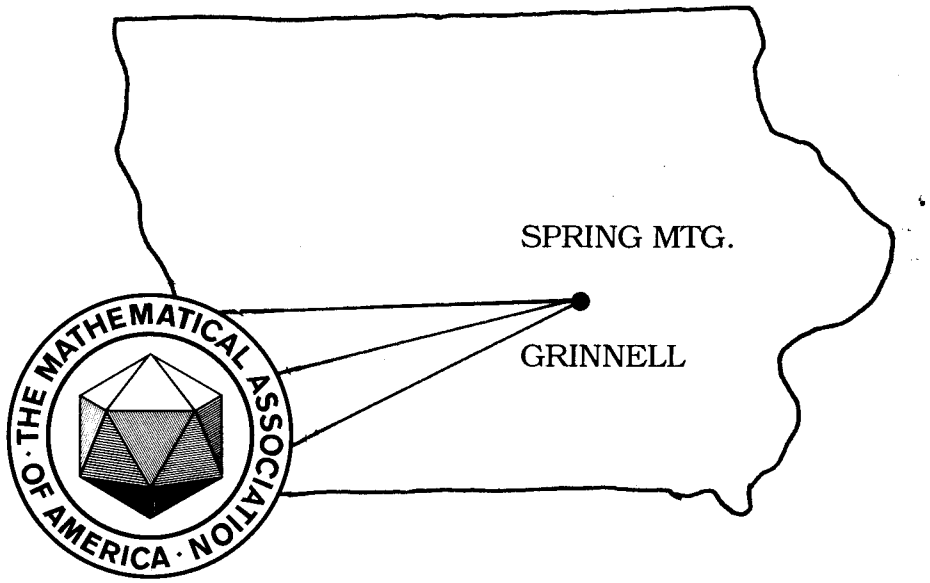
# IOWA SECTION NEWSLETTER




**FALL 1993**

**IOWA SECTION** **SECTION OFFICER LIST** **JUNE 1993**

| | | |
|---|---|---|
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| Public Info. Officer | vacant—replacement needed for George Trytten | |
| Secretary/Treasurer: | Steven Nimmo<br>Dept. of Mathematics<br>Morningside College<br>Sioux City, IA 51106 | no email access at this time<br>712-274-5466 |
| Governor: | Lynn J. Olson<br>608 3rd Avenue<br>Waverly, IA 50677-2331 | olson@wartburg.edu<br>319-352-8385 |

VOLUME X NO. 1 October 1993

## SPRING SECTION MEETING
## at
## GRINNELL COLLEGE
## Friday and Saturday
## April 15-16, 1994

Grinnell College will host the Spring Meetings of the Iowa Section of the MAA on April 15-16, 1994. Patricia K. Rogers of York University, MAA Polya Lecturer, has been invited to speak. The Iowa Sections of the ASA and AMATYC will meet jointly with the MAA. Please send any suggestions for the program to Emily Moore, Dept. of Mathematics and Computer Science, Grinnell College, Grinnell, Iowa 50112; Email: mooree@ac.grin.edu.

## NATIONAL MEETING
## CINNCINNATI, OHIO, JANUARY 12-15, 1994

## Report on the Governors and Section Officers Meetings

Vancouver, BC
Ronald K. Smith
Graceland College

The annual meeting of the MAA Board of Governors was held on Saturday, August 14, in Vancouver, British Colombia. The section officers was held on Monday, August 16, 1993. I attended both as the representative of the Iowa section. My impression from those meetings is that things look very optimistic for the MAA. The development of the mathematics center at the MAA headquarters in Washington is well on its way. We seem to be in good shape financially. Membership is up, and Fermat's last theorem has been proved! In addition, I had a delightful view of Vancouver and the mountains (when the sun was shining). It was a delightful trip. Highlights from my notes follow.

Henry Alder, committee on awards chair, talked to us about the distinguished teacher award. This year's winners were Paul Halmos, Justin Price, and Alan Tucker. The August Focus has an article on the winners. Last year, 24 of the 29 sections gave awards. We were reminded that we have an incredible number of good teachers, and that only those who get nominated can be considered for the national awards. Some suggestions were made regarding ways to get more nominations at the local level. What it comes down to is that members of the MAA need to be aware of their opportunity/responsibility to make suggestions. One possibility that would raise the number of nominations would be to solicit informal nominations at the section level, and then to have a section committee or officer ask department heads for formal nominations.

An NSF representative reminded us of the opportunities for NSF grants. While the Calculus and Bridge to Calculus initiatives are ending in October, there are still many opportunities for grant money. Specifically, there is money in the next initiative for individual courses. NSF will be looking for courses in which there is active participation from other disciplines, and sufficient number of faculty for systemic change. Planning grants ($50,000) come first, and full proposals later. Details are available from NSF.

Much of our working time in both sessions was spent on brain storming about possible electronic services that the MAA might provide. MAA President Don Kreider is especially interested in the possibilities for communication and support to MAA members that computers can provide. A number of opportunities lie before us with the new building and mathematics center at MAA headquarters in Washington. A national committee on electronic services has been formed to study these issues, with our own Gene Hermann (Grinnell) on board. If you have any suggestions in this area, Gene's number is (515) 269-4202.

Don Albers reminded us of the new publication for students, Math Horizons, which is to be disseminated initially with funding from the foundational grant. Look for it, and be sure that it gets wide circulation to the students in your local area!

There was a report on the subvention formula for money coming into the sections from our dues. The formula is complicated by the distinction between small, medium, and large sections, but it basically says that we will continue to get money from the national organization, which is in fairly good shape financially. I will be glad to give more details to anyone who is interested.

Another interesting report was given by Walter Mientka on the exams that are sponsored annually by the MAA. The 1994 dates are as follows:

| | | |
|---|---|---|
| High School | AHSME | Thursday, February 24, 1994 |
| Invitational (AHSME winners) | AIME | Thursday, March 31, 1994 |
| Olympiad (AIME winners) | USAMO | Thursday, April 28, 1994 |
| Junior High | AJHSME | Thursday, November 17, 1994 |

More information can be obtained from his office at:
Dr. Walter E. Mientka, Executive Director, American Mathematics Competitions, MAA, Department of Mathematics and Statistics, University of Nebraska-Lincoln, Lincoln, NE 68588-0658. Telephone (402) 472-2257. FAX (402) 472-6087.

## COMMENTS FROM THE CHAIR

I would like to put together an e-mail directory for the section, so please send your address to me at laursenr@luther.edu. If you know of any helpful bulletin boards, forward that information to me also.

Ron Smith who represented our section at the summer meetings in Vancouver, provided the following information: 1) Get out those nominations for our section teaching award, as advertised in the FOCUS (send to secretary Nimmo). 2) The MAA is doing quite well at this time and President Don Kreider is especially interested in expanding electronic services. 3) The student publication Math Horizons is coming soon. 4) There is money from NSF for individual courses (other than Calculus), particularly those which have active participation from other disciplines. Thanks for the report Ron.

We have an opening for Public Information Officer for this Section so if you are interested please contact me. If you have any ideas on how this section can help its membership better, let me know. Support Emily with any suggestions for the spring meeting.

Reginald Laursen
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laursenr@luther.edu

### IA Undergraduate CS Consortium Forming

A Consortium is in the process of forming to consider issues of undergraduate computer science within Iowa. The goals of the group are to promote communication among CS faculty and facilitate discussion of common problems and issues. A planning group is now in its early stages of putting together a program focusing on CS1 and CS2, laboratories and approaches, with the idea that a first Consortium meeting might take place on Saturday, March 26, 1994, perhaps at Grinnell College. People wishing more information or wanting to be on a mailing list should contact Henry Walker, Department of Mathematics and Computer Science, Grinnell College, Grinnell, IA 50112. walker@grin1.bitnet or walker@ac.grin.edu.

from Henry Walker
Grinnell College

## CALL FOR NOMINATIONS FOR 1994 IOWA SECTION AWARDS FOR DISTINGUISHED COLLEGE OR UNIVERSITY TEACHING OF MATHEMATICS

Nominations for the third (1994) Iowa Section Awards for Distinguished College or University Teaching of Mathematics are now being accepted. The Iowa Section Selection Committee will choose one of the nominees for the Section Award. The awardee will be honored at the Spring 1994 meeting of the Section and will be widely recognized and acknowledged within the Section. The awardee will also be the official Section candidate for the pool of Section awardees from which the national recipients of the MAA Awards for Distinguished College or University Teaching of Mathematics will be selected except that one of the national winners may be selected from another source. There will be at most three national awardees, each of whom will be honored at the national MAA meeting in January 1995 and receive a $1,000 check and a certificate.

Anyone is entitled to make a nomination, but nominations from chairs or MAA representatives in departments of mathematical sciences are specially solicited.

We urge you to submit a nomination if you have someone eligible and qualified in your department in order that your candidate has an opportunity to be considered for the Section Award, and if so selected, also for the national award. Even if not selected this year, it is an honor for someone to have been nominated; your department will receive recognition for its commitment to excellence in teaching, and the work done in preparing a nomination folder for your candidate is not wasted since your candidate can be nominated again in a future year. Self-nomination is not permitted.

In addition to discussing this memo with your colleagues, preferably at a department meeting, please post it in a prominent place in your department.

### Eligibility

- College or university teachers assigned at least halftime during the academic year to teaching a mathematical science in a public or private college or university (from two-year college teaching through teaching at the Ph.D. level) in the United States or Canada. Those on approved leave (sabbatical or other) during the academic year in which they are nominated qualify if they fulfilled the requirements in the previous year.
- At least five years teaching experience in a mathematical science.
- Membership in the Mathematical Association of America.

### Guidelines for Nomination

The nominees should

- be widely recognized as extraordinarily successful in their teaching*
- have teaching effectiveness that can be documented
- have had influence in their teaching beyond their own institutions**
- foster curiosity and generate excitement about mathematics in their students.

* "teaching" is to be interpreted in its broadest sense, not necessarily limited to classroom teaching (it may include activities such as preparing students for mathematical competitions at the college level, for example, the Putnam Prize Competition or the Mathematical Contest in Modeling, or attracting students to become majors in a mathematical science or to become Ph.D. candidates).

** "influence beyond their own institution" can take many forms, including demonstrated lasting impact on alumni, influence on the profession through curricular revisions in college mathematics teaching with national impact, influential innovative books on the teaching of college mathematics, etc.

Nominations must be submitted on the enclosed "Nomination Form." Please follow the instructions on that form precisely to assure uniformity in the selection process both at the Section and National levels.

If a file of a Section awardee significantly exceeds the prescribed limits (as stated on page 2 of the Nomination Form), it will not be considered for a national award and be returned to the Section.

Please send a copy of each nomination packet to:

Steven D. Nimmo, Secretary
Morningside College
1501 Morningside Avenue
Sioux City, IA 51106

so as to be received no later than January 1, 1994.

The Section Selection Committee will select the Section awardee during January and communicate its selection to the National selection committee no later than February 1 so that that National committee can then make its selections.

We look forward to your participation in this exciting MAA venture of taking substantive action to honor extraordinary successful teaching. We want to see such teaching recognized at all post-secondary school levels. We depend on you to help us identify those who merit such recognition.

MATHEMATICAL ASSOCIATION OF AMERICA
AWARDS FOR DISTINGUISHED COLLEGE OR UNIVERSITY TEACHING OF MATHEMATICS

Nomination Form
(Please Type)

Name of Nominee (Last name first)_____

Name of College or University_____

College or University Address_____

College Telephone (____)_____ Home Telephone (____)_____

Number of years of teaching experience in a mathematical science_____

Has the nominee taught at least half time in a mathematical science for the past three years (not counting a sabbatical period)? _____

Activities related to teaching_____

_____

_____

Publications related to teaching if any (List no more than five)_____

_____

_____

_____

Membership and significant activities in relevant professional organizations_____

_____

Previous awards for teaching, if any_____

_____

Additional relevant information_____

_____

Name of Nominator (last name first)_____

Address of Nominator_____

_____
Signature

## Evidence of Success in Teaching

Please describe the nominee's success in teaching by providing a narrative of the nominee's background, experience, teaching style, special contributions, and other related information not already included in the Nomination Form. Limit this portion to no more than four pages, which must be typewritten and double-spaced on one side only of an 8 1/2 x 11 paper. Type size, whether work processor or typewriter, should be no smaller than 12 point (pica) in size.

You are also requested to submit no more than 3 pages of evidence to document the nominee's extraordinary teaching success. For example, a sample of student survey results (including pertinent information about the form used, how it was administered, and the meaning of the scores given), increases in numbers of mathematics majors or Ph.D. candidates, or student successes in mathematical competitions.

In addition, you may include a maximum of five letters of recommendation (limited to one page each) with at least two from the nominee's present or former students and at least two from colleagues (one of whom could be the department chair).

Curricula vitae should not be submitted since the information from them relevant to teaching success should be included in the Nomination Form and the other documents mentioned above.

## CENTRAL COLLEGE - Donald Meyer, reporting

Robert Franks, associate professor of Computer Science, presented a paper entitled "A Study of Indirect Array Subscript Comprehension - Using Computers to Teach Programming Concepts" at the 26th Annual Small College Computing Symposium held on the UNI campus in April. An attempt at determining the nature of student difficulties in learning indirect addressing was explored in the paper. This experimental design study incorporated the use of computer simulation to "set the stage" for learning about indirect addressing in the first computer programming course.

The Mathematics/Computer Science Department received a matching grant from the National Science Foundation under the Instrumentation and Laboratory Improvement Program. The funds were used to help equip a classroom with 16 student workstations and one instructor's station, as well as several machines to be used outside of the classroom. Each student station is meant to serve a pair of students and consists of a Centris 650 Macintosh. This fall the classroom is being used by the following classes: Calculus, Operations Research, Finite Mathematics, and Computer Programming I. For software in the mathematics classes, we are using Mathematica, Mac Solve, Linear Programming by Fractions and HyperCalculus; the computer science classes use a portion of ISU Computer Science Series and also Mac 330 as a graphics terminal connected to the VAX. There is also a ceiling mounted projection system connected to the instructor's machine.

Professor Thomas Iverson attended a Teaching Institute sponsored by Pacific Crest Software during the last week of July in Walla Walla, Washington. The focus for the institute was on process education and an exploration of teaching approaches which promote learning. Specific topics considered during the week included: cooperative learning, problem solving, integration of technology into the learning process, and curriculum development. Professor Iverson is in the process of developing a "Learning through Problem Solving" course and would be interested in hearing from others who share a similar interest.

Professor Steve Ratering presented "Robot Navigation in a Known Environment with Unknown Moving Obstacles" at the AAAI Fall Symposium: Applications of Artificial Intelligence to Real-World Autonomous Mobile Robots held October 23-25, 1992 in Cambridge, MA. He also presented this paper at the IEEE International Conference on Robotics and Automation held May 5, 1993 in Atlanta, GA.

Donald Meyer attended the NSF supported STATS conference at Iowa City in June, 1993.

Central College's 1993 graduating class included 13 seniors with majors in the mathematical sciences.

## CLARK COLLEGE - S. Carol Spiegel, reporting

At Clark, we graduated five math majors in May.

We continue to develop Mathematica materials for our computer classroom labs in Precalculus and Calculus. The NSF-funded classroom is a year old now.

## COE COLLEGE - Calvin Van Niewaal, reporting

Coe College recorded a record enrollment of 1,135 full-time students for the fall term. An additional section of Calculus I had to be added during registration.

Our department has been authorized to begin a search for a new tenure-track faculty member. We hope to hire a statistician for the 1994-1995 academic year.

Cal Van Niewaal attended the ACM conference on multiculturalism and diversity which was held at Macalister College in June.

The Class of '93 included 10 computer science majors, 4 mathematics majors and 6 students with math minors (one of these was a computer science major).

We are continuing to use the TI-81 calculator for instruction in Precalculus. We have been very pleased with the results.

Our special Freshman Seminar section of Calculus I is using the textbook by Ostebee and Zorn, the TI-85 calculator and materials from the Resources for Calculus Collection. A two-hour "lab session" is scheduled each week to supplement the three hours of classroom instruction. This class is also designated as writing intensive.

## CORNELL COLLEGE - Ed Hill, reporting

Ann Russey Cannon has joined our staff. Many of you already know Ann because she did her undergraduate work at Grinnell and is a Ph.D. candidate in statistics at Iowa State. Her dissertation research involves developing methods for analyzing signal detection using categorical temporal data. Ann's husband, Scott, has a B.S. in computer science from Iowa State and is providing computer support as a member of our academic computing staff.

Jim Freeman attended the NSF workshop on computer experiments in differential equations which was held at St. Olaf this past June. Jim hopes to use many of the ideas he picked up at the workshop when he teaches differential equations during March of this year.

## DORDT COLLEGE - Dennis De Jong, reporting

Dordt College was awarded an NSF matching grant for the purpose of computerizing the precalculus class (MATH 110) and making secondary education students in mathematics aware of the technology available for mathematics classrooms and giving them experience in its use. The funds were used to purchase hardware and software and develop a laboratory manual for the precalculus class.

The CMA (Colleges of Mid-America) Mathematics, Physics, and

Computer Science Conference will be held on the Dordt Campus in April, 1994. The conference allows mathematics students and professors from member colleges to interact, to make presentations, and to listen to a guest speaker.

Professor Arnold Veldkamp attended a workshop in using technology in the linear algebra classroom. The workshop was held at Michigan State University during the summer of 1993.

Students at Dordt:

We report
11 Mathematics majors
4 Mathematics 2nd majors
5 Mathematics minors
2 Elementary Education - Mathematics field of specialization

Dordt College Mathematics professor Calvin Jongsma meets his calculus class in a 25-station computer lab where the students have immediate access to the Derive program from a network server. Professor Arnold Veldkamp meets his calculus class in the Derive lab once a week. The stations in the Derive lab are 80386 and 80486-based IBM compatibles connected to a Novel Network server.

Dordt College Mathematics professors Wil Alberda and Marvin Wielard alternate in teaching the Math 107 (Elementary Statistics) class; both use the Lotus 1-2-3 spreadsheet program in teaching the class.

## DRAKE COLLEGE - Alex Kleiner, reporting

We have three new faculty this year. Danniel Alexander is a new tenure track member of the department. Dan received his Ph.D. from Boston University and taught at Colby College last year. Dan's primary interest is in the History of Mathematics and of Dynamical Systems. Siamack Bondari is visiting Drake this year. Siamack received his Ph.D. from Iowa State and his area is Algebra. Marak Palasinski, who has been visiting at Iowa State for the past several years is also teaching several courses for us this fall.

Milan Randic is on sabbatical this year. He is spending the fall term in Japan and will visit several institutions in the spring.

Patsy Fagan is the current president-elect of ICTM. She also serves on the Conventions and Conferences Committee of the NCTM.

## GRACELAND COLLEGE - Ron Smith, reporting

The Graceland College mathematics department is on the "bleeding" edge of mathematics reform in secondary education preparation and calculus. Steve Murdock is busy incorporating the NCTM standards dealing with cooperative learning, alternative assessment, and graphing technology into the math ed curriculum. Meanwhile, with strong support from the education department, Ron Smith is experimenting with cooperative learning and graphing calculators in the calculus sequence. In July, Ron attended the NSF Calculus workshop at St. Olaf College to learn about the Ostebee and Zom project. This fall, he is field testing their calculus materials. Also this year, for the first time at Graceland, graphing calculators are being required in the precalculus and calculus sequences. Ron also attended the summer MAA meetings in Vancouver, representing the Iowa section at both the Board of Governor's meetings and the Section Officers meeting.

## GRANDVIEW COLLEGE - Sergio Loch, reporting

Dr. Sergio Loch has joined the faculty. Sergio received his degree from the University of Wisconsin at Milwaukee in Numerical analysis. He has been an active member of MAA since 1989. Besides his interest in teaching mathematics, he has done work in Differential Equations, Functional Analysis and Numerical Analysis.

Brian O'Donnell is finishing his Ph.D. at Iowa State University.

The Mathematics Department is revising the curriculum with the objective of strengthening the major. New courses are being added. The department has received new material to teach calculus using Mathematica. This is a result of Erna Jensen's participation in a workshop at University of Wisconsin at LaCross during the Summer of 1992. The New Project will be implemented at GrandView College.

## GRINNELL COLLEGE - Emily H. Moore, reporting

This past year Arnold Adelberg completed a long-term research project on Bernoulli polynomials and certain generalizations. A research announcement appeared in Cr. Math. Rep. Acad. Sci. Canada in August of 1992, an article was published in Acta Arithmetica (LXII. 4, December 1992), and a major foundational paper was accepted by Discrete Mathematics.

John Blankenbaker is in his second year of a two-year position at Grinnell. He is focusing his energies on the teaching of statistics, especially at the introductory level. He attended the STATS workshop in Iowa City this summer where he learned about the new emphasis on data driven instruction in into statistics. He and Tom Moore are writing a brief introduction to data analysis with MINITAB. He is also currently evaluating the suitability of various computer programs for use in intro statistics courses.

Pam Ferguson, President of Grinnell and member of our department, published "Lengths of Conjugacy Classes of Finite Solvable Groups," Journal of Algebra, Jan. 1993.

Ferguson also appeared twice before the U.S. House of Representatives Subcommittee on Science, Space, and Technology on behalf of the Associated Colleges of the Midwest, the Great Lakes Colleges Association, and the Central Pennsylvania Consortium. On March 31, 1992, she spoke regarding issues related to the quality of undergraduate science education. One May 20, 1993, she testified regarding the reauthorization of the National Science Foundation.

Eugene Herman completed his term as chair of the MAA Committee

on Computers in Mathematics and was appointed chair of the MAA Committee on Electronic Services, effective January 1993.

Charles Jepsen spent his leave in the spring of 1993 obtaining results on his research program in geometric dissections. He presented a talk at the Iowa Section meetings at Luther in April. This fall, he is presenting a series of lectures on dissections in the departmental faculty seminar. He is planning to present a talk at the MAA/AMS meetings in Cincinnati in January.

Jepsen directed a research program for three Grinnell students in the summer of 1993. Each student produced a final paper outlining results obtained. One student has submitted a paper for publication which has already been accepted.

Charles Jones is spending his sabbatical studying statistics at George Mason University, Fairfax, Virginia.

Emily Moore was voted Chair Elect of the Iowa Section of the MAA at its spring 1993 meeting. This summer she studied Cayley and GAP, and is currently using Cayley in her course in the Abstract Algebra course.

Tom Moore was elected president of the Section on Statistical Education of the American Statistical Association for 1995.

Moore sponsored (with Martha Voyles of our education department) a Quantitative Literacy Workshop at Grinnell, June 13-18, 1993. This was a workshop on implementing NCTM standards on statistics and probability for 40 middle and high school teachers from Iowa with more support from the ASA and with funding from the Eisenhower Higher Education grant as well as support from the Iowa Chapter of ASA and 10 professional statisticians from Iowa industry and academia.

Anita Solow was promoted to full professor in 1993. She is spending her sabbatical as the Visiting Mathematician at the MAA Headquarters in Washington, D.C.

John Stone teaches computer science at Grinnell and manages our network of Sun workstations.

Henry Walker has written a book, "The Limits of Computing," that appeared this summer. (Jones and Bartlett, Boston, MA) He also coauthored an article with Nell Dale (UT-Austin), "The Classification of Data Types," Journal of Computer Science Education, Vol. 3, Number 3, 1992.

Walker was elected secretary/treasurer of SIGCSE, the Special Interest Group in Computer Science Education. He is chair of the Workshops and Tutorials for the 1994 SIGCSE Technical Symposium. He is working with several computer scientists in Iowa to put together an Iowa Undergraduate Computer Science Consortium.

Last spring Walker and his students developed an expert system to place incoming students in mathematics and computer science courses (paper forthcoming).

Royce Wolf was on sabbatical leave in 1992-93, and worked on the word problem for cycle-free group presentations. This past summer he worked with a student on this same problem.

## LORAS COLLEGE - John Friedell, reporting

We continue into this academic year with a staff of 10 full-time teachers for Mathematics and Computer Science. Don Marxen is away on a sabbatical leave, spending most of his time at the University of Wisconsin, Madison. Sheri McDoniel, wife of Doug, who is in his second year at Loras, has been added as a part-time Instructor. Class sizes are bigger this fall, especially in Calculus and Precalculus.

The following well-deserved promotions are noted; Steve Mosiman to Professor, Tan Tran and Brenda Tuomi Litka both to Associate Professor.

The department continued its successful Visiting Lecturer program, going out to High School students and teachers. Last academic year, six different faculty of the department gave 36 talks in 12 different high schools. A number of the schools were in the state of Wisconsin.

For the second consecutive summer a Summer Camp was held for about 20 female junior high students, to help build their confidence in computers and mathematics. This was partially sponsored by a grant from U.S. West. Brenda Litka, Don Marxen and Connie Connolly helped to staff it. A meaningful and worthwhile project.

In May of 1993 there were four Loras seniors graduating with a major in Mathematics and five majors in Computer Science. our Math Club and the student chapter of A.C.M. continue to thrive. These two groups made a joint trip in March '93 to tour the I.B.M. facility in Rochester, MN and were briefed there by several Loras graduate employees of the firm. They continued on to participate in the Pi Mu Epsilon student conference in Collegeville, MN.

We are expanding our use of computer labs for Calculus; Willis, Tran and Friedell are stressing the use of graphing calculators in Calculus and Precalculus.

## LUTHER COLLEGE - Reg Laursen, reporting

Joyce Becker is very active in ICTGM in numerous ways, most notable scheduling and coordinating more than 150 speakers for the State Meeting in Feb. 1993. She also assumed the office of President of Mu Alpha Theta, National Mathematics Honor Society. She spoke at the MAA Section meeting in April, the ELCA Equity for Women and Minorities in Mathematics and Science Conference in July and taught College for Kids mathematics portion for 32 talented and gifted 5th-8th graders in June.

Ruth Berger joins us from Memphis State U. Her interests lie in Number Theory and Algebra.

Richard Bernatz spent last spring at Florida State University and the Geophysical Fluid Dynamics Institute on a pre-tenure sabbatical. He has a paper accepted for publication entitled "Finite Analytic Solution of a Two-Dimensional Sea Breeze on a Regular Grid." He was one of 25 participants selected for the workshop Teaching Ordinary Differential equations with Computer Experiments in June at St. Olaf

College. He co-presented a session on Use of Technology at Luther College at the Fall IMATYC meeting in Iowa City.

Gordon Bril worked with a Pew Foundation fellow on Hurricane Tracking.

Carolyn Chapel rejoins our staff after teaching at Viterbo College in LaCrosse, WI.

Reginald Laursen serves as Chair of this Section. He co-presented a session on Use of Technology at Luther College at the Fall IMATYC meeting in Iowa City.

Alan Macdonald had a paper entitled "On the Marzke-Wheeler and Desloge Constructions" appear in Foundations of Physics Letters. He attended the Chautauqua Short Course "Changing Mathematics in a Changing Scientific World," in July.

George Trytten has retired and serves as a handy resource as he continues to reside in Decorah.

Calculus Reform: Luther continues to class-test reform materials developed by Arnold Ostebee and Paul Zorn entitled Calculus from a Graphical, Numerical, and Symbolic Point of View.

New Building: Luther College has received a grant from the F.W. Olin Foundation to fund a new Business/Math/Computer Science building. It will contain computer labs for Mathematics and Computer Science and a Computer Classroom to be shared by these two departments.

Other Department News: We have a functioning Math Club and a Pi Mu Epsilon chapter. Our modeling ream of Jennifer Clark, Craig Livingston and Enwei Xie received a Meritorious designation for their participation in the Mathematical Contest in Modeling, 1993. That put them in the top 17% of all entries.

Department Statistics: We graduated three math/statistics majors, 22 math majors and 12 computer science majors of which 8 were joint.

## MAHARISHI INTERNATIONAL UNIVERSITY - Catherine A. Gorini, reporting

The MIU Mathematics Department has received an NSF ILI grant for a Macintosh computer lab for mathematics courses. As part of the project, the faculty will be writing *Mathematica* notebooks to accompany the Harvard Consortium calculus text. We will also be using *Sketchpad* for geometry labs. Anne Dow and Dave Streid are principle investigators for the grant.

Eric Hart gave mathematics education workshops this summer at Georgetown University, Rutgers University, Western Michigan University, Portland State University, California Polytechnic University, and Southwest Texas State University. He is also on the editorial panel for the 1996 NCTM yearbook on communication in mathematics.

John Price was visiting professor at the University of New South Wales in Winter 1993.

Cathy Gorini was given the Enlightened Educator award by the first year class. In June, she attended a geometry workshop led by Doris Schattschneider at Gettysburg College.

Dave Streid has left MIU to become director of Maharishi Vedic University in Madison, Wisconsin.

Jim McLelland from Arcadia University, Nova Scotia, is spending his sabbatical at MIU this year. His specialty is logic.

## MOUNT ST. CLARE COLLEGE - Glen A. Just, reporting

One of our part-time instructors, Brenda Metzger, has left to take a full-time position teaching high school mathematics. Our replacement instructor, Kenneth Grenier, began as a part-time mathematics instructor last year, but is now a full-time employee of The Mount. Ken is teaching both mathematics and computer information systems courses, and has a BSE degree in mathematics from Illinois State as well as an MS degree in Applied Science from Augustana College. We were fortunate to link up with Ken as he recently retired from Deere and Company which brings a great deal of practical experience to the classroom in both mathematics and computer applications.

## NORTHERN IOWA AREA COMMUNITY COLLEGE - Adriana Attleson, reporting

Sam Mast, math instructor at NIACC for 30 years, retired in the spring of 1993. Sam served as head of the Natural Science Division at NIACC for many years. Sam served as secretary for IMATYC (Iowa Mathematics Association of Two Year Colleges) in 1990-91, and was coeditor of its newsletter in 1991-92.

Christi Bohmbach is a new addition to the math staff at NIACC. Most recently Christi was an instructor in the Walla Walla, Washington, school district. She previously was a math instructor at Whitman College located in Walla Walla. Christi did her undergraduate work at Concordia Teachers College at Seward, Nebraska, and received her MA degree from Mankato State. Christi is a native of Waseca, Minnesota.

We are continuing to integrate projects into our calculus courses. One of these projects involves integrating six laboratory experiments in the Calculus II course. The labs were adapted from those in Calculus and the Derive Program by Gilligan and Marquardt, and Learning by Discovery, Solow (ed.). Each experiment is intended for the DERIVE program and will be completed by students working in pars.

Six students and five instructors from NIACC attended the spring meeting of the Iowa section of the MAA. Dennis Renner, NIACC student, make a presentation on a computer/climate/geography project.

Dave Clayton attended a one week summer workshop at Carleton College. The workshop concentrated on the use of the TI81, TI82, and TI85 relative to use in calculus courses.

Adriana Attleson, NIACC mathematics instructor, participated in a workshop on Teaching Ordinary Differential Equations with Computer Experiments held June 20-25 at St. Olaf College in Northfield, MN. Twenty-nine participants from fourteen different states heard lectures, observed software demonstrations and developed projects. The workshop was sponsored by the National Science Foundation and the Consortium for Ordinary Differential Equations Experiments.

## UNIV. OF DUBUQUE - Julia K. McDonald, reporting

Dr. Julia K. McDonald was promoted to Professor of Mathematics. Also Professor McDonald was one of approximately 200 participants in the 1993 NSF sponsored Technology Intensive Calculus for Advanced Placement (TICAP) Conference held on the Clemson University campus from June 16-19, 1993.

## UNIV. OF NORTHERN IOWA - Greg Dotseth, reporting

Professor Hyo C. Myung, Department of Mathematics, UNI is spending the academic year 1993-94 as visiting scholar at the Pohang Institute of Science and Technology, in Pohang, South Korea. During his stay, besides giving guest lectures and colloquial addresses, Prof. Myung is completing work on his latest monograph *Composition Algebras and Their Applications*. His recently completed book *Mutations of Alternative Algebras*, co-authored with Prof. Alberto Elduque, University of Zaragoza, Spain, is slated for release later this year by Kluwer Academic Publishers. Prof. Myung came to UNI from Michigan State University in 1970. His main areas of interest and research center on nonassociative algebras and rings, Lie and flexible Lie-admissible algebras, Malcev-admissible and Okjubo algebras, mathematical physics, invariant system theory, and differential equations. In addition to a busy teaching schedule, he has authored over seventy research papers, as well as seven books. Dr. Myung has also been very active as a conference organizing member and as an invited presenter. In August 1992, he was asked to present his paper *Automorphisms and Derivations in a Class of Jordan and Malcev-admissible Algebras* at the prestigious Oberwolfach Conference in Germany. This past July he was a member of the organizing committee of the Third International Conference on Nonassociative Algebras, held in Oviado, Spain; at that meeting he also presented the paper *On Transitive Left-symmetric Algebras*. Prof. Myung has been equally active in journal editorships, serving as editor-in-chief for *"Algebra, Groups and Geometries"* from 1984-90, and as editor-in-chief of *"Nova Journal of Algebra and Geometry"* since 1992.

Prof. Myung has been the recipient of numerous honors and awards, must recently the State Board of Regents Award for Faculty Excellence, in 1990, and the first recipient of the Donald N. McKay Faculty Research Award, also in 1990. Dr. Myung will be returning to UNI in August 1994.

New faculty - Douglas Mupasiri is a new member of the Mathematics Department. Douglas received a Ph.D. from the Northern Illinois University.

Mathematics graduates-1992-93: Undergraduates, 42; Graduates, 2.

## WARTBURG COLLEGE - William L. Waltmann, reporting

Our Department has weekly seminars on math and computer science topics, but we have no lecture series of general interest.

Augie Waltmann attended the National Council of Teachers of Mathematics Meeting in Minneapolis, MN, held November 5-7.

Glenn Fenneman and Augie Waltmann attended the Iowa Council of Teachers of Mathematics Meeting held February 4 in Des Moines where Glenn gave a talk entitled "In Class Simulations".

Lynn Olson, as Iowa Section Governor, participated in the MAA Board of Governors meeting held in San Antonio, TX, in conjunction with the Seventy-Sixth Annual Meeting January 12-16.

Lynn Olson and Bill Waltmann attended the Iowa Section MAA meeting held at Luther College April 16-17 where Lynn gave his Governor's report and Bill gave a brief status report on current computing technology at Wartburg.

Augie Waltmann took six students to the KME National Meeting held at Niagara, NY, April 21-25 where two students presented mathematics research papers. Augie Waltmann was one of 26 participants selected for a National Science Foundation funded "Preparation of Elementary Mathematics Teachers Institute" at Florida International University in Miami, FL.

Bill Waltmann and Lynn Olson attended the Ninth Biennial Summer Seminar held at North Dakota State University in Fargo, ND, July 25-30. They participated in the week long seminar on "Cryptography and Computational Number Theory" sponsored by the North Central Section of MAA with lectures by Dr. Carl Pomerance.

Lynn Olson co-authored a module entitled "Population Models with Mutualism", produced at a 1992 summer workshop sponsored by FAIM (Faculty Advancement in Mathematics) and published by COMAP (Consortium for Mathematics and Its Applications).

Dr. Robin A. Pennington has been appointed to a full-time position as an Assistant Professor of Mathematics.

Dr. Daniel W. Black has been appointed to a full-time position as an Assistant Professor of Physical Science.

Daryl C. Bruflodt and Karen D. Sabey have been hired as adjuncts to each teach two math courses in the Fall Term.

Lynn Olson was one of five finalists for the 1992-93 Wartburg College professor of the year award. (In 1985 he had been selected as The Professor of the Year.)

The number of 1992-93 graduating seniors in math: 16 (including 4

education); stat: 0; CS and CIS: 10 (6 double majors within Dept. of MA/CS and 5 doubles with second major in another department. 24 total persons majored in MA/CS Dept.)

We have the Iowa Delta Chapter of Kappa Mu Epsilon national mathematics honor society (17 were initiated last March) and a student chapter of the Association for Computing Machinery with about 20 students interested in computer science.

Bill Waltmann and Robin Pennington are using Maple V Release 2 in a new symbolic Computation laboratory setting for the calculus sequence (18 PC compatible 486DX2/66 computers networked by the Novell System). Lynn Olson is also using Maple and the lab in his teaching of algebraic structures. Glenn Fenneman is using PC:SOLVE in this lab for his mathematical statistics course.

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