

PURview

DEPARTMENT OF MATHEMATICS • WEST LAFAYETTE, INDIANA • JUNE 2007

Summer Conference to Highlight Shahidi's Research

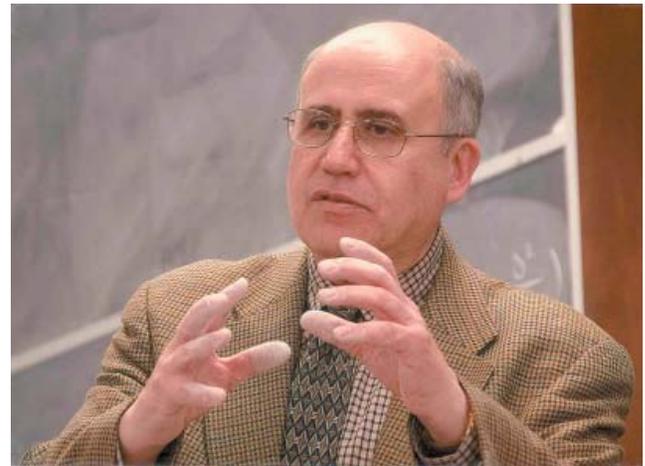
The Mathematics Department will host an international conference July 30 to August 3, 2007, "On Certain L-functions," in honor of the 60th birthday of Distinguished Professor Freydoon Shahidi. Shahidi is considered one of the preeminent researchers within what is known as the Langlands Program.

This ambitious undertaking was outlined in a series of questions (later to be known as the Langlands Conjectures) by Langlands in the mid 1960's. The goal is to relate large swathes of three (seemingly disparate) branches of mathematics: Algebraic Geometry, Harmonic Analysis, and Number Theory. The Langlands Functoriality Principle asserts that when objects from these different fields correspond, they should share an L-function (or zeta-function), and this L-function should preserve and transfer invariant information about the objects involved. The correspondences which are sought between these objects should be "reciprocity maps."

One of the simplest examples arises in classical number theory, namely the quadratic reciprocity theorem. This idea was studied extensively by Euler and Legendre, and the first complete proof was due to Gauss around 1800. Gauss was fascinated by this result and gave eight different proofs. Others have followed, including Cauchy, Jacobi, Dirichlet, Eisenstein, Kummer, and Kronecker. New proofs of this single result continue to surface, and to date there are at least two hundred such proofs, most of which arise as a consequence of pursuing other results. That the law of quadratic reciprocity can be seen through so many different avenues of study is remarkable. The Langlands program can be seen as a vast generalization of the principle of quadratic reciprocity. Many of the most notable accomplishments in this program are either due to Shahidi directly or are the result of other researchers applying his work.

One of the fundamental problems within the Langlands program is to define L-functions so as to satisfy certain properties. Shahidi introduced a method by which, eventually, many such L-functions could be defined. This method, now known as the "Langlands-Shahidi Method," has its genesis in Shahidi's 1981 paper, "On Certain L-functions."

Pursuing the path of the Langlands-Shahidi method eventually led Shahidi, in joint work with H. Kim, and Cogdell, Kim, and Piatetski-Shapiro, to several striking examples of



Freydoon Shahidi

functoriality predicted by Langlands. This has significant consequences—for example, vastly improved estimates to the Ramanujan Conjecture for Mäss forms. These breakthroughs opened the door for several other researchers to establish examples of functoriality.

One aspect of Shahidi's work that cannot be understated is his contribution to the development of young researchers. Several important doctoral theses have been completed under his direction, many young mathematicians have held postdoctoral appointments under his auspices, and he has devoted time to dozens of short-term visitors. Many speakers at the conference are either collaborators or mathematicians who have been heavily influenced in this way. Shahidi's contributions to mathematics through research and mentoring are ongoing and continue to flourish, and there will be recognition of this at the conference. The conference will be far from retrospective, however, devoted mostly to exploring new avenues of study toward the Langlands conjectures. The speakers represent a wide cross-section of researchers in many aspects of the Langlands Program, and we expect this will be an important

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As this issue of *Math PURview* goes to press, I am in the final weeks of my current term as department head. I am pleased to inform you that following an internal search process, Rodrigo



Leonard Lipshitz

Bañuelos has been appointed to serve as head for a three-year term starting July 2. You may recall that Rodrigo was interim head in fall 2005 while I was on sabbatical. I am confident that

his strong scientific reputation, leadership abilities, and high energy level will serve the department well during the next several years. I look forward to having more time to devote to teaching and research.

The purpose of our newsletter is to annually capture the various activities in the department and share them with our alumni and friends. I hope that *PURview* achieves this purpose and reinforces your connection to the department.

Shahidi conference, cont.

opportunity for participants to share ongoing work and new ideas.

The scientific program is being developed by a committee of well known experts in the field; J. Arthur (Toronto), J. Cogdell (Ohio-State), S. Gelbart (Weizmann Institute), S. Kudla (Toronto), D. Ramakrishnan (Caltech), and P. Sarnak (Princeton). Local details and organization are handled by Purdue professors David Goldberg and Jiu-Kang Yu, with the assistance of the excellent departmental staff, especially Julie Morris. More details can be found at the conference website: www.math.purdue.edu/conferences/shahidi.

In Memoriam

Casper Goffman of West Lafayette died on September 25, 2006. Born June 1, 1913, he received his doctoral degree in mathematics from Ohio State University in 1942.

After a few years working as a statistician in quality control for Westinghouse, Goffman began his academic career in 1945 at the University of Kentucky, followed by periods at Oklahoma, Oklahoma State, and Wayne State Universities. In 1957



Casper Goffman

he accepted an invitation to come to Purdue, where he remained until his retirement in 1978, after which he continued working part-time for six years. Following his retirement, the department hosted a three-day symposium in his honor. Over 50 mathematicians participated in the Goffman conference, including three members of the National Academy of Sciences and other analysts whose work reflected the scope of Goffman's mathematical interests.

Goffman's publishing career spanned 54 years, concluding with a monograph joint with two of his long-standing associates, Togo Nishiura and Daniel Waterman, and published in 1997 in the *Mathematical Surveys* series of the American Mathematical Society. He had well over 100 research publications (extending into the 1990s),

as well as five research monographs and a calculus text (teaching calculus was one of his great pleasures in mathematics). Those outside his research area of mathematics knew him for his famous paper "And what is your Erdős number?" which appeared in the *Mathematics Monthly*. He presented an hour address before the AMS, and the papers presented at the associated special session were published by the Society in 1985 in its *Contemporary Mathematics* series. The journal *Real Analysis Exchange* will publish a review of Goffman's scientific work.

Goffman wrote papers with at least seven colleagues in our department. He was a popular thesis advisor, with 19 students and 40 "grandstudents." He was always anxious to chat and encourage others. He would follow the successes of his colleagues and students, and his encouragement played an important role in many careers. According to one of his students, Cliff Weill, Goffman did not push his students, but always tried to patiently encourage them and reinforce their confidence.

Goffman's most frequent collaborator, Dan Waterman, said, "When I look at what I have done since we ceased working together, I can see that much of it bears the mark of his interests and his way of looking at mathematics. I miss him as a collaborator and a sounding board, but I miss him even more as a friend."

Surviving are Goffman's wife, Eve, of West Lafayette, four daughters, and two sons.

Math PURview is published annually for alumni and friends of the Purdue Mathematics Department. We welcome your comments and suggestions.

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Contributors to this issue:

Christine Berkesch, Heather Connell, David Goldberg, Melissa Kraus, Jim McClure, Dominic Naughton, Richard Penney, Bill Walker, Allen Weitsman

2007 Distinguished Mathematics Alumna

The College of Science bestowed Distinguished Alumni status to ten science alumni in a program held at the Hall of Music on April 6, 2007. Dr. Barbara Kile was the 2007 Distinguished Mathematics Alumna.

Barbara Kile graduated from Purdue in 1963 with a B.S. in mathematics with highest honors. She subsequently earned an M.S. from the University of Illinois and a D.A. in mathematics from Carnegie Mellon.

“Purdue provided the nurturing environment where I developed a love for mathematics and problem-solving and gained confidence in my ability to pursue a technical career,” recalled Kile. “Professor Meyer Jerison is the person I remember best in this regard.”

For over 25 years, Kile used mathematical tools to address real-world issues in various industry and government positions. After working as an analyst for ANSER and R&D Associates (now Logicon) in Arlington, VA, she was employed by the Defense Intelligence Agency for several years before moving to the Office of the Secretary of Defense, where she was Division Director of Strategic & Information Programs.

“I have had the exciting experience of being a Soviet-Warsaw Pact intelligence analyst and manager at the height of the Cold War and was involved as an analyst and manager in some of the major U.S. weapon system decisions, including the B-2 bomber and the Trident submarine force,” said Kile. “My mathematics degree, with a physics minor, at Purdue prepared me well for graduate school and all of the career positions I have held.”

Currently, Dr. Kile is an adjunct associate professor of mathematics at the Northern Virginia Community College.

“I’ve often seized the opportunity to teach mathematics, even when my position involved mathematics only indirectly,” said Kile. “Purdue laid the foundation for the two constants that have marked all phases of my life—a rigorous, analytic approach to problem solving and a dedication to physical fitness and participation in competitive sports. When I look back at all of the good things that I have enjoyed over my career and think about how I want to give back, Purdue rises to the top of the list.”



Barbara Kile

Department, College launch Geo-Mathematical Imaging Group

Purdue University's College of Science and the Center for Computational and Applied Mathematics (CCAM) of the Department of Mathematics announced in March the launch of the Geo-Mathematical Imaging Group (GMIG).

"GMIG will put significant resources into multi-scale approaches to (elastic) wave-equation modeling, scattering, inverse scattering, and tomography,"

according to Maarten de Hoop, professor and director of Purdue University's Center for Computational and Applied Mathematics.

De Hoop has set up global partnerships that involve researchers and leading energy-production

oil companies. ExxonMobil, Total, and BP have entered into agreements with GMIG for the purpose of collaborative research.

De Hoop will serve as the director of GMIG. Mathematics professors Antonio Sa Barreto and Steven Dong will serve as research leaders along with de Hoop. The program in CCAM has been developed in conjunction with Purdue's Department of Earth and Atmospheric Sciences, the Department of Physics, and the Department of Statistics. Physics professor Laura Pyrak-Nolte, Statistics professor Chong Gu, and Earth and Atmospheric Sciences professor Robert Nowack comprise this interdisciplinary team. Additional institutions involved in the research are MIT, Lund University (Sweden), and the University of Washington.

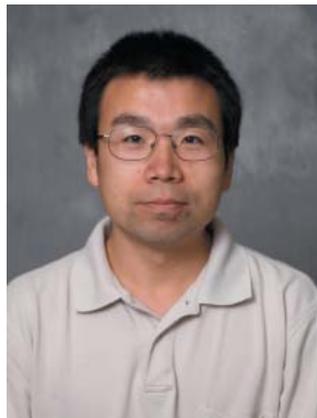
An advisory board has also been formed. ExxonMobil, Total, and BP will each have corporate representation on the GMIG advisory board. Jeffrey S. Vitter, Frederick L. Hovde Dean and Professor of Computer Science, is the chair of the GMIG advisory board.

"The launch of the Geo-Mathematical Imaging Group is very exciting for Purdue University and the College of Science. Maarten assembled the team of researchers and industry partners shortly after his arrival at Purdue. Things have moved swiftly since then," Vitter said.

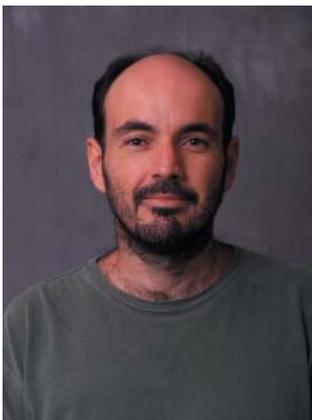
The first GMIG advisory board meeting took place March 5 and 6. Active research will begin in the fall of 2007.



*Maarten de Hoop, director
CCAM and GMIG*



Steven Dong



Antonio Sa Barreto

Faculty Notes

The alumni association of the Institute of Science, Mumbai conferred the title “Vidnyan Sanstha Ratna” on **Shreeram S. Abhyankar** on December 2, 2006 “in recognition of his distinguished achievements and immense contributions to academic mathematics and society worldwide.” Abhyankar is Purdue’s Marshall Distinguished Professor of Mathematics.

Professor **Rodrigo Bañuelos** was the featured speaker at Rice University’s Diverse Scholars Lecture on November 29, 2006. He spoke to a general audience on “Probability and Some Problems on the Spectral Geometry of Schrödinger Operators and Fractional Laplacians.” Bañuelos has been active in many efforts, local and national, designed to increase the number of minority students in science and engineering. In 2004, he was honored with the Blackwell-Tapia Prize for his career achievements and contributions to encouraging ethnic minority students to study and pursue mathematics careers.

For the second year in a row, **Jeff Beckley** was named the Top Undergraduate Teacher in the College of Science. Each year, science undergraduate students, polled by the Science Student Council, select the faculty member who has had the greatest impact on science majors through their teaching abilities. Professor **Johnny Brown** was listed in the top ten.

Distinguished Professor Emeritus **Jim Douglas, Jr.** will be honored at the International Workshop on Computational Methods in Geosciences on the occasion of his 80th birthday, July 5 to 7, 2007, in Xian, Shaanxi, China. Conference organizers are Zhangxin Chen, Southern Methodist U.; Kaitai Li, Xian Jiaotong U.; Lihe Wang, U. Iowa; Xiaobing Feng, U.Tennessee; and Dongwoo Sheen, Seoul National U. Invited conference speakers will include Douglas’s former students, postdocs, and collaborators from throughout the world.

Professor **Freydoon Shahidi** has been appointed to serve as a Member-at-Large of the Committee on Science Policy of the American Mathematical Society (AMS), 2007-2010. The committee is charged to serve as a forum for dialogue about matters of science policy involving representatives of AMS and government and quasi-government officials. This includes visits to congressional offices in Capitol Hill to discuss government funding for science in general and mathematics in particular.

Professor **Jie Shen** is the recipient of a Fellowship for Study in a Second Discipline awarded by the provost for the fall 2007 semester. Professor Shen plans to use this opportunity to study topics related to turbulence modeling and large eddy simulation (LES), and to collaborate with Professor Steven Frankel of Mechanical Engineering on designing innovative numerical algorithms for turbulent flow simulations.

Two members of the Mathematics Department were inducted into Purdue’s Teaching Academy by Provost Sally Mason and President Martin Jischke at a ceremony on November 6, 2006: Professor **Steve Bell**, Fellow; and graduate student **Philip Mummert**, Associate Fellow. Bell was the recipient of the 2006 Murphy Award, Purdue’s highest teaching award. A recipient of departmental and university teaching awards, Mummert completed his Ph.D. in May and will join the mathematics faculty at Taylor University this fall.

2007 faculty promotions: **Arshak Petrosyan** to associate professor; **Jaroslav Wlodarczyk** to full professor.

Faculty retirements: **Daniel Gottlieb**, **Steven Weingram**.

New faculty: **Steven Dong**, **Melvin Leok**. Both joined the department as assistant professors.



Betty Gick

CoS Staff Awards

Betty Gick and **Terry Loro** were recognized at the inaugural College of Science Faculty and Staff Recognition program on February 6, 2007. Gick, an information processing systems operator, received a Professional Achievement Award. Loro administers the department’s undergraduate services office which serves faculty and more than 10,000 students each semester. She received a Customer Service Award. The College of Science provided each recipient with a \$500 cash award.



Terry Loro

Purdue's TTT Partnership Program for Secondary Education aims to provide quality preparation for adults who are entering teaching as a new career.

Mathematics Grads Find New Careers



Pam Porterfield and Franklin Mason are firsts: both will soon complete Purdue's Transition to Teaching (TTT) Partnership for Secondary Teacher Education in mathematics.



Pam Porterfield will become a certified teacher this fall.

followed by 10 weeks of student teaching (4 credit hours), and finish the program with a 2-credit capstone seminar during the second summer.

Porterfield and Mason were the first two students to enroll in the mathematics TTT program in 2006.

"After being a stay-at-home mother, an active school volunteer, and a substitute teacher, over the years I came to realize that there was nothing I would like to do more than be a teacher," says Porterfield. "I began to wonder if there was any way to apply my undergraduate degree towards this mission."

To the extent possible, TTT is structured to enable candidates who wish to maintain their current employment to do so during much, if not all, of the program. Coursework can be applied to a graduate-degree program if desired by qualified

candidates. The TTT Partnership is directed by the faculty who are responsible for teacher education in various program areas at Purdue. The liaison for secondary mathematics education is Professor Jim McClure.

"Dr. McClure is so supportive and knowledgeable in the field of mathematics, but he's also interested in mathematics education," says Porterfield. "His perspective on what a returning student needs to be exposed to within the year-long program is remarkable. I feel indebted to Dr. McClure for taking on the extra workload of a non-traditional student in a non-traditional program."

Mason, who came to the program while working as an adjunct in the Philosophy Department, credits the course work with increasing his knowledge of the evolution of philosophies of education in the U.S. and his understanding of the philosophies that currently dominate the educational scene. But he learned the most during the ten weeks that he was a student teacher at Jefferson High in Lafayette.

"I've come to realize that presentation of content is matched or perhaps even exceeded in importance by the quality of the relationship between student and teacher," says Mason. "Many high school students will work only if a bond of trust has formed between the student and teacher. They will work for the teacher. They will work because he or she tells them that they ought to work. They will work to please the teacher. But often they won't work simply because they are intellectually engaged in the material."

According to Mason, the task of the high school teacher is two-fold: (i) find ways to lure students into a real engagement with course material, and (ii) establish a bond of trust between student and teacher.

As Porterfield and Mason move on to high school teaching positions, two more Purdue students have entered the TTT mathematics program this summer: Sarah DeLeeuw, who just finished a master's degree in math education, and Jennifer Doyle, who is completing a masters degree in linguistics.

Conferences

The Department hosted several mathematics conferences during the 2006-07 year.

Purdue professors Daniel Phillips and Patricia Bauman, along with Professor Maria-Carme Calderer of the University of Minnesota, organized the 2006 Society for Natural Philosophy Meeting: Mathematical Modeling and Analysis of Materials, held on the Purdue campus November 11-12, 2006. The meeting, which drew 46 participants, featured the second Clifford Ambrose Truesdell III Lecture delivered by James Serrin of the University of Minnesota. Other speakers were Maria-Carme Calderer, Minnesota; Weinan E, Princeton; Carlos Garcia-Cervera, UC Santa Barbara; Sookyung Joo, UC Santa Barbara; Robert Kohn, NYU; Oleg Lavrentovich, Kent State; Mitchell Luskin, Minnesota; Dionisios Margetis, Maryland; and Jinhae Park, Purdue.

Purdue professor Bernd Ulrich and Professor Lawrence Ein of the University of Illinois at Chicago organized the UIC-Purdue Workshop on Algebraic Geometry and Commutative Algebra, December 2-3, 2006. The speakers were Anatoly Libgober, UIC; Gennady Lyubeznik, Minnesota; Mihnea Popa, Chicago; J. Włodarczyk, Purdue; S. Dutta, UIUC; and A. Mustata, Michigan. Approximately 80 individuals attended the conference, which was supported by the National Science Foundation.

The 3rd Symposium on Analysis & PDEs was held at Purdue on May 27-30. Principal lecturers were Gerhard Huisken of the Max Planck Institute, Germany, and Juan Luis Vazquez, Universidad Autónoma de Madrid. Invited speakers were Patricia Bauman, Purdue; Panagiota Daskalopoulos, Columbia; Inwon Kim, UCLA; Juan Manfredi, Pittsburgh; Lei Ni, UC San Diego; Dejan Slepcev, Carnegie Mellon; Lihe Wang, Iowa; Brian White, Stanford; and Yu Yuan, U. Washington. The conference was organized by Purdue professors Donatella Danielli, Nicola Garofalo, Arshak Petrosyan, and Aaron Yip. External financial support was provided by the National Science Foundation and the Institute for Mathematics and its Applications.

Actuarial Science Program

This has been an exciting year in the Actuarial Science Program. Following are highlights.

- May saw the inauguration of our new Honors Program with five students graduating “with honors in Actuarial Science.”
- This spring, Dr. Jerone N. “Jer” Deverman taught a special class, STAT 490C – Health Plans Data and Financing. Dr. Deverman is the founder and principal consultant of Medical Data Systems in Albuquerque, New Mexico. He has over thirty years experience in computer systems, data processing, systems analysis, statistical analysis, mathematical modeling and computer simulations, operational testing and evaluation, and large data systems applications. It was a rare opportunity for the students to learn about the practical, non-academic, side of the insurance business directly from such a renowned individual.
- On March 30, the Actuarial Science Program named the first three recipients of what will become an annual “Outstanding Alumni Award.” The 2007 recipients were:
 - Bill S. Chen, Ph.D., FSA, President and CEO, The New Era Group
 - Daniel L. Wolak, FSA, Senior Vice President, General Re Life Corporation
 - Charles A. Bryan, MS, MBA, FCSA, CPCU, CPA, President, CAB Consulting
- In April, the Purdue Actuary Club hosted an “Actuarial Awareness Night.” The event, which included a catered dinner for all attendees, was supported by Milliman Consulting. The club brought five working actuaries to campus to discuss their various career paths. The presenters were:
 - Anne Jackson, Milliman, Health/Consulting
 - Brian Carteaux, Swiss Re, Life/Reinsurance
 - Dale Woods & Erin Hendrick, Towers Perrin, Retirement/Consulting
 - Jenny Throm, CNA, Property and Casualty Insurance
 - Jeff Beckley, Purdue faculty, Independent Life Consultant
- Laura Delaney received a Woody Scholarship from the Actuarial Foundation. This is a very prestigious scholarship; only nine awards were made nationwide.

Undergraduate Program News

Two Purdue math teams competed in the Indiana Collegiate Mathematics Competition, a statewide math competition for undergraduates. Forty teams took part in the competition held this year at University of Indianapolis. The team of Jonathan Nistor, Nathan Orlow, and Prateek Tandon finished in a tie for third place, and the team of Noah Blach, Jamie Weigandt, and James Young finished seventh. The teams' faculty advisor was Dominic Naughton.

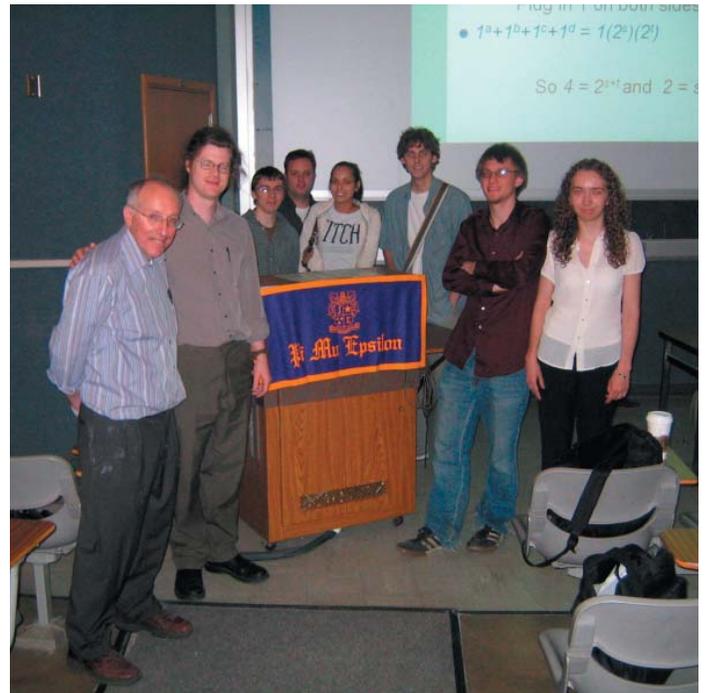
Purdue's Indiana Alpha chapter of the national mathematics honor society Pi Mu Epsilon was reactivated this year. The society's purpose as outlined in their constitution is the "promotion and recognition of scholarly activity in the mathematical sciences." The initiation ceremony was conducted by Dr. Robert Smith, a Past President of Pi Mu Epsilon. The charter members of the society are Jessica Armour, Kenji Matsuki (Permanent Faculty Correspondent), Amber Meyerratken, Dominic Naughton (Chapter Advisor), Nathan Orlow, Kyle Riggs, Brad Rodgers, Arman Sabbaghi, John J. Steenbergen, Jamie Weigandt (Chapter President), Gretchen Zahm, and professor emeritus Robert Zink. The initiation ceremony was organized by Dominic Naughton.

The Purdue Math Club and Purdue Pi Mu Epsilon invited Professor Joseph Gallian, University of Minnesota, Duluth, to give a lecture entitled Mathematical Art on March 29. Gallian is the president of the Mathematical Association of America, author of many books including *Contemporary Abstract Algebra*, and a pioneer in undergraduate mathematics research. In his talk, he described how hyperbolic geometry, groups, and graphs are used to create computer generated symmetry patterns. These symmetry patterns synthesize the work of the geometer Donald Coxeter and the artist M.C. Escher. The talk was well attended and Professor Gallian received a warm reception from the audience of 140 faculty, students, and members of the public.

After the lecture Professor Gallian conducted a Workshop on Probability. The lecture and workshop were organized by Matthew Barrett, Math Club Social Director, and Dominic Naughton, Math Faculty Advisor, with help from the Purdue Math Club, Purdue Pi Mu Epsilon, and Dominic Naughton's MA182 class.



Brad Rogers takes a turn signing the Purdue Pi Mu Epsilon chapter book, as Dominic Naughton and Robert Smith look on. Originally chartered on May 9, 1956, the Purdue "Indiana Alpha" chapter was reactivated on November 29, 2006.



Joseph Gallian and Dominic Naughton with math students following Prof. Gallian's talk on March 29.

Graduate Program News



Fourteen visiting recruits listened to graduate student Libin Rong in the library lounge during the department's annual recruitment weekend.



Anna Spagnuolo (Ph.D. 1998) consults with Nancy Eberle, Graduate Program Coordinator. Anna returns annually to help recruit new students to our graduate program. She is Associate Professor of Mathematics at Oakland University in Rochester, Michigan.



Faculty, staff, and graduate students gathered in the Faculty Lounge of the Memorial Union on April 27 for an end-of-year party.

It was a busy year for the 2006-07 Grad Reps: Christine Berkesch, Minette D'Lima, Melissa Kraus, and Darren Tapp. After its start in the preceding spring, the Bridge to Research Seminar continued this past year. Through presentations by our faculty, graduate students were introduced to a sampling of the research areas that are available for study at Purdue. Many thanks go to all the faculty involved and to the department for supporting this important resource for beginning students.

On the social side, there were several opportunities for the students to relax and interact with each other, as well as with faculty. We kicked off the academic year with an ice cream social for the new students. This was soon followed by the rebirth of the all-department picnic. As the semester was winding down, we had a town hall meeting where graduate students were encouraged to discuss issues relevant to student life at Purdue, and also to make suggestions which we later brought to the department. Dinner for this event was provided by the department, and after taking care of business, we settled in and enjoyed a movie together.

Our biggest event, as usual, was Recruitment Weekend in March. With prospective students visiting for three days, a lot of work was needed to ensure things went smoothly. Thank you to all who gave tours, chatted with the prospects at tea time, performed at the talent show, and to all who just made the weekend better by providing a warm welcome to our visitors. It was fun to see all of the non-mathematical talent among us.

Many thanks go to the department for its support this year. We give special thanks to our Graduate Chair, Fabio Milner, for his enthusiasm and open door. We would also like to thank our fellow graduate students for their willingness to participate in events and provide us with feedback.

Congratulations to the 2007-08 grad reps: Bobby Bridges, Philip Hackney, Amanda Phillips, and Ning Shang. We know you will do a great job being the voice of the students next year.

— Christine Berkesch and Melissa Kraus

Bartlomiej Siudeja received an A.H. Ismail Interdisciplinary Program Doctoral Research Travel Award. The award of \$890 helped defray the cost of his attendance at the Symposium on Inverse Problems Honoring Alberto Calderon, IMPA, Rio De Janeiro, Brazil.

Qingyu Wu received a Bilisland Dissertation Fellowship for 2007-08. He is a student of Freydoon Shahidi. The fellowship provides support to outstanding Ph.D. candidates in their final year of doctoral degree completion.

The Department recognized outstanding mathematics students on April 26 at the annual department awards program.



Radhika Ganapathy received the Gerald R. MacLane award, which is given to a graduate student in mathematics who has demonstrated excellence in mathematical scholarship and/or in the teaching of mathematics. Radhika arrived at Purdue in August 2006 and passed the qualifier exams in January.



Jamie Weigandt, Jessica Markstrom, Kendra Duhon, William Young, Noah Blach.

PROBLEM OF THE WEEK

First Prize Awards

Fall Alan Bernstein
Nathan Orlow
Spring Alan Bernstein
Noah Blach
Siddharth Tekriwal

Certificates of Merit

Fall Immanuel Alexander
Thomas Engelsman
Rahul Kumar
Miguel Hurtado
Spring Nathan Claus
Nathan Orlow



Julie Morris received the Advisors Award, given annually by the mathematics undergraduate advisors to a faculty or staff member who supports students in a big way. Julie assists the actuarial science program director, the undergraduate chair, and interacts with many students in our undergraduate programs.



Actuarial Science students with program director Professor Richard Penney (center right) and CoS Dean Jeffrey Vitter (far right).

COLLEGE OF SCIENCE AWARDS

Outstanding Senior

John "Brad" Raatz, Actuarial Science
Gretchen Zahm, Mathematics

Outstanding Junior

Kyle Bauer, Actuarial Science
Jamie Weigandt, Mathematics

Outstanding Sophomores

Rachel C. Smith, Actuarial Science
William J. Young, Mathematics

Outstanding Freshman

Ian Jones, Actuarial Science
Philip Hebda, Mathematics

MATHEMATICS UNDERGRADUATE AWARDS

Eugene V. Schenkman Memorial Award

William J. Young

Glen E. Baxter Memorial Award

William R. Harris, Jamie Weigandt

Michael Golomb Mathematics Award

Gretchen Zahm

Meyer Jerison Memorial Award in Analysis

Jamie Weigandt

Merrill E. Shanks Memorial Award

Beth N. Harper, Kenton McKasson

Math Club Awards

Matthew Barrett, Amber Meyerratken

Senior Achievement Award

Matthew Barrett, Katherine Graves, Kevin Query,
Joshua Robinson, Pei See Tung, Ruijuan Wang,
Gretchen Zahm, Andres Soria Zapata

MAA Math Competition Team

3rd place: Jonathan Nistor, Nathan Orlow, Prateek
Tandon

7th place: Noah Blach, Jamie Weigandt, William J.
Young

Putnam Exam Recognition

Bradley Rodgers

GRADUATE STUDENT AWARDS

2006-07 Outstanding Mathematics Teaching Assistants

Sarah DeLeeuw

Ali Diabat

David Gerberry

Bogume Jang

Benjamin Kravitz

Daniel Maxin

Committee for the Education of Teaching Assistants

(CETA) – Celebrate Graduate Student Teaching

David Gerberry

Bogume Jang

Benjamin Kravitz

Daniel Maxin

Teaching Academy – Associate Fellow

Philip Mummert

Gerald R. MacLane Award

Radhika Ganapathy

Carl Cowen Exceptional Promise Award

Shayla Miller

T.T. Moh Fellowship

Jing Li

Guanying Peng

MATHEMATICS SCHOLARSHIPS

Alton D. and Juanita S. Andrews Memorial Scholarship

Zachary Blackwood

Leonard D. and Anna W. Berkovitz Scholarship

Amber Meyerratken, Jamie Wiegandt

Virginia Mashin Scholarship

Emily Byrnes, Jonathan Eberton, Lauren Walls,
Frederick Lee, Jeffrey Stout

Arthur Rosenthal Scholarship

Sarah Haynes, Rachel C. Smith, Emily Byrnes, Megan
Giordano, Jessica Grimes, William Kioultzopoulos,
Sarah Reecer, Robert Skowron

Jean E. Rubin Scholarship

Noah Blach, Zachary Blackwood, Mohit Agrawal, Erin
Hennessey

Helen Clark Wight Scholarship

Josten Clampitt, Jessica Markstrom, Kenton McKasson,
Andrew Mundell, Anthony Shindeldecker

Andris A. Zoltners Scholarship

Kendra Duhon, William J. Young

ACTUARIAL SCIENCE AWARDS

Actuarial Science Scholarship

Elizabeth Moss, Andrew Steenman, Katherine Quinn

Alumni Scholarship

Senior: John “Brad” Raatz

Freshman: Ian Jones

Swiss-Re Scholarships

Juniors: Kyle Bauer, Amanda C. Brown

Sophomores: James Humphrey, Rachel C. Smith

Towers Perrin Scholarship

Kyle Bauer

CIGNA Scholarships

Senior: Katherine Graves

Juniors: Brittany Hanners, Andrew Steenman

CNA EXAM AWARDS

Dustin Adams, Craig Allen, Kyle Allen, Kyle Bauer,
Ryan Bedel, Amanda C. Brown, Melanee Dallas,
Katherine Duket, Kristen Dyson, Zachary Fohl,
Katherine Graves, Isaac Hall, Brittany Hanners, James
Humphrey, Mathew Huhn, Matthew Lange, Nora Zhao
Ying Li, Lisa McGuire, Samuel Oglesby, Brad Raatz,
Peter Rokosz, Neil Schneider, Joshua Schmidt, Sarah
Shoemaker, Rachel C. Smith, Andres Soria Zapata,
Andrew Steenman, Ruijuan Wang

Mathematics Education Club Hosts Field Day

Nearly 70 eighth grade students from Benton Central Jr./Sr. High School and Wainwright Middle School visited the Purdue campus for Math Field Day on November 15, 2006. Hosted by the Mathematics Education Club, this was the first year for the math enrichment event designed to demonstrate the everyday applications of mathematics.

“We wanted to generate interest in mathematics and help them see that math is practical and fun,” said Steve Warner, club president.

The students worked in teams on hands-on mathematics activities. Events included “What’s My Density” and “Campus Slope,” through which students used the mathematical definition of slope to locate Purdue landmarks.

“The activities were designed to stress math concepts, problem-solving skills, and teamwork,” Warner said.

The event was supported by a Student Grant for Community Service/Service Learning Project from the Purdue Office of Engagement.

“Math Field Day was a great opportunity to engage middle school students in exciting and challenging mathematics



activities,” said Bill Walker, Director for College of Science K-12 Outreach. “It was also a great service learning opportunity for members of the Mathematics Education Club, who gained some practical experience creating lessons and working with middle school students.”

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