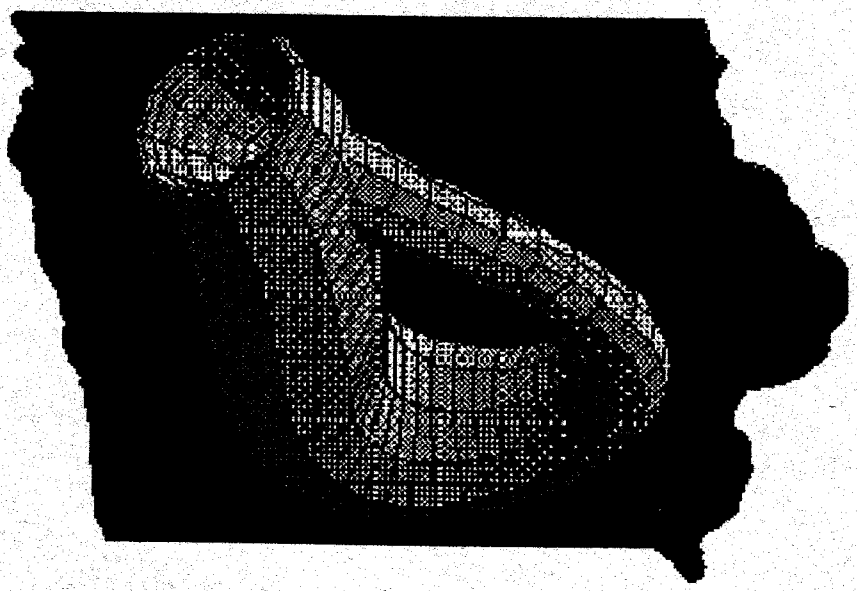
Iowa Section Newsletter



Fall 1998

Iowa Section -- Section Officer List

Chair:	Ruth Berger Department of Mathematics Luther College 700 College Drive Decorah, IA 52101-1043	berger@luther.edu Voice: 319-387-1174 FAX: 319-387-1088
Past-Chair:	Stephen J. Willson Dept. of Mathematics Iowa State University Ames, IA 5011-0001	willson@iastate.edu Voice: 515-294-8142 FAX: 515-294-5454
Chair-Elect	David Manderscheid Department of Mathematics University of Iowa Iowa City, IA 52242	david-manderscheid@uiowa.edu Voice: 319-335-0763 FAX: 319-335-0627
Secretary/Treasurer:	Steven Nimmo Dept of Mathematical Sciences Morningside College Sioux City, IA 51106	sdn001@chief.morningside.edu Voice: 712-274-5466 FAX: 712-274-5101
Governor and Math Contest Chair:	Elgin Johnston Department of Mathematics Iowa State University Ames, IA 50011-0001	ehjohnst@iastate.edu Voice: FAX: 515-294-5454
Student Chapter Coord:	Catherine Gorini Dept. of Mathematics Maharishi Univ. of Management 1000 North Fourth Street Fairfield, IA 52557	gorini@mum.edu Voice: 515-472-1107 FAX: 515-472-1123
Newsletter Editor:	Cal Van Niewaal Dept. of Mathematical Sciences Coe College 1220 First Avenue NE Cedar Rapids, IA 52402-5092	cvanniew@coe.edu Voice: 319-399-8642 FAX: 319-399-8557
Public Info. Officer and Webmaster:	R. B. Campbell Department of Mathematics Univ. of Northern Iowa Cedar Falls, IA 50614-0506	campbell@math.uni.edu
MAA Departmental Liaison Coordinator:	Alex Kleiner Dept. of Math and Comp Sci Drake University 2507 University Ave Des Moines, IA 50311	Alexander.Kleiner@drake.edu Voice: 515-271-3041 FAX: 515-271-3977

VOLUME XV No. 1 November 1998

Annual Meeting of the Iowa Section
University of Iowa, Iowa City, Iowa
Friday and Saturday
April 16 - 17, 1999

The University of Iowa invites you to the Spring meeting of the Iowa section of the MAA to be held April 16-17, 1998. For the meeting we will have as our featured speaker Prof. Colin Adams of Williams College. Prof. Adams is a Polya Lecturer for the MAA this year and will talk both Friday evening and Saturday morning. We plan to follow the usual two-day schedule. Please let me know if you have any program suggestions (david-manderscheid@uiowa.edu).

A call for speakers for the meeting will be made early next year. Please encourage your students to start thinking about the possibility of making a presentation.

We look forward to the meeting and welcoming you to Iowa City in April.

David Manderscheid
Chair Elect

National MAA Meeting:
San Antonio
January 13-16, 1999

Iowa Section MAA -- Governor's Report

July 15, 1998, Toronto, Ontario, Canada
by James L. Cornette, Substitute for Elgin H. Johnston

Because Elgin Johnston was in Taiwan coaching the U.S. Olympiad team (tied for third with Hungary in international competition), Jim Cornette attended the meeting.

A 96 page agenda was circulated before the meeting -- you may conclude that some items are not reported.

The most difficult item was the question of whether to and if so where to have a summer meeting in 2000. The American Mathematical Society is meeting in Los Angeles for ~10 days featuring a current research topic with identification of the questions crucial to the field -- an attempt to do by committee what Hilbert did alone. This meeting just follows the International Congress in Japan. It was considered that the meeting would be of marginal interest to MAA members so the advantages of a joint meeting might be lost and that the location will be expensive. A committee was appointed with the charge of deciding whether to meet, and if so, whether to meet on a campus near the Los Angeles meeting or to meet in a more popular vacation spot, such as Denver.

The finances of the Association seem to be stabilizing. We went through a period of deficit spending ending in 1996, and show a surplus of $137K for 1997 (in a $4.3 M budget) and project a $163K surplus for 1998.

Membership is always important. There is a serious shortage of young faculty in MAA, and we (meaning you and I) should recruit young faculty in our own institutions. June 1, 1998 membership is 22,821. Our marketing director is projecting December 31, 1998 membership to be 26,781.

Iowa Section membership is 243. Eight graduate students in Iowa are MAA members. Our percentage attendance (32%) at our section meeting is sixth highest among all the sections.

A movement to establish an Association for Research in Undergraduate Mathematics Education is gathering strength. This is an effort to give autonomy to the group and retain their connection to MAA. These are somewhat conflicting goals, and perhaps five years into the future, ARUME may be an independent organization.

Nominating Committee

Section Chair Ruth Berger has appointed the Nominating Committee for the Iowa Section. The committee members are:

Emily Moore (Chair)	Lynn Olson	Ron Smith
Grinnell	Wartburg	Graceland
mooree@math.grin.edu	olson@wartburg.edu	rsmith@graceland.edu

This year the nominating committee is seeking nominations for Secretary-Treasurer, as well as Chair-Elect. Members of the Iowa Section who would like to suggest possible nominees should contact one of the members of the nominating committee by January 15, 1999.

Iowa Collegiate Mathematics Contest
Saturday, March 13, 1999
Grinnell College

The fifth Iowa Collegiate Mathematics Contest will be held at Grinnell College on Saturday, March 13, 1999. For more information, contact Arnie Adelberg (adelbe@math.grin.edu) or Elgin Johnston (ehjohnst@iastate.edu).

http://maa-ia.cornell-iowa.edu

For the latest news from the Iowa Section, check out the section's web pages. Thanks to Jim Freeman and Cornell College for hosting the pages and to Russ Campbell for agreeing to add the job of Webmaster to his duties as Public Information Officer. Please feel free to contact Russ (campbell@math.uni.edu), if you have any suggestions for improving the web site.

Congratulations!

Robert Berger was born on August 28. His mother is Ruth Berger, Chair of the Iowa Section. Robert is keeping Ruth busy, but she promises not to neglect the Iowa Section completely.

Campus News

Coe College

Cal Van Niewaal
cvanniew@coe.edu

The Coe Community was saddened by the death of Charles Lindsay. He died in March 1998 following a battle with cancer. Charles had been a member of the faculty since 1957 and will be missed by all of his colleagues.

Gavin Cross received an NSF ILI grant to equip a new computer lab/classroom. The lab, which will contain 24 computers, will be used to teach a newly-developed interdisciplinary basic statistics course. This course will be offered for the first time in the fall of 1999.

Terry Hostetler was promoted to Associate Professor of Computer Science.

Robert Krueger has joined the department as Assistant Professor of Mathematics. His wife, Rachel, is the new mathematics counselor for the Educational Support Program at Coe. Rob earned his Ph.D. in August from the University of Nebraska. His research specialty is Difference Equations. Rob is participating in the Project NExT program this year.

Coe had 6 mathematics majors, 9 computer science majors, 6 mathematics minors and 2 computer science minors in 1998. Two of the mathematics majors were accepted into Ph.D. programs.

Cornell College

James Freeman
jfreeman@cornell-iowa.edu

Cornell College faculty members Ann Cannon and Tony deLaubenfels recently submitted a successful grant application to the NSF titled "Computer-Enhanced Experiential Learning in the Introductory Statistics Course." The grant has helped to fund a new computer classroom for use by all statistics courses. The classroom contains one computer per two students and is being used not only for more realistic data analysis and projects in class and after hours, but also in the examinations of the students.

Drake University

Alex Kleiner
Alexander.Kleiner@drake.edu

Luz DeAlba is the Chair of the Department. Patsy Fagan is the Associate Chair. Luz is also serving on the International Linear Algebra Society's organizing committee for their Barcelona meeting in 1999.

Dan Alexander has been appointed to the Association's Ad Hoc Commission on the History of Mathematics. Dan has designed a Calculus I course for the web and

taught it the last two summers. The course has had student body located around the Midwest and one Drake student took the course from Japan. Dan will also be speaking about his experience teaching calculus on the web at the upcoming ICTCM meeting in New Orleans.

Luz DeAlba and Dan Alexander have been appointed Drake Academic Computing Fellows. They are studying the use of the World Wide Web in the teaching of mathematics and will present a workshop at ICTCM on putting mathematics on the web.

Bernadette Baker (Drake) and Sergio Loch (Grandview) hosted RUMEC (Research in Undergraduate Mathematics Education Community) for their summer meeting in Des Moines on June 12-14. Twenty one members were in attendance.

Alex Kleiner was a participant in the Institute in the History of Mathematics and Its Use in Teaching, held at Catholic University in the summer of 1998. This program is sponsored by the Association with funding from the National Science Foundation.

David Oakland has returned from a sabbatical.

Milan Randic will be on Sabbatical for the 1999 year.

Grinnell College

Marc Chamberland
chamberl@math.grin.edu

Department News:

Charlie Jones has resigned his position as associate professor of mathematics. For the academic year 1998-99 he is a visiting professor in the Mathematics Department at Randolph-Macon College for Women in Ashland, Virginia. Chris Hill joins us for a one-year position in mathematics. He has recently completed his Ph.D. from the University of Illinois, Urbana-Champaign. Karen McRitchie also joins us for one year as the systems administrator for the MathLAN computer network.

Our Faculty:

Arnie Adelberg has several research publications on which to report. His paper "Higher Order Bernoulli Polynomials and Newton Polygons" appeared in the proceedings of the 7th International Conference on Fibonacci Numbers, May 1998, 1-8. His paper "2-adic Congruences of Norlund Numbers" has been accepted by the Journal of Number Theory, and will appear shortly. His paper "Arithmetic of Norlund Polynomials," which was submitted at the invitation of the editors of a special volume of Discrete Math., has been accepted and will appear eventually. He is currently working on a powerful generalization of Bernoulli numbers called Universal Higher Order Bernoulli numbers. This relates to applications in Algebraic Topology. Arnie also has accepted the position of Director of the Noyce Visitor Program at Grinnell, with some released time.

Marc Chamberland had two papers appear in the past year: "Global Asymptotic Stability, Additive Neural Networks, and the Jacobian Conjecture" in the Canadian Applied Mathematical Quarterly, and "Convex Domains with Stationary Hot Spots" (with David Siegel, University of Waterloo) in Mathematical Methods in the Applied Sciences. He has also continued his research concerning the Jacobian Conjecture and the 3x+1 Problem. Talks on this research were given at the University of Nebraska-Lincoln, the AMS-MAA Joint meetings in Baltimore, Macalester College and the University of Waterloo. In the summer of 1998, he conducted research with a Grinnell student -- Anne Wilson -- on the 3x+1 Problem.

Gene Herman is chair of the Department of Mathematics and Computer Science at Grinnell. His major project recently has been to develop an interactive text in linear algebra, which he has been working on with colleagues at the University of Washington and Seattle Central Community College. He and his colleagues recently signed a contract with Addison Wesley Longman to publish this text, which is currently being class tested by the publisher. The name of the text will be "Linear Algebra: Modules for Interactive Learning Using Maple," although it was developed as the "Linear Algebra Modules Project" or LAMP.

Chris Hill recently obtained his Pd.D. in analytic number theory. His paper "Uniform distribution modulo one on subsequences" will appear shortly in the Proceedings of the American Mathematical Society.

Charles Jepsen will be on leave in the spring semester 1999. He has trips planned to the Mathematics Departments at Washington State University and the University of Calgary. He directed two Grinnell students (Jennifer Heppner and Dan Willms) this past summer in a research project on counting certain quadrilaterals with integer sides and fixed perimeter. A joint paper is in preparation. The paper "Making Squares from Pythagorean Triples" has appeared in the September 1998 issue of the College Mathematics Journal. This paper (coauthored with former Grinnell student Roc Yang) is the result of a research project in Summer 1996.

Emily Moore was on sabbatical in 1997-98 at Mount Holyoke College. She worked with Mike Albertson on graph coloring extension problems, and spoke on some of this work at the CONE Conference (Combinatorialists of New England) and the Southeastern International Conference on Combinatorics, Graph Theory, and Computing. She also worked with Harriet Pollatsek on criteria for difference sets in non-abelian groups. Emily also acts as advisor to the women mathematics majors who run the mathematics session for our ``Science Saturday" program for girls in 5th and 6th grades. She would welcome correspondence with others who run a similar program.

Tom Moore spent 1997-98 on sabbatical leave at Mt. Holyoke College where he taught three courses and where he edited a volume of resources for teaching undergraduate statistics. He was a one of four presenters at the last Chance workshop at Dartmouth this past July. In August he was named a Fellow of the American Statistical Association at the associations annual convention in Dallas. He has also been chairing the ASA's Association Review Group which is an advisory group to the NCTM's committee that is updating the Standards and, in this

capacity, he participated in a panel discussion about the Standards at the MAA convention in Baltimore.

John Stone is on sabbatical this year. He is writing a textbook on algorithms for undergraduate computer-science majors.

Henry Walker continues to be active with curriculum development in computer science. This past year, his involvement included workshops on advanced placement in computer science, a week-long workshop to high school computer science teachers in Gates Mills, Ohio, and a major contribution to the ITiCSE'97 report on computer-mediated communication in collaborative education settings. He also has a regular column in the "Classroom Issues" section of the SIGCSE Bulletin and had two other articles on computer science education published. Henry is the Secretary/Treasurer of SIGCSE, is a member of the Liberal Arts Computer Science Consortium and the Iowa Advanced Placement Advisory Committee, and serves as an on-going consultant to the College Board.

Royce Wolf is learning knot theory in order to conduct summer research in this topic at Grinnell. He will play the piano in a flute/piano faculty recital (with Rebecca Stuhr - flute) at Grinnell (November 1998) and plans a solo recital in early spring.

Iowa State University
Department of Mathematics

Stephen Willson
swillson@iastate.edu

Several departmental faculty received special honors last year. Kris Athreya has been named Distinguished Professor, and Jim Cornette has been named University Professor. Timo Seppalainen received a university award for Early Achievement in Research, Wolfgang Kliemann received an LAS Excellence in Research Award, and Dan Ashlock received the LAS Award for Outstanding Teaching. Congratulations to them all!

In the last year several faculty left the department. Richard Miller has retired. Ralph Smith left the department to go to North Carolina State University in Raleigh, North Carolina where he will be closer to some of his collaborators. Suncica Canic and Dragan Mirkovic have left the department to go to Houston, Texas, where they can be reached at the University of Houston. We wish them success in their new locations.

Fritz Keinert is on Faculty Improvement Leave at Flinders University in Adelaide, Australia. He writes, "Right now we are spending spring break in Bali, where the weather is tropical year round, and the living is cheap."

Qiang Du is spending the year in Hong Kong.

We welcome Sunder Sethuraman and Xiaoming Wang, who have joined the department as Assistant Professors.

Iowa State University
Department of Statistics

Dean Isaacson
Dli@iastate.edu

There are approximately 130 graduate students in statistics at ISU at present; in addition a few employees at General Motors and at the Mayo Clinic are in the distance education program offered by ISU toward the M.S. degree in Statistics.

Three new members have been added to the Statistics faculty:

Professor Max Morris (Ph.D. 1977, Virginia Polytechnic Institute and State University, Statistics) has a joint appointment with the Department of Industrial and Manufacturing Systems Engineering and Statistics. His is a Fellow of the American Statistical Association and current editor of *Technometrics*.

Associate Professor Philip M Dixon (Ph.D. 1986, Cornell, Ecology and Evolutionary Biology). Along with teaching statistics courses, Dr. Dixon will be consulting with researchers in Agriculture.

Professor Douglas G. Bonett (Ph.D. 1983, UCLA, Psychology/Biostatistics) has a joint appointment with Psychology. He will be teaching two Statistics courses and one Psychology course and will also maintain an independent research program.

This year three statistics faculty members were honored by Iowa State University. Paul Hinz was promoted to University Professor. His main teaching duties have included statistical methods for both majors and minors, multivariate methods for minors and statistical theory for minors. Krishna Athreya was given the title of Distinguished Professor. Dr. Athreya holds a joint appointment between Statistics and Mathematics and has taught all of the probability and stochastic processes courses in both departments.

A third award was received by University Professor Emeritus H. T. David. Dr. David received the Margaret Ellen White Graduate Faculty Award which recognizes superior performance by a graduate faculty member who serves as a mentor and enriches the student/professor relationship through support and attention to detail, enabling students to finish their work in a timely and scholarly manner.

In August 1998, Dianne Cook was promoted to associate professor with tenure and Soumendra Lahiri was promoted to full professor.

One highlight of the year: Mary O'Daniel and David Hammelef became our first graduates in the General Motors Technical Education Program. GM and the ISU Department of Statistics established a partnership in 1994 through which GM employees could earn a non-thesis M.S. degree in statistics by taking courses via videotape.

Four classes of interest will be offered beginning Spring 1999:

Advanced Statistical Methods for Research Workers. There are a number of modern, advanced, statistical methods that, although commonly used in practice today, have not yet been integrated into the undergraduate and non-major statistics curriculum. This is because of a lack of instructional materials and the need for high-performance computing. Within a project funded by the National Science Foundation Instrumentation and Lab Improvement program, several professors with the Department of Statistics at ISU are developing instructional modules that will allow instructors to easily integrate these advanced methods into their courses.

Professors William Meeker, Bob Stephenson and Mark Kaiser, Dianne Cook, and Bill Duckworth will team-teach an experimental course, Statistics 415, based on these modules. This course will be open to students who have taken an intermediate statistical course and who want to continue their studies into more sophisticated methods and applications. Topics to be covered include graphical methods for high-dimensional data, maximum likelihood estimation, analysis of censored time-to-event data, nonlinear regression with random parameters, logistic regression, simulation-based inference, and mixture models. The course will focus on data analysis, modeling, and interpretation, using examples from a variety of scientific and engineering disciplines.

Dr. H. A. David will be teaching a course in the History of Statistics. This course will provide an introduction to the statistical literature from 1750 on, mainly through the study of selected papers. Authors will include Laplace, Gauss, Ernst Abbe, Helmert, Karl Pearson, Student, R. A. Fisher, and others. The history of Statistics at Iowa State will also be presented. This 1 credit class will be offered for the first time during Spring Semester 1999.

Dr. Dianne Cook will be offering Stat 503, Exploratory Data Analysis. This class will study approaches to finding the unexpected in data: data mining, pattern recognition, and gaining understanding. The emphasis will be on data-centered, non-inferential statistics, for large or high-dimensional data, and topical problems. Simple graphical methods, as well as classical and computer-intensive methods applied in an exploratory manner will also be discussed.

The Ecological Statistics (Stat 534) course is being redesigned. The course will convert to 3 credit hours (from 2 credit hours) with the new catalog. The course will cover topics in estimation of the size of animal populations, analysis of population dynamics models, spatial aspects of population analyses, ordination techniques, analysis of biological indicators and species richness, and the use of random parameter models in ecological field studies. In Spring 99 the course will remain 2 credit hours and not all of these topics will be covered.

Iowa Western Community College

Carol Huffman
chuffman@iwcc.cc.ia.us

Iowa Western Community College is preparing for a Fall '99 NCA accreditation visit. As part of the college's emphasis on assessment, the math department has begun collecting data from pre and post tests given in the algebra sequence. The purpose of the tests is to demonstrate student academic gain and help track the accomplishment of the quality standards or objectives. An unexpected bonus has come from the pretests generating an additional opportunity to place students in the appropriate course.

Also at IWCC, Carol Huffman was promoted from Instructor to Assistant Professor.

Luther College

Ruth Berger
bergerr@luther.edu

Joyce Becker participated in the NSF Calculus Reform Workshop at the University of South Dakota, Vermillion. The workshop was conducted by Dr. Donald Small of West Point Military Academy with an emphasis on enlivening Calculus through student projects.

Richard Bernatz is in England, this academic year, leading Luther College's study abroad program at Nottingham.

Ruth Berger currently serves a chair of the Iowa section of the MAA. She attended a workshop on Ostebee Zorn's Multivariable Calculus materials at St. Olaf this summer.

Reg Laursen is still serving as department chair.

David Mitchell is again leading the ACES Math program for talented and gifted students.

STATISTICS: We graduated 3 math/statistic majors, 20 math majors and 11 computer science majors of which 2 were joint. We also graduated 15 math minors.

CALCULUS REFORM: For several years we have been using Ostebee/Zorn calculus reform materials in our calculus sequence including Multivariable recently. For a change we are using the Harvard materials this year. For differential equations we are using reform materials by Blanchard/Devaney/Hall.

LECTURE SERIES: Alan Macdonald is in charge of finding outside speakers who can present interesting talks to our math majors. He is using the MAA Visiting Lecturers Program which can be found at http://www.maa.org/projects/vl_intro.html. We are also interested in finding speakers through other sources. Volunteers welcome! We hope to have one lecturer each semester.

Maharishi University of Management

Catherine Gorini
cgorini@mum.edu

Starting this year, first-year students will be taking a series of 2-credit and 4-credit courses called Natural Law Seminars. The Mathematics Department is offering three of these seminars: **Numbers**, covering some number theory, mod arithmetic, error-detecting codes, the RSA cryptosystem, and Fermat's Last Theorem; **Infinity**, including some set theory, cardinality, the counting numbers, and the reals; and **Symmetry**, covering symmetry groups of two- and three-dimensional objects and patterns, and occurrences of symmetry in art and nature. The Numbers course is currently underway and is going very well.

Eric Hart has received an NSF Teacher Leadership grant to provide professional development for lead high school mathematics teachers in Iowa. The project is called PRIME-TEAM: Promoting Excellence in Iowa Mathematics Education through Teacher Enhancement and Exemplary Instructional Materials. Co-director is Hal Schoen at the University of Iowa. Eric was also appointed to the Addenda 2000 Task Force of the National Council of Teachers of Mathematics (NCTM). This task force will develop a strategic plan for NCTM's publication program to support Standards 2000. Standards 2000 is the updated version of the current NCTM Curriculum and Teaching Standards.

John Price has become adjunct professor and will be returning to Australia to pursue his professional interests in financial mathematics.

Morningside College

Steve Nimmo
sdn001@alpha.morningside.edu

Eric Canning joined the Mathematical Sciences Department this year. Eric is originally from California but more recently he is finishing up his dissertation at Kansas State University in mathematics. He is responsible for statistics and math education at Morningside.

Mt. Mercy College

Kent Knopp
krknopp@mmc.mtmercy.edu

Danny Lau has resigned, after 10 years, to run a larger department in warmer climes: Gainesville GA to be precise. A search for his replacement has begun.

MMC hosted its first high school mathematics contest on Friday, October 16. Twelve schools sent a total of 139 students. Chaos was rampant, but we plan to do it again next year.

Two teams of students teams of students are planning to participate in CoMAP's Modeling Contest in February.

Northwestern College

Kim Jongerius
kimj@nwciowa.edu

The math department at Northwestern has been growing lately, steadily increasing from 15 majors 4 years ago to 40 this fall. Faculty activity has included two published papers and a presentation by Owen Byer ("Maximum Number of K_4's in a 4-partite Graph" in the Bulletin of the Institute of Combinatorics and its Applications, September 1997, "Some New Bounds for the Maximum Number of Vertex Colorings of a (v, e)-Graph" in the Journal of Graph Theory, July 1998, and "Maximizing the Number of Certain Subgraphs in Various Classes of Graphs" given at the DIMACS Research and Education Institute in July of 1998) and a presentation by Tim Huffman ("Analytic Feynman-Fourier Transforms and the Plancherel Identity" given at the Centennial Celebration of the Mathematics Department at the University of Nebraska-Lincoln). In administrative news, Owen Byer has been unanimously elected department chair by the other two members of the department.

Simpson College

M. E. "Murphy" Waggoner
waggoner@storm.simpson.edu

In May 1998, 12 students graduated from Simpson College with a mathematics degrees. The Computer Science Department awarded 13 degrees in computer science and computer information systems.

This is the first year of our senior capstone experience in mathematics and there are 12 students in the course. This year the course is led by a team of 3 faculty, Bill Dunning, Bruce Sloan, and Murphy Waggoner. The students each chose to do research in one of these areas: functions, number theory, or computer aided design. Each student will complete a research project and present a paper at the end of the course. The faculty leaders of the capstone course will rotate from year to year amongst the 4 members of the Mathematics Department.

This is the second year of our NSF ILI grant and the mathematics computer laboratory developed through the grant has been up and running since last December. The lab contains 12 Mac G3 computers and a color printer. The department also has a lap top G3 to use with the a projection device for display during lecture. Both Calculus III and Differential equations have been restructured so the students have 3 hours of lecture each week and 2 hours of lab work. The primary pieces of software used in lab are Maple and Graphical Analysis. In each course the students are also required to complete 2 to 3 projects which result in technical papers. The laboratory exercises and projects developed by Murphy Waggoner for these courses will be published on the web this spring.

Bruce Sloan is in the midst of developing a History of Mathematics course for our majors. He attended the Institute in the History of mathematics and It's Uses in Teaching at Catholic University of America for 2 weeks last summer and will return for 2 weeks next summer. He plans to offer History of Mathematics as a junior/senior level course during the 1999/2000 school year.

Rick Spellerberg is on sabbatical this semester and is working on r-Lattice Theory with D. D. Anderson of the University of Iowa.

The Computer Science department grew to 4 members this year with the addition of Barbara Nostrand.

Two teams of students representing the Mathematics, Computer Science, Chemistry, and Biology departments competed in the Mathematical Contest in Modeling in Spring 1998. This is only the second year students from Simpson have competed in the national competition and we are pleased that the team of Jessica Comstock, Tim Hall, and Matthew Mann received an Honorable Mention. This spring we will have 3 teams competing.

University of Iowa

David Manderscheid
david-manderscheid@uiowa.edu

The Department of Mathematics has over 100 undergraduate majors this year. Our undergraduate research program continues to grow in popularity. This year 10 students are working on projects with faculty in areas such as operator theory, group theory, curriculum development and modeling of epidemics. Interest in our "Program C" major continues to grow also. This major is designed to meet the needs of students who want a degree in mathematics with a clear specialization in some area of application. The key is that certain courses in the area of specialization are counted towards the Mathematics degree. Students can focus on areas for which programs have been approved, such as Optimal Business Decision Making, Economics, Physics, Biomathematics and others, or they can propose new ones. Program C graduates do very well in the job market.

We have two graduate programs with a total of close to 90 students studying for MS and Ph.D. degrees. Of this total 24 students are in the Applied Mathematical and Computational Sciences Ph.D. program. Students in this interdisciplinary program build a strong foundation in theoretical and applied mathematics but also do work in other areas. Some of the current students in the program are writing dissertations in the areas of group representations in quantum mechanics, stochastic optimization in finance, atmospheric chemical models, optimal protein modeling, and image compression to name a few. Our graduate students come from Iowa and surrounding states but also from California, Texas and Georgia among other states. Our foreign graduate students come from around the world with the most students from China, Korea and Romania. Last year 11 students received their Ph.Ds. One of the students took a postdoc at Argonne Labs, one went to work in industry and the remainder took academic jobs at various institutions such as the University of North Dakota, Lamar University , Boise State University and Marshall University. This year the department received its second GAANN(Graduate Assistance in Areas of National Need) grant from the Department of Education. This grant provides full fellowship support for US minority graduate students from groups under represented in mathematics. Currently 18% of our students are from these groups. In a recent article in Science we were listed as the 4th largest, tied with UCLA, producer of minority Ph.Ds in mathematics for the period 1992-1996.

We have been reaching out to high schools. For the past two years Professor Walter Seaman has, with sponsorship from the GET corporation and the University of Iowa, worked with a dozen high school students in a residential science immersion program on campus. Among other activities the students used Mathematica notebooks to study two and three dimensional graphics. This was also the second year that we hosted the UP Mathematics Competition for High School Students. The competition consists of four rounds: team, sprint, target and relay. For further information on this event contact Sandy Stockman of our staff.

Keith Stroyan has recently published the second edition of his reform calculus text, Calculus: The Language of Change. He also has published a software package Calculus Wiz (Wolfram) which contains a complete online traditional calculus text, but also has buttons that can solve almost all the problems in any traditional calculus book. For further details: http://www.math.uiowa.edu/~stroyan/. Other faculty have also been integrating the Web into their courses. For the past two summers the University has offered workshops on the use of the course homepage program WebCT and other technology that can enhance teaching. Participating faculty are given equipment money to support the use of technology in their teaching. Thus far ten faculty member from the Mathematics Department have been chosen for the workshops.

For more information about what is going at Iowa, including our seminar schedule and information on our distinguished visitor series, please see our web page: http://www.math.uiowa.edu/

University of Northern Iowa

Greg Dotseth
dotseth@math.uni.edu

Last spring Professors Hyo Myung and Robert Rule retired. Dr. Rule had served the university for 32 years and Dr. Myung had served the university for 28 years.

This year the department has a Visiting Professor position being held by Jeremy Morris who is finishing his Ph.D. at Colorado State University in Fort Collins. He is teaching calculus courses for the department.

Sarah-Marie Belcastro and Tamara Veenstra are in their second year as Project NExT participants. Douglas Mupasiri has "graduated" from the NExT program.

Further information about the department, including four faculty position statements, is available on our home page http://www.math.uni.edu

1998 Graduates:

BA	MA
Mathematics Teaching-25	Mathematics - 3
Mathematics Plan A - 3	Elementary Mathematics - 1
Mathematics Plan C - 4	Middle School Mathematics - 22

Student Activities: TEAM (Teaching Educators About Mathematics) is a student organization at UNI. The purpose of this club is to extend the education of pre-

service teachers outside the boundaries of their mathematics and education classes. Students set the agenda and create programs to meet their needs. This year they plan to invite speakers to talk to them about surviving during student teaching and as a first year teacher, how to make the most of field experiences, and professional portfolios. The students also volunteer as tutors and Math Counts coaches at area middle schools. TEAM will also organize a trip to the NCTM regional conference (to be held in Des Moines) this spring.

KME: Students presenting papers at local KME meetings include: Christopher Geerts on "Probability and the NBA Draft Lottery" and Giao Vu on "Fractal Curves." Mary Noga addressed the spring initiation banquet on April 30, 1998 on "Bigger, Better Power Ball." Eight new initiates joined KME that evening: Marcus Bishop, Brooke Brill, Manuel Chapa, Mark Ecker, Megan Engel, Kamilla Guseynova, Tanya Sperry, and Douglas Stockel. KME students Suzanne Shontz and Marc Pedersen along with faculty members John Cross and Mark Ecker attended the Region IV KME Convention at William Jewell College in Liberty, MO on April 3-4 where Suzanne presented her paper on ""A" is NOT for Achievement."

Math Club: The Spring activities included films(math and fun),a career night with math department alumni talking about their present positions, Professor Ruth Berger(Luther College) talked about the mathematics of bar codes and an overnight trip to Chicago. The club is searching for ways to increase attendance.

Suzanne Shontz received her third summer research award. She attended the Research Experience for Undergraduates sponsored by the National Science Foundation at Cornell University. She attended Math Fest 98 and gave a presentation titled "Computing Homoclinic Bifurcations. She was also one of four students nationwide to receive honorable mention for the Alice T. Schafer award.

MAA Online

Have you visited MAA Online lately? The home page (at www.maa.org) continues to grow and improve, providing MAA members with an ever increasing level of access to information about programs, publications, meetings, student activities, and a host of other topics.

The Ohio State University
College Short Course Program

The Ohio State University Technology College Short Course Program, part of the Teachers Teaching With Technology Program, is now taking applications for mini-grants to partially fund 1 to 5-day hand-held technology-based short courses throughout the United States in 1998 - 99.

You may select to host courses for the developmental level (DEV), for the college algebra-trigonometry level (ALGT), for the precalculus and calculus level (PCALC-CALC), for the calculus level (CAS-CALC), for teacher educators (MTE), for modeling science (M2S), for statistics and data analysis (STATS), for programming the TI calculators (PROG), and other affiliated courses. Participants will learn how to use Texas Instruments hand-held technology to enhance the teaching and learning of mathematics. Each course contains some use of the CBL and CBR to collect data for the purpose of mathematical analysis. Pedagogical, testing, and implementation issues are addressed in all courses. Academic year courses (1 - 3 days) are intended for individual or small groups of colleges, and 3 or 5-day summer 1999 courses are intended for wide-based audiences. If you are interested in hosting a course, the mini-grant application form, short course prospectus, and Program details are available at:

http://www.math.ohio-state.edu/shortcourse

Hard copies of the forms can be obtained from Bert Waits and Frank Demana through Ed Laughbaum at:

The Ohio State University, 231 West 18th Avenue, Columbus, OH 43210

or via e-mail at <elaughba@math.ohio-state.edu>.

The College Short Course Program is endorsed by the American Mathematical Association of Two-Year Colleges (AMATYC) and has offered over 150 courses in 30 states in the last 5 years.