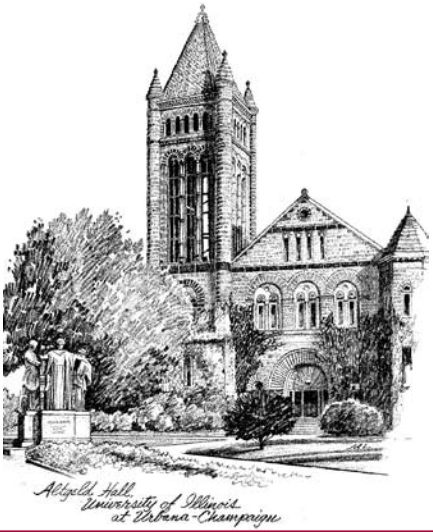
Math Times



Department of Mathematics, Fall 2008

Exploring math still a joyful journey for Tondeur

By Jim Dey

Philippe Tondeur, an emeritus professor of mathematics at the University of Illinois, came late to his chosen field. He started out in engineering, but was uncertain if that's how he wanted to spend his life. When Tondeur discovered the certainty of math, he had no doubts about his future academic pursuits.

"I was fascinated by the beauty of it," said the 75-year-old Tondeur. "You can acquire knowledge without doubt. It's still the only thing about which I am certain."

It was a good decision. Tondeur's career as a prominent scholar and vigorous advocate of mathematics research and education helped him fulfill a youthful wish.

"One of my childhood dreams was to travel," he said. "I have met people all over the globe."

That includes his wife, Claire, a native of Switzerland he met while visiting Turkey. She taught French literature at Bradley University in Peoria.

The second youngest of five children, Tondeur was born in Zurich, Switzerland. His father worked in a bank, and he recalls his mother as a creative homemaker.

"My family background is that of a younger child enjoying being surrounded by people who knew more than me," he said.

Tondeur earned his doctorate in mathematics from the University of Zurich before traveling to the University of Paris for postdoctoral studies and then Harvard University as a research fellow.

In 1968, he joined the UI mathematics faculty, eventually serving as the department chair. He had no idea that he would make his life in the United States and his career at the UI.

"I was basically a young person looking for a job. The U.S. was very welcoming," he said.

Over the course of a long career, Tondeur wrote nine books and close to 100 articles, much of his work focusing on differential geometry and topology, which is shape recognition. After stepping down as department chair, Tondeur served as the Director of the Division of Mathematical Sciences at the National Science Foundation, where he worked to secure government funding for mathematics research.

Now as an emeritus professor, Tondeur finds himself as busy as ever, but says he can now "shape my life as I see fit."

Dividing his time between Arlington, Va., and Champaign, Tondeur travels widely, advising governments about the importance of mathematics research and education.

Tondeur consults with governments in the United States, Canada, Spain, Japan and Australia about the life-changing power of mathematics. He said government officials generally agree with his advice, but that doesn't necessarily translate into action.

"Today, it's much easier than it was 10 years ago. But I have to convert their belief into budget decisions. That's not as easy," he said.

Still, Tondeur's successful efforts have been widely recognized. He recently received the Society for Industrial and Applied Mathematics Prize for Distinguished Service for his "extensive and highly effective advocacy for the mathematical sciences."

"I think math leads to better science and better science leads to solutions to society's problems," he said. "We are surrounded by mathematics, but most people don't know it. Everything is permeated by mathematics, and much of that mathematics is of recent vintage."

Tondeur is referring to mathematics' role in computer-driven high technology. Whether it's a surgeon performing a delicate operation, an economist studying the financial markets or a climatologist pondering climate change, they all depend on sophisticated math-based technology.

Tondeur said "computer modeling is really mathematics in action," and that's why he's constantly proselytizing bureaucrats about the need to devote financial resources to math research and education.

Tondeur jokes that he could "live 1,000 years and never get tired of" mathematics. But he has other interests. Besides their love of travel, he said he and his wife are voracious readers.

"Both our residences are filled with books," he said.

But mathematics is his passion, a source of endless intellectual inquiry and a powerful force for social advancement. He said that he benefitted tremendously from financial support for his mathematics research, and that "now I spend my life trying to help other people get similar advantages."

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 at www.math.uiuc.edu/mathtimes/.

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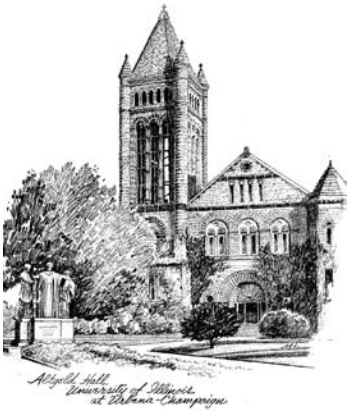


Department to host AMS Sectional Meeting

The University of Illinois Department of Mathematics will host a sectional meeting of the American Mathematical Society (AMS) in Spring 2009. The AMS meeting is an excellent opportunity for the Department of Mathematics to increase its national visibility. The meeting will take place during the last three days of the university's spring break, Friday, March 27 through Sunday, March 29, 2009. University of Illinois Chancellor Richard Herman will deliver welcoming remarks to the conference participants.

The AMS Invited Addresses will be delivered by Professors Jacob Lurie (Massachusetts Institute of Technology), Gilles Pisier (Texas A&M University), and Akshay Venkatesh (New York University–Courant Institute). The annual AMS Erdös Memorial Lecture will be given by Professor Jeffrey Lagarias from the University of Michigan. In addition to the lectures, an AMS book exhibit will be on display in the Math Library in Altgeld Hall. The Department of Mathematics will host a reception for the conference participants Saturday, March 28, from 6:15–8:00 p.m. in the South Lounge of the Illini Union.

Over 300 people are expected to attend the AMS meeting, not including the local participants. The department encourages U of I doctoral mathematics alumni to consider attending the AMS meeting. There will be twenty-two special sessions at this AMS meeting. The talks will be in held Altgeld Hall and Noyes Lab, with the main invited talks in 314 Altgeld Hall.

The main local organizers are Ilya Kapovich (Chair of the local organizing committee), Kim Whittlesey, and Jeremy Tyson. Detailed conference information is available at http://www.ams.org/amsmtgs/2152_program.html and http://www.math.uiuc.edu/ams09/.

Alumni reception to be held at joint math meetings in Washington, DC

The Department of Mathematics of the University of Illinois at Urbana-Champaign will host an Alumni Reception at the annual meeting of the AMS and MAA. It will be held Wednesday, January 7, 2009, from 5:30–7:30 p.m. in the Hoover Room in the Marriott Wardman Park in Washington, D.C.

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

From the department chair

Greetings to the alumni and friends of the Department of Mathematics! Please keep in touch and 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.

In this issue, we inform you about awards, honors, and activities of current and past members of the department, together with an update on programs, special events, and other exciting departmental activities. I especially want you to know about our inaugural Mathematics Homecoming Postgame Party, which I hope becomes an annual tradition.

I am very proud of our faculty, students, staff, and alumni, who together make our math department a vital place. We have accomplished much individually and together. Thank you for your support of the Department of Mathematics!

Sheldon Katz
Chair, Department of Mathematics
University of Illinois at Urbana-Champaign

Alumnus Profile: James Donaldson

By Jim Dey

James Donaldson wasn't thinking about becoming a professor of mathematics when he enrolled as a graduate student at the University of Illinois. But the more he saw faculty members teach and pursue their research, the more appealing the idea became to him.

"The math professors seemed like they were doing things they enjoyed," said Donaldson. "Once I became a professor, I found that was exactly right."

Now 67, Donaldson has spent his entire adult life in the academy, the bulk of it at Howard University in Washington, D.C. Chairman of Howard's mathematics department for 18 years and Dean of its College of Arts & Sciences since 1999, Donaldson said he's closing in on the end of his career.

"I have been in the academy since 1965, so I think it's about time that I move aside for some of the younger people," he said.

Unsure of when he'll leave, Donaldson described himself as a "short-timer," but one with no regrets.

"My going into math is what I would call one of the best decisions in my life," he said.

Born in Madison County, Fla., during the heyday of legal segregation, Donaldson was one of 11 children who grew up on the family farm.

"We had no money, but we had food. On the farm, we raised most of what we needed," Donaldson said. "I found out much later that I was poor."

He credited an uncle with helping him learn to read before he enrolled in first grade, and described school as "always something I enjoyed." He also found life in the classroom easier than the farm-related chores, like milking cows and tending to the garden, that he and siblings were required to do.

"I always tell people that I can't think of a greater motivation for getting an education than working a few years on a farm," he said.

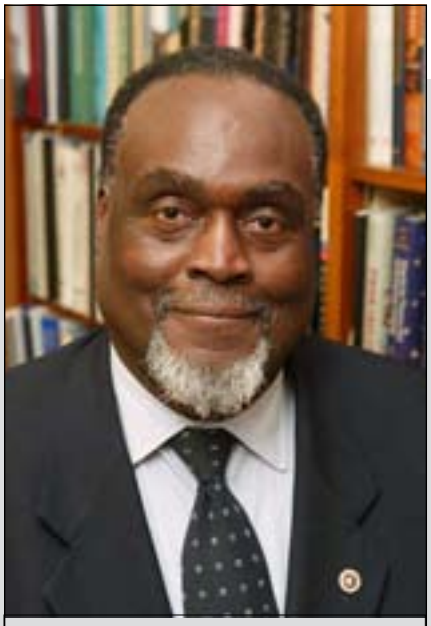
After graduating as valedictorian of his high school class, Donaldson was advised by his math teacher, Juanita Miller, to leave the South and enroll in Lincoln University in Pennsylvania. He considered a variety of fields of study before choosing math, graduating in 1961.

At the behest of his teachers, Donaldson came to the UI to study for his master's degree and then stayed on to get his doctoral degree, graduating in 1965.

He said the math department provided him with an "outstanding" graduate education and that the department was an oasis of civility on a campus that was struggling to develop an environment that encouraged full participation of black students in every aspect of university life.

"The department seemed to be a very hospitable place. Outside the department, it was quite another matter," he said.

Since receiving his doctorate, Donaldson has taught at a number of universities, including Southern University, University of Illinois (at Chicago Circle) and the University of New Mexico, lectured both at home and abroad, written more than 20 research papers and consulted with the National Science Foundation and the National Research Council. He also presided over an expansion of Howard's math department, overseeing its development as the first department at a historically black college or university to offer a doctorate.



James Donaldson

Education: Ph.D. in Mathematics, 1965, University of Illinois
Career: Chairman, Department of Mathematics, and Dean, College of Arts & Sciences, Howard University, Washington, D.C.

In 1998 he returned to Lincoln University, where he served as interim president for one year.

But Donaldson said he remains a math teacher at heart, enthusiastically recommends it as a field of study and continues to be fascinated by it. He said it appeals to him for a number of reasons.

"One of the things I like about it is its exactness. I like the way things fit together once you get it right. I like to be challenged," he said. "It's something you can compete in and everyone starts from a level playing field.... There seem to be no restrictions on it other than ability."

In addition to math, Donaldson has a number of interests. He likes to walk for exercise, finds travel interesting and enjoys woodworking. But none of his other hobbies compare to the field he chose for his life's study.

"I will continue to do math until I die," he said. "I think the interest will still be there."

Paul H. Johnson, Jr., Assistant Professor

Ph.D. 2008, University of Wisconsin – Madison

Paul Johnson received his doctorate from the University of Wisconsin – Madison under the direction of Professors Edward W. (Jed) Frees and Marjorie Rosenberg. His dissertation focused on using multilevel regression modeling to study racial disparities in inpatient mental healthcare. Other academic interests include actuarial science, predictive modeling, and analyses of healthcare affordability at both the national and stakeholder level. Non-academic interests include reading books from different genres (currently into science fiction), puzzle solving (crossword, sudoku, etc.), and attempting to learn to cook without the aid of a microwave.

Zoi Rapti, Assistant Professor

Ph.D. 2004, University of Massachusetts

Zoi Rapti completed her Ph.D. at the University of Massachusetts, Amherst in 2004. In 2004-2005 she was a visitor at the Institute for Advanced Study in Princeton and after that she moved to Champaign, where she was a J.L. Doob Research Assistant Professor in the Department of Mathematics until August 2008. Her research area is Applied Mathematics, in particular she works on partial differential equations and mathematical biology. She is married to Nikos Tzirakis who is also a faculty member in the Department of Mathematics.

Alexander Yong, Assistant Professor

Ph.D. 2003, University of Michigan

Alexander Yong obtained his Ph.D from the University of Michigan in 2003 under the supervision of Sergey Fomin. Since then he has held postdoctoral positions at UC Berkeley and the University of Minnesota. His research concerns combinatorial aspects of algebra and geometry. In particular, he studies problems about the geometry of Schubert varieties in (generalized) flag manifolds. Yong has also worked on topics involving combinatorial commutative algebra, discrete probability and randomized algorithms. He enjoys spending time with his wife Anh Chu, and their son David.

N. Elizabeth Csima, J.L. Doob Research Assistant Professor

Ph.D. 2008, University of Chicago

Elizabeth Csima hails from Mississauga, Ontario. She moved to the U.S. in 2002 to start her graduate studies at the University of Chicago. While there she found love in the math department, eventually marrying fellow graduate student Bertrand Guillou. Her dissertation was completed last June under the supervision of Robert Kottwitz. It dealt with the study of F-crystals. Her research interests lie in algebraic geometry and number theory, particularly questions which arise from the study of Shimura varieties.

Pierre Fima, J.L. Doob Research Assistant Professor

Ph.D. 2007, University of Caen, France

Pierre Fima did his graduate studies in École Normale Supérieure and in Denis Diderot University in Paris. He received his doctorate from the University of Caen under the direction of Professor Leonid Vainerman. He worked for one year in the University of Besancon as a postdoctoral researcher. His research interest lies at the intersection of operator algebras and quantum groups.

New Faculty

Bertrand Guillou, J.L. Doob Research Assistant Professor

Ph.D. 2008, University of Chicago

Bertrand Guillou received his Ph.D. from the University of Chicago in 2008 under the supervision of J. Peter May. His research interests are in homotopy theory, especially motivic and equivariant homotopy theory. He and Elizabeth Csima have been married for two years and love to play with their cat, Cleopatra.

John Mackay, J.L. Doob Research Assistant Professor

Ph.D. 2008, University of Michigan

John Mackay received his doctorate from the University of Michigan in 2008, under the supervision of Professor Bruce Kleiner. He also spent most of the last two years visiting his advisor at Yale. His research interests include geometric group theory, analysis on metric spaces and topics involving the word "Gromov." He grew up in Edinburgh, Scotland, where he studied as an undergraduate. Other pursuits include basketball, football, books and music.

Bartłomiej Siudeja, J.L. Doob Research Assistant Professor

Ph.D. 2008, Purdue University

Bartłomiej Siudeja was born in Ozimek, a small town in Poland, in 1979. He received his M.S. degree at Wrocław University of Technology. He received his Ph.D. at Purdue University under supervision of Professor Rodrigo Bañuelos. His dissertation was a mixture of stochastic processes and planar eigenvalue problems. He is actively pursuing both of those topics at the U of I. He lives in Champaign with his wonderful wife Liliana and adorable 1-year-old daughter Alicja.

Paul Pollack, NSF Postdoc

Ph.D. 2008, Dartmouth College

Paul Pollack received his Ph.D. in 2008 at Dartmouth College after a thesis on the distribution of irreducible polynomials over finite fields, supervised by Carl Pomerance. His research is in elementary number theory, in both the number field and function field settings. In his spare time he enjoys genre television such as Buffy the Vampire Slayer and Battlestar Galactica. He has recently developed the expensive hobby of collecting tiny computers.

Mathew Rogers, NSF Postdoc

Ph.D. 2008, University of British Columbia

Mathews Rogers completed his Ph.D. at the University of British Columbia in 2008, under the direction of David Boyd. His research interests include hypergeometric functions, q-series, and Mahler measure. Recently he has been focusing on connections between multi-dimensional lattice sums and hypergeometric functions.

Department News

Jozsef Balogh has been awarded a five-year National Science Foundation (NSF) CAREER grant entitled "Methods and Outreach in Modern Combinatorics." He works in probabilistic and extremal combinatorics. Recent results of his include determining the critical probability of the 3-dimensional bootstrap percolation. The NSF Faculty Early Career Development Program recognizes and supports the early career-development activities of those teacher-scholars who are most likely to become leaders of academic research and education in the 21st century. Awardees are selected on the basis of creative, career development plans that effectively integrate research and education.

Jeremy Tyson has received an Arnold O. Beckman award for his Research Board proposal "Sub-Riemannian geometric analysis." The award will provide support for one 50% research assistantship during the 2008–2009 academic year. The proposed research focuses on problems in geometric function theory and geometric measure theory in sub-Riemannian spaces, especially metric accessibility conditions for nonsmooth domains, existence and extension problems for quasiconformal maps, and dimension comparison theorems relating sub-Riemannian geometric structures with compatible Riemannian structures.

Jeremy Rouse and Andrew Schultz—both second year J.L. Doob postdocs—were selected as Project NExT fellows for the 2008–2009 year. Run by the Mathematical Association of America (MAA), Project NExT is a professional development program for new or recent Ph.D.s in the mathematical sciences. It addresses all aspects of an academic career: improving the teaching and learning of mathematics, engaging in research and scholarship, and participating in professional activities. It also provides the participants with a network of peers and mentors as they assume these responsibilities. Rouse and Schultz attended a workshop at Mathfest in Madison, and will attend a session at the Joint Meetings in January 2009 and again at Mathfest in Portland next summer.

Kathleen Smith has been elected to the Board of Directors of the Illinois Council of Teachers of Mathematics (ICTM) as the four- year College/University Representative. She will be representing the University of Illinois on the board. She will take office in October and the term is for four years. Smith is an instructor in the department. She has been with the department 4 years and especially enjoys teaching Math 405, Mathematics for Secondary Teachers.

Jerry Uhl recently received a Pioneer Award from Wolfram Research in Champaign, IL. As part of Wolfram Research's celebration of *Mathematica's* 20th birthday, the company initiated a Pioneer Award to recognize users that have made significant accomplishments with their use of *Mathematica*. Uhl was honored as the first recipient of this award because of his significant contribution to teaching with the use of *Mathematica*. Uhl has used *Mathematica* since its introduction and his work in developing Calculus&*Mathematica* is groundbreaking in the field of education. Uhl was presented with a video documentary of his accomplishments that included interviews with colleagues and former students and was given a trophy which is a 3D object printed out from *Mathematica* on a 3D printer. It is a stellated icosidodecahedron also known as a "*Mathematica* spikey".

Douglas B. West was recently named Editor-in-Chief of *Discrete Mathematics*. Published by Elsevier, the journal's aim is to provide a common forum for significant research in different areas of discrete mathematics and combinatorics.

New *Mathematica* user group formed

A new *Mathematica* user group, illiMUG, kicked off on July 24th of this year. The group's purpose is to provide a forum for the *Mathematica* community to discuss *Mathematica*-related issues. The group will meet monthly.

The first meeting was held at and hosted by Wolfram Research in Champaign. In attendance were various Wolfram employees, faculty and staff from the Department of Mathematics including George Francis, Matthew Ando, Ken Stolarsky, Jonathan Manton, and Debra Woods, and several mathematics graduate and undergraduate students, in addition to other new members of the user group from across campus.

Entertainment for the first meeting was provided by George Francis's and Matthew Ando's summer REU (Research Experiences for Undergraduates) students. Read more about the 2008 summer REU activities on page 8.

To learn more about illiMUG, visit their web site at http://netmath.uiuc.edu/illimug/ or join the group's listserv.

If you would like to join illiMUG, contact Debra Woods at dwoods2@illinois.edu.

Kopinsky declared first U of I Mock Putnam champion

The runaway winner of the 2008 U of I Mock Putnam Exam was Justin Kopinsky, with a near perfect score of 58 out of 60 points, 15 points ahead of second place. Justin will be recognized at the departmental awards ceremony next spring as the "2008 U of I Mock Putnam Champion" and will receive the $300 Prize that comes with this designation.

Justin is a first year student in Math/CS and newcomer to the U of I Math Contest scene, but has considerable contest experience at the high school level and was a participant in the U.S. Mathematical Olympiad.

The next highest scorers were Michael Nasti, with 43 points, followed by E. Sakulbuth, with 35 points, and Richard Moy and Ken Stalkfleet, who earned 33 points each.

The U of I Mock Putnam Exam is a local version of the infamous Putnam Exam, known as the "world's toughest math test." It serves as a practice test for the Putnam Exam, and a key tool in the selection of the U of I Putnam Team. While similar practice tests have been offered in the past, this year's version has been substantially beefed up by offering prize money, designating the winner "U of I Mock Putnam Champion," and widely publicizing the event. The added incentives and publicity obviously paid off, as 22 students participated in the contest, a near record number for local contests of this type.

The U of I Mock Putnam Exam was organized by Professors A.J. Hildebrand, Jeremy Rouse, and Sujith Vijay.

NetMath expands online course and certificate offerings

This past quarter has been quite successful for the NetMath program. Full of new additions and developments in both people and courses, NetMath has made substantial progress in its program.

In Spring 2008, Alison Ahlgren began offering ALEKS-based NetMath courses. She currently teaches Math 012, 016 and 115 online in the ALEKS format. ALEKS is a powerful artificial-intelligence based assessment and learning module that zeros in on the strengths and weaknesses of a student's mathematical knowledge within the context of the course material, and provides the student with a learning environment. The ALEKS technology features adaptive questioning, is non-multiple choice and is designed to maximize students' study time by focusing on exactly what they are ready to learn next.

Debra Woods, Director of the NetMath Program, and Faisal Mohamed, a former NetMath student, mentor and TA who now works at Wolfram Research, attended the International Conference on Mathematics Education in Monterrey, Mexico in July. Debra gave a talk for a discussion group on Current Problems and Challenges in Distance Teaching and Learning. Attendees were most interested in NetMath's use of mentoring in their online programs. Also while in Mexico, Debra and Faisal gave a workshop called Uniting the World by Teaching with Technology. The workshop involved a tour through NetMath lessons and working with students in an online environment.

In July, NetMath welcomed a new half-time coordinator, Anu Murphy, to help administer the growing program and to provide extra time for Debra Woods to work on course development. Anu formerly served as the Coordinator of Research Programs in the Department of Cell and Developmental Biology at Illinois.

In the coming year, NetMath plans to create a NetMath Certificate of Professional Development in Applied Mathematics. The certificate will be offered in conjunction with Academic Outreach. NetMath is also looking for faculty interested in creating and teaching online courses in mathematics.

Visit NetMath's website http://netmath.uiuc.edu/ to learn more about the NetMath online math program.

Illinois Number Theory Celebration to honor Bateman and Berndt

In 2009, two long-time faculty members at Illinois, Paul Bateman and Bruce Berndt, will celebrate their birthdays—Paul his ninetieth and Bruce his seventieth—and they will have been here at Illinois for a combined 100 years.

To mark this special occasion a conference, the Illinois Number Theory Celebration, will be held March 25–26, 2009, on the University of Illinois at Urbana-Champaign campus. The conference will feature about ten scientific talks by friends, colleagues, and former students of Paul and Bruce, as well as some social events. It is organized by Illiinois faculty members Harold Diamond, Kevin Ford, and A.J. Hildebrand.

The conference follows a long tradition of number theory meetings held at Illinois, the most recent one being the 2007 Illinois Number Theory Fest. In contrast to some of the previous major meetings, this conference will have a more relaxed scientific schedule with more emphasis on the social and "celebratory" aspects of the meeting.

Paul T. Bateman came to the University of Illinois in 1950, and served as Head of the Mathematics Department for 15 years. He was a longtime officer of the American Mathematical Society, and enjoyed serving as Problems Editor of the *American Mathematical Monthly*. Paul retired in 1989, but remains involved in activities of the Illinois number theory group. He is a regular participant of the number theory seminars, and the go-to person for his encyclopaedic knowledge of classical number theory.

Bruce C. Berndt arrived at Illinois in 1967, where he remains a full-time faculty member. He is best known for his work on the Indian mathematician Srinivasa Ramanujan, for which he was awarded the AMS Steele Prize. Bruce began focusing his research full-time on Ramanujan in 1977, and he continues to be entranced. He has authored or co-authored 10 books on Ramanujan.

For more information about the Illinois Number Theory Celebration, visit the conference website at www.math.uiuc.edu/intc2009/.

Summer 2008 Research Experiences for Undergraduates

Influenced by the success of our past summer Research Experiences for Undergraduates (REU) program, the National Science Foundation (NSF) renewed the final two years of the University of Illinois Department of Mathematics five year grant. Fourteen students participated this past summer.

Six undergraduates participated in the REU in "Geometric Group Theory," under the direction of Kim Whittlesey. They were Mike Vitz (CUNY at Hunter), Susan Wei (Berkeley), Chris Hall (Tulane), Yasha Berchenko-Kogan (Caltech), Jake Zhao (University of Texas at Austin), and Greg Puleo (Rochester Institute of Technology).

They worked on research problems in topics ranging from braid groups in robotic sensing problems, reconfigurable systems, right angled Artin groups, simple intersection equivalence in surfaces, automorphisms of free groups, and splittings in free groups. Several faculty contributed problems and lots of time to the students, including Ilya Kapovich, Nathan Dunfield, Chris Leininger, Rob Ghrist, Steve Lavalle, and Jeff Erickson. In addition, graduate student Valerie Peterson helped with two of the projects. Many other faculty and graduate students contributed their time to talk to the students or give lectures on fun topics.

Participants in the Department of Mathematics Summer REU program gather in front of Altgeld Hall.

The students worked hard on their research problems and on preparing weekly talks. The student presentations were videotaped. The students then watched their videos. Multiple drafts of their papers were corrected in two colors: red for content, and blue for style and grammar. Much ink was used. The students gave final talks on their results to the department and wrote up research papers. Two students submitted posters to the undergraduate poster session at the joint AMS/MAA session in January and are considering submitting their papers to undergraduate research journals.

George Francis directed eight students in his REU on "Geometric Visualization in Virtual Environments." Each student was the Student Principal Investigator for a project which included one or more external mentors and other members of the REU. See the website http://new.math.uiuc.edu/im2008/ for project details.

Jeff Ehrman admires his quasicrystals in the CAVE virtual environment at the Beckman Institute.

The participating students were Abdulmajeed Dakkak (University of Toledo), Katie Poon (Wellesley), Jeff Ehrman (University of Akron), Sam Ostling (Rose-Hullman), Will Davis (University of Illinois), Chase Boren (University of Illinois), Lisa Hickok (University of Illinois), and John Pacey (University of Illinois). Associated mentors included Stan Blank (Wayne City High School), Ulises Cervantes-Pimentel (Wolfram Research), Tony Robbin (a New York artist), Stuart Levy (NCSA), Camille Goudeseune and Jim Crowell (Beckman), and Jeremy Tyson, Debra Woods, and Jonathan Manton, from the U of I Department of Mathematics.

The students programmed virtual environments, such as the Beckman Cube, CAVE and CANVAS, in C, Python, *Mathematica* and CUDA, using the Syzygy distributed graphics system created by Ben Schaeffer, a Ph.D. student in logic at the University of Illinois. Projects ranged from using NVIDIAs supercomputer-on-a-card to display fluid dynamics simulations in the CAVE across the campus from out lab, a modern day orrery (planetary system) in the CAVE, a Syzygy port of a particle viewer, a Syzygy front end for the *Mathematica* 6 kernel, a visualization of quasicrystals, a "look-ahead" system to prevent over-correction by novice CAVE navigators, a *Mathematica* notebook for subriemannian geometry on the Nil manifold, and Java, C, and *Mathematica* software for teaching non-Euclidean geometry.

Seven students gave talks at Mathfest in Madison and several presented their work to Stephen Wolfram during a field trip to his company.

Matt Ando's year-long REU students, Adam Hughes, JohnMark Lau, and Eric Peterson, joined us for some of the all-REU social events: numerous barbeques, a visit to the county fair and demolition derby, and an all-day canoe trip at Turkey Run State Park in Indiana.

Homecoming 2008

The Department of Mathematics hosted its first homecoming event this fall on October 11, 2008. The postgame party was held in Altgeld Hall following the Illinois-Minnesota football game at Memorial Stadium. A good-sized crowd of about 75 people that included current and emeritus faculty, graduate students and alumni joined in the festivities and enjoyed a delicious catered buffet and meeting friends old and new.

The idea for a homecoming event was suggested by Department Chair Sheldon Katz who hopes "the homecoming event will become a departmental tradition for years to come." The event was organized by Professor George Francis and staff members Tori Corkery and Wendy Harris. Katz also said that "the Department of Mathematics wants to expand upon our recent efforts to provide more alumni communications, events and services. Your comments and suggestions are most welcome at any time!"

Among the visiting alumni were Pam Stillwell Huston from Minneapolis, MN and her brother-in-law Peter Savage from Naples, FL, who said "visiting Altgeld Hall was the highlight of our trip to campus!" Other alumni strolled the halls of Altgeld, visited the Bell Tower, and showed their families the beautiful and historically-significant Mathematics Library.

The department plans to host a homecoming party again next year so if you missed this year's event we hope you can join us next year. Mark your calendar for October 10, 2009. Details of next year's event will be posted on the department's website at www.math.uiuc.edu/homecoming/.

Students' drawings of Altgeld Hall earn national honors

A group of students in the U of I School of Architecture has been awarded Honorable Mention in the 2008 Charles E. Peterson Prize Competition for their entry on "Library Hall" (now known as Altgeld Hall) at the University of Illinois. The students are Caroline Andrews, Allan Bernhart, Kimberly Gareiss, Katherine Lipes, James Mangrum, Timothy Penich, Joshua Ream, Mark Stoner, and Crystal Whiters.

Completed in 1897, Altgeld Hall (originally known as Library Hall) was designed by Nathan Ricker and James McLaren White. It originally served as the University Library from its inauguration in 1897. In 1927, the School of Law moved into the building where they resided until 1955, when they received their own building. From 1955 to the present, the Department of Mathematics and the Mathematics Library have called the building home. Altgeld Hall was added to the National Register of Historic Places in 1970.

The Peterson Prize is presented jointly by the Historic American Buildings Survey (HABS) of the National Park Service, the Athenaeum of Philadelphia, and the American Institute of Architects. The competition is intended to heighten awareness about historic buildings in the United States and to augment the HABS collection of measured drawings at the Library of Congress.

Photo by Kalev Leetaru.

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The *Illinois Journal of Mathematics* (IJM) is pleased to announce, after a painstaking search, that VTEX/Mattson Publishing Services will provide production services (includes copyediting and typesetting) for IJM. In order to meet additional costs due to outsourcing, IJM will raise its annual subscription price from $195 to $225. This price increase amounts to an increase from 14 cents per page to 16 cents per page which keeps IJM's annual subscription rate near the floor when compared to the rest of the major scientific journals.

A new venture is planned with Project Euclid, an online web host for scientific journals. Project Euclid was initiated in 2003 by Cornell University Library to provide a vehicle for streamlining distribution of serial literature in theoretical and applied mathematics and statistics. As a result of our participation, Project Euclid has agreed to archive our back issues through the journal's inception in 1957 at no cost to IJM (a savings of roughly $30,000). In addition to being part of a consortium together with companion departmental journals hosted on the Project Euclid site, our participation will allow us to keep abreast of emerging developments in an ever-changing print environment. The Project Euclid model that we have chosen is called "Euclid Direct," the same model employed by the *Michigan Mathematical Journal*.