, University of Illinois, gave a banquet address on "Mathematics and Music, the Musings of a Beginning Cellist." Fred Rickey, Bowling Green State University, led a minicourse, "Using History in the Mathematics Classroom."

Four student teams participated in a math contest arranged by J.B. Stephen, Student Chapter Coordinator, Northern Illinois University.

The Section's Distinguished Service Award was presented to Neale Fadden, Belleville Area College; the Section's Award for Distinguished College or University Teaching was given to Ronald M. Shelton, Millikin University.

Indiana:

The fall 1993 Indiana Section Meeting at Indiana University Kokomo featured a tour of Delco Electronics Corporation and a SUMMA woekshop presented by Bill Hawkins of the MAA. Mathematical presentations included an invited address by Elliot Tanis of Hope College, Michigan, entitled "Random Numbers In, Answers Out: Maple V Simulations."

The spring 1994 Section Meeting at DePauw University included an invited address, "Linear Algebra and Serious Applications," by Gilbert Strang of MIT; and papers, "Solving Systems of Polynomial Equations," by Gene Freundenburg, Ball State University; "Newman Polynomials," by Bart Goddard, Rose-Hulman Institute of Technology; "Using a Laboratory Approach to Teaching Basic Concepts of Group Theory," by

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Ellen Parker, DePauw University; and "The Asymptotic Behavior of the Zeros and Poles of the Normalized Pade Approximants to exp(z)," by Amos Carpenter, Butler University. Students C. Christopher Smith, Taylor University, and Stacy Bogataj, Saint Mary's College, spoke on "Simulation of the Rivest-Shamir-Alderman (RSA) Cryptology Scheme." and "Pitching Statistics," respectively. The Section held its 29th annual Indiana College Mathematics Competition, presented its Distinguished Teaching Award to David S. Moore of Purdue University and presented its Distinguished Service Award to Billy Rhoades of Indiana University.

Intermountain:

The Intermountain Section of the MAA convened at Westminster College in Salt Lake City, Utah, on April 8-9, 1994. Lance Littlejohn of Utat State University gave a Short Course on Orthogonal Polynomials and was awarded the Section's Distinguished Teaching Award. A panel discussion discussed the limited employment in mathematics and stressed the need for employer and employee to treat each other with dignity, honesty, and fairness. After the annual banquet, Kenneth Ross, who grew up in Salt Lake City, reminisced about the mathematics instruction he had received there and some of his most-remembered teachers, many of whom were known to Section members. This brought back many nostalgic memories.

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The Iowa Section met jointly with the ASA and IMATYC at Grinnell College, Grinnell, Iowa, on April 15-16, 1994. Former Polya Lecturer Patricia Rogers, York University, spoke on "Classroom Climate and Other Issues," and on "You Couldn't Do That in My Class: Curriculum transformation and mathematics education." James Hall, Deere and Company, spoke on "Neural Networks and Genetic Algorithms: Applications in Finance and Engineering." There were 12 student papers, a panel discussion, "Teaching the History of Mathematics," 11 contributed papers, and three computer demonstrations: "Creative Approaches to Mathematical Visualization," by Deane Arganbright, Whitworth College, Spokane, WA; "Calculus Using Mathematica," by Keith Stroyan, University of Iowa; and "Using XLISP-STAT for Teaching and Consulting," by Russell V. Lenth, University of Iowa.

Kansas:

The annual meeting of the Kansas Section was held at the University of Kansas on March 11-12, 1994, with 81 people attending. Traditional in the Section is a breakfast meeting where issues related to mathematics education in Kansas are discussed. There were five workshops: "Proposal Writing," by William Hawkins, Director of the MAA SUMMA project; "The Hewlett Packard HP48 in Undergraduate Mathematics Courses," by Robert D. Adams, University of Kansas; "Using Software to Teach Concepts to Business MBA Students," Teresita S. Salinas, Washburn University; "Calculator Activities / Projects for Enhancing Student Involvement in College Algebra and Precalculus," Marilyn Carlson, University of Kansas; "Interactive Electronic Laboratories for Calculus and Geometry of Surfaces," Thomas Banchoff, Brown University. Banchoff also delivered the talk, "Beyond the Third Dimension: From Flatland to Hypergraphics." There were 16 contributed papers, 7 student papers, and three panel discussions.

Kentucky:

The annual meeting of the Kentucky Section was held on April 8 - 9, 1994 at Morehead State University, with total attendance of 96 people. The meeting included a short course, "Calculus from an Historical Perspective," by Daniel Otero of Xavier University, and a workshop by John Kenelly of Clemson University titled "Priming the Pump for Curricular Change." The meeting offered its social, "Aftermath," after an invited address Friday night by Keith Devlin, editor of FOCUS, followed in turn by a pizza party

specifically for student members. The Section had informal announcements and discussions at its Saturday morning breakfast meeting.

There were two invited addresses, 18 contributed papers from faculty, and 6 student papers.

This year the Section is proud of Kentucky's AHSME participation, and of the results of its efforts to increase student participation in its meetings. It also has increased participation of faculty from two-year colleges; the Kentucky Section of the MAA and the KentuckyMATYC cooperate in publishing newletters together. The Section offers three newsletters each year.

Louisiana-Mississippi:

The Louisiana-Mississippi Section held its annual meeting on March 4 - 5, 1994 at Nichols State University, with an attendance of 255, 100 of whom were students. The Section has worked to provide activities of interest to students, and this meeting offered a student competition, student paper sessions, and student career panel discussions.

The beautifully-organized meeting included a workshop on graphing calculators and dynamical systems, and panel discussions on calculus reform and mathematics education. Leonard Gillman spoke on "Some Irreverent Thoughts on the Teaching of Mathematics."

Highlights of the meeting included a Cajun reception, a crawfish boil, and a concert by Gillman, piano, and Carol Dale, flute.

Maryland-DC-Virginia:

The annual Fall meeting of the Maryland-DC-Virginia Section was held on November 12-13, 1993, at Montgomery College, Takoma Park, Maryland. The meeting program featured a banquet, two invited speakers, a panel discussion and workshop, and five contributed paper sessions, including one made up entirely of student presentations. Keith Devlin, Saint Mary's College, and Editor of FOCUS. spoke on "Whose Mother Is It? In Search of a Mathematical Theory of Communication;" Underwood Dudley, of DePauw University spoke on "Angle Trisectors." Elizabeth Teles, Montgomery College; Genevieve Knight, Coppin State College; and Jim Sandefur, Georgetown University, offered the panel discussion, "NSF Innovation Grants: New Opportunities," and Teles presented a workshop on "Grant Opportunities for Innovation in Collegiate Mathematics." A workshop, "Energy Systems Modeling," was a follow-up meeting of the June 1993 Section workshop.

The Section held its annual Spring meeting on April 15 - 16, 1994 at Saint Mary's College of Maryland, with 94 faculty and 73 students registered. The Section offered a workshop on SPSS by Alham El-Hage Tannouri of Morgan State University. There were both student and faculty paper sessions. The three invited addresses were "Conceptual Issues in Conservation of Biological Diversity," by Robert McKelvey of the University of Montana; "Visual Clustering, Modes, nd Nonparametric Density Estimation," by David Scott of Rice University; and "Some History of Fermat's Last Theorem," by V. Frederick Rickey of Bowling Green State University.

The 1994 John M. Smith Distinguished Teaching Award was presented to David Lay of the University of Maryland.

The Maryland-DC-Virginia Section is the home of Jacob A. Lurie, of Montgomery Blair High School, Silver Spring, Maryland, who is a member of the United States' history-making 1994 IMO team.

Metropolitan New York:

The Metropolitan New York Section held its annual meeting on May 1, 1994 at the US Merchant Marine Academy in King's Point, New York. There were eight contributed papers and the two invited addresses, "What are the Best Sphere Packings?" by John H. Conway of Princeton University, and "You Can't Do That in MY Classroom," by Pat Rogers of York University.

The Section is proud of its Mathematics Awareness Week activities, which included proclamations from Governor Mario Cuomo and Mayor Rudolph W. Giuliani of New York City. These were circulated to local media. The Section also held a well-attended program at John Jay College of Criminal Justice, where Professor Charles Peskin of NYU - Courant spoke on computer heart simulation and Professor H.M. Edwards, also of Courant, spoke on Fermat's Last Theorem.

The Section held its 18th annual Mathematics Fair at Pace University. Awards were given to the students winners of the Fair and to the highest local scorers in the Putnam and AHSME competitions.

The Metropolitan New York Section is the home of Aleksandr L. Khazanov, of Stuyvesant High School, New York City; Khazanov is a member of the history-making United States' 1994 IMO team.

Michigan:

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At the annual meeting of the Michigan Section, at Alma College on April 29 - 30,1994, out-of-state speakers were Leonard Gillman from the University of Texas, in Austin; Underwood Dudley from DePauw University; Kay Somers from Moravian College; and Prasad Tetali from AT&T Bell Labs. Provocative talks included "Down with Determinants," by Sheldon Axler of Michigan State University, "(Down With) Angle Trisectors," by Dudley, and "Some Irreverent Thoughts about the Teaching of Mathematics," by Gillman. But then there was "Reversibility and Reciprocity," by Tetali. Name-droppers mentioned Taylor, Nielsen, and Stedman. A concert featured Gillman on piano and Ernest Lloyd of Central Michigan University on cello.

The Section's Award for Distinguished College or University Teaching was presented to Jerrold Grossman of Oakland University, author and teacher, one of whose students testified, "(his class) remains, for many of us, our best learning experience. It convinced me of the significance of mathematics." The Section's Distinguished Service Award went to Jean Calloway, professor emeritus at Kalamazoo College, whose substantial contributions to the Section include founding the High School Visiting Lecturer Program. John Kiltenen was thanked for his many years of outstanding service as newsletter editor.

Ruth Favro, of Lawrence Technological University, reported that the annual Michigan Mathematics Prize Competition for high school students had about 16,000 participants from about 400 schools. For the next three-year period the competition will be hosted by Grand Valley State University.

Missouri:

The Spring Meeting of the Missouri Section, at Missouri Southern University, was preceded by a twoand-a-half hour Short Course on the history of mathematics and a two-and-a-half hour Workshop on MATLAB. The Missouri Mathematics Association for the Advancement of Teacher Training conducted a business meeting and presented a speaker. There were two panel discussions.

Invited speakers at the meeting were sponsored by a private foundation, the hosting college, and the MAA. A student reception was co-sponsored by Missouri Southern Kappa Mu Epsilon.

Nebraska-SE South Dakota:

The annual meeting of the Nebraska-Southeast South Dakota Section of the MAA was held April 22-23 on the campus of Nebraska Wesleyan University, Lincoln, Nebraska. There were 55 people in attendance the first day and 45 the second. Kenneth Ross of the University of Oergon and President-Elect of the Association, spoke on "Understanding and sensitivity of the Job Market," and on "The Mathematics of Card Shuffling." There were in addition 15 contributed papers and a panel discussion on Federal- and State-Funded Programs in the Nebraska-Southeast South Dakota Section, An Update."

The Section presented its Award for Distinguished Teaching to Jim Lewis of the University of Nebraska.

New Jersey:

The fall meeting of the New Jersey Section at Union County College included talks by Israel Gelfand, William Dunhamn, Tilla Weinstein, John Ewing, and a SUMMA workshop. The spring meeting at Rutgers University included talks by Thomas Banchoff, Joseph Rosenstein, and John Conway. There were student speakers and sessions for contributed papers. At both meetings there were book exhibits by commercial publishers, door prizes, and a silent book auction. The Section thanks James Magliano and Joseph Rosenstein for serving as hosts for the meetings this year.

The 1994 New Jersey Section Award for Distinguished Teaching of Mathematics was presented to Richard Bronson of Fairleigh Dickinson University.

North Central:

The fall meeting of the North Central Section was held at the University of North Dakota on October 22-23 featuring invited addresses by Wally Sizer of Moorhead State University, and Polya Lecturer Patricia K. Rogers of York University.

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The spring meeting was held on April 22-23 at Winona State University. John Fulton from the University of Missouri-Rolla, Keith Devlin of St. Mary's College, and Dave Uherka of the University of North Dakota gave invited addresses. Mark Krusemeyer of Carleton College received the Section's Outstanding Teaching Award, and Gerald Bergrum was honored with the Section's Meritorious Service Award.

Northeastern:

A major project for the Northeastern Section this year was the workshop for students, "Mathematics Opens Doors to the World: Careeres in the Mathematical Sciences." With students and faculty attending from as far away as Nova Scotia, the day was an extremely successful one for all participants. Many requests were made for future workshops.

A highlight of the Section's spring meeting was the presentation of the Section's Award for Distinguished College or University Teaching, to Robert L. Devaney of Boston University.

For the third year in a row, the very active Northeastern Section has offered its spring dinner meetings; this year there were five such meetings. Its one-day minicourse, "Teaching the Introductory Statistics Course," was led by Robin Lock and Richard Cleary.

The Section is looking forward to its fall presentation, "Mathematical Aspects of the Music of Bach," by Victor Hill. This is an event that should be well-received by the general community as well as by mathematicians.

The Northeastern Section is the home of two members of the United States' history-making 1994 IMO team: Noam M. Shazeer, of Swampscott High School, Swampscott, Massachusetts; and Johnathan Weinstein, of Lexington High School, Lexington, Massachusetts.

Northern California:

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The annual meeting of the Northern California Section of the MAA was held at San Jose City College in San Jose, California, on Saturday, February 12, 1994. There were 210 participants. The program consisted of five invited talks: Jean Pedersen of Santa Clara University spoke on "From Geometry to Number Theory;" Keith Devlin, Saint Mary's College, on "How Do You Know This Is A Title?"; Nelson Max, Livermore Laboratory, on "Light Scattering from Surfaces and Volumes;" Edward F. Schaefer, Santa Clara University, on "Wiles' Proof of Fermat's Last Theorem; " and Constance Reid, on "Searching for Eric Temple Bell."

Professor Jane Day of San Jose State University was presented with the Northern California Section Award for Distinguished College or University Teaching.

In 1995 the Section will hold a two-day joint meeting with the Southern California Section in San Luis Obispo at California Polytechnic State University.

<u>Ohio</u>

The annual Spring Meeting featured a keynote address by S. Brent Morris of the National Security Agency, titled "Magic, Card Tricks, and the Perfect Shuffle." Other invited addresses were given by Alice Silverberg of Ohio State University: "Fermat's Last Theorem and Elliptic Curves;" Joe Kennedy of Miami University: "Lights and Strings and Things;" and Tom Hern of Bowling Green State University: "The Image of a Circle -- When Eigenvalues Do Not Quite Cut It." The Spring Meeting always involves students to a high degree and did so again this year. In addition to the presentation of eighteen papers by students, there were a pizza party and a microcourse, "Problem-Solving For Fun and Profit," by Darrell Horwath and Leo Schneider of John Carroll University.

The annual summer short course was given by Hugh I. Montgomery of the University of Michigan, titled "Computational Laboratories in Number Theory."

As a new venture, the Section is starting a mathematics essay contest for undergraduates this year.

Oklahoma-Arkansas:

The fifty-sixth annual meeting of the spirited Oklahoma-Arkansas Section of the MAA was held March 25-26, 1994, at Harding University in Searcy, Arkansas. There were 75 regular and 92 student registrations. One hundred ten people attended the Friday night banquet. There were 68 contributed talks, including 33 student talks and two others delivered at a special session on "College And University Mathematics Curricular Reform Projects Funded by the NSF," chaired by John Watson of Arkansas Tech University.

At the meeting, James Leitzel of the University of Nebraska at Linclon, supported by the National Science Foundation, led a related faculty workshop titled "Hands-On Workshop on NSF Proposal-Writing and Evaluation." A free conference on careers in mathematics was led by Robert Eslinger of Hendriz College, with special funding from the Exxon Foundation through the national office of the MAA. Nearly 90 students registered for this event. The Section welcomed Keith Devlin as its invited speaker for the meeting. Devlin's topic was "Whose Mother Is It? The Search for a Mathematical Theory of Everyday Communication." Thomas Banchoff was warmly received as the Nathan A. Court Lecturer, speaking on "Visualizing Different Dimensions: From Flatland to Interactive Hypergraphics."

The winner of the third annual Distinguished College or University Teaching of Mathematics Award was Lisa Mantini of the Oklahoma State University. the Section continued its tradition of honoring two top public school teachers of mathematics in each of the two states, Oklahoma and Arkansas.

Pacific Northwest:

The Pacific Northwest Section held its annual meeting June 16 - 18, 1994, jointly with the Western **Re**gion of the AMS, at the University of Oregon, in Eugene, Oregon, with 229 people registered. The Section enjoyed five student papers, which were reports of NSF REU projects from last summer. Students were feted with a pizza party at lunch the second day. The Section arranged local housing with U of O graduate students for students who were presenting papers.

Invited talks were presented by Carl Pomerance of the University of Georgia, "Witnesses of composite numbers," and Doris Schattschneider, First Vice- President of the Association, "Was Escher a Mathematician?" There were 12 contributed papers; a panel discussion, "The Baby and the Bathwater," chaired by Stu Thomas of the University of Oregon; three minicourses; a grant-proposal writing workshop, by Florence Fasanelli of the MAA's SUMMA office; and a salmon bake.

Millie Johnson of Western Washington University received the Section's Distinguished Teaching Award, and presented a talk titled "The Mathematics of Meanders: Rivers, Channelization, Floods, and the Environment."

Rocky Mountain:

The annual meeting of the Rocky Mountain Section was held April 15 - 16, 1994, on the campus of the South Dakota School of Mines and Technology in Rapid City, South Dakota, organized by Donald Teets and Janet Burgoyne of that School. The keynote address was "What Have Elliptic Curves Got to Do With It?" by Fernando Gouvea of Colby College. Celestino Mendez, of Metropolitan State College of Denver, Governor of the Section, chaired a panel discussion on "The New NCTM and MAA Assessment Standards and Their Implications for Mathematics Higher Education."

The Section is particularly concerned with articulation with the NCTM and with the Standards for school mathematics. It voted to add three representatives of the NCTM to the Section's Executive Committee this year.

Tom Kelley of Metropolitan State College of Denver offered a workshop on the TI-85 calculator. There was a banquet at which Fernando Gouvea spoke on "A Marvelous Proof;" there were 21 contributed talks, from among the 75 participants at the meeting.

The Section gave A. Duane Porter of the University of Wyoming its Award for Distinguished College or University Teaching of Mathematics. The Section now awards a free MAA student membership to its top-scoring Putnam Exam student each year; it awards certificates of recognition to high scorers on the AHSME, and organizes a reception in Denver for AHSME achievers.

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<u>Seaway:</u>

The Seaway Section held its annual Fall meeting at Onondaga Community College in Syracuse, New York, jointly with NYSMATYC. Sam McInroy of Corning Community College offered a banquet address, "Mathematics, Mother, und Menschenwerk: A Pictorial Essay on the Mathematical Shapes and Principles Found in Nature and Society." The John F. Randolph Lecture in Mathematics Education was given by Israel Kleiner, York University, on "A History-of-Mathematics Course for Teachers, Based on Great Quotations." There was a session of student papers featuring five papers. Continuing its series of workshops on using technology in the classroom, the Section offered the workshop, "Using Graphics Calculators in Finite Mathematics," by Jack Graver, Syracuse University.

The Spring meeting of the Section was held at the State University of New York (SUNY) at Albany on April 22 and 23, 1994, with 160 people attending. Professor Steven Hilbert of Ithaca College was presented with a framed certificate honoring him as the Section's 1993-94 Distintuished College Teacher of Mathematics by Section Chair H. Josefh Straight of SUNY Fredonia. Professor Rebecca Hill was recognized for her service as Governor of the Seaway Section. William Siegmann of Rensselaer Polytechnic Institute gave an after-dinner address on computer calculus and workshop calculus at Rensselaer.

Invited addresses were "Viewing and Calculating the Roots of a Polynomial Equation are as Easy as Conoring a Flag Red, White and Blue or Hiking along a Continental Divide," by William F. Lucas of The Claremont Graduate School; "Soap Bubble Clusters, Including New Results by Undergraduates," by Frank Morgan of Williams College; and the 1994 Harry M. Gehman Lecture, "Imaging the Interior of the Body with Electric Fields," by Margaret Cheney Rensselaer Polytechnic Institute. Beverly H. West of Cornell University presented a workshop, "Teaching Differential Equations with Interactive Computer Graphics." Contributed paper sessions included 10 faculty papers and 8 student papers.

The Seaway Section is the home of Jeremy Bem, of Ithaca High School, Ithaca, New York, a member of the United States' history-making 1994 IMO team.

Southeastern:

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The Southeastern Section had three excellent invited speakers for its annual meeting at Carson-Newman College: Jack Brown, Section Lecturer, Auburn University, who spoke on "Restriction Theorems in Real Analysis;" Amassa Fauntleroy, North Carolina State University, who chose as his topic, "Hyperbolic Geometry and Fermat's Last Theorem;" and Andrew Granville, University of Georgia, whose title was "Some Remarks about the Proof of Fermat's Last Theorem." Three short courses were offered: "History of Mathematics," by Billy Bryant, Vanderbilt University; "Mathematical Economics," by John Baxley and John Moorhouse, Wake Forest University; and "Statistical Programming on the TI-81," by Richard Stephens, Western Carolina University.

Two popular events for students attending the meeting were the pizza lunch which the Section provided for them and the faculty advisors of Student Chapters, and the TA Rush which was held in conjunction with this lunch. The Section was pleased to recognize the high achievement of Craig Gentry on the Putnam Exam by the presentation of a \$100 check. Mr. Gentry's score on the Exam was the highest in the Section.

The Section's Award for Distinguished College or University Teaching was presented to John D. Neff, Georgia Tech, and the Section's Distinguished Service Award was presented to James G. Ware, University of Tennessee at Chattanooga.

Supported by a grant from the Exxon Education Foundation, the Section sponsored an undergraduate symposium of workshops on environmental applications of mathematics. The symposium was organized by Bucky Allen, Francis Marion University --OVER??--

Workshops and Short Courses

<u>Allegheny Mountain:</u> Workshop, "Student Projects in Calculus", John Maceli, Ithaca College, during the annual Section Meeting, \$25; Summer Short Course, "A Mathematical Sampler", William Dunham, one week, \$120.

<u>Eastern Pennsylvania and Delaware</u>: Nine workshops were part of the Spring Meeting, on topics such as cooperative learning and graphing calculators; \$5.00 each; Summer Course on Mathematical Modelling, 1 week, \$150 registration, or \$270 with room and board.

<u>Florida:</u> Minicourse, "TI-85 Applications in the Pre-Calculus and Calculus Courses," Dennis Runde, Manatee Community College.

Indiana: SUMMA worshop during the Fall meeting, with Bill Hawkins, Director of the SUMMA project, MAA National Office.

Intermountain: Workshop at the annual meeting, "Orthogonal Polynomials," Lance Littlejohn, Utah State University, \$20.

<u>Kansas:</u> Workshops at the annual meeting: "Interactive Electronic Laboratories for Calculus and Geometry of Surfaces," Thomas Banchoff, Brown University; "Proposal Writing Workshop," by William Hawkins, Director of the MAA SUMMA project; "The Hewlett Packard HP\$* in Undergraduate Mathematics Courses," by Robert D. Adams, University of Kansas; "Using Software to Teach Concepts to Business MBA Students," Teresita S. Salinas, Washburn University; and "Calculator Activities / Projects for Enhancing Student Involvement in College Algebra and Precalculus," by Marilyn Carlson, University of Kansas.

<u>Kentucky:</u> At the Spring meeting, a workshop, "Priming the Pump for Curricular Change," by John Kenelly, Clemson University, and a Short Course, "Calculus from An Historical Perspective," by Daniel Otero, Xavier University.

Louisiana-Mississippi: Workshop at the Spring Meeting, on "Graphics Calculators and Dynamical Systems," \$10.

<u>Maryland-DC-Virginia:</u> There was a free workshop at each Section meeting, and a 4-day Summer Short Course, "Surfaces, Soap Bubbles, and General Relativity," by Frank Morgan, Williams College.

<u>Missouri</u>: Workshop "MATLAB in the Classroom and Beyond," by Dennis Harmon, and Short Course, "Using the History of Mathematics in the Classroom," by Linda Hand Noel.

New Jersey: SUMMA Workshop with Bill Hawkins, MAA National Office, at the Fall meeting.

North Central: One-week Summer Short Course, "Cryptography and Computational Number Theory," \$120.

Northeastern:

Workshops at the Fall meeting, all free:

"Introductory TI-85 Workshop," Steve Olsen, Hingham High School "Introduction to the TI-82", Doug Kuhlmann, Phillips Academy "Advanced Topics on the TI-82", Doug Kuhlmann, Phillips Academy "Intermediate-Level Graphics Calculator Workshop: A Recipe for Excitement in the Classroom", Alice Burnstein, Middlesex Community Technical College "Precalculus Laboratories: Functioning in the Real World", Judy Moran, Trinity College and Mary Murphy, Smith College

Workshops at the Spring Meeting, all free:

"Geometry in Linear Algebra with MATLAB", David Hill, Temple University "MATLAB Workshop", David Hill, Temple University

A One-Day Minicourse, "Teaching the Introductory Statistics Course", Robin Lock, St. Lawrence University and Richard Cleary, St. Michael's College, \$40.

A Summer Short Course, "Using History to Teach Calculus", by V. Frederick Rickey, Visiting Mathematician, MAA and Profesor, Bowling Green State University, 5 days, \$180 for MAA members, \$200 for non-members.

<u>Ohio:</u> Each Spring Meeting features a two-hour microcourse for the students attending the meeting. This year, the course was "Techniques of Problem-Solving," by Leo J. Schneider and Darrell J. Horwath. Students were divided into teams of four and were given problems to solve and fallacious proofs to critique. Members of the winning team were given cash prizes.

<u>Oklahoma-Arkanasas:</u> Two workshops at the Spring meeting: a student workshop, "A Conference on Careers in Mathematics", free, supported by an Exxon grant; and a faculty workshop, "College and University Mathematics Curricular Reform Supported by NSF", by James R.C. Leitzel, \$10, supported by an NSF grant.

<u>Pacific Northwest</u>: Three workshops at the annual meeting: "History of the First Nine Lucasian Professors at Cambridge", J. Tattersal, Providence College, \$20; "Mathematica(TM)-Produced Classroom Materials", C. Swenson, Seattle University; "SUMMA workshop/ Proposal Writing", F. Fasanelli, MAA National Office.

Rocky Mountain: A free workshop at the Spring meeting on the TI-85 calculator.

<u>Seaway:</u> Workshop at the Fall meeting: hand-held calculators, Jack Graver, Syracuse University, \$10. Workshop at the Spring meeting: "Teaching Differential Equations with Interactive Computer Graphics", Beverly West, Cornell University, \$10.

Southeastern:

There were three workshops at the Spring meeting:

"History of Mathematics", by Billy Bryant;

"Mathematical Economics", by John Baxley and John Moorhouse;

"Statistical Programming on TI-81", by Richard Stephens.

\$20 each.

Texas:

At the annual Spring meeting there were two short courses, both free:

"Enhancing the Teaching and Learning of Calculus and Differential Equations with Graphing Calculators", by Bert K. Waits of Ohio State University;

"Wavelets Combining Gabor and Affine Structures", by Joe Lakey, University of Texas at Austin, together with "Introduction to Spline Wavelets", by Ewald Quak, Texas A&M University;

and a free student workshop on graphing calculators by Bert K. Waits, Ohio State University.

Summer Short Courses

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Six Sections held summer short courses in 1993-1994:

<u>Allegheny Mountain:</u> A one-week-long short course by William Dunham, of Muhlenberg College, titled, "A Mathematical Sampler", for which the Section charged \$120.

Eastern Pennsylvania & Delaware: A one-week short course on mathematical modelling for \$150, or \$270 including room and board.

Metropolitan New York: "Surfaces, Soap Bubbles, and Relativity," by Frank Morgan, Williams College.

North Central: A one-week course on cryptography and computational number theory, \$120.

<u>Northeastern:</u> Five days, "Using History to Teach Calculus," with Fred Rickey, of Bowling Green State University and Visiting Mathematician at MAA headquarters in Washington, DC, \$180.

<u>Ohio:</u> The Ohio Section holds a summer short course annually. This summer the topic was "CLINT: Computational Laboratories in Number Theory," taught by Hugh Montgomery of the University of Michigan. The course lasted three days; registration was \$90.

Projects concerning Public Awareness of Mathematics

In some Sections, public information and mathematics awareness are considered to be the work of individual departments, or indeed of other organizations. Some offer ideas through Section newsletters for departments to use in their individual projects.

Interesting activities at the Section level this year included the following:

Eastern Pennsylvania and Delaware: The PIO in the EPADEL Section has been very active in submitting information to regional newspapers concerning mathematics and the activities of the Section.

Indiana: The Section publicized news about Indiana winners in the AHSME and the AJHSME .

<u>Metropolitan New York:</u> The Section secured proclamations from the Governor of New York State and the Mayor of New York City, designating Mathematics Awareness Week, and distributed these to local media. The Section sponsored a program at John Jay College of Criminal Justice, where Section members Charles Peskin and HM Edwards spoke, on Computer Heart Simulation and Fermat's Last Theorem, respectively.

<u>Michigan:</u> The Michigan Section runs the Michigan Mathematics Prize Competition (MMPC) each year, for high school students. The press and television crews are invited to the annual awards banquet.

<u>Northeastern:</u> The Northeastern Section held a one-day Mathematics Career Conference last fall, offering a keynote speech and a choice ot 10 different workshops to over 300 high-school students, college students, and faculty. Numerous graduate schools throughout the northeast sent representatives to offer information to the students.

<u>Ohio:</u> The Governor of Ohio proclaimed Mathematics Awareness Week. The PIO of the Section notifies local newspapers of Section awards.

<u>Southeastern:</u> The Section obtained funds from the Exxon Education Foundation to sponsor a symposium of workshops on environmental applications of mathematics for over 50 undergraduate students.

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Activities and Services for Students

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<u>Allgeheny Mountain:</u> The Section has a Student Program Coordinator available for consultation to student chapters. At its annual meetings the Section has a student paper session.

<u>Eastern Pennsylvania and Delaware:</u> The Section held a student career conference; at Section meetings, there are student paper sessions and student paper competitions. The Section distributes information about problem competitions.

<u>Florida:</u> Students are encouraged to present papers at Section meetings. Those giving papers are given an MAA membership, an MAA book, or a meeting attendance expense payment from the Section. There is a social time at every annual meeting for students, which includes food and entertainment. The Section donates up to \$1000 each year to help students to attend national MAA meetings. The Section gave a volume from the New Mathematical Library to each of the top thirty-five scorers in Florida on the AHSME.

Indiana: The Section obtained Exxon funds to sponsor activities in 3 student chapters.

<u>Ohio:</u> The Section provides a list of speakers to the student chapters. Student chapters sell mathematical paraphernalia at Section meetings for fund-raising. The Section is starting a mathematics essay contest for undergraduates this year.

<u>Wisconsin:</u> The Section has been successful at attracting students to Section meetings. There were many student papers at the annual meeting, many the results of student collaborative work. The Section also provided a poster session for students, for the first time. And a pizza party for dinner for students one evening as an alternative to the annual banquet. The pizza party merges with the banquet, however, for the after-banquet lecture. The Section always works to find low-cost lodging for students at meetings --such as dormitories, or with graduate students-- and sometimes gives a lodging subsidy to students who present papers.

Recommended Speakers

George Andrews, Pennsylvania State University, "Ramanujan, Continued Fractions, and Educational Reform."

Thomas Banchoff, Brown University, "Beyond the Third Dimension: From Flatland to Hypergraphics."

John Bennett, Glendale Community College, "Examples of Relative Motion Using the T,N Frame and a Graphing Calculator."

James R. Boone, Texas A&M University, "The Moise Plane -- My Favorite Geometric Example."

John Conway, Princeton University, "Some Old and New Facts about Fermat's Last Theorem."

Philip J. Davis, Brown University, "The Rise, Fall, and Possible Transfiguration of Triangle Geometry."

Keith Devlin, St. Mary's College, Editor of Focus: "How Do You Know If This Is A Title?"

Underwood Dudley, DePauw University, "Angle Trisectors."

William Dunham, Muhlenberg College, "Constructing the Regular Heptodecagon: Ingenuity or Just a Lucky Gauss?"

John Ewing, Indiana University, "Mathematics of Modems."

Joseph Gallian, University of Minnesota - Duluth, "The Mathematics of Identification Numbers."

James Hall, John Deere & Company, "Neural Networks and Genetic Algorithms: Applications in Finance and Engineering."

Morris W. Hirsch, University of California at Berkeley, "Myths of Mathematics."

I. Martin Isaacs, University of Wisconsin, on a problem in mathematical induction and logic.

Millie Johnson, Western Washington University, "The Mathematics of Meanders: Rivers, Channelization, Floods, and the Environment."

Donald L. Kreider, Dartmouth College, "Roots of Recursion in Mathematics and Computer Science."

Lance Littlejohn, Utah State University, "Orthogonal Polynomials."

Mario Martelli, California State University, Fullerton, and M. Furi, U. of Florence, "A Multidimensional Version of Rolle's Theorem With Applications."

P.J. McKenna, University of Connecticut, "Non-Linear Oscillations in Suspension Bridges."

David Lay, University of Maryland, "More About Linear Algebra."

Thomas Moore, Bridgewater State College, "Baring the Beauty of Euclid's Algorithm."

S. Brent Morris, National Security Agency, "Magic Tricks, Card Shuffling, and Dynamic Computer Memories."

F. Kenton Musgrave, George Washington University, "A Fractal Vision of Nature."

Jean Pedersen, Santa Clara University, "From Geometry to Number Theory."

M.B. Rao and V.V.B. Rao, North Dakota State University, "On the Jerusalem Ticket Problem."

Edward Schaeffer, Santa Clara University, "Fermat's Last Theorem."

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Gary Sherman, Rose-Hulman Institute of Technology: "Doing Mathematics with Undergraduates."

Donald R. Snow, Brigham Young University, "The Diagonal Process to Generate Sums of the Powers, and Other Combinatorial Functions."

Kay Somers, Moravian College, "Quantitative Problem Solving - Some Hands-On Experience," and "Calculus with Review: The Course, Materials, and Evaluation."

Elliot Tanis, Hope College (Michigan), "Random Numbers In ... Answers Out: Maple V Simulations."

James J. Tattersall, Providence College, "The Early History of the Lucasian Chair."

Donald H. Tucker, University of Utah, "An Evolving Model for Disease in a Host."

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