

Math



Times

Department of Mathematics, Fall 2007

Sullivans fund mathematics chair in appreciation for education

by Robin Fossum, Senior Regional Director, University of Illinois Foundation

A new chair in the Department of Mathematics will be established due to the generosity of University of Illinois alum Nancy Koerner Sullivan and her husband John 'Bruce' Sullivan of Las Vegas, Nevada. This prestigious named chair will be filled by attracting a mathematician of the highest caliber to the University of Illinois, bringing honor to the department and university, and providing a huge boost to our research program and the training of our students. The Sullivan Chair is the first such endowed chair for the department.

Nancy is originally from Illinois where she grew up in Park Ridge. Her father was a local butcher who, with their mother, encouraged all three of their daughters to continue their education at a university. As it turned out, all three of the Koerner daughters were accepted and attended Illinois at the Urbana-Champaign campus. Nancy graduated from Illinois in 1970 with a Bachelor of Science in LAS/Teaching of Mathematics. Following graduation she went to the University of Tennessee-Knoxville where she received her Master of Science in Computer Science.



Nancy and Bruce Sullivan establish the Sullivan Chair in mathematics.

While at Tennessee, she met her future husband, Bruce.

Nancy and Bruce spent most of their careers in Houston, Texas, where Bruce was a pharmaceutical representative and Nancy used her academic skills first with Dow Chemical and later retired as a test specialist with Accenture. Following their retirement, Nancy and Bruce moved to Las Vegas, Nevada, where they purchased a home on a golf course. Bruce enjoys golfing several days a week and Nancy is fully enjoying her retirement with Bruce and their little four-legged friend, Tex.

The Sullivans made a careful decision while deciding their estate plans. Both felt that their respective educations added much to their future careers, and it was decided to divide

their estate between both Illinois and Tennessee. The department and the university are grateful to the Sullivans for this tremendous deferred commitment and look forward to having them visit Altgeld Hall many times in the future. Thank you Nancy and Bruce!

University of Illinois at Urbana-Champaign



Miles named new director of undergraduate studies



Joseph Miles is the department's new Director of Undergraduate Studies, taking over from Randy McCarthy in August 2007. Miles received a bachelor's degree from the University of Illinois in 1963, majoring in mathematics and chemistry, and a Ph.D. from the University of Wisconsin in 1968. He joined the U of I Department of Mathematics in 1969. Miles says, "A lot has changed in undergraduate mathematics education here since my days as a student. Then most freshmen began with a five-hour course in analytic geometry, which we have now boiled down to about two lectures in second semester calculus, and in-state students were paying tuition of seventy-five dollars a semester. On the other hand, I took Math 346, my first course in complex variables, out of Churchill's book in 1961, and today we use the seventh edition of the same book in the same course, which we now call Math 446."

This is an exciting time in undergraduate education in our department, with significant recent changes in our calculus sequence and our honors program, with major changes in our linear algebra offerings to be implemented this year, and with increasingly active student organizations such as MATRIX. Miles invites old friends and new friends to stop by the Undergraduate Office in 313 Altgeld Hall for a visit and to share thoughts about further improvement of our undergraduate program.

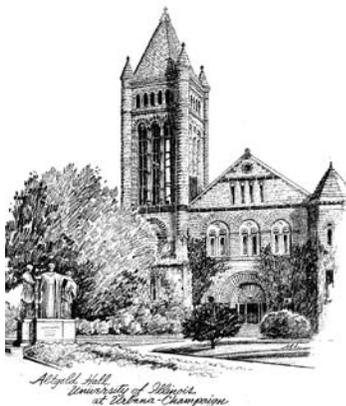
The Math Times is published twice a year by the Department of Mathematics at the University of Illinois at Urbana-Champaign. The *Math Times* is available via the web in pdf and html format at www.math.uiuc.edu/mathtimes/.

Tori Corkery is the editor of *The Math Times*, assisted by Sara Nelson. Address corrections and changes should be sent to:

The Math Times c/o Tori Corkery
Department of Mathematics
University of Illinois
263 Altgeld Hall
1409 W. Green Street
Urbana, IL 61801

Sheldon Katz, Chair
Department of Mathematics
273 Altgeld Hall (MC-382)
1409 W. Green Street
Urbana, IL 61801

Telephone: 217-333-3350
Fax: 217-333-9576
Email: office@math.uiuc.edu
Website: www.math.uiuc.edu



Wetzel and Jerrard receive Pólya Award

John E. Wetzel and Richard Jerrard (professors emeriti of the U of I Department of Mathematics), the late Joel Schneider, and Ralph Smallberg received a 2007 George Pólya Award given for articles of expository excellence published in the *College Mathematics Journal*.

Their winning article was "Straw in a Box," *College Math. J.* 37, no. 2 (2006) 93-102. According to the citation from the Mathematical Association of America (MAA), "The authors lead us through the many geometric, algebraic, numerical and computational twists and turns seeking a more accurate solution to an ambiguously worded multiple choice question on the New York Board of Regents exam that asks for the longest straw that could fit into a 3 inch by 4 inch by 8 inch box."

The Pólya Award, established in 1976 by the MAA, is named after the renowned teacher and writer George Pólya.



From the department chair

Greetings to alumni and friends of the Department of Mathematics! We've received an enthusiastic response to the new format of *Math Times*. Please keep in touch and continue to tell us what you've been doing. We'll keep you connected with current news about the Department of Mathematics at the University of Illinois and provide articles of interest.

The current issue contains a focus on private support and its importance to the department. Thanks to the generosity of our benefactors, we have recently added several new endowments which will be used to support named chairs, professorships, scholarships, and fellowships, supplementing our existing complement of valued endowments. Some of these are described in this issue, along with other news about exciting departmental activities. I am very proud of our faculty, students, staff, and alumni, who together make the math department a vital place!

Sheldon Katz

First recipients chosen for Lackner Fellowship, Scholarship

The Department of Mathematics is excited to announce the Dr. Lois M. Lackner Mathematics Fellowship and the Dr. Lois M. Lackner Mathematics Scholarship. Support for the fellowship and scholarship are provided by the Lois M. Lackner Fund for Female Students in Mathematics, which gives preference to female students of Czechoslovakian descent.

The graduate fellowship of more than \$12,500 will be used to support deserving students whose studies and research will benefit from this appointment. The first Lackner Fellow has recently been selected: Ida Svejdarova. The fellowship will allow her to spend more time on research in the area of combinatorics, finish her Ph.D. program sooner, and give her more freedom to attend conferences. Since she will be relieved of her duties as a teaching assistant, the department will be able to provide assistantships to additional students who would not otherwise have received them.

The first undergraduate scholarship recipient has also been selected: Melissa Schwerha. She will receive a \$1,000 scholarship. Melissa is a junior math major and an outstanding member of the secondary education program

in mathematics. Now in her fifth semester at Illinois, Melissa has a GPA in math courses of 3.79 and an all-campus GPA of 3.88.

The scholarship and fellowship were made possible by a generous gift from Dr. Lois Lackner-Strong. The Office of the Provost of the University of Illinois has provided matching support for the Dr. Lois M. Lackner Mathematics Fellowship and the Department of Mathematics is providing additional support for the Dr. Lois M. Lackner Mathematics Scholarship.

Dr. Lackner-Strong holds three degrees from the University of Illinois: a 1957 B.S. and 1958 M.S. in the teaching of mathematics and a 1968 Ph.D. in education. Dr. Lackner-Strong lives with her husband, Donald Strong, in Sun City, Arizona. The couple is very active and enjoy pistol target shooting. Mr. Strong is an expert marksman and teaches firearm safety. Dr. Lackner-Strong has been a member of the renowned Sun City Poms since 2000 and currently serves as director of the group. The Poms are an acrobatic dance group of senior ladies that do splits, headstands, pyramids, leg lifts and angels.

Collaboration tying elliptic cohomology and string theory

by *Matthew Ando, Associate Professor*

The Department of Mathematics at Illinois has a long tradition at the forefront of research in topology. For example, the department has recently received a three-year, \$440,000 grant from the National Science Foundation to support a research project on “elliptic cohomology,” led by topologist Professor Matthew Ando and physicist Professor Eric Sharpe at Virginia Tech.

The guiding idea of algebraic topology is to connect problems in topology to problems in other areas of mathematics. Exploring such relationships typically sheds light both on topology and on the mathematics to which it is connected.

Part of what makes elliptic cohomology exciting is that it not only connects topology with several areas of mathematics, but also with physics. How it connects these things remains mysterious, but the hope is that probing this mystery will give some access to rich and previously hidden structure in topology.

For example, elliptic cohomology has a strong relationship to number theory, via the theory of elliptic curves (from which it gets its name). Recently, Ando and his Illinois colleague Professor Charles Rezk, working with Professor Mike Hopkins of Harvard University, used the connection to number theory to prove a conjecture about the elliptic cohomology of certain topological spaces called “string manifolds.”

The special role of string manifolds, and the conjecture they proved, descend from work of the physicist Edward Witten, who in the 1980s showed that there should be a rich

interaction between elliptic cohomology and the physics of string theory. In the intervening twenty years, there have been huge advances in both elliptic cohomology and string theory. Ando and Sharpe will use their respective expertise in mathematics and physics to come to a better understanding of the relationship between elliptic cohomology and string theory.

Ando and Sharpe met when Sharpe was a postdoc in the Mathematics and Physics Departments at Illinois, working with Professor Sheldon Katz. The wealth of activity which makes such encounters possible is an important feature of the scientific environment at the University of Illinois.

Did you know...

Of the graduate students who successfully defended Ph.D. theses last spring or summer...

- Eight have taken up postdoctoral research positions in mathematics
- Two have accepted full-time faculty positions in college mathematics departments
- One has been hired by Google.
- Two have been unable to escape the charms of graduate school and have enrolled in second Ph.D. programs (one in finance and one in economics).

Department welcomes eight new faculty



Nathan Dunfield, Associate Professor

Ph.D. 1999, The University of Chicago

Dunfield's work focuses on 3-dimensional geometry and topology, in particular on questions related to surfaces in 3-manifolds, using tools from a wide range of mathematics, including hyperbolic geometry, number theory, probability, dynamics, algebraic geometry, and combinatorial group theory. He is also interested in geometric group theory, especially the mapping class groups, and experimental mathematics. After completing his Ph.D. at the University of Chicago, he spent four years at Harvard University as a Benjamin Peirce Assistant Professor followed by four years at the California Institute of Technology as an Associate Professor before joining us in Urbana-Champaign. He is currently an Alfred P. Sloan Fellow. His wife, Julie Cidell, has also joined the faculty at the U of I in the Geography Department.



Hal Schenck, Associate Professor

Ph.D. 1997, Cornell University

Schenck completed his Ph.D. at Cornell in 1997, under the direction of Mike Stillman, and did postdoctoral work at Cornell, Harvard, and Northeastern. For the last six years he has been at Texas A&M, since 2005 as an Associate Professor. His research focuses on commutative algebra, especially problems with connections to geometry; recently he has been working on applied problems in surface modelling and coding theory. He is married to Maureen McMichael, a specialist in emergency and critical care medicine at the Small Animal Hospital on the Urbana-Champaign campus. Their children are Alex (8), Michael (3) and Elizabeth (1).



R.E. Lee DeVille, Assistant Professor

Ph.D. 2001, Boston University

DeVille joined the department as an assistant professor and has recently moved to Champaign with his wife, Sushma. DeVille received his Ph.D. at Boston University in 2001, under the direction of Gene Wayne. Before coming to Illinois he was a VIGRE Instructor at Rensselaer Polytechnic Institute, and then a Courant Instructor at New York University's Courant Institute. His research interests include stochastic analysis, stochastic modelling, and analysis of PDE.



Nikolaos Tzirakis, Assistant Professor

Ph.D. 2004, University of Massachusetts, Amherst

Tzirakis, a native of Greece, received his Ph.D. from the University of Massachusetts at Amherst. Before coming to Urbana-Champaign he held a position (2004–2005) at the Institute for Advanced Study at Princeton. During 2005–2007 he was a postdoctoral fellow at the University of Toronto. His research interests are in dispersive partial differential equations and harmonic analysis. He has studied the long time behavior of the Cauchy problem for certain dispersive equations and systems. Examples include the Schrödinger equation, the wave equation and the Zakharov system. In particular he is concerned with the qualitative behavior of such solutions, like asymptotic stability or behavior of higher order Sobolev norms and maximal-in-time theory at minimum regularity. Tzirakis is married to Zoi Rapti, a J.L. Doob Research Assistant Professor in the U of I Department of Mathematics.

New Faculty



Jiří Lebl, J.L. Doob Research Assistant Professor

Ph.D. 2007, University of California at San Diego

Lebl was born in Prague when it was still Czechoslovakia but has lived in the U.S. since 1991. He received a Ph.D. in 2007 from the University of California at San Diego under the supervision of Peter Ebenfelt. Lebl is currently interested in CR geometry (several complex variables) and most things related. He is married to a Ph.D. chemist, Marketa, and has a 1-year-old daughter Maia who, as of yet, does not hold a Ph.D. in anything. In the past Lebl was a free software programmer and was employed by Eazel (now defunct) and Red Hat, and worked mostly on the GNOME user interface project.



Jeremy Rouse, J.L. Doob Research Assistant Professor

Ph.D. 2007, University of Wisconsin-Madison

Rouse, a native of California, received his Ph.D. at the University of Wisconsin-Madison in 2007 under the direction of Ken Ono. Rouse's research interests involve elliptic curves, modular forms, analytic number theory, and the relationships between them. He enjoys spending time with his wife and daughter, solving sudoku, and making home-made pizza.



Andrew Schultz, J.L. Doob Research Assistant Professor

Ph.D. 2007, Stanford University

As an undergraduate, Schultz worked with John Swallow at Davidson College, studying the Galois module structure of certain invariants of fields. He continued this work in his Ph.D. dissertation under the direction of Ravi Vakil at Stanford University, where he was also interested in exploring further connections to algebraic geometry and algebraic K-theory. In his free time he enjoys running and playing sports. He and his fiancée, Anne Brubaker, are looking forward to their upcoming wedding in the summer of 2008.



Sujith Vijay, J.L. Doob Research Assistant Professor

Ph.D. 2007, Rutgers University

Vijay received his doctorate from Rutgers University under the supervision of Professor Jozsef Beck. His dissertation dealt with arithmetic progressions, and his research interests lie at the intersection of combinatorics and number theory. He is an avid fan of Douglas Adams, Tom Stoppard, Kurt Vonnegut, P.G. Wodehouse, Calvin & Hobbes, Monty Python and pre-1970 Peanuts.

200 probabilists spend week at SPA 2007

Dawn broke on August 6th to find over 200 probabilists in Urbana-Champaign. The 32nd conference on Stochastic Processes and their Applications (SPA'07) was held in Altgeld Hall the week of August 6-10. The SPA meetings are yearly international events held under the auspices of the Bernoulli Society for Mathematical Statistics and Probability and are co-sponsored by the Institute for Mathematical Statistics (IMS).

The conference was organized by Robert Bauer, Renming Song, and Richard Sowers (U of I Mathematics Department), Sean Meyn (U of I Electrical and Computer Engineering Department), and Tom Kurtz (Departments of Mathematics and Statistics at the University of Wisconsin-Madison). There were 15 invited speakers, about 20 special sessions, and 150 contributed talks. The conference hosted a number of honors; the Ito Prizes and Levy Lecture (both supported by Elsevier), and IMS Medallion Lectures.

The conference also hosted the inaugural Doob Lecture, given by Marc Yor of the University of Paris VI, who summarized some of Doob's insights and pointed out that his work is still a motivation for new research. The Doob Lecture will be held annually at SPA meetings and is supported by the *Illinois Journal of Mathematics*. Joseph Doob was one of the founders of the *IJM* and was one of the titans of probability theory. His publications and books laid much of the foundation of modern probability.



Marc Yor of the University of Paris VI giving the inaugural Doob lecture.

An NSF-supported roundtable on future directions in probability was also held at the conference. Organized by Ed Waymire (from Oregon State University) and Philip Protter (Cornell University), this discussion framed some of the current challenges facing probability, both from a funding and curricular standpoint and from the (real or perceived) dichotomy between pure and applied research.

The conference dinner was an occasion for the probability community to say goodbye to Frank Knight, who was a faculty member at the U of I for many years and who passed away this year. Frank's contributions to the theory of Brownian motion and stochastic processes were deep and powerful. David Heath (emeritus, Carnegie Mellon) and Ed Perkins (University of British Columbia) remembered Frank both as a person and as a mathematician.

Support for the conference was provided by a number of federal agencies (the Army Research Office, the National Science Foundation, the National Security Agency and the Office of Naval Research) and the Institute for Mathematics and its Applications. A number of University of Illinois units also provided support (the Center for Advanced Study, the Department of Electrical and Computer Engineering, the Coordinated Science Laboratory, the Office of the Provost, and the Department of Mathematics). The organizers would like to thank all who both supported and attended the conference. For more see <http://www.math.uiuc.edu/SPA07/>.

Halberstam and Selfridge honored at Number Theory Fest 2007

An international conference on number theory was held on the University of Illinois at Urbana-Champaign campus May 16–20, 2007. The meeting celebrated the 80th birthdays of Heini Halberstam and John Selfridge.

Halberstam has been a member of the U of I Mathematics Department since coming in 1980 from the University of Nottingham, where he had been head of the mathematics department and dean of the faculty. He was department head here for 7½ years, and retired in 1996.

Selfridge served on the faculties of the University of Illinois at Urbana-Champaign and Northern Illinois University and had been chairman of the NIU Department of Mathematical Sciences for several years. He also served as Executive Editor of *Mathematical Reviews* from 1978 to 1986, where he spearheaded the computerization of the MR operations and laid the foundation for the development of MathSciNet.

The U of I Department of Mathematics traditionally hosts a regional number theory conference annually and

occasionally hosts an international conference. Number Theory Fest 2007 was the fifth such large meeting—the others being the Ramanujan Centenary (1987), Bateman Retirement (1989), Halberstam Retirement (1995), and Millennial Conferences.

At the 2007 meeting there were 157 registered attendees (from at least 16 countries), 22 plenary lectures, and 69 contributed lectures. Among the plenary speakers were Kevin Ford and Alexandru Zaharescu from the U of I Department of Mathematics.

Support for the conference was provided by the National Science Foundation, the National Security Agency, the Number Theory Foundation, and the U of I Mathematics Department. The conference organizers were Bruce Berndt, Harold Diamond, and Kevin Ford of the University of Illinois and Michael Filaseta of the University of South Carolina; A.J. Hildebrand of the University of Illinois was the conference coordinator.

Test your department history knowledge

1. What year did the University of Illinois have its first graduate student enrolled in mathematics?
2. What is unusual about that graduate student?
3. What year did construction begin on Altgeld Hall on the University of Illinois at Urbana-Champaign campus?
4. Who or what department was first housed in Altgeld Hall?
5. What unique architectural detail was added to the building by the architect?
6. John Altgeld, Illinois Governor after whom this building is named, was at one time called “the most hated man in America.” The act that caused him to earn that title also earned him a profile in John Kennedy’s book *Profiles in Courage*. What made Altgeld both so despised in his time and honored by later generations?



Room 314 Altgeld Hall used by the Library School, circa 1914. Photo courtesy of the University Archives.



Library in Altgeld Hall, circa 1930s. Photo courtesy of the University Archives.

- Answers to history questions
1. 1895
 2. She was female (in an era where female mathematicians were very rare). Laura S. Hodd from Indiana was the first graduate mathematics student.
 3. 1896
 4. The University Library
 5. A gargoyle. We believe this is the only gargoyle on campus. It is located above the north entrance on the west side of Altgeld Hall.
 6. The pardoning of the remaining Haymarket Riot prisoners who Altgeld said were imprisoned in a miscarriage of justice.

Number Theory Foundation funds conferences, projects

The Number Theory Foundation (NTF) is a philanthropic organization created by John Selfridge, one of the honorees at the Number Theory Fest 2007 meeting. Selfridge has been the principal donor to NTF as well.

The NTF has been in operation since 1999. Its purposes, according to its charter, are “to advance the science of number theory through scholarly investigation, study, and research” by making grants “for educational, scientific and charitable purposes.” In practice, most grants of NTF are in support of conferences on number theory, although some have been made to individuals for number theory projects. For example,

The Prime Pages <http://primes.utm.edu> was created with the assistance of an NTF grant.

The NTF has several connections with the University of Illinois. The University of Illinois Foundation (UIF) provides oversight and counsel for its operations, and Robin Fossum of UIF participates in meetings of the NTF Board. Paul Bateman, Harold Diamond, and Bruce Reznick of the U of I Math Department serve as members of the NTF Board. Also, the U of I Math Department hosts the NTF website and NTF was one of the supporters of the recent Number Theory Fest conference. Read more about the Number Theory Foundation on the web at <http://www.math.uiuc.edu/ntf/>.

Alumni News

AfterMath

featuring news from mathematics alumni

- **Kenneth Conklin** [1962 BS, Mathematics; 1964 MS, Teaching of Math; 1967 PhD, Education] has published a book *Hawaiian Apartheid: Racial Separatism and Ethnic Nationalism in the Aloha State*. See <http://tinyurl.com/2a9fqa> for table of contents and Chapter 1.
- **Phyllis (Buck) Emigh**, [1982 BS, Teaching of Math; 1983 MS, Mathematics] now resides in rural northeastern Connecticut, “The Quiet Corner,” where her husband David (her one-time U of I TA) is a Professor of Mathematics and Physics at Quinebaug Valley Community College. They raised two Yankee daughters, Gwyneth and Megan. Phyllis established Quiet Corner Consulting in 1995 and designs databases on a consulting basis, using Microsoft Access. She says that it’s a great combination of people and technical work and “I can’t tell you how excited I was the first time I actually had cause to put an ‘exclusive OR’ to good use!” Read more about her story at <http://www.freelancemom.com/yoursuccess.htm>.
- **Dan Feldt** [1981 BS, Mathematics] earned B.S. and M.S. degrees in electrical engineering from Iowa State University (1985) and the University of Wisconsin (1986), respectively, after graduating from Illinois. He worked as a circuit engineer for Motorola in Chicago for 15 years where he received four U.S. patents. He left Motorola in 2001 to pursue his interests in music and in 2004 returned to his math roots by volunteering as a math tutor at the Greater Wheeling Area Youth Outreach where he continues to work.
- **Gordon Fossum** [1978 BS, Math and Computer Science] received both a Phi Beta Kappa key and a commission in the U.S. Air Force. With support from the Air Force, he completed his Master’s in computer science from UC-Berkeley and then began work on his Ph.D. in computer graphics at the University of Texas in Austin. Sadly, his dissertation research was upstaged by competing research results (twice in successive years), so he left UT in an “all but dissertation” status, and left the Air Force to join IBM in Austin, Texas. He still resides in Austin and is still working for IBM twenty years later.
- **Suzanne (Sue Pawlan) Levy** [1977 BS, Teaching of Math] taught college computer science for 20 years. She is now getting back to her math roots by running the North County Math Superbowl for Santa Barbara County in California, which is a math competition for 4th, 5th, and 6th graders.
- **William L. Perry** [1968 MS; 1972 PhD Mathematics] became the new President of Eastern Illinois University in 2007. Prior to joining EIU, Perry had been with Texas A&M University since 1971 where he was vice provost from 2003 to 2007. He is a tenured professor of mathematics and he served as executive associate provost (1998-2002), dean of faculties and associate provost (1990-1998), associate dean for academic affairs, College of Sciences (1988-1990), and associate head of the Department of Mathematics (1977-1981) at Texas A&M.

We want to hear from you!

The *Math Times* links our alumni together—some 7600 members strong! We’d like to hear from all our alumni. Send your news to mathtimes@math.uiuc.edu, and we’ll include your news, as space permits, in our *AfterMath* section featuring alumni news.

Always Illinois: connecting alumni and current faculty and students

Connect or re-connect with members of the University of Illinois community with *Always Illinois* -- a new, free online network only for alumni, students, faculty and staff.

Now it’s easy to maintain lifelong friendships, network, and stay current with happenings on campus, in colleges and departments, as well as in student and alumni organizations. Participants can join customized groups according to class year and degree-granting unit, geographic location, student organizations, professional organizations. *Always Illinois* facilitates expanded career networking opportunities for Illinois alumni and students, plus offers online forums to request and offer advice, find a place to live, announce upcoming events, or post a job.

Communicate through messaging, photo albums and blogs or use the search capability to find others who share interests, common acquaintances, professions, locations, and more. Access to personal information on *Always Illinois* is controlled by each user.

To join, visit www.alwaysillinois.org and follow the appropriate links for alumni or current faculty, students and staff.

Alumna Profile: Peggy Ruff

by Jim Dey

When Peggy Ruff enrolled at the University of Illinois in fall 1971, she planned to teach mathematics.

Thirty-plus years later, the 53-year-old Ruff is vice president for logistics at Tate & Lyle Ingredients America in Decatur, Ill. Ruff discovered that the classroom didn't suit her tastes. But she completed her bachelor's degree in math and figured, correctly it turned out, that she eventually would find a job that suited her. "I didn't know what I wanted to do," Ruff recalls.

She started working as a part-time clerk and steadily moved up the corporate ladder. In her current position, one she has held since 1998, Ruff supervises roughly 100 employees responsible for serving customers and

"I don't sit in my office and do polynomial equations. But I do use the problem-solving process I learned at the U of I."

distributing Tate & Lyle products both domestically and internationally. The company produces food ingredients from corn, potatoes, and tapioca, and Ruff said its products make their way into "virtually everything on the grocery store shelf."

"Logistics doesn't make it, and we don't sell it. But we're involved in everything else" she said.

It's a big job, one that Ruff loves. "I get to solve problems," she said.



Peggy Ruff

Education: 1975 B.S. Mathematics, U of I.
Career: Vice President for Logistics, Tate & Lyle Ingredients America, Decatur, Illinois.

Ruff credits her success to knowledge and confidence gained studying math. "I don't sit in my office and do polynomial equations. But I do use the problem-solving process I learned at the U of I," she said.

Ruff likes to share the details of her success with U of I math students because she wants them to know that they have more career options than they might realize. She's spoken at meetings of MATRIX, an organization of mathematics majors,

and at career information nights in the College of Liberal Arts and Science. She's also had fun connecting with other LAS graduates as a member of the LAS Alumni Association board and describes her association with the U of I as "very rewarding."

Ruff grew up in a working-class family in Decatur, and she said that it "never crossed my mind" that she would have a career as a corporate executive. But her math education taught her that all things are possible.

"My opportunities at Illinois taught me how to think and how to analyze problems and projects," Ruff said. "I absolutely felt like I could do any assignment or any job they would ask me to do."

Alumni Events

Actuarial Science Alumni Homecoming Event Oct. 27

The University of Illinois Actuarial Science Program is hosting a Homecoming event on Saturday, October 27. Any actuarial science alums of the University of Illinois, and their guests, will be warmly welcomed. For more information, watch program director Rick Gorvett's website for updates at <http://www.math.uiuc.edu/~gorvett/>.

Come cheer on the Illini and help us determine the probability of an excessive winning margin!

The Actuarial Science program currently has over 300 students.



Department of Mathematics to host alumni reception in San Diego

The Department of Mathematics will host an Alumni Reception at the joint annual meeting of the AMS and MAA. It will be held Tuesday, January 8, 2008, from 5:30-7:30 p.m. at the San Diego Marriott Hotel and Marina in San Diego, California.

Everyone ever connected with the department is encouraged to get together for conversation and to hear about mathematics at the University of Illinois.



Department of Mathematics Giving Form

Today, more than ever, the Department of Mathematics relies on the generosity of its alumni and friends. Join us in ensuring a bright future by supporting the department in its educational and research missions.

Yes! I believe in the importance of excellence in mathematics at Illinois and wish to show my support!

\$ _____ **Mathematics Partnership Fund (#332346)**
Your gift to the partnership fund will have the widest impact as it supports a range of activities such as student awards, distinguished lecturers, and faculty startup expenses used to recruit excellent faculty.

\$ _____ **Mathematics Excellence Fund (#775705)**
Create endowed scholarships, endowed fellowships, endowed professorships, and endowed chairs.

\$ _____ **Actuarial Science Fund (#330225)**
Support Actuarial Science through scholarships, fellowships, graderships, and faculty support.

\$ _____ **Mathematics Research Experience Endowment Fund (#772913)**
Support research experiences for undergraduate and graduate students.

Name _____ Telephone _____ Email _____

Street Address _____

City _____ State _____ Country _____ Zip Code _____

My check is enclosed made payable to UIF/Department of Mathematics.

I wish to make my gift by credit card: Visa MasterCard Discover American Express

Card Number _____ Exp. Date _____ Signature _____

My company will match my gift. Company name _____

May we include your name on our published list of donors? yes no

This is a joint gift. Please also credit: _____

Mail to: University of Illinois Foundation, Harker Hall, 1305 W. Green Street, Urbana IL 61801. 5M 94M 332346

Give online at www.math.uiuc.edu/gifts/

Math Excellence Fund

Provides funding assistance in creation of new endowments

We are excited to announce a new \$300,000 endowment, the Mathematics Excellence Fund, created by the generosity of our supporters. This endowment will be used for the advancement of the Department of Mathematics, especially by supplementing and helping create endowed scholarships, endowed fellowships, endowed professorships, and endowed chairs.

You can contribute to the Mathematics Excellence Fund online at <http://www.math.uiuc.edu/gifts/>. Annual giving to the Mathematics Excellence Fund will help build this endowment and support initiatives which are making the department strong.

If you are interested in supporting endowments in the Department of Mathematics, please contact Mathematics Department Chair Sheldon Katz at (217) 265-6258.



The Math Times

 Department of Mathematics
College of Liberal Arts and Sciences
University of Illinois at Urbana-Champaign
273 Altgeld Hall
1409 W. Green Street
Urbana, IL 61801

Change in managing editor for *Illinois Journal of Mathematics*

For the past ten years A.J. Hildebrand has served as Managing Editor of the *Illinois Journal of Mathematics* (IJM). His commitment to IJM and service record in this position will not soon be equaled. Under his leadership the journal has undergone a major reorganization, implementing a sophisticated system of centralized electronic processing of papers which has significantly reduced the burden on editors and allowed the processing of submissions to become more streamlined and timely.

Streamlining IJM's production has an added cost-saving benefit, putting subscription rates for IJM among the very lowest for mainstream mathematical journals—currently 11 cents per page. Although operating under the auspices of the University of Illinois, IJM is supported entirely through subscription costs and receives no subsidies from the university or the Department of Mathematics. In addition, IJM provides a significant benefit to the university in the form of exchange subscriptions to several hundred journals which the Mathematics Library receives at no cost.

The *Illinois Journal of Mathematics* was founded in 1957 by R. Baer, J.L. Doob, A. Taub, G. Whitehead and O. Zariski and quickly established itself as a preeminent journal of mathematics. Since its beginning IJM has enjoyed a rich history in published mathematical research. Perhaps its most notable published article was the proof of the Four Color Conjecture by K. Appel and W. Haken of the University of Illinois at Urbana-Champaign. Distinguished researchers such as A. Calderon,

S.S. Chern, H. Kesten and K. Uhlenbeck have served as editors. Through the initiative of A.J. Hildebrand, IJM has recently begun a series of “special” volumes. The first two in this series are dedicated to the remarkable research influence and accomplishments of Reinhold Baer and Joseph L. Doob.

The preceding paragraphs serve to highlight some of the notable achievements of A.J. Hildebrand's ten-year career at the helm of IJM. They underscore some of the more visible

For his untiring devotion and work ethic, the Department of Mathematics owes A.J. Hildebrand a large debt of gratitude.

examples of his vision and innovation in the role as Managing Editor. They do not reveal the real workload assumed by A.J. in that role. When asked by the Search Committee of former IJM editors to write up a job description of his day-to-day tasks, the document A.J. produced came to eleven pages. For his untiring devotion and work ethic, the Department of Mathematics owes A.J. Hildebrand a large debt of gratitude.

Under new IJM Managing Editor Phil Griffith, some operational changes will occur—the biggest change being that the copy editing and typesetting functions will be outsourced. IJM Editorial Assistant Debbie Broadrick will remain in her position. Debbie is key to maintaining a smooth and efficient operation in the flow of information between editors, authors and referees.