9/9/99: Memorable Date for a Memorable Conference

by Mark Kayll

It gets better every year. The Big Sky Conference on Discrete Mathematics, hosted by the UM math department for the fifth straight year, was again a rousing success. This NSF-funded meeting attracted over 20 participants from Canada and the USA, including five undergraduate students fresh from recent REU* experiences.

The keynote speakers were none other than Maria Klawe, Dean of Science at the University of British Columbia, and Jeannette Janssen, Professor of Mathematics at Dalhousie University in Nova Scotia. Dean Klawe gave a highly engaging town-gown lecture entitled "Mathematics, Computer Games and Gender" to open the fall 1999 President's Lecture Series. The strong support of this event had the organizers at both ends of the campus smiling from ear to ear. For two years running, the dovetailing of the conference with the series has proven to be fruitful for all interested parties.

New this time around was the co-sponsoring of Professor Klawe's afternoon talk by the Philosophy Forum, chaired by UM Regents Professor Albert Borgmann. The corollary: broader campus appeal for mathematics. . . Bravo!

Dean Klawe's lectures focussed on different aspects of a research project she leads called E-GEMS, which studies the design and use of computer games aimed at helping children learn and like mathematics. The web address for E-TEMS *http://taz.cs.ubc.ca/egems*, where a CD-ROM of the educational game **Phoenix Quest** can be obtained. Try it out.

Professor Janssen attracted the attention of the discrete mathematics community in 1993 with her partial solution of a major open problem on

Maria Klawe

Latin squares (The Dinitz Problem Solved for Rectangles, *Bull. AMS* **29** (1993), 243-249). Her lecture "An Algorithmic Approach to Multicolouring" rounded out the invited talks wonderfully and reminded us how

lucky we were to lure her to Montana.

From the conference organizers (Professors Jenny McNulty and Mark Kayll in Missoula and Evan Wantland in Dillon), thanks go to all the participants and supporters, especially our distinguished visitors. The conference owes its success to all of you.

* Research Experiences for Undergraduates, or REU's, are another successful NSF-funded program.

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Maria Klawe was the first Distinguished Visitor in the Fall semester's President's Lecture Series; the Department of Mathematical Sciences gratefully acknowledges the support of the Series.

Girls need cyberplay too, says scientist

by Gary Jahrig
of the Missoulian, 9/10/99

Being labeled a "computer nerd" is less offensive to boys than girls, which is one reason an internationally known mathematician and computer scientist believes there is a shortage of females in the computer world.

"Boys mind less about being nerds," said Maria Klawe, the dean of science at the University of British Columbia in Canada.

"So boys spend more time with computers. … By the time they get to university, girls don't choose computer science as a field of study because they think boys are better."

Klawe was at the University of Montana on Thursday to kick off the 1999 President's Lecture Series with a talk entitled "Mathematics, Computer Games and gender."

She is the founder and director of a Canadian program that researches the design and use of computer games in

improving math education for children in fourth through ninth grades.

In an interview Thursday morning, Klawe said that early access to computer games can have a lasting effect on a child's interest in computers and math. Unfortunately, Klawe said, most of the children playing computer games at a young age are boys.

"There are gender differences in how children interact with computers and computer games," Klawe said. "It can have a long-term effect on career choices."

While the number of females in fields of study such as math, engineering and science is on the rise, Klawe said, the opposite is true in computer science. She said studies show that 20 years ago, 30 to 40 percent of the students majoring in computer science were female. Those numbers in recent years have dropped to 15 to 20 percent, she said.

Notes from the Chair's Desk

We are well into the fall semester and I find myself with a new assignment. The first few months as Chair of the Department of Mathematical Sciences at The University of Montana has presented a learning curve with a significantly higher slope than most I've encountered.

♦ My first order of business is to thank our past two chairs, who both retired from the mathematics faculty last spring. Don Loftsgaarden and Gloria Hewitt both set superb examples for me to try to follow. Both have been generous with their time, wisdom, and advice. Gloria left an ideal paper trail of notes, memos, handouts, and letters so I would not have to start from scratch.

♦ The Mathematics Building continues in its improvement. This past summer, the final classroom

Faculty:
Jim Hirstein, *Chair*
David Patterson, *Assoc. Chair*

Rick Billstein, *Mathematics Education*
Mary Jean Brod, *Secondary Mathematics*
William Derrick, *Applied Mathematics*
Rudy Gideon, *Statistics*
Jonathan Graham, *Statistics*
Gloria C. Hewitt, *Emeritus, Algebra*
James Hirstein, *Mathematics Education*
Leonid Kalachev, *Applied Mathematics*
Mark Kayll, *Operations Research*
Libby Krussel, *Mathematics Education*
Don Loftsgaarden, *Emeritus, Statistics*
Johnny Lott, *Mathematics Education*
Jennifer McNulty, *Operations Research*
George McRae, *Operations Research*
David Patterson, *Statistics*
Greg St. George, *Functional Analysis*
Brian Steele, *Statistics*
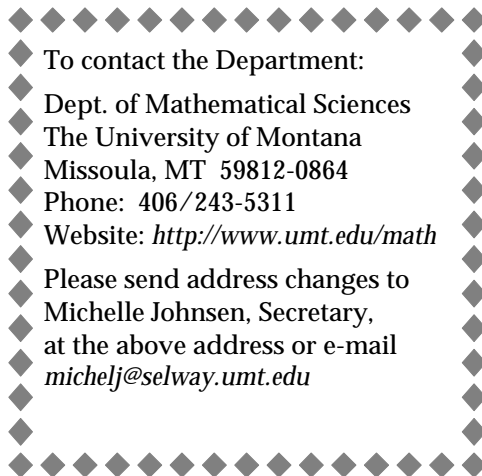Karel Stroethoff, *Complex/Functional Analysis*
Thomas Tonev, *Complex/Functional Analysis*
Nikolaus Vonessen, *Algebra*
George Votruba, *Functional Analysis*
Mark Wilson, *Algebra*
Keith Yale, *Complex/Functional Analysis*

(our largest one) was renovated. As soon as the technology installation is completed in this room, all of the classrooms and offices in the building will be networked for computer presentations. In addition, one of our departmental computer labs had 20 new computers installed this summer. We now have two full PC labs, one where classes meet and the other is an open lab for students working on mathematics assignments. Our capacity to serve students has grown substantially in the past three years. But for those of us who love old buildings, our mathematics home still has the charm that reminds us of its past rich history.

♦ The fall semester began with 64 teaching faculty offering mathematics courses to over 3350 students across campus. We welcomed two new tenure-track faculty, two new visiting faculty, six new teaching assistants to the department. Our department offers more service to the university than any other and our service courses are bulging with students. It's quite a responsibility, but I think we have an excellent faculty to see the job through.

♦ Each fall for the past several years, the mathematics faculty has held a retreat to get away from

campus disruptions and have a serious discussion about the issues that have some bearing on our students and their programs. This year we talked about the calculus sequence. Like many universities, we have been struggling with the challenges of the calculus curriculum, its prerequisites, the use of technology, and the future needs of our students. A full day of discussions helped to clear the air. I'm hopeful that we have set the stage for an important consensus that will affect all students who want to learn mathematics in our department.

♦ Reader responses to our recent newsletters have brought comments and updates from many of our graduates. Some are recent; some bring back old memories. We will continue to publish as many of these items as we can, so please let us know if you have some news. When you are in Missoula, we would love to see you. Stop in and visit any time.

James Hirstein

New Faculty

The Math Department was very pleased to be able to hire two outstanding new faculty members to fill the positions left open by the retirements of Gloria Hewitt and Don Loftsgaarden.

Assistant Professor Mark Wilson received his Ph.D. from the University of Wisconsin-Madison in 1995, and has since worked at the University of Auckland (New Zealand) and Northern Illinois University. His thesis and subsequent work was concerned with various types of noncommutative rings and algebras, such as Hopf algebras and enveloping algebras of Lie superalgebras. More recently, Mark's interests have widened to include combinatorics and its applications. Areas such as broadcasting in networks and asymptotic properties of generating functions are among his current projects.

Assistant Professor Brian Steele received his Ph.D. from The University of Montana in 1995. His emphasis was statistics and his thesis was on generalized linear mixed models. From 1995 to 1998 he served as a visiting assistant professor at The University of Montana. Brian's current interests involve applications of statistics to ecology and to remote sensing. He is currently working on classification methods involving multiple classification rules. Brian likes to hike and snowshoe, and is well acquainted with the mountains of western Montana.

1999 Summer Conference on Brauer Groups

by Nikolaus Vonessen

This summer, close to thirty mathematicians from the United States and abroad came to Montana to attend a week-long research meeting on division rings. A *division ring* is a set together with operations $+$, $-$, $\bullet$, and $\div$, which behave more or less the way you would expect, with one major difference: multiplication may not be commutative. That is, $A \bullet B \ne B \bullet A$ is possible (this is a familiar phenomenon in mathematics; it is often first encountered by students when studying matrix multiplication). The first example of a noncommutative division ring was discovered in 1843 by the Irish mathematician William R. Hamilton, after 15 years of intensive study. Legend has it that he made the crucial discovery while strolling over a bridge in Dublin.

This conference was jointly organized by Steve Liedahl, who was a visiting assistant professor in our department for the past two years, and myself. We are very grateful to the department for its financial support of $1,500 that made this productive meeting possible. We were able to attract many of the active researchers in the field of division rings, including several from abroad, and some of the very best. Also several graduate students attended, including one of our own: Kendra Eyer, a master's student, who had prepared intensively for this conference under Steve's guidance. The meeting was held at the Lubrecht Experimental Forest, in a wonderfully rustic environment. Several participants brought along their families, and everybody enjoyed hiking, a cookout with a huge bonfire, and excursions to Garnet Ghost Town and the National Bison Range.

Why is a meeting on division rings called a conference on Brauer groups? Groups are one of the concepts studied in an introductory abstract algebra course. A group is first of all a set. But it is not only a set, it comes with a group multiplication, that is, a way to multiply group elements together to obtain new group elements. Moreover, the group multiplication is subject to certain rules. For example, one assumes that the multiplication is associative: the products $A \bullet (B \bullet C)$ and $(A \bullet B) \bullet C$ are required to be equal.

It turns out that one can sometimes multiply division rings together, using "tensor products." This gives rise to groups whose elements are essentially whole division rings! This startling discovery was made in the early 1930s by the German mathematician Richard Brauer. The *Brauer groups*, named in his honor, are very important objects in algebra and have been intensively studied ever since. More information about this meeting (including lists of participants and speakers, and a group photo) can be found at the departmental web site.

Math History Project Announced

by Johnny Lott

The Math 606 Current Topics in Mathematics History class at The University of Montana took as a class project Fall Semester 1999, the task of compiling a history of the Department of Mathematical Sciences for the past 100 years. The students, Varoujean Bedros, Dan Finch, Chuck Myers, and Merrie Rampy are working with Dr. Johnny W. Lott on the project. They have compiled a list of faculty members over the years, are researching work done by the faculty, and are interviewing current faculty for the project. Taped interviews will be released to the Mansfield Library Archives when the project is complete. Jodi Allison-Bunnell, archivist, has contributed to the project.

If you have stories or pictures that possibly could be included in the work, please send those to Dr. Lott at the Department of Mathematical Sciences. Work on the project will continue into next semester.

Department Loses 70 Years of Experience

With mixed feelings, the Department of Mathematical Sciences observed the retirements last summer of long-time professors Gloria C. Hewitt and Don Loftsgaarden, who have a combined 70 years of service at UM. Both Gloria and Don will continue to teach part-time for the next three years.

Gloria C. Hewitt
By David Patterson

Gloria Hewitt was hired as an Assistant Professor in the Department of Mathematics in Fall 1961. She was born and raised in Sumter, South Carolina and received her B.A. from Fisk University in Nashville, Tennessee. She received her M.S. (1960) and Ph.D. (1962) degrees from the University of Washington, becoming the third black woman in the U.S. to receive a Ph.D. in mathematics. She has been a demanding and inspirational teacher during her 38 years at UM, she has supervised one Ph.D. student (Frank Hannick) and numerous Masters students, and has been a mentor to many undergraduate students. She has served on numerous national committees and panels for various professional organizations and agencies including the Mathematical Association of America, the National Science Foundation, the National Security Agency and the National Academy of Sciences. She continues her work as a member of the Board of Directors of the National Association of Mathematicians, an organization with promotes minority participation and excellence in the mathematical sciences.

Gloria served as Chair of the Department of Mathematical Sciences from 1995 to 1999. During this time she increased the visibility of the department, raised over $500,000 in gifts to endow innovative new programs to support undergraduate and graduate mathematics students, and oversaw renovations to modernize the Mathematics building. She was recognized for her work with the 1999 UM Academic Administrator award. She is also profiled in the 1998 book, "Notable Women in Mathematics" (C. Morrow and T. Perl, eds., Greenwood Press, 1998).

Gloria also developed many other interests in Missoula. She joined a local folk-guitar group with several other women in 1966. This group has entertained locally for over 30 years. In addition, Gloria often joined graduate students for musical jam sessions. Gloria also bowled for many years in the University bowling league. Gloria became an avid outdoors woman in Missoula. Bill Ballard and Howard Reinhardt taught her about fly fishing on Rock Creek. She joined Keith Yale and Bill Myers for many hikes in the local area and she learned to downhill ski with graduate student Denny Culbertson. Though her outdoor activities have been somewhat curtailed in recent years, we hope she will find some time to continue her fishing lessons in her retirement!

Don Loftsgaarden
By Rudy Gideon and David Patterson

Don Loftsgaarden came to the Department of Mathematics as an Assistant Professor in fall 1967. He grew up in Power, Montana and received his B.S. in 1961 and Ph.D. in 1964 from Montana State University. He taught for one year at Montana State then two years at Western Michigan University before returning to teach in his home state.

Don has collaborated and consulted extensively over his career with students and faculty in numerous other departments and with the Forest Service. From 1978 to 1982 Don was part of a team which worked on the Montana Air Pollution Health Study. This major study assessed the effects of air pollution on 3rd, 4th, and 5th grade children and people with chronic obstructive pulmonary disease in Butte, Anaconda, Great Falls, Billings, and Missoula. Don attended environmental meetings locally and nationally to report on the results.

During the 1970's Howard Reinhardt and Don wrote a beginning textbook in statistics. It had a conceptual flavor that made it fun to use, unlike some of the encyclopedic textbooks that are used today. Don has also been an innovator in statistical education at

Don and Gloria at the 1999 Faculty/Staff Awards Ceremony

UM. For example, starting in 1991, he developed a new large-lecture introductory statistics course which he has taught more than a dozen times.

At the national level, Don was a member of the Survey Committee of the Conference Board of Mathematical Sciences from 1978 to 1997. This committee, with support from the National Science Foundation, conducts major surveys of mathematics departments at colleges and universities in the U.S. every 5 years. In 1985 and 1990 Don carried out the surveys, did all the data analysis, and co-authored the resulting reports, which are used by national mathematics organizations, governmental agencies, and colleges and universities. Don has also served since 1988 on a joint committee of the Mathematical Association of America and the American Statistical Association which gathers and publishes an-

nual data on the mathematics profession.

Locally, Don was Department Chair for a total of five years over two different terms. He received the university's Academic Administrator Award in 1995 for his hard work and effective leadership.

On a personal note, during the time his daughters were of Little League Baseball age, Don coached West Side Little League and also coached the all-star team. During the 70's until he hurt his knee, he was a valuable member of the Math Department intramural basketball team. He has played in the annual softball game every spring helping the faculty win all but one game against the students. He was a long time jogger who ran with many members of the Math Department and he has competed in many marathon races. Hopefully, Don will enjoy his retirement and have more time to fish, camp, and maybe even coach his grandchildren in baseball.

Summer MAT Courses

by Libby Krussel

The Mathematics Education faculty will continue to offer courses in the redesigned Master of Arts in Teaching (MAT) program. Teachers may complete a Master's program in two summers and one academic year. (Note: Summers only is still an option.) Students in the program will be strongly considered for academic year Teaching Assistantships and are encouraged to apply.

Last summer, 11 teachers and prospective teachers from middle school through high school took our courses. We welcome teachers of all levels who are interested in improving their teaching of mathematics. This summer ('00), the department will offer three 3-credit graduate MAT courses on a Tuesday - Friday schedule, taught by Libby Krussel and other visiting faculty.

MATH 501 Technology in Mathematics for Teachers June 13 - July 28. This course offers a survey of modern

Alumni News

Albert Franklin Gilman III (M.A. 1958) retired in 1997 from Western Carolina University where he had taught since 1969. He received his M.A. at UM under Bill Ballard, his Ph.D. at Indiana and taught at Bowdoin College and College of the Virgin Islands before going to Western Carolina. He says he has "nothing but good memories" of UM.

Elaine Bohanon (M.A.T. 1966) retired in 1997 after more than 30 years teaching mathematics at Bemidji State University. She writes "It is good to have some time to relax and time to do some things I wanted to do but didn't find time for while teaching."

Kathy Adolph Anderson (B.A. 1966, M.A.T. 1972) retired from full-time teaching of math at Sentinel High School in Missoula in 1997 after 31 years but continues to teach part time. She also says "I'm now spending my extra 'spare' time cheering my daughter's sports teams at Sentinel and doing many needlework projects."

Jim Lowdermilk (M.A. 1994) has been tutoring all age levels in math in Denver. He writes "Egypt is still my second favorite line of study. I just published a paper in the Egyptian Study Society quarterly newsletter entitled 'The Monuments of Sneferu: The Bend in the Bent Pyramid and the Collapse of the Meydum Pyramid.' I also gave a talk at the American Research Center in Egypt annual conference entitled 'Calendrics and the Egyptian Unit Fraction' and am looking to publish

the paper of the same name. Ancient mathematics is a field that is understudied in the computer age."

Brett Loomis (B.A. 1995) received M.S. degrees in Applied Mathematics and Economics from the University of North Carolina - Charlotte and is working as a Research Economist in the Pharmoeconomics/Health Outcomes Group at the Research Triangle Institute in North Carolina. His group estimates the value of new and existing health care interventions to provide useful information to decision-makers. He recently married Kelly Marie Wasik, also a UM alumnus. Brett also writes that "the two professors at UM who made the biggest impact on me were George McRae and William Derrick. I remember Dr. McRae always had the time to work through a problem or give advice. It was Dr. Derrick who first exposed me to the rigors of research as my senior project advisor. Both professors took an active interest in my graduate school preparations and always pressed me to try just a little bit harder because they knew the extra effort would be worth it. I owe much of my present success to the excellent education and mentoring I received from the UM mathematics department."

Katy Jamison (B.A. Business 1997) is the Manager of Administration Services/Accountant for the Greater Bay Area Make-A-Wish Foundation. Katy worked in the Math Department office for 3 years as a work study. We proudly hang a copy of her unique wall calendar every year in the Math Department office.

mathematical technology, such as graphing calculators and computers, and exemplary mathematical software. The course focuses on appropriate uses of technology in the classroom.

MATH 550 Analysis for Teachers June 13 - July 5. Topics include limits, continuity, differentiation, and integration in R_n.

MATH 526 Discrete Mathematics for Teachers July 6 - July 28. This course offers an introduction to the elements and operations of finite structures, combinatorics, recursion, graph theory and matrix representations.

For more information about the MAT program in general, or about these courses, please contact Jim Hirstein at 406/243-2661, e-mail *hirstein@selway.umt.edu*, or Libby Krussel at 406/243-4818, e-mail *krussel@selway.umt.edu*.

Figure This!
A Mathematics Program for Families

by Johnny Lott

Dr. Johnny W. Lott, Project Manager for the Figure This! campaign, announced that the campaign will officially be launched at the Press Club in Washington, DC, on December 1, 1999. This campaign is a joint effort of the National Council of Teachers of Mathematics (NCTM), the National Action Council for Minorities in Engineering (NACME), and the WidmeyerBaker Group (TWBG) sponsored by the National Science Foundation and the US Department of Education. Figure This! is designed as a print and website program for families of middle school aged children. The campaign consists of a series of problems or challenges that can be used at home by families to engage children in mathematics. The problems are written by members of NCTM, designed for production by TWBG, and put on the Internet through the services of NACME. The challenges contain a teaser, the problem itself, answers, resources, more things to do, and other related problems. The problems will be available to the public in single copy sets by calling tollfree 1-877-GO SOLVE. More information is available on the web at the following address: *http://www.figurethis.org*

Magic Square

Construct a 5x5 magic square. Use every integer 1-25 once and only once. The 1 has already been placed in the center square.

Hint: The rows, columns, and diagonals should add up to 65.

One possible solution on p. 8

		1		

1999 Mathematics Scholarship and Award Winners

- Joseph Hashisaki Memorial Scholarships (for two outstanding upper division math majors): Scott Jones and Joseph Petersen
- Mac Johnson Family Endowment Scholarships (for students who have completed at least one semester of calculus and shown exceptional talent in mathematics): Samantha Allen, Michelle Beatty, Amanda Deisher, John Keintz
- N.J.Lennes Awards (cash prizes based on performance on a competitive exam): (1st) Colin Dundas, (2nd) Scott Jones, (3rd) Amanda Deisher, (Honorable Mention) Annemarie Dahm, Donovan Hockett, Patrick Warren
- Undergraduate Teaching Scholars (work with a professor to improve a class): Michelle Beatty (for Dr. Jim Hirstein), Scott Jones (for Dr. Regina Souza), and James McCreight (for Dr. Nikolaus Vonessen)
- Undergraduate Tutorial Scholars (assist students in a lower-level course): Kadin Bardsley, Herb Bocksnick, Cyrena Bowers, Amanda Deisher, John Keintz, Joseph Petersen
- Undergraduate Technical Scholars (work on computer tools for a class): Cole Maxwell and Mick Wiedrick

- John A. Peterson Mathematics Education Award (book award to outstanding senior in mathematics education): Shelly Reikofski
- Graduate Student Distinguished Teaching Awards (cash awards to two outstanding teaching assistants): Jesus Novoa-Ramirez and Jeff Stratton
- Golden Teaching Assistant Award: Kendra Eyer
- Summer Graduate Research Scholarships: Chris Clouse, Todd Oberg, and Dave Perkins
- Pi Mu Epsilon New Members: Michelle Beatty, Molly Billstein, Cyrena Bowers, Annemarie Dahm, Amanda Deisher, Kristen Govertsen, Jon Graham, Aaron Hansen, Scott Jones, Supawan Lertskrai, James McCreight, Kathleen Ores, John Paterson, David Patterson, Nolan Rice, Justin Ringsak, Molly Schulte, Laura Sobieck, Melissa Stiltner, Karel Stroethoff, George Votruba, Mick Wiedrick, Christopher Wright

University-wide scholarships and awards to math majors:

- President's Senior Recognition Awards: Jennifer Berg (Mathematics) and Cami Welborn (Pi Mu Epsilon)
- Watkins Scholar for 1999-00: James McCreight

America Counts at UM

by Johnny Lott

During the 1998-99 academic year, Dr. George Dennison asked the Department of Mathematical Sciences and the School of Education to develop a plan for America Counts at The University of Montana. America Counts is a program of the US Department of Education that has allotted work study money to universities to pay students to tutor students in grades K-9 in mathematics. The 1999-2000 year is a pilot year for the program with anticipated increased funds available in future years. On this campus, Gloria C. Hewitt, Chair for 1998-99, and Johnny W. Lott worked with Rick Billstein, Jim Hirstein, and others in the Department of Mathematical Sciences while Georgia Cobbs and David Erickson worked with the School of Education to develop the plan. Dr. Dennison approved the plan in early summer. The academic units in conjunction with Andrea Vernon, Director, Volunteer Action Services, put the plan in motion for the Fall Semester, 1999. Ten work study students and seven volunteers were engaged to participate in the program this fall. Lott, Cobbs, Billstein, Erickson and Hirstein conducted a training session for the students in early October. In addition, Cheryl Eslami was hired to coordinate the campus program. After initial placement issues involving juggling student schedules and school schedules, the program is up and running. A second training with a discussion roundtable is scheduled for December 1. All have high hopes that the program will be a success and will be continued in the future. It is a great way to get university students to communicate with local schools and young pre-college students.

πμε/MAA Math Club Corner
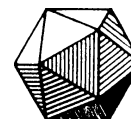
The Pi Mu Epsilon/MAA University of Montana Math Club is very active in its last semester before Y2K. Just in case the doomsayers are correct and the world as we know it ends with the upcoming new year, the club has no regrets about making the most of its time during these past few months.

Our events kicked off with a viewing and interesting discussion of "The Shape of Space" video. We've had a nice variety of guest speakers. Dr. Kupilik and Dr. Dalenberg spoke on "Economies of Math". Environmental chemist Garon Smith talked about "Artifical Neural Networks" and the mathematics needed in his bee research. We had the opportunity to meet our new faculty member Dr. Mark Wilson. Scott Jones, a student member of Pi Mu Epsilon, spoke about his summer REU [Research Experience for Undergraduates.] We've continued with our popular tradition of student presentations. So far we've heard about a variety of topics: a book review of "The Mathematical Tourist" [Ivars Peterson]; using math to understand history/using history to decipher math; the benefits of using LINUX; women in mathematics; solutions to peg solitaire; and a demonstration of some math party games. We have a large number of active club members this semester and are looking forward to the remaining student presentations. Feel free to join us on Tuesdays from 3:10 to 4:00 in DHC 120.

If the world does not end on January 1, the Math Club will meet Spring Semester on Tuesdays from 3:10-4:00 in DHC 118. [Does it follow that if the Math Club does not meet Spring Semester then the world did end January 1? Think about it logically.]

πμε/MAA Math Club
active members include:

Amanda Deisher .... President
Kristy Govertsen .... Vice President
Michelle Beatty .... Secretary
Cole Maxwell .... Treasurer

Carl Beatty	Reuben Darlington
Catherine DeGrandpre	Jason Harris
Scott Jones	Daniel Haskell
Dan Lochridge	Brian Lowinger
Joe Petersen	Sheryl Schopfer
John Spritzer	Travis Togo
Mick Wiedrick	

Faculty Advisors:
Mary Jean Brod   Keith Yale

Back: Joe, Keith, Carl, Brian, John, Dan, Catherine, Sheryl, Mick, Scott
Front: Reuben, Kristy, Amanda, Mary Jean

Cyberplay *(Continued from page 1)*

"Studies show that boys think they are better than girls with computers and girls think boys are better," Klawe said.

Part of the problem, Klawe said, is that the majority of computer games on the market are more appealing to boys than girls. She said girls tend to like computer games that have "characters and a story line, worthwhile goals, positive social interaction and are challenging."

Boys, on the other hand, lean more toward games that are entertaining and fast-paced, provide adventure and challenges and are more violent.

To try to counter the computer trend, Klawe and other computer scientists, mathematicians, teachers, children and professional games developers have been working on ways to make games more appealing to girls.

"We're trying to make computer games that are attractive to girls as well as boys," Klawe said.

So far, Klawe's group has come up with give games they think will appeal to both genders. The games also are designed to develop children's math skills by having them work on problems involving concepts such as patterns, fractions, negative numbers angles and logic.

"Those are the kinds of things we want all kids doing," Klawe said. "They're not going to do those things 100 times on their own. But they will do a computer game with 100 levels."

Klawe said computer games can be especially useful in breaking down the old stereotypes involving math.

"For so many people, math to them is the arithmetic they remember from school – times tables, fractions, that horrible long division and algebra," Klawe said. "Those are things they don't want to remember."

But computer games, which involve mathematical concepts, are a great way to interest youngsters in the subject, Klawe said.

"Computer games really can be helpful in motivating kids to learn math," she said. "Computer games allow you to immerse children in mathematical ideas in an attractive way."

One possible solution to the magic square

23	6	19	2	15
4	12	25	8	16
10	18	1	14	22
11	24	7	20	3
17	5	13	21	9

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