University of Northern Iowa

UNI ScholarWorks

2013

The Wright Message, 2013-2014

University of Northern Iowa. Department of Mathematics.

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Dear Department Alumni and Friends,

We are delighted to once again bring to you, our alumni and friends, the 2013 edition of the department's annual newsletter, the Wright Message. We have printed in the pages which follow the most significant events which punctuated our departmental life in the past year, as well as a sample of the stories about students, alumni, faculty, and friends who distinguished themselves in ways we can all draw inspiration from. We hope you will find the newsletter interesting and fun to read. As always, we welcome your comments.

Building on some themes from the last edition of the newsletter, we have included in this edition a spotlight of at least one representative from each of the constituent groups which comprise our family: students, alumni, faculty, friends, and donors. The spotlight honors went to the students Adam Feller, Jesse Moeller, and Katherine Pearce, alumni Slade Hovick (winner of the Yager award) and Sarah Miesner, faculty member Professor Syed Kirmani, and donors David and Lois Kail. Each of these individuals spotlighted exemplifies in his or her own way a strong dedication to excellence and/or a deep commitment to making somebody else's life better. Please join us in celebrating these well-deserving members of our family.

Our students continue to acquit themselves with distinction in and out of the classroom. In the 2012-13 academic year, 52 mathematics majors, 15 mathematics minors, and 37 elementary education majors with a mathematics minor (K-8) graduated with a BA degree. At the graduate level, five students received the MA in Mathematics degree and three completed the Professional Science Master's degree. One of our students received the Purple and Old Gold Award and six students were honored with Departmental Awards for Outstanding Scholarship and Service. Two teams of three students each represented UNI at the 19th Annual Iowa Collegiate Mathematics Competition which was held at ISU on February 23, 2013. One of the UNI teams placed third among the 24 competing teams representing nine colleges and universities. Three of our students presented at the Midwest Undergraduate Mathematics Symposium (MUMS) 2013 and one presented at the MAA MathFest 2013 in Harford, Connecticut. Last but not least, three students participated in summer undergraduate research with department faculty. More details on these and other student activities can be found on the inside pages of this edition.

For their part, department faculty members are doing an equally admirable job. Dr. Theron Hitchman (TJ) received tenure and promotion to associate professor. Dr. Shangzhen Luo, Dr. Michael Prophet, and Dr. Min Lee were on Professional Development Assignments in Spring 2013. Dr. Bin Liu was awarded a summer fellowship in Summer 2013. Dr. Bill Wood and Dr. Elizabeth Hughes received the Provost's pre-tenure research fellowships, and Drs. Olof Steinthorsdottir and Vicki Oleson secured external grants to support their work with teachers. In the area of research, several faculty members gave presentations at regional, national and international conferences. A number of professors have active international research collaborations. You will find more details on the activities of the faculty inside the newsletter.

As in the past, the signature event in the department's efforts to promote mathematics to the greater Cedar Valley Community was the Hari Shankar Memorial Lecture. The lecture this year was given by Dr. Sastry Pantula, former Director of the Division of Mathematical Sciences at the National Science Foundation. In this International Year of Statistics (Statistics 2013), Dr. Pantula's talk titled "Big Data = BIG Opportunities" was both timely and topical. The lecture was sponsored by the Hari Shankar Fund and the Department of Mathematics. Additional support was provided by the Provost's office. Details on the lecture are in the newsletter.
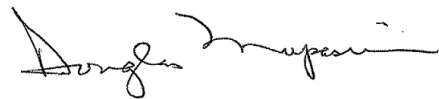
We have yet another retirement to report this year. After 39 years of illustrious service which began in 1974, Dr. Glenn Nelson retired at the end of the 2012-2013 academic year. Throughout his tenure, Glenn was a central figure

in the elementary mathematics education program. He was a key player in the planning, the designing, and the curriculum development which created the elementary mathematics education minor. Perhaps more than any other faculty member, Glenn sought every opportunity to bring his students to elementary school mathematics classrooms. In his tenure he spent countless hours at the Malcom Price Laboratory School with his students. As an illustration of Glenn's commitment to his students, in the wake of the closure of Malcom Price Laboratory School, Glenn arranged to take his 26 mathematics methods students on 14 classroom visits to Irving Elementary School in Waterloo, IA. Rather than leaving it to the students to find their way to Irving Elementary School, Glenn used his own money to hire a bus to ferry students in two groups from UNI to Irving and back. If this is not a perfect example of putting "one's money where one's passion is", then I do not know what is. Such is the man Glenn is. Thanks to two colleagues, Dr. Vicki Oleson and Dr. Edward Rathmell, who wrote a piece in honor of Glenn's tenure of service, you can learn more about Glenn on the pages which follow.

Finally, we take this opportunity to remember three dear friends and colleagues who passed away this academic year. Emeritus Professor Dr. Michael Millar, a governance and curriculum development workhorse and the Coordinator of the Teaching and Non-Teaching Emphases in our graduate program died on Jan. 4, 2013. Mike's career at UNI spanned 40 years. Not long after Mike's death, Emeritus Professors Carl Wehner and Wanda Wehner (Chemistry), known as much for their social justice and charity work as for their professional work died just ten days apart, on Feb. 19, 2013, and Mar. 1, 2013, respectively. You will find longer remembrances of the colleagues we lost this year in the In Memoriam section of the newsletter.

As we begin a new academic year, we are hopeful that the head winds wrought by weaknesses in the wider economy

in the last several years are now largely behind us. We are grateful to our alumni, friends, and donors for standing with us in these trying times and helping us to minimize their impact on the students we serve. On behalf of the department, I wish to extend a heartfelt thanks to those of you who made contributions to our UNI Foundation accounts in the past year. All told, we received $1,007,614 between July 1, 2012 and June 30, 2013. Most of the money goes to fund scholarships, but some goes to accounts that cover other expenses (equipment, faculty, and student travel to conferences, etc.). Indeed, the department disbursed $51,778 in scholarships to students in the last academic year. At a time when students are graduating with over $25,000 in student loan debts on average, it is hard to overstate the need for scholarship support. We are appealing for your help again this year. If you are able to, please use the enclosed form to direct your contribution to the account of your choice. Again, thank you for your support. I hope this past year was good to you and that the current year will be even better.

Douglas Mupasiri,
Professor and Head.

Around **Wright Hall**

Faculty Grants & Awards

Congratulations to …

… Dr. Bin Liu on being awarded an eight-week UNI summer research fellowship (2013) and a professional development assignment (Spring 2014)! The title of his semester-long research project is *Tail Behavior of Probability Distributions in Queueing Processes*.

… Dr. Elizabeth Hughes and Dr. Bill Wood on being awarded in May 2013 UNI Pre-Tenure Summer Research Fellowships from the UNI Provost's office. Dr. Hughes' research project was entitled *Investigating Elementary Teachers' Classroom Discourse When Implementing a New Mathematics Curriculum*. Dr. Wood worked on a project entitled *Models of Discrete Conformal Geometry*.

… Dr. Theron Hitchman on being awarded a grant from the Center for Undergraduate Research in Mathematics (CURM) housed at Brigham Young University (BYU) to support a team of four students to

do research in geometry and dynamics during the 2013-2014 academic year. Additional support for the students will be provided by the Dean of the UNI College of Humanities, Arts and Sciences and by the Department of Mathematics. Ben Castle, Jon Krein, Jesse Moeller, and Abbie Parker will be working with Dr. Hitchman and will present their results at a special undergraduate research conference at BYU next March.

Midwest Undergraduate Mathematics Symposium (MUMS) 2013

This year's edition of MUMS took place on Apr. 12-13, at Simpson College. The following UNI mathematics majors gave talks at MUMS 2013:
Jesse Moeller
(advisor: Dr. Theron Hitchman)
Title: *The Nature of Fixed Points in a Curve Shortening System*
Katherine Pearce
(advisor: Dr. Bill Wood)
Title: *Developing Crochet Patterns for Surfaces*
Rachel Volkert
(advisor: Dr. Marius Somodi)
Title: *Equivalences of Dessins D'Enfants*
Jesse is a senior this year.

Both Katherine and Rachel graduated from UNI in May 2013. Articles featuring Katherine and Jesse are included in subsequent pages of this newsletter.

Dr. Theron Hitchman was the featured Friday night speaker at MUMS 2013. The title of his talk was "Shorter or Rounder? A Visual Tour of Curve Shortening."

MathFest 2013

Rachel Volkert, who graduated from UNI in May 2013 with degrees in mathematics and computer science, presented the results of her Honors Thesis at the MAA MathFest 2013, in Hartford, CT. The title of her talk was "Equivalences of Dessins D'Enfants." Her travel expenses were covered, in part, by the Mathematical Association of America. Additional support was provided by the Dean of the UNI College of Humanities, Arts and Sciences and by the Department of Mathematics.

Around **Wright Hall**

2013 Joint Mathematics Meetings

Rachel Volkert (UNI) and Amy Van Hooft (Brockport) presented the results of their 2012 REU project entitled *The Perfect Parallelepiped Problem* in the MAA Undergraduate Poster Session at the 2013 Joint Mathematics Meetings in San Diego, CA. An article entitled *Infinite Families of Perfect Parallelepipeds Exist* and co-authored by Rachel Volkert, was presented at the same conference.

Left to right: Ben Castle, Derek Hofland, and Wes Keene

Summer Undergraduate Research

Benjamin Castle, a junior mathematics major, worked on a project entitled *Elementary Submodels, Trees and Linear Orders*. He used elementary submodels to provide elegant proofs to some theorems from set theory, with known but complicated proofs, about trees and linear orders. Ben's project was supervised by Dr. Adrienne Stanley.

Virginia McCall is a senior actuarial science major

who worked on a summer undergraduate research project titled *Mathematical Modeling of Epidemics*. The project was supervised by Dr. Syed Kirmani and was funded by the Iowa EPSCoR grant.

Katie Wilford, a senior secondary mathematics teaching major, worked on a project that assessed pre-service elementary teachers' understanding of fraction multiplication through problem posing and models. The project was supervised by Dr. Jihwa Noh and Dr. Karen Sabey. A manuscript reporting the results of this work has been submitted to a journal for publication.

Iowa Collegiate Mathematics Competition

UNI participated in the 19th annual Iowa Collegiate Mathematics Competition on February 23, 2013. Six students coached by Dr. Theron Hitchman formed two teams and took part in three hours of problem solving. The six students, in alphabetical order, were Ben Castle, Derek Hofland, Wes Keene, Huy Nguyen, Mark Sabotta, and Emily Stumpff. This year's problems were particularly challenging, but a good time was had by all. Twenty-four teams representing nine colleges and universities

took part. The team "Gabriel's Horns", consisting of Ben Castle, Derek Hofland, and Wes Keene, scored 74 points out of 100 which was good enough for third place. As the highest placing team not from the hosting institution, they have won UNI the honor and convenience of hosting the competition next spring. Kudos to these students for doing the department proud.

International Visitors

Our department hosted three international scholars who collaborate with some of our faculty members:

Dr. Jean-Yves Dauxois, Professeur, Departement de Genie Mathematique, Institut National des Sciences Appliquees (INSA) de Toulouse & l'Institut de Mathematiques de Toulouse (IMT), Toulouse, France.
Collaborator: Dr. Syed Kirmani

Drs. Samuel Moreno and Esther Garcia-Caballero from University of Jaen, Jaen, Spain.
Collaborator: Dr. Michael Prophet

New Faculty:
C. Adam Feldhaus

Dr. Feldhaus earned his PhD in Mathematics Education from the Patton College of Education at Ohio University where his research focused on how prospective elementary school teachers learn mathematics. He also earned an MA in Mathematics from the University of Kentucky and a BA in Mathematics Education 5-12 from Marshall University. Most recently, Dr. Feldhaus served jointly as a research analyst and an adjunct mathematics faculty at Columbus State Community College in Columbus, Ohio.

Adam enjoys spending time with his wife, daughter, and cats. His hobbies include reading, exercising, playing video games, and listening to and performing music.

2013-2014 Tenure-Stream Faculty

Russell Campbell

Mark Ecker

Adam Feldhaus

Joel Haack

Theron Hitchman

Elizabeth Hughes

Syed Kirmani

Min Lee

Bin Liu

Shangzhen Luo

Catherine Miller

Douglas Mupasiri

Jihwa Noh

Vicki Oleson

Olena Ostapyuk

Michael Prophet

Edward Rathmell

Suzanne Riehl

Karen Sabey

Douglas Shaw

Marius Somodi

Adrienne Stanley

Olof Steinthorsdottir

Brian Townsend

Matthew Webb

Bill Wood

Faculty Spotlight

Syed Kirmani

Dr. Syed Kirmani came to UNI in August 1984 as an Associate Professor of Mathematics. He was tenured four years later and promoted to the rank of Professor in 1991. In almost three decades of service to UNI, Syed has built an outstanding professional track-record which includes building academic programs from the ground up, introducing a variety of new courses in probability, statistics, and actuarial science, publishing over 60 articles in the most prestigious journals in mathematical sciences, serving on the editorial boards of several top-tier statistics journals, and refereeing countless articles for the mathematical community. All of these are in addition to teaching his classes and contributing a substantial service load to the university. His activity has been recognized with several awards like the Iowa Board of Regents Award for Faculty Excellence (1994), Donald N. McKay Faculty Research Award (2006), University of Northern Iowa Distinguished Scholar (2000), and the Dean's Award for Superior Achievement in Research (1993 and 2005).

Syed's career goals strike a balance between teaching and research. Working at UNI matches my career goals in the sense that it gives me the opportunity to do both of those things. I also want to be able to make an impact in the lives of young people. I think of myself as a perpetual student, as a life-long learner. I just want to be learning, and teaching at UNI has given me the opportunity to learn new things, learn new disciplines, learn new subjects, and to work in new areas.

Since our classes at UNI are small, Syed enjoys the opportunity to have one-to-one interaction with students and, in particular, to mentor them. This is the thing that I like most: the opportunity to mentor young people.

Syed enjoys teaching as well as developing new curricula. When he got to UNI, the Department of Mathematics was offering several statistics courses, but did not have programs in statistics and actuarial science. Syed was hired to develop curriculum and introduce a program in statistics and related areas, which he started doing right away. He began by introducing the first course in actuarial science, which he offered regularly in the subsequent years. However, it was sometime during his first years at UNI when Syed realized that an academic program focusing only on statistics might not attract many students. He felt that a successful program would need a precise career path and he considered two areas related to statistics: actuarial science and quality control. That led to the introduction, in 1994, of the current program in statistics and actuarial science. Syed says: Setting up the actuarial science program I would call my most satisfying accomplishment at UNI.

Like many other new programs, the actuarial program started with a modest enrollment (three or four students) but, in time, the number of students grew (to just over 70 currently). Syed thinks that the success of this program is due, in part, to its clear-cut career path: The students feel very comfortable with it. They realize that if they do this, this, and that, then they are in the profession. Of course, the actuarial degree is attractive in its own right, as well as for its link with business: we are emphasizing that the students should also take courses in the business school so they are getting more than actuarial science. They are doing actuarial science together with good coursework in business, particularly in finance, and that enhances their ability to find good jobs.

When asked about the future of the actuarial profession, Syed responded: The actuarial profession is going to expand. It has grown bigger in the sense that there are newer areas in which actuarial expertise is required. For example, some years ago not many actuaries were doing quantitative finance. Now finance and actuarial science are, in some ways, converging. Financial risk management is a big thing and actuaries have a role to play there. I think that the actuarial profession has a very good future. Actuarial science has expanded beyond its traditional insurance business. For example, enterprise risk management is a big area now. The Society of Actuaries (SOA) has a credential called CERA (Certified Enterprise Risk Analyst). The requirements are very similar to those needed to become an Associate of the SOA. That is an excellent designation.

How does Syed see the role of statistics in industry and society evolving over the next years? Big data is going to dominate, so the importance of statistics will only go up. There are large parts of knowledge where statistics is not playing the role it should be playing. It is capable of doing much more so I think the role of statistics is only going to grow. This big data will cause a big revolution.

In addition to the program in statistics and actuarial science, Syed has assumed a leading role in the introduction of another academic program: the Professional Science Master's degree in Industrial Mathematics, which started in Fall 2006. He felt that the UNI Department of Mathematics could offer a program with a clear-cut career path, at the graduate level, in mathematics applied to industry. In this way, his older idea of creating a program in quality improvement was put into practice.

Over the years, in addition to strengthening his collaboration with industry, Syed has developed his international collaboration in research with professors from Canada, France, India, Iran, and Poland. He is often invited to visit other schools where, in addition to working on research projects with his collaborators, he gives lectures and seminars. Most recently, in March 2013, Syed traveled to Poland where he gave a two-hour seminar. In July 2013 he invited one of his collaborators from France to UNI. I enjoy international collaboration. I would like it to become a stronger feature of this department and of UNI, says Syed.

In his spare time, Syed enjoys mainly reading. He reads mostly science but also Persian poetry (which is one of his favorites) and is interested in Persian art. He is also interested in mysticism, more exactly mysticism in the Abrahamic religions. Syed also enjoys listening to music (classical, instrumental, soft, world music) and watching sports. I am not an outdoor person at all. I am a 100% indoors man, says Syed.

UNI on the March

Offering a top-flight private college education in a public university

Following its admission in 2008 into a national higher education project known as "Foundations of Excellence® (FoE) in the First Year of College", UNI conducted a rigorous self-study which formed the basis for the development and implementation of a number of initiatives to increase student engagement in the first year of college. Among these initiatives are:

- **First-year only courses**
- **A year-long cornerstone course** (http://uni.edu/first-year/first-year-cornerstone) featuring a common read (http://www.library.uni.edu/blog/american-way-eating-common-read-uni), (http://www.library.uni.edu/blog/warmth-other-suns-common-read-uni)
- **Living and learning communities**

See how the Academic Affairs division (Department of Communication Studies, Department of Theatre, the Library) and the Student Affairs Division (Department of Residence) are all working together to increase student success by visiting http://uni.edu/first-year/.

The Litwiller Bequest: A Gift that Keeps on Giving

In last year's edition of The Wright Message we acknowledged Bonnie Litwiller's generous bequest to our department of approximately 1.5 million dollars to be used for student scholarships. This year we learned that Bonnie left our department an additional bequest of approximately $460,000. All but $96,000 of this money, which she set aside for departmental use, is to be used for student scholarships. Bonnie's bequest shows, once again, how close the future of our students and our department was to her heart.

Retiring Faculty Member: Glenn Nelson

by **Vicki Oleson** & **Edward Rathmell**

Dr. Glenn Nelson's long and venerable career in mathematics education at UNI began in 1974. At the end of the 2013 academic year Glenn retired as one of UNI's most revered faculty members.

During his career, Glenn played an important role in the creation of the elementary mathematics minor. To begin with, he was active in the planning, but he didn't stop there. He went on to develop a problem-solving course, one of the key courses in the UNI mathematics minor program. This course helps students become better problem solvers and, more importantly, helps them learn to use problem solving as a teaching strategy.

Also, during his career, Glenn actively sought ways to connect his university students with elementary students in real classrooms. This work began with the Math Methods Program (MMP), an integrated academic and field-based program that required students to be in Glenn's classes for a full year and participate in schools. An opportunity to create a cutting-edge elementary mathematics minor forced an end to the MMP program - but Glenn opened other doors where that one closed. He created his own field-based experience program that continued

throughout his career. He even mentored some of our younger faculty members so they could continue his program.

Vicki Oleson was both Glenn's student in the MMP in 1988, and she was one of the many UNI faculty members mentored by Glenn. Each semester, from 1996-2004, Glenn's university students paired up with sixth grade students in Vicki Oleson's sixth grade classroom at Malcolm Price Laboratory School in order to learn how to teach mathematics through a real-world experience. Glenn's belief in student-centered mathematics instruction lives on in Vicki Oleson's work, in the work of the many faculty members he mentored, and in the work of former students now teaching in elementary schools across the nation.

As a very patient and great listener, Glenn's ability to lead effective class discussions was the envy of many other faculty members. He always seemed to draw insights from his students that others often could not. Glenn expected students to take control of their own learning, and he carefully asked questions that encouraged students to consider both mathematical content and pedagogical approach to classroom topics,

while offering complete respect for their thinking. Productive discourse in mathematics classrooms is at the heart of the 2012 Common Core Standards. Glenn recognized the importance of that type of communication in the classroom and was utilizing effective discourse in mathematics from the day he stepped on the UNI campus in 1974.

Glenn's strong commitment to his students extended far beyond graduation. To this day, he maintains communication with former students about their professional careers, and he often keeps other faculty members informed about where these graduates teach, when they get married, and when they have children. They are part of his UNI family.

Dr. Glenn Nelson was a treasure in our department. Students will miss him. Faculty and staff will miss him. We wish him the best in his retirement.

The **Center** for **Teaching** and **Learning Mathematics**

by **Julie Creeden** and **Vicki Oleson**

The Center for Teaching and Learning Mathematics (CTLM) remains committed to its vision of making powerful learning a reality for each person we serve. Whether that means supporting teachers through our Making Sense of Mathematics and Teaching (MSMT) Professional Development courses, or our Waterloo Community School District elementary math instructional coaching, we continue to play a critical role in the research and development of quality courses to help Iowa teachers and their students make sense of math at all levels, pre-kindergarten through college and beyond. To date, over twenty school districts throughout the state have been impacted by the center's MSMT courses.

Recently, the center has also diversified its clientele in order to remain self-sustaining. The CTLM director, Vicki Oleson, is currently

working on contracting a grant with the North Dakota Department of Public Instruction in order to support North Dakota teachers as they utilize the Making Sense resources. These resources include videos and supplementary materials, which were created at the CTLM with grant funds from the Department of Defense Education Activity (DoDEA). If the contract is approved, eight, one-hour webinars will be conducted by Julie Creeden, the center's writing coordinator, in order to help the North Dakota teachers engage families in their children's learning through the use of these Making Sense resources.

The CTLM team also secured funding sources within the university by partnering with UNI's Metal Casting Center (MCC), as well as the Iowa Waste Reduction Center (IWRC). Dana Lechtenberg, CTLM's art director, together with Jon Chamberlain, the

multi-media producer at the center, are working together in order to produce informational brochures, promotional videos and up-to-date websites for the MCC and IWRC. Dana and Jon also collaborated to create a promotional video for the Interactive Digital Studies program, which is new at UNI. This video can be viewed at www.ids.uni.edu. All of this good work is maintained with the outstanding support of Karis Townsend, CTLM's accountant, Renell Richter, account clerk, Brooke Argotsinger, student assistant at the center, and Lester Ng, CTLM's webmaster.

As we move forward, the future looks bright as the center continues to bring together teams of researchers, educators, technology experts and creative business partners in order to deliver quality learning experiences to empower families and educators in helping students learn.

David & Lois Kail
Donor Spotlight

We all have memories from college that we cherish. Whether it is the first day of classes, a nice academic accomplishment, the graduation ceremony, or making friendships that last for a lifetime, there is always something that we remember with great pleasure. UNI holds a special place in the hearts of Lois and David Kail of Concord, CA. They first met here, in Wright Hall, when they were college students taking the same advanced algebra class. After passing the algebra class and graduating from UNI with Bachelor's degrees, they were married on a very hot and humid day in July 1974. "Perhaps finding the love of our lives at UNI is why we both feel that education is so important!" say the Kails.

Lois graduated in 1973 with a BA in Mathematics Teaching. As a student, she was a member of the Kappa Mu Epsilon and Beta Beta Beta Honor Societies. David earned his BA in 1974, double majoring in Mathematics Teaching and Chemistry Teaching.

After graduating from UNI, the Kails moved to Michigan where David began his 32 year career with The Dow Chemical Company. His career with Dow included a three year assignment in England as well as manufacturing leadership positions in Michigan and California.

Lois taught high school mathematics and biology for one year before they were married. Over the years, she has enjoyed being a musician, gardening, and sewing. In fact, Lois says that she is "an Iowa farm girl" at heart. She is a long-time member of Sonos Handbell Ensemble. Through Sonos, the Kails have toured around the US (including several times in Iowa), in Europe, and throughout Japan. Her latest interest is being a backyard beekeeper. Currently, she is the secretary of the largest bee club on the West Coast.

After David retired from Dow in 2006, he began his "encore" career at local community colleges in California. Using his extensive chemical industrial work experience, he developed and taught a chemical operator training

program at Los Medanos College which has become one of the best programs of its kind in the nation. He is currently creating a program at Diablo Valley College to prepare women and men for excellent careers in industrial maintenance. When not working at one of the colleges, David enjoys photography, classical guitar, and is learning to play piano so that he can compose some music.

The Kails feel that Carl and Wanda Wehner made a significant impact on them while they were students at UNI. For this reason, they have been actively supporting the Wehners' Mathematics and Chemistry scholarships for over 35 years. Their total contribution exceeds $50,000. "We feel privileged to support education at UNI with the help of matching grants from The Dow Chemical Company. After all, education is so important not only for finding a date (and a marriage partner of 39 years) but also for opening the doors on experiences that we would never have had if we had not gone to the university."

Addresses by Mathematics Faculty

Many faculty members in our department have participated and made presentations at various meetings and conferences. Among them are:

Dr. Theron Hitchman
MathFest; Iowa Section of the MAA (2012); Joint Mathematics Meetings; Midwest Undergraduate Mathematics Symposium; Darwin Week; Joint Meetings of the Missouri River Sections of the MAA (2013)

Dr. Elizabeth Hughes
Cognitively Guided Instruction 7th Bienniel National Mathematics Conference, Des Moines (2013)

Dr. Syed Kirmani
STEM Conference in Cedar Falls (2012); Warsaw University of Technology, Poland (2013)

Dr. Shangzhen Luo
University of International Business and Economics, Beijing, China (2013)

Dr. Catherine Miller
ICTM, West Des Moines (2013)

Dr. Douglas Mupasiri
Iowa Mathematical Association of Two-year Colleges (IMATYC) annual conference (2012); Valley Southwoods Freshman High School in West Des Moines (2013)

Dr. Olena Ostapyuk
Workshop on Carpets, CLE and Dessins (2012)

Dr. Michael Prophet
Jagiellonian University, Krakow, Poland (2012)

Dr. Edward Rathmell
NCTM Annual Meeting (2013)

Dr. Olof Steinthorsdottir
Cognitively Guided Instruction 7th Biennial National Mathematics Conference in Des Moines (2013)

Dr. Brian Townsend
ICTM Annual Meeting in Des Moines (2013)

Department of Mathematics
Goes Digital

The department newsletter can now be found online (www.uni.edu/math). If you would like a hard copy of this newsletter in the future, please send this note to us with your address, or e-mail us at mathematics@uni.edu with that information.

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Alumnus Spotlight

Slade Hovick ('08)

Slade Hovick and Dr. Douglas Shaw at the 2012 Yager Award presentation ceremony

by **Douglas Shaw**

We almost lost Slade Hovick.

Slade graduated from UNI in 2008, with an MA in Educational Psychology: Professional Development for Teachers, and BA in Secondary Mathematics education (2006). His undergraduate GPA was 3.86 and his graduate GPA was 3.97.

And we almost lost him.

I was Slade's teacher for Combinatorics, and got to know him as a thoughtful and engaged student, who particularly excelled at back-and-forth exchanges with other students on difficult proofs. He also wound up in my improv troupe, where he was brilliantly funny, and amazing at really listening to the other actors, and playing off their ideas. As his mentor, I relished our lunches where we talked about teaching math, his ideas, his goals, and his eagerness to get in front of a classroom. We were close through his student teaching, and he told me tales of how much he enjoyed it, and what he was learning to do, and what he wanted to eventually try to do differently.

And we almost lost him.

I remember a year and a half after he started his teaching career, having breakfast with him, my wife Laurel, and my daughter Frances at Village Inn, hearing about his new dog training job at Pet Smart. He had his horror story and left the profession. I don't have to give you the details, because it is nothing you haven't heard before - insufficient support from administrators leading to increasingly more audacious student behaviors and diminishing teaching authority. I remember after he told us his tale, an older man (I say that – he was probably my current age) coming to our table, and telling Slade that Slade had made the right choice, that he had been a teacher for 20 years before leaving the profession, and wished he had never gotten into it – given what it had become.

And Slade, who had often raved about what a great education he received at UNI, who had the soul of a teacher, was working at Pet Smart. We almost lost him.

But we didn't. He gave it another try, went to a different school, and everything clicked. His students do fascinating projects, such as designing a container to realistic constraints, and justifying their choices in a presentation to the class, or solving a murder mystery, or even calculating the likelihood of catching a Pokemon! He is currently working on a classroom paradigm where students can "level up" using an extended videogame metaphor.

Currently, the United States is the only western country where Algebra I and Algebra II are split up by Geometry. Slade has been on the forefront of helping his school to integrate the subjects. When they found no textbook that satisfied them, Slade volunteered to be on the team to develop a new curriculum. In Math 1, he has fused Algebra and Geometry together, and they continue to be taught that way in Math 2 and Math 3. He has received no extra compensation for this mammoth task - he did it because it would be best for his students.

Slade keeps his class lighthearted yet focused, the ideal atmosphere for creative problem solving. He has a stable of characters, such as Colonel Mathematics, who manifest from time-to-time to offer explanation and commentary. As adults, we can smile indulgently at this concept, but this sort of thing makes a real difference to students.

Slade is constantly experimenting with technologies such as smartboards, Mimeo, etc. to make his classes more interactive and effective. But when I say "experimenting" when referring to Slade, I mean that in the strict sense of the word. He has created control and experimental groups, with the goal of obtaining actual evidence, beyond his opinions, of their effectiveness. He has described his experiments to me, and I believe he soon will have publishable results.

And we almost lost him. But we didn't. And when I had the privilege of introducing him when he received the Yager Award for Excellence in Mathematics and Science Teaching, I was extremely proud. But I was also sad – what would have happened had he given up? What about the other teachers who did not have his extraordinary dedication and fearlessness? How did we get to the point where former teachers are going up to strangers in Village Inn, congratulating them on getting away? What can we do?

> **"The math department faculty members at UNI are just as good with people as they are with numbers. Getting to know your professors is easy and worthwhile, if you are willing to try. I recommend you do." – Slade Hovick**

Alumna Spotlight

Sarah Miesner ('10)

Sarah Miesner (left) and her sister Hannah

Sarah came to UNI in 2006 to pursue an undergraduate degree in pure Mathematics. Four years later and after being on the Dean's list every semester she graduated with a BA in Mathematics, Summa Cum Laude, with minors in Biology and Chemistry.

After earning her BA degree, Sarah decided to continue her education at the graduate level. Between August 2010 and May 2012 she was a graduate student in the UNI Department of Mathematics pursuing a Professional Science Master's (PSM) degree in Industrial Mathematics with Actuarial Science emphasis, which she completed successfully. "The PSM program was very valuable to me. I was able to take Society of Actuary (SOA) exam preparation courses as well as business courses for my Validation by Educational Experience (VEE) credits. In addition, during the summer of 2011, I also had the opportunity to do an advanced study at L' École nationale de la statistique et de l'analyse de l'information in France where I was able to travel and experience another culture" says Sarah. As a graduate student in the PSM program, Sarah passed four SOA exams (P, MLC, FM, and MFE) and, after graduation, she passed one other SOA exam (C).

In May 2012, Sarah joined the Aviva Life and Annuity Company. "I chose Aviva because the organizational culture seemed to be a good fit for me. The student program is excellent and it is easy to find an "exam buddy" to study with. Aviva has a great rotation program, so I know I will get experience in other areas as well", says Sarah.

Currently, Sarah is on the Life Product Development team at Aviva. "The UNI graduate level statistics and analytics courses were especially useful for my current role." Some of the projects she has worked on include Illustration Regulation Testing on Aviva's in-force block of business and the development of a strategy selection tool that calculates hypothetical historical performance of Aviva's index crediting strategies. She is currently assisting with the pricing of an indexed universal life product using MG-ALFA models.

Sarah has two siblings: a brother who graduated from UNI in May 2013 and who is currently working in the Des Moines area, and a sister who is a junior Biology major at UNI. Sarah's hobbies include playing the piano, sand volleyball, and camping.

Jesse Moeller

Research Experience for Undergraduates

Jesse Moeller, a UNI senior mathematics major, participated this past summer in a two-month Research Experience for Undergraduates (REU) program organized by the University of Connecticut. Every year, NSF-sponsored mathematics REU programs recruit some of the best undergraduate students in the country to participate in cutting-edge mathematics research. Jesse's research group studied differential operators on the Sierpinski Triangle (also known as Sierpinski's Gasket). These operators are limits of operators defined on graph approximations. Using Mathematica to handle complex matrix computations, Jesse's group was able to determine the spectrum of a special operator, called the Magnetic Laplacian. After eight weeks of research, the group spent a couple of weeks presenting their results. First, they gave a poster presentation alongside all of the other summer research students at the University of Connecticut. Afterwards, Jesse and one of his colleagues gave a talk at both the University of Massachusetts at Amherst and at the 2013 Young Mathematicians Conference, in Columbus, OH.

Jesse shared with us his impressions of the REU program: "Doing mathematics research at UConn was a wonderful way to spend the summer. Although the beginning of the program was difficult and fast paced, I was fortunate enough to be able to "catch up" in a short period of time and actually work with other students from around the country on the problems we were assigned. In addition to getting to know my colleagues, I was also able to meet students from other fields and see what kind of things they were interested in as well. It was a great mathematical experience, a great networking experience, and a great life experience. This REU has taught me a lot about the mathematics community, graduate school, and what it takes to pursue research. I hope that most students who study pure mathematics are given this same opportunity."

Katherine Pearce

by **Bill Wood**

Katherine Pearce originally came to UNI for its reputation as the best teacher education program in Iowa. When she ultimately decided not to pursue a teaching career, she stayed because of the professors. "They were all so willing to help and work with you," Katherine says. "I wasn't just a number to them, I was Katherine."

Her most influential class was Modern Geometries. "Taking Modern Geometries I realized how broad the category of 'geometry' is and how interesting it can be. The way the class was taught also had a big impact on me. No longer was studying math sitting and listening to someone lecture what had been discovered thousands of years ago; we were working with the concepts hands-on and discovering them all over again for ourselves."

Katherine also cites UNI's generally welcoming atmosphere and size -- small enough to provide individual attention to students, yet big enough to offer a variety of courses and other experiences -- as reasons she was happy with her college choice. "At UNI you will be welcomed and encouraged by your professors and classmates no matter what your background is while still having the opportunities in and out of the classroom to keep even the most socially active people busy. There is something at UNI for everyone."

Katherine completed an honors research project in geometry and crochet, which she presented at the Midwest Undergraduate Mathematics Symposium along with several of her mathematics colleagues. Katherine graduated from UNI in May 2013 with a BA in Mathematics degree. She is now pursuing a career in technical writing.

Adam Feller

Adam Feller graduated from UNI in May 2013 with a BA in actuarial science degree. Dr. Mark Ecker interviewed Adam shortly after his graduation:

Adam, why did you decide to come to UNI?
I chose to come to UNI for its size and its actuarial program. I liked how UNI had all of the advantages of a large university, but also allowed me to build relationships with my professors. I also liked how the actuarial major was located in the Mathematics Department instead of the Business school. The mathematical focus of the program has given me the foundation necessary to be able to excel on the actuarial exams.

How many actuarial exams did you pass?
While at UNI, I passed exams P, FM, and MFE. Shortly after graduation, I passed exam C and I will be sitting for exam MLC in November.

What are your thoughts about our BA in Statistics and Actuarial Science degree program and your overall UNI learning experience?
When I reflect on my learning experience at UNI, I think about how easy it was to communicate with my professors and about how much they cared about the success of their students. In the Mathematics Department specifically, I was able to build relationships with professors who helped me achieve my academic and career goals. The culture at UNI is student oriented and the resources available to students were truly invaluable for me.

What are you currently doing?
I currently work at The Principal Financial Group as an Assistant Actuary in the student rotation program. I work specifically in the Principal International business unit and our main function is to act as consultants to our international member companies. We are responsible for coordinating Principal International's quarterly actuarial certification, completing actuarial-financial reviews, and communicating with and completing projects for our member companies.
My most recent duties have been reviewing actuarial certifications and maintaining and automating our quarter-end files.

What can you tell us about your career plans?
My immediate career plans are to continue to pass actuarial exams and attain the FSA designation. I also plan on developing a broader understanding of our business units as a whole through my rotations and interactions with fellow employees at The Principal.

What do you enjoy doing in your free time?
In my free time, I enjoy fishing, golfing, grilling, and reading. I also enjoy the easy access to the greater Des Moines area trail systems and attending various downtown events.

The 2013 Math Shindig

The UNI Mathematics Department held the annual Math Shindig event at Seerley Park, on Thursday, September 28, 2013. The shelter has become the traditional location where mathematics majors, graduate students, and faculty, along with their families and friends, gather to kick off the new academic year. Approximately 60 participants spent a couple of hours together in a relaxing environment featuring great food, entertainment, and friendly conversations. The sunny, warm September afternoon was the ideal weather for this event.

New for this sixth edition of the Math Shindig was a student raffle sponsored by the Department of Mathematics. The much sought-after prize consisted of a gift card from a major online retailer and an answering machine outgoing message recorded by the Head of the Department of Mathematics, Professor Douglas Mupasiri. The winner was selected the old fashioned way (by pulling a name from a hat) by Dr. Theron Hitchman, with ample support from Dr. Adrienne Stanley. The lucky winner was Ms. Manami Sawada. Manami, who enjoyed the Shindig very much, is an exchange student from Japan who is visiting UNI for one year.

When the food reached dangerously low levels, the participants were invited to participate in a kickball game which took place in the park, in an area adjacent to the shelter. The two student teams were coordinated by Dr. Hitchman (who displayed an impressive kicking arsenal) and Dr. Stanley (who excelled at catching the ball). The game was watched attentively by several faculty members who chose not to play the game for undisclosed reasons.

The Shindig gradually came to an end at sunset.

Several participants were excited to share with us their impressions:

Brooke Badker, senior: I thought it was very fun. I'm glad I decided to stay and play kickball with everyone! I think all math majors or minors should come to this event because it is a good way to meet professors you haven't had before and to meet some of your peers that are in the same major as you.

Elizabeth Johnson, senior: I have gone to the Math Shindig every year that I have attended UNI and each year I have had a great time. It is a lot of fun interacting with my professors on an informal basis and I love discussing my classwork with others in my major. Not only have I fostered important relationships, but I have laughed and learned among my fellow math majors.

Jesse Moeller, senior: I enjoyed the Math Shindig very much. The free food wasn't too bad, meeting with other math students was nice, and the kickball game was very fun. I thought that the raffle prize was hilarious. The math shindig is a good way to build our local mathematics community and to connect students with professors.

Allysha Whitsell, junior: This was the first year I have gone to the Math Shindig and I regret not going the past two years. I enjoyed meeting other students who are math majors and playing kickball. It allowed us to escape from our homework and relax with some free food. Every UNI math major should go to the Math Shindig because it shows them the fun side of the math department!

The 2013 Math Shindig was organized by the Student Recruitment and Retention Committee: Dr. Adrienne Stanley, Dr. Theron Hitchman, Dr. Shangzhen Luo, Dr. Douglas Shaw, Dr. Matthew Webb, Dr. Bill Wood, Mrs. Betty Bagenstos, and sponsored by the Department of Mathematics.

The 2013 Hari Shankar Lecture

Dr. Sastry Pantula

The Hari Shankar Mathematics Lecture Series is an annual event hosted by the UNI Department of Mathematics which features a lecture intended for general audiences given by a distinguished personality in the Mathematical Sciences. The lecture series is made possible through a donation from the late Hari Shankar, with additional support provided by the UNI Department of Mathematics and the UNI Provost's Office.

This year's lecture, entitled "Big Data = BIG Opportunities", was held on April 29. The guest speaker was Dr. Sastry G. Pantula. Dr. Pantula earned his PhD from Iowa State University and has been a faculty member in the Department of Statistics at North Carolina State University (NCSU) since 1982. He is a Fellow of the American Statistical Association (ASA) and of the American Association for the Advancement of Science. Dr. Pantula was the 2010 ASA President and a member of the NCSU Academy for Outstanding Teachers. Between 2010 and 2013, he served as the Director of the National Science Foundation's Division of Mathematical Sciences. He is currently the Dean of the College of Science at Oregon State University.

Advances in technology have made it possible to collect huge amounts of data. "Big data are arriving in volume, velocity, and variety," said Dr. Pantula. Business, Industry and Government rely on such information for marketing products or for making policies. Infrastructure planning, operational optimization, hazard detection, emergency management, law enforcement, or personalized medicine are just a few examples of areas where large amounts of data are being used. According to Dr. Pantula, converting huge amounts of data into useful information, in a timely fashion, is a key to innovation in this data centric world. This creates major opportunities for statistics, mathematical and computational sciences to make an impact.

These opportunities come with a number of challenges. Some of our current methodologies, which may work well for smaller amounts of data, do not scale up well to vast amounts of data, so we will need to develop new methodologies. Said Dr. Pantula "Statistical tools are like a knife or a chisel. In the hands of a surgeon they can save a life, or in the hands of a sculptor create a beautiful statue. On the other hand, in the hands of a crook they can rob a bank or even kill a person."

Talking about the misuse of statistics, Dr. Pantula gave the following piece of advice to students: "Don't be a hammer looking for a nail to hit! Do not attempt to use statistical methods unless you understand the underlying theory. You must have a strong foundation in statistical theory, inference, and in mathematics, otherwise anything you build on a weak foundation will collapse sooner or later." He also warned against the temptation to compromise professional ethics when under pressure to mishandle or misinterpret data: "Integrity is important even if it means speaking up to your manager and possibly losing your job. Trust takes a long time to build and you will lose it with one mistake."

In closing the lecture, Dr. Pantula reminded everyone that 2013 is the International Year of Statistics. More than 1,900 organizations and universities from 122 countries participate in this event. The event aims to increase the public awareness of the power and impact of statistics on all aspects of society and to nurture statistics as a profession, especially among young people. "We are invisible sciences making impeccable impact. Take advantage of the international year of statistics to brag about the impact of our profession" was the closing message of Dr. Pantula.

Dr. Sastry Pantula and Dr. Douglas Mupasiri

The **Second Annual Conference** for the **Exchange** of **Mathematical Ideas**

A regular attendee and participant at major national, regional, and international conferences, Professor Hisaya Tsutsui, Chair of the Department of Mathematics at Embry-Riddle Aeronautical University, Prescott, AZ (ERAU-Prescott), had for many years felt the need for smaller, slower paced, more inviting conferences where students (undergraduate and graduate), early career, mid-career, and seasoned mathematics professionals could exchange mathematical ideas. He had planned to hold such a conference on his campus once but in the end did not. As luck would have it, in August 2011 Professor Tsutsui was encouraged by his dean to organize a mathematics conference. Seeing an opening to parlay this opportunity into what might be the beginnings of a series of mathematics conferences of the type he had felt was sorely needed, he jumped at the chance. He took his idea to two long-time friends, Professor Keith Mellinger, the Chair of the Department of Mathematics at the University of Mary Washington (UMW) and Dr. Douglas Mupasiri, Head of the Department of Mathematics at the University of Northern Iowa (UNI), who both enthusiastically supported the idea. And thus was born the idea of starting a conference series under the name the "Annual Conference for the Exchange of Mathematical ideas" to be jointly organized by the Departments of Mathematics at ERAU-Prescott, UMW, and UNI. The guiding principle for the conference is encapsulated in the following Statement of Purpose:

"The aim of the annual conference is to improve communication among mathematicians in different specializations in order to enhance and stimulate their research. Talks are therefore expected to focus on a general introduction to the speaker's current research, major open problems, and its future prospects."

The inaugural conference in the series was held on the campus of Embry-Riddle Aeronautical University, Prescott, AZ on May 26, 2012. The second conference was held on the UNI campus over the weekend of June 22-23, 2013 (See the link noetherian.net/conference/indexb.htm for the conference program details.) All told, 24 people from across the US and the globe attended the conference. Speakers at the conference came from Arizona, Iowa, Massachusetts, Mississippi, New York, Virginia, Canada, Japan, and Siberia. Four faculty members in the UNI Department of Mathematics, Dr. Syed Kirmani, Dr. Douglas Mupasiri, Dr. Michael Prophet, and Dr. William Wood presented at the Conference. The titles of their talks were: *A Quest to understand the Poisson Process: A personal Odyssey, A general method for constructing locally convex topologies on the dual of a locally convex space (l.c.s.): applications to the case when the l.c.s. is a Banach space, Improved Gauss-Laguerre Quadrature,* and *Models of Discrete Conformal Geometry,* respectively. The conference was a huge success, as a survey of the conference participants has confirmed. The organizers are encouraged by the fact that the exchange of ideas which occurred at the inaugural conference at ERAU-Prescott has already led to collaborations that have resulted in submissions of papers for publication. We are hopeful that the conference at UNI will be similarly impactful.

New Courses for Elementary & Early Childhood Education Majors

The knowledge needed to TEACH elementary mathematics far exceeds that needed to DO elementary mathematics. The Mathematics Department provides courses which enable pre-service teachers to revisit elementary mathematics while engaging in mathematical practices such as problem solving, communicating, reasoning, and making connections among the myriad of ideas. Until 2008, we had one such course. As of Fall 2012, we now have Mathematical Reasoning for Elementary Teachers I, II, and III. Topics include number and operations, data analysis, probability, algebraic reasoning, measurement, geometry and proportionality. Pre-service teachers also take a "mathematical methods" course shortly before student teaching. The Department is also proud of its Minor in Mathematics - Teaching K-8 program. This is a 24 hour minor focusing more deeply on the content of the elementary mathematics classroom.

In Memoriam*
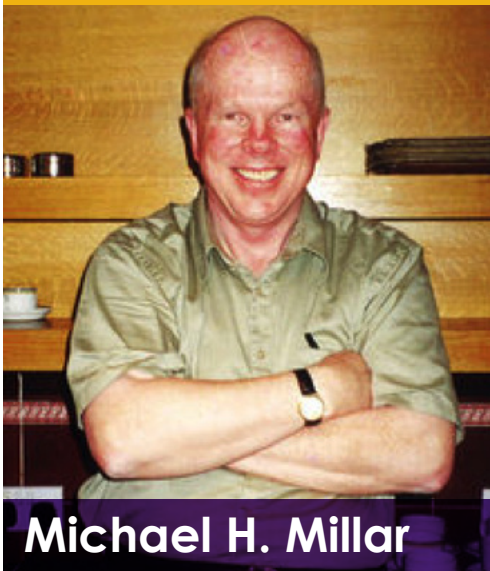
Michael H. Millar

Michael H. Millar died January 4, 2013 from malignant melanoma. He was born on August 7, 1932, the son of Helen Jackson and John Millar. He grew up in Chicago, graduating from Hyde Park High School in 1950. He moved east to attend Harvard where he met Ruth Covino. They wed on June 6, 1953. After graduation, they moved back to Chicago for Mike's graduate work at the University of Chicago where he earned his Master's Degree and, in later years, his PhD. Mike and Ruth moved their young family to Cedar Falls in 1962, where he began his teaching career in the Mathematics Department at the University of Northern Iowa. He remained at UNI until his retirement in 2002.

Mike was very active on campus, developing numerous new courses for the Mathematics Department and InterAmerican Studies. His pride was working with the American Federation of Teachers, serving as president for many years. A true educator, he was honored with Iowa's Distinguished Math Teacher Award. He taught summers in Colombia, China, Jamaica, Belize, and The University of California, Santa Barbara.

He held many interests: he loved Haitian art, politics, books, history, Scrabble, and going to the movies. He believed strongly in workers' rights, and civil rights for all people. He worked closely with the Cedar Valley Names Project during the AIDS crisis and was proud to see the Quilt several times on the National Mall in Washington DC.

By far, his most appreciated work was that of husband and father. Patient, kind, and adventurous, he treated his kids to weekly outings of sledding, bowling, cheeseburgers, bike rides, and drive-in movie marathons.

Carl O. Wehner

Carl O. Wehner, 83, passed away peacefully on February 19, 2013 at Allen Memorial Hospital in Waterloo. Carl was born on July 28, 1929 in Hancock County, IL. He obtained a BA degree at Iowa State Teacher's College in 1951. While there, he met his future wife, Wanda L. Ponder. They married on June 16, 1952.

Carl taught high school mathematics at Gladbrook and Mediapolis before returning to Cedar Falls to earn his M Ed degree from Iowa State Teacher's College in 1959. He then taught high school mathematics in Maquoketa for two years. In 1961, Carl began teaching in the Mathematics Department at State College of Iowa. During his thirty-one year tenure at State College of Iowa (later to become UNI), Carl was recognized by his colleagues as a leader in curriculum development, especially in the new discipline of Computer Science. In addition to the classroom, Carl used his computer skills during a long period of service as the volunteer registrar of the Iowa Council of Teachers of Mathematics. He also presented papers at state and national meetings of this organization. During the turbulent 1970s, Carl served as the president of the UNI chapter of the American Association of University Professors. Carl retired from the University of Northern Iowa in 1992. After retirement, he was active in the UNI Emeritus Association and served as co-chair for this group. He was a lifetime member of the UNI Alumni Association and belonged to the Friends of the UNI Museum.

In addition to his professional duties, Carl was very active in many Cedar Valley organizations, especially those agencies helping others. He served for many years on the boards of the Waterloo Urban Ministry and Operation Threshold. He volunteered at the Northeast Iowa Food Bank, Meals on Wheels, Habitat for Humanity, CROP Walk, Cedar Falls Historical Society, and the Cedar Valley Arboretum and Botanical Garden. For many years Carl was very involved in the Thanksgiving In-Gathering (the major mission project of the United Methodist Church). Carl was an active member of the Kiwanis Club of Cedar Falls and was especially involved in their service projects. Carl was a member of First United Methodist Church in Cedar Falls for over fifty years and also found support for his pacifist philosophy at the Cedar Falls Mennonite Church. His lifelong motto was "Live simply so others may simply live".

Carl had many hobbies. He enjoyed stamp collecting and was very active in the Cedar Valley Stamp Club. He was a farm boy at heart and always loved gardening. He also enjoyed attending auctions and hosting his own semi-annual "super" garage sales on Walnut Street.

Wanda L. Wehner

Wanda Lee Ponder Wehner, 83, passed away unexpectedly on March 1, 2013 at Allen Memorial Hospital in Waterloo, IA. Wanda was born on October 25, 1929, in Jasper County, IA. She obtained a BA degree at Iowa State Teacher's College in 1952. While there, she met her future husband, Carl O. Wehner. They married on June 16, 1952.

Wanda taught high school science at Mediapolis before returning to Cedar Falls to earn her Master's degree in Chemistry from Iowa State Teacher's College in 1966. In 1968 Wanda began teaching in the Chemistry Department at State College of Iowa. During her twenty-four year tenure at State College of Iowa (later to become UNI), Wanda was recognized by her colleagues and students as an outstanding and much admired teacher of Chemistry and Physical Science, and later Applied Organic and Bio Chemistry. In addition to the classroom, Wanda was a member of the Iowa section of the American Chemical Society and involved in the Iowa Academy of Science, for many years one of very few women. Wanda retired from the University of Northern Iowa in 1992. After retirement, she was active in the UNI Emeritus Association. She was a lifetime member of the UNI Alumni Association and belonged to the Friends of the UNI Museum.

Wanda was active in many Cedar Valley organizations, volunteering at the UNI Museum, at the Little Red School House, for Meals on Wheels, and the CROP Walk. Wanda was a member of First United Methodist Church in Cedar Falls for over fifty years. She was very active with United Methodist Women, and involved with many mission projects, including preparing health, layette and school kits. She was one of the statewide leaders for the Thanksgiving In-Gathering (the major mission project of the United Methodist Church) and was especially involved in quilting for the quilt auction. Wanda found fellowship at the Cedar Falls Mennonite Church along with her husband Carl. She also worked with children there on quilting projects for the Iowa Mennonite Central Committee Relief Sale.

Wanda was a passionate and award winning quilter. She began a Tuesday quilting group, First Quilters, at the First United Methodist church. The members of this group looked to her as "the leader of their sisterhood".

*adapted from Richardson Funeral Service

Department of Mathematics Funds

The following funds and scholarships are named for UNI emeritus faculty members:

Diane Sorenson Baum Fund – scholarships for elementary education majors with a K-8 mathematics minor (21-210591)

E.W. Hamilton Quasi-Endowed Scholarship – scholarships for students enrolled in any mathematics program (20-210174)

Bonnie Litwiller Mathematics Teacher Endowed Scholarship – scholarships for students majoring in Mathematics-Teaching (30-212639)

Fred W. Lott Endowed Scholarship in Mathematics – scholarships for incoming freshmen who are mathematics majors (30-211124)

Michael H. Millar Endowed Scholarship – scholarships to graduate students (30-211718)

Augusta Schurrer Endowed Scholarship for Mathematics Excellence – scholarships for students majoring in mathematics – Teaching (30-211292)

Augusta Schurrer Mathematics Grant – scholarship for math majors with 65 hours of completed work at UNI; preference to secondary teaching major (21-221293)

Carl and Wanda Wehner Math Teaching Endowed Scholarship – scholarships for juniors or seniors majoring in Mathematics – Teaching (30-210474)

The following funds have been established by alumni and friends of the Department of Mathematics:

Robert Allender Mathematics Teaching Endowed Scholarship – scholarships for sophomore, junior, or senior students majoring in Mathematics-Teaching (30-211638)

American Society for Quality Control-Endowed Math & Computer Science – scholarship for juniors or seniors majoring in mathematics (30-210419)

Aviva Actuarial Scholarship – scholarships for students majoring in Actuarial Science (21-212673)

Conrad and Jeannette Baumler Mathematics Education Scholarship – scholarship for juniors or seniors in mathematics education (21-212506)

Robert W. Bettle Math Education Endowed Scholarship – scholarships for seniors in mathematics education (30-211269)

Glenn Boysen Endowed Math Scholarship – scholarships for students majoring in mathematics (30-211136)

Alice & George Brown Endowed Math Scholarship – scholarships for a declared major in the Department of Mathematics (30-211526)

Irvin and Dorothy Brune Mathematics Education Endowed Scholarship – scholarships for mathematics education majors (30-211613)

Robert and Carol Hendrickson Crane Scholarship in Secondary Math Education – scholarships for juniors or seniors in secondary mathematics education (21-212418)

John F. and Ruth Cross Endowed Scholarship – scholarships for Statistics and Actuarial Science majors (30-211516)

Rich and Dee James Secondary Mathematics Teaching Endowment – scholarships for juniors or seniors in secondary mathematics education (30-212220)

Patricia Lange Memorial Endowed Math Scholarship – scholarships for juniors or above in any mathematics major (30-210976)

George and Mary McCoige Mathematics Education Scholarship – scholarships for sophomores and above majoring in Mathematics-Teaching (21-212664)

Marian Rigdon Ponder Math Education Scholarship – scholarships for incoming freshmen mathematics education majors (21-212206)

Principal Financial Group Actuarial Scholarship – scholarships for juniors or above majoring in Actuarial Science (21-212396)

Marcia E. Traer Endowed Scholarship Fund – scholarships for juniors or seniors in any mathematics major (30-211199)

Charles & Dorothy McLeod Tubbs Math Education Endowed Scholarship – scholarships for students majoring in mathematics education (30-211553)

Department of Mathematics Contribution Form

Would you like to support a Mathematics student and/or the Mathematics Department?
If so, please fill out the form below and return it to: **UNI Foundation Financial Services**
1223 W. 22nd St.
Cedar Falls, IA 50614-0239

_____
Name

_____
Address   City, State, Zip

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E-mail   Phone   ☐ home ☐ cell ☐ business

☐ Please check if new address, phone or e-mail.

I/we would like to support the following fund(s).

$_____ **Mathematics Department Quasi-Endowed Fund** (provides Alumni Scholarships, faculty development and travel, equipment, and support for all programs) 20-220127

$_____ **Mathematics Education Leadership Endowed Fund for Excellence** (discretionary fund for all mathematics education programs in the UNI Department of Mathematics) 30-221015

$_____ **Actuarial Science Fund** (provides John E. Bruha Award in Actuarial Science, Northwestern Mutual Scholarship, non-endowed scholarships, and covers student fees on successfully completed actuarial exams) 21-221288

$_____ **Mathematics Leadership Fund** (for the enhancement of teaching secondary mathematics) 21-221162

$_____ **Mathematics Undergraduate Research Assistant Fund** (for general undergraduate research assistance) 21-222452

Online: If you prefer, you may give via the UNI Foundation secure website: https://www.uni.edu/math. Use the "Donate to Mathematics" button on the right side. This will take you to a secure site with three mathematics funds choices. Please enter your donation amount in the boxes, or click "Take me directly to the giving page" to contribute to any other project (enter the project name or gift intention in the area marked "Please specify designation" in the "Other" category).

Additional funds, established by alumni and friends, provide scholarships to students in our programs. These scholarships are described on the reverse of this page.

$_____ directed to _____

☐ My (or my spouse's) company, _____ (name), will match my gift.
(Please contact your HR office for details and matching gift form to be submitted with payment.)

Type of Payment:
☐ **Check**: enclosed, payable to the UNI Foundation   ☐ **Credit Card**: please charge my card
$ _____ beginning (mo/yr) ____/____
Please complete card information below.

Signature (required) _____   Date _____

Credit card information will not be kept on file   100340

Charge my: ☐ VISA ☐ MasterCard ☐ Discover ☐ American Express *(please check one)*
Card Number: _____
Expiration Date: _____

Alumni Updates

Mr. Lynn R. Kueck, 1966 secondary math education, earned his MA in Mathematics from Stanford University (1975). This year, Mr. Kueck entered his 16th year as Mayor of Algona, IA.

Ben Matthies, 2004 secondary math education, earned a Master's Degree in Educational Leadership from Viterbo University (2012). He teaches mathematics at Ames High School in the Alternative Learning Program (ALP) where he is the ALP summer school coordinator and the online learning coordinator. He also teaches mathematics courses at the Des Moines Area Community College. Ben and his wife Elizabeth have a daughter named Emmalynn. They live in Boone, IA.

Joyce Boike, 2006 secondary math education, got married in June 2012 to Chris Gilmore. They live in Kansas City. Joyce teaches high school mathematics at Liberty High School.

Alumni info request — *Let us hear from you...*

Let us know what you have been up to. You can email us at mathematics@uni.edu or return this form to:

Department of Mathematics
University of Northern Iowa
Wright Hall 220
Cedar Falls, IA 50614-0506

First Name _____ Last Name (maiden)_____
Address _____
City _____ State _____
Email:_____

Please share any news about you or your family to be included in the next Mathematics Newsletter.