ContinuUM

View from the Chair's Office
Mel Hochster

I am writing this at the beginning of my sixth year as Chair of the Mathematics Department. The recession began in September of my first year. During that time there have been many changes, quite a few of them motivated by fiscal difficulties. Nonetheless, the Department has continued to excel as a center both for research and for innovation in education. We have hired thirteen new regular faculty in this period, as well as six instructors at the Lecturer III level whose teaching is aimed either at our nationally recognized Introductory Program, or at our extraordinary program in Actuarial and Financial Mathematics, or at our program in Mathematics Education, distinguished by its emphasis on Inquiry Based Learning (IBL) modules in the courses. The IBL program was discussed in detail in the previous issue of ContinuM.

This is a time of many transitions at the University. **Dean Terrence McDonald** has completed eleven years of service as Dean of LSA and is becoming Director of the Bentley Library. **Professor Susan Gelman** of the Psychology Department will be Interim Dean for a year while a search is conducted. Our colleague **Phil Hanlon** has left his position as Provost at Michigan to become President of Dartmouth College. This is a tremendous loss for Michigan—he will be sorely missed—but a great gain for Dartmouth. I wish him the best of luck. **Associate Provost Martha Pollack**, who has held positions here as Professor of Computer Science, as Dean of the School of Information and Library Science, and as Associate Provost for the Budget, is the new Provost. I believe that this is a spectacular appointment: we served together on the first STRIDE Committee, which aims at achieving diversity and excellence in hiring faculty. **Mary Sue Coleman** is also finishing her term as President, and another search will be under way.

So many changes at once are a bit alarming, but I am confident in saying that the commitment of the Department and University to excellence in research and education as well as to outreach to the community will be unwavering. I want to remind everyone again about our **Career Day on November 8, 2013**, when alumni are invited to visit and explain what their careers are like to our current students. If alumni can't make the career conference, our award-winning Undergraduate Program Director, Professor Stephen DeBacker (see article at right), would be more than happy to hear their stories via e-mail at lsa-math-updir@umich.edu.

DeBacker Named
Professor of the Year

Professor Stephen DeBacker was named the 2012 Michigan Professor of the Year by the Carnegie Foundation for the Advancement of Teaching and the Council for Advancement and Support of Education. A state-level award, he was one of 30 professors across the nation who were honored. DeBacker has been at UM for ten years and directs the department's undergraduate program. In that time, the department has tripled the number of math majors graduating from UM; the number obtaining math minors has increased sixfold.

DeBacker is known for tirelessly mentoring all levels of undergraduate students. His engaging teaching style includes tough homework, as well as telling a daily joke 20 minutes into every lecture. His collection of math t-shirts is legendary.

"Most everyone should take more math," DeBacker said, and one ingredient in the department's growth has been his tactic of asking every instructor teaching math at Michigan to encourage their top students to take one more math course.

Ruthi Hortsch was one of those students a few years ago. She did not intend to study math, but that was before she took DeBacker's honors course her freshman year in 2007.

"Professor DeBacker is the one who advised me to take his class. His teaching was the turning point that made me want to become a mathematician, and his encouragement is what made me believe I could do

New Faculty

it," Hortsch wrote in one of DeBacker's nomination letters. She is now a mathematics doctoral student at MIT.

DeBacker also has worked to build a community, enhancing the "life and culture surrounding Michigan's undergraduate mathematics program as a whole," wrote one of his nominators.

After he started aggressively advertising lectures for the Thursday afternoon math club talks, attendance rose dramatically to the current 40-50 students at each lecture. And he makes sure there always are cookies and soft drinks to attract students to the weekly honors recitation sections.

According to department chair Mel Hochster, DeBacker has improved the curriculum and instituted outreach to high schools, as well. "I am very excited to hear that Stephen has won this award," Hochster said. "While maintaining a rich research program and participating in every phase of the department's operation, he has become the heart and soul of the undergraduate program. He has devoted himself to the welfare of undergraduate students in so many ways, with such wonderful effect, that it is truly difficult to overstate his contributions. He has been extraordinarily successful, and very much deserves this recognition."

DeBacker said he laughed when he heard he had won.

"I was definitely surprised," he said. "I'm lucky to work in a department that has a long tradition of excellence—both in research and undergraduate education. It is a great honor to receive this recognition, and I thank both my very supportive colleagues and CASE/Carnegie."

Sergey Nadtochiy joined the department in September 2012 as an Assistant Professor. He received his M.Sc. Degree in Mathematics in 2005 from Moscow State University. In 2009 he earned his Ph.D. in Operations Research and Financial Engineering from Princeton. In the summers of 2007 and 2008, Nadtochiy gained experience on Wall Street, completing quantitative research projects for J.P. Morgan & Chase, and Bloomberg L.P. Prior to joining UM, he was a Senior Postdoctoral Research Fellow at the University of Oxford from 2009 to 2012.

As a member of the Applied and Interdisciplinary Mathematics faculty group, Nadtochiy's research interests include financial mathematics, stochastic analysis and partial differential equations. More specifically, he works on the problems arising in derivatives pricing and hedging, optimal investment and high frequency trading, applying the methods from probability theory, partial differential equations as well as functional and complex analysis.

Nadtochiy received the Sharlotte Elizabeth Procter fellowship and the Gordon U.S. Wu Fellowship while a student at Princeton. In 2012 he received the Junior Scientist Prize from the SIAM Activity Group on Financial Mathematics and Engineering.

Silas Alben joined the department in September 2012 as an Associate Professor. He received an A.B. degree in Mathematics and Physics from Harvard in 1999. During his undergraduate years he spent one summer as a National Science Foundation Research Experience for Undergraduates (REU) student at the University of Michigan High Energy Spin Physics Group.

Following his studies at Harvard, Alben spent a year teaching high school physics in Mexico City. In 2000, he joined the Courant Institute of Mathematical Sciences at New York University, where he received a Ph.D. in Mathematics in 2004. His thesis "Drag Reduction by Self-Similar Bending and a Transition to Forward Flight by a Symmetry-Breaking Instability" was advised by Michael Shelley, and received the 2004 SIAM Student Paper Prize and the 2005 Andreas Acrivos Dissertation Award from the American Physical Society Division of Fluid Dynamics.

After receiving his Ph.D., Alben returned to Harvard as an NSF Mathematical Sciences Postdoctoral Fellow and Lecturer. In 2007, Alben joined the faculty of the Georgia Institute of Technology as an Assistant Professor. He received a Sloan Research Fellowship in 2011.

Alben's research focuses on problems arising in fluid dynamics and solid mechanics with applications in biology and materials science, and consists of the "modeling, theoretical analysis and development of numerical methods, with the general goal of obtaining new physical insight into these problems." Alben has collaborated with mathematicians, physicists, and biologists in these areas.

Faculty Recognition

Assistant Professor Lydia Bieri was awarded an NSF Faculty Early Career Development (CAREER) Award for her project "Geometric-Analytic Investigations of Spacetimes and their Nonlinear Phenomena." The CAREER Award is the NSF's most prestigious recognition that supports junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research within the context of the mission of their organizations.

Professor Anna Gilbert has been selected to receive the 2013 Ralph E. Kleinman Prize from the Society of Applied and Interdisciplinary Mathematics. The Ralph E. Kleinman Prize, established in 1999, is awarded to one individual for outstanding research, or other contributions, that bridges the gap between mathematics and applications. The citation recognizes Gilbert's creative and deep contributions to the mathematics of signal processing, data analysis and communications. The award cites "her bold and interdisciplinary work combines techniques from computer science, harmonic analysis, and probability in the best traditions of the Kleinman Prize."

Professor Curtis Huntington received the 2012 Jarvis Farley Service Award from the American Academy of Actuaries. He was recognized for his contributions to the actuarial profession through his numerous volunteer efforts throughout his career. The service award was established in 1991 in honor of Jarvis Farley, a charter member of the Academy. Huntington also was honored with the Lifetime Achievement Award from the Conference of Consulting Actuaries. This is awarded to a volunteer for contributions made to the Conference of Consulting Actuaries, or the actuarial consulting profession in general, during his/her professional career.

Professor Robert Megginson has been elected governor-at-large for minority interests for the Mathematical Association of America. His term runs from 2014 to 2017.

Assistant Professor Sergey Nadtochiy received the second award of the SIAG/FME (SIAM Activity Group on Financial Mathematics and Engineering) Junior Scientist Prize for his project "Market-Based Approach to Modeling Derivitives Prices." The prize is awarded to an outstanding junior researcher for distinguished contributions to the mathematical modeling of financial markets in the three calendar years prior to the year of the award.

Professor Carl Simon received the Distinguished Faculty Achievement Award from the UM. The award recognizes his long-time commitment to research and teaching. The Distinguished Faculty Awards have been given since 1955 and honor senior faculty who have consistently demonstrated outstanding achievements in the areas of scholarly research and/or creative endeavors, teaching and mentoring of students and junior faculty, service, and a variety of other activities which have brought distinction to themselves and to the University of Michigan.

The **American Mathematical Society** named 28 UM Mathematics Department members to the initial class of Fellows of the AMS. **The Fellows of the American Mathematical Society** program recognizes members who have made outstanding contributions to the creation, exposition, advancement, communication, and utilization of mathematics. The UM fellows are:

David E. Barrett
Alexander Barvinok
Hyman Bass
Anthony Bloch
Morton Brown (Emeritus)
Daniel M. Burns
Joseph G. Conlon
Peter Duren (Emeritus)
Sergey Fomin
William Fulton
Robert L. Griess, Jr.
Peter G. Hinman (Emeritus)
Mattias Jonsson
James M. Kister (Emeritus)
Robert Krasny
Jeffrey C. Lagarias
Robert Lazarsfeld
Robert Megginson
Hugh L. Montgomery
Mircea Mustata
Gopal Prasad
Jeffrey Rauch
Frank Raymond (Emeritus)
G. Peter Scott
Joel A. Smoller
Ralf J. Spatzier
B. A. Taylor (Emeritus)
Alejandro Uribe

The following faculty members received promotions this year:

Erhan Bayraktar to Professor
Victoria Booth to Associate
    Professor with tenure
Daniel Forger to Professor
Thomas Lam to Professor

2013 Graduate Program Fellowships & Awards

A. W. Flint Memorial Scholarship
Jeremy West

Alice Webber Glover in Math Scholarship
Adam Kaye
David Renardy
Gregory Simon
Tengren Zhang

Allen L. Shields Fellowship
Sarah Mayes

Arthur Herbert Copeland, Sr. Memorial Scholar
Daniel Barter

Ben Dushnik Scholarship in Math
Harry Altman
Yi Su

Cameron & John Courtney Scholarship
Pedro Acosta
Zhibek Kadyrsizova

CONACYT
Luis Nuñez Betancourt

Departmental Scholarship, Spring 2013
Giwan Kim
Mary Wootters
Xin Zhou

Edwin Wilkinson Miller Scholarship
Stefan Froehlich

Gabrielle & Sophie Rainich Fellowship
Balin Fleming

Juha Heinonen Memorial Graduate Fellowship
Purvi Gupta

Luther Claborn Mathematics Scholarship
Jake Levinson

Marjorie Lee Browne Scholars
Alexis Cook
Daniel Jonas
Long Ly
David McMillon
Raymundo Navarrete
Adrian Ochoa
Andre Souza
Dana Suttman

Mathematics Alumni/Alumnae Scholarship
Matthew Jacobs

Mathematics Department Graduate Fellowship
Harold Blum
Andrew Brouwer
Brandon Carter
Charlotte Chan
Dondi Ellis
Corey Everlove
Gabriel Frieden
Roman Gayduk
Weichen Gu
Daniel Hathaway
John Hawley
Patricia Klein
Gene Kopp
Alexander Leaf
Jiaqi Li
Wei Li
Bingying Lu
Gary Marple
Inna Mashanova-Golikova
Audra McMillan
Andrew Melfi
Michael Newman
Aaron Pribadi
Rohini Ramadas
Hamed Razavi
Rebecca Rebhuhn-Glanz
Scott Rich
Maria Riolo
Andrew Schaug
Brandon Seward
Wenling Shang
Robert Silversmith
Daniel Smyth
Jiah Song
David Stapleton
John Wiltshire-Gordon

Derek Wood
Yuchong Zhang
Xiaolei Zhao

Mathematics Scholarship Fund
Jeremy Hoskins

Maxwell Reade Scholarship
Raymundo Navarrete
Andre Souza

National Physical Science Consortium Fellowship
Christopher Fraser

National Science Foundation Fellow
William Abram
Rachel Karpman
Suchandan Pal
Olivia Walch
Robert Walker

President's Challenge for Graduate Support
Alexander Munk

Rackham International Fellowship
Zhou Zhou

Rackham One-Term Dissertation Fellows
Shawn Henry
Alexander Mueller
Yefeng Shen
Mark Shoemaker
Yilun Wu

Rackham Outstanding GSI Award
Emily Clader

Rackham Science Award (RSA)
David Prigge

Research Training Grant (RTG) – Algebra
Ernest Hunter Brooks

Kevin Carde
Nicolas Ford
June Huh
Adam Kaye
Alexander Mueller
Julian Rosen
Geoffrey Scott
Ariel Shnidman
Brooke Ullery

Research Training Grant (RTG) – Geometry
Emily Clader
William Gignac
Becky Hoai
Sara Lapan
Jeffrey Meyer
Nathan Priddis
Russell Ricks
Geoffrey Scott
Mark Shoemaker
Andrew Zimmer

Sumner B. Myers Memorial Prize
Max Glick

The Department of Mathematics Outstanding Teaching Award
Kin Kwan Leung

The Karen Rhea Excellence in Teaching Award
Mary Wootters

The Mort Brown Excellence in Teaching Award
Ernest Hunter Brooks

The Pat Shure Excellence in Teaching Award
Joseph Roberts

The Wirt & Mary Cornwell Prize in Mathematics
William Gignac

2013 Doctorate Degrees

William Abram completed his dissertation "*Equivariant complex cobordism*" under the direction of Igor Kriz. He will be an assistant professor at Hillsdale College.

Samuel Altschul completed his dissertation "*Endoscopy for nilpotent orbits of* G_2" under the direction of Stephen De-Backer.

Jennifer Beichman completed her dissertation "*Nonstandard dispersive estimates and linearized water waves*" under the direction of Sijue Wu. She will be a Van Vleck Assistant Professor at the University of Wisconsin.

Peter Bosler completed his dissertation "*Particle methods for geophysical flow on the sphere*" under the direction of Robert Krasny. He will be a post-doc assistant professor at the University of Michigan.

Ernest Brooks completed his dissertation "*Generalized Heegner cycles, Shimura curves, and special values of p-adic L-functions*" under the direction of Kartik Prasanna. He will be a research assistant at EPFL in Switzerland.

Sohhyun Chung completed the dissertation "*The impact of Volcker rule on bank profits and default probabilities*" under the direction of Joe Conlon.

William Gignac completed his dissertation "*Equidistribution of preimages in nonarchimedean dynamics*" under the direction of Mattias Jonsson. He has post-doc fellowships at Ecole Polytechnique in France, and Georgia Tech.

Huaiying Gu completed the dissertation "*Value-At-Risk (VaR) and dynamic portfolio selection*" under the direction of Joe Conlon. Huaiying will work in quantitative risk analysis and modeling at Key Corp.

Shawn Henry completed his dissertation "*Classifying topoi and preservation of higher order logic by geometric morphisms*" under the direction of Andreas Blass.

Yu-Jui Huang completed the dissertation "*Topics in stochastic control with applications to finance*" under the direction of Erhan Bayraktar. Yu-Jui will be a lecturer in financial mathematics at Dublin City University.

Jae Kyoung Kim completed his dissertation "*Mathematical modeling and analysis of biological clocks within cells*" under the direction of Daniel Forger. He will be a post-doc fellow at the Mathematical Bioscience Institute at The Ohio State University.

Ross Kravitz completed his dissertation "*Problems in optimal stopping and control*" under the direction of Erhan Bayraktar. He will be a quantitative analyst with Kabam in San Francisco.

Sara Lapan completed her dissertation "*On the existence of attracting domains for maps tangent to the identity*" under the direction of Mattias Jonsson. She will be a post-doc lecturer at Northwestern University.

Seung Jin Lee completed the dissertation "*Centrally symmetric polytopes with many faces*" under the direction of Alexandre Barvinok. Seung Jin will be a post-doc fellow at the Korea Institute for Advanced Study.

Sarah Mayes completed her dissertation "*The asymptotic behavior of generic initial systems*" under the direction of Karen Smith. She will be a professor at Quest University in Canada.

Jeffrey Meyer completed his dissertation "*On the totally geodesic commensurability spectrum of an arithmetic locally symmetric space*" under the direction of Ralf Spatzier and Matthew Stover. He will be a post-doc assistant professor at the University of Oklahoma.

Alexander Mueller completed his dissertation "*Applications of generalized Fermat varieties to zeta functions of Artin-Schreier curves*" under the direction of Michael Zieve. He will be a data scientist at Less Annoying Software in San Francisco.

Luis Nunez Betancourt completed his dissertation "*Finiteness properties of local cohomology*" under the direction of Mel Hochster. He will be a Whyburn Instructor at the University of Virginia.

Kristofer-Roy Reyes completed his dissertation "*Large scale kinetic Monte Carlo simulations: theory, implementation and applications*" under the direction of Peter Smereka. He will be a post-doc researcher at Princeton University.

Joseph Roberts completed his dissertation "*Steady and self-similar solutions to two-dimensional hyperbolic conservation laws*" under the direction of Volker Elling. He will be a lecturer at Pennsylvania State University.

Julian Rosen completed his dissertation "*The arithmetic of multiple harmonic sums*" under the direction of Jeffrey Lagarias. He will be a post-doc fellow at the University of Waterloo.

Burhan Sadiq completed the dissertation "*Finite difference methods, Hermite interpolation and quasi-uniform spectral schemes (QUSS)*" under the direction of Divakar Viswanath.

Zachary Scherr completed his dissertation "*Rationals polynomial pell equations*" under the direction of Michael Zieve. He will be a post-doc fellow at the University of Pennsylvania.

Math Graduate Student Has Comical Avocation

Mathematics graduate student **Olivia Walch** supports her math habit by writing cartoons for the World Bank. Her award winning cartooning supplies a creative outlet beyond her mathematical studies and research.

Originally from Virginia, Olivia received her undergraduate degree from the College of William and Mary in Williamsburg. She began her undergraduate studies in physics and biology, then changed to mathematics after doing undergraduate research in linear algebra with Dr. Charles Johnson. She graduated in 2011 with a double major in math and biophysics.
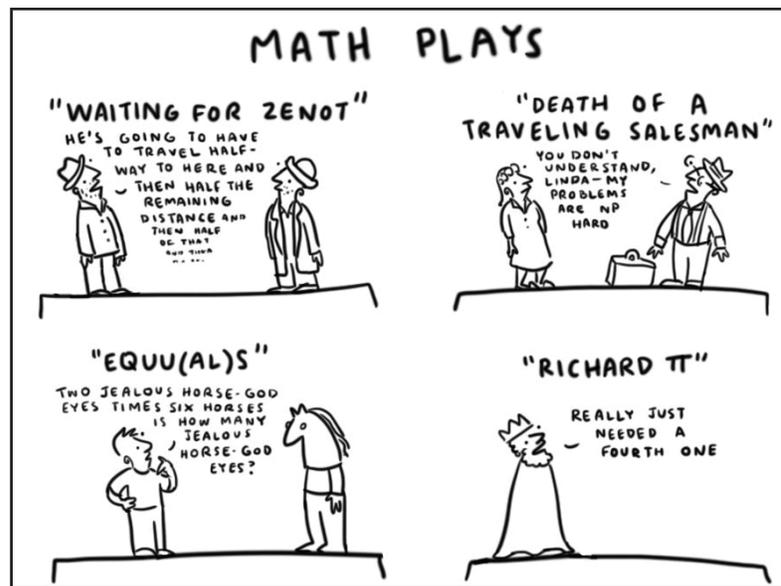
Olivia says that she has always drawn cartoons, and while at William and Mary, she cartooned for the college paper. "Williamsburg, and its 'colonial' nature, supplied a great deal of subject matter for the cartoons," she says. In her senior year, Olivia won the "America's Next Great Cartoonist" contest held by the Washington Post. The contest gave her the opportunity to publish her cartoons in the Post for a month. "It was great exposure, but there was some pressure to do something new every day." Olivia never really wanted to pursue cartooning as a career, but finds that she can have an online presence and fan base without being formally published.

Olivia is starting her third year in the AIM Ph.D. program. She has a three-year NSF graduate student fellowship to pursue her research with Mathematics Professor Danny Forger and

Professor Kwoon Wong of the Kellogg Eye Center. Olivia is working on math modeling of a recently discovered type of cell in the eye called "intrinsically photosensitive retinal ganglion cells" (ipRGC). Mathematical modeling uses differential equations and computational resources to simulate biology. The

ipRGC control subconscious vision, and do not need rods and cones to respond to light. These cells play an important role in regulating circadian rhythms via their response to light. Modeling can help to determine the unique manner in which ipRG cells transmit the light. Understanding how these cells work could help alleviate a number of disorders related to circadian misalignment in areas such as immunology and metabolism, and there is potential for the cells to provide an alternative source of vision to the blind.

In addition to cartooning, Olivia brings her creativity to teaching as well. In summer 2013, she was course assistant in the Fibonacci Numbers class taught by Mel Hochster. For a Calculus class, she and fellow instructor David Renardy created WebWork Warrior, an online interactive game for the students.

Students who successfully complete their web homework for Calculus have an online character and earn points that can be used to obtain things to use in the game. The game was designed to encourage and reward them for completing the web work. In addition to her own webcomic http://imogenquest.net/, Olivia writes jokes for Hilary "Price's Rhymes with Orange," and draws "corporate" cartoons for several businesses including the World Bank's internal bulletins and newsletters. Two of her cartoons are featured here.

Actuarial Program Highlights

Our programs in Actuarial and Financial Mathematics are extremely popular and continue to thrive. At last count, nearly 400 students had declared concentrations in Actuarial and Financial Mathematics; they comprise almost 60% of the total number of undergraduate mathematics concentrators. Moreover, we have 4 incoming Masters students focusing on Actuarial Mathematics and we have 7 current and recently graduated Ph.D. students working on problems in insurance and finance.

We are pleased to announce that B. Roger Natarajan will join the faculty in September 2013 as the Associate Director of Actuarial and Financial Mathematics. Roger is a Fellow of the Society of Actuaries, a Member of the American Academy of Actuaries, and he has a Ph.D. in Mathematics. He has had a long and distinguished career and has served in several high-level actuarial positions, most recently as the Head of Global Product Development at CIGNA International. In 2012 and 2013, he was a member of the faculty at Columbia University. We are excited about the energy, enthusiasm, experience, and perspective that Roger will bring to our program.

Our students are well-recruited by employers. In 2012-2013, representatives from 17 companies visited campus to recruit our students for full-time positions and summer internships. Moreover, our students visited two companies at their headquarters.

Our student-run actuarial club, Student Actuaries @ Michigan, or SAM, is one of the more active academically-focused groups on campus. Last year, there were nearly 200 dues-paying members, and there are 400 people in the Facebook group. Their activities include resume and interview workshops, campus visits from and field trips to prospective employers, outreach to local high schools to promote the actuarial profession, intramural sports, and social events. Last year, they introduced "coffee chats," which create a relaxed and loosely structured atmosphere where younger students can connect with more senior student mentors.

Our Actuarial Program is designated by the Society of Actuaries (SOA) as a Center of Actuarial Excellence (CAE). Only 24 schools in the world have earned this designation. For the last two summers, two of our students represented

Actuarial Alumni Leadership Council meeting particpants prepare for the Michigan football game. Bottom row, l-r: Michael Frank, Alexa Nerdrum, Virginia Young, JJ Carroll, Bradley Hinesman, Joseph Marker; Top Row, l-r: David Hartman, Michael Cowell, Curtis Huntington, Kristen Moore, Susan Smith, Gabriel Shaheen, Edward Martin, Arash Fahim, Vivek Natarajan.

UM at the SOA's CAE Student Summit, where they had the opportunity to learn more about the SOA and the actuarial profession, to meet with SOA leadership and experienced practitioners, and to connect with students from other CAE schools. You can read more about the 2012 CAE Student Summit in the October/November 2012 issue of The Actuary.

In addition, CAE schools are eligible to compete for grants from the SOA. We were recently awarded a grant under the CAE program. The grant will provide funding for us to develop a program for collaboration between students, faculty, and industry partners.

This May, we held the 11th Annual Cecil J. Nesbitt Commencement Lecture. Over 150 people attended, including graduating seniors, their families, and the faculty. We celebrated the graduates' accomplishments with a brunch, and our commencement speaker was Fred Jonske (BA 1970, MA 1971), President and CEO of M Financial Group. This event is a high point of the actuarial academic year.

We are thankful to Michael Frank (BS, 1987) for creating the LinkedIn group University of Michigan Actuaries. Please consider joining the group as a way to network and keep in touch with fellow alumni/ae. Also, you can update your directory information at https://leadersandbest.umich.edu/alumni_update/.

The faculty and students look forward to hearing from you with any comments, questions or suggestions you might have. And, if your travels bring you through Ann Arbor, please let us know so that we can host a visit in our East Hall home.

Members of SAM participate in a football tailgate sponsored by Deloitte.

Kristen Moore
Associate Professor
of Mathematics

2013 Undergraduate Awards

Putnam Competition

The Department's team for this year's William Lowell Putnam Competition placed 20th out of 402 teams. The members of the team were **Foivos Antoulinakis**, **Nicholas Triantafillo,** and **Zeyin Zhang**. In the individual competition, **Joe Richey, Nicholas Triantafillou,** and **Zeyin Zhang** received honorable mentions, placing in the top 50 out of more than 4000 students.

In the 30th Annual University of Michigan Undergraduate Mathematics Competition **Luhang Lai** was first, **Nicholas Traintafillou** placed second, and **Josheph Richey, David Sherman** and **Zeyin Zhang** received honorable mentions.

Margaret S. Huntington Awards in Actuarial Outreach

Harish Batra
Leslie Becker
Matthew Frederick
Matthew Grossman
Kyle Harman
Nicholas McGovern
Hussein Nagree
Moaz Sinan
Mengdi Zhu

Evelyn O. Bychinsky Awards

recognizing underclass students who show exceptional promise in mathematics:

Yubo Guo
Nathan Hallman
Ryen Krusinga
Reid Lott
Corinne Peters
Ruoting Wang
Xi Wu
Zhongyi Zhang
Abylay Zhexembay
Yurui Zhu

Leon P. Zukowski Prize

recognizing outstanding service in the Mathematics Learning Center:

Beng Yen Ang

Sumner B. Myers Award in Analysis

Luhan Lai

William LeVeque Award in Number Theory

Mathew Tanzer

Jack McLaughlin Award in Algebra

Wei Qian

George Piranian Excellence in Mathematical Writing Award

Elliot Wells

Mathematics Alumni/Alumnae Scholarship

Yichuan Wang

Outstanding Achievement in Mathematics Awards

Christopher Clement
Yanqin Cui
Yiwen Ding
Youran Fu
Yiqun Hu
Sandhya Kajeepeta
Kelly Ku
Benjamin Levin
Surya Nagaraja
Bach Minh Nguyen
Dongna Wang
Jinjin Zhang
Qiaochu Zhang
Xingsi Zhang
Yue Zhang

Above: Outstanding Graduating Seniors Nicholas Triantafillou, Charles Stibitz, David Sherman, and Rebecca Gleit.

Otto Richter Memorial Prize in Actuarial Science

Terrie Tin

Irving Wolfson Award

Jingyi Xu

CIGNA Award

Xiaoxiao Liu

Chip Levy presents the Lois Zook Levy award to Eric Leightnam.

Lois Zook Levy Award

recognizing an outstanding mathematics student who plans to pursue a career in K-12 mathematics education:

Eric Leichtnam

Michigan Mathematics Merit Scholar

Rebekah Bartlett
Juan Jing Ng
Justin Priest
Dominic Spadacene
Terrie Tin
Alison Tseng
Huisu Xu
Zeyin Zhang

Outstanding Graduating Seniors

Rebecca Gleit
David Sherman
Charles Stibitz
Nicholas Triantafillou

Wirt and Mary Cornwell Prize in Mathematics

Elliot Wells

Doctoral Degrees

Paul Shearer completed his dissertation "*Separable inverse problems, blind deconvolution, and stray light correction for extreme ultraviolet solar images*" under the direction of Anna Gilbert. He will be a post-doc researcher in Engineering at the University of Michigan.

Yefeng Shen completed the dissertation "*Gromov-Witten theory of elliptic orbifold projective lines*" under the direction of Yongbin Ruan. Yefeng will be a post-doc fellow at Kavli IPMU in Tokyo for a year, then a post-doc fellow at Stanford University.

Mark Shoemaker completed his dissertation "*A mirror theorem for the mirror quintic*" under the direction of Yongbin Ruan. He will be a research assistant professor at the University of Utah.

Jordan Watkins completed his dissertation "*The higher rank rigidity theorem for manifolds with no focal points*" under the direction of Ralf Spatzier.

Zhixian Zhu completed the dissertation "*Topics in singularities and jet schemes*" under the direction of Mircea Mustaţă. Zhixian will be a research fellow at the Korea Institute for Advanced Study.

Above: Mel Hochster presents the Otto Richter Prize to Terrie Tin; Above right: Mel Hochster with Cornwell Prize winners Elliot Wells and William Gignac, and Professor Curtis Huntington. Right: Evelyn O. Bychinsky award winners. Pictured are Professor Stephen DeBacker, Shongyi Zhang, Corinne Peters, Yubo Guo, Nathan Hallman, Ryen Krusinga, Reid Lott, Abylay Zhexembay, and Professor Curtis Huntington.

View from the Chair's Office

Our Web page has a new look. The College of Literature, Science, and the Arts has been making an effort to achieve some uniformity in the appearance of the home pages of its 75 varied departments and programs. Every transition of this type is difficult; this one has been unusually hard because a great deal of the information on our Web site is maintained in data bases, and the connection to these was not easily supported by the new system. Our efforts to have everything working properly and looking good are still in progress. We hope that the final result will be an improvement. In the meantime, if there is something specific that you cannot easily find, please ask!

Last year I discussed our Michigan Math and Science Scholars program and my own experience in working, over the years, with the amazingly enthusiastic high school students who are willing to spend sixty contact hours during two weeks of the summer to gain an idea of what scientific research is like. I was stunned by the students this summer, who were even more enthusiastic than any group I have had before.

The University, College, and Department have continued to rise to the challenge of an adverse economic climate. The help of those who have supported the Department financially in these difficult times has never been more important. Many aspects of the ways in which the Department has excelled are detailed in articles throughout this newsletter. The Department is thriving in every respect, and I want to express my very great appreciation again to those who have made contributions that are helping to make this possible.

Student Receives High Honors

An outstanding Mathematics undergraduate received two high honors in the 2012-13 academic year. **Nicholas Triantafillou**, class of 2013, was awarded a $10,000 scholarship by the Astronaut Scholarship Foundation. He is also a recipient of the Churchill Scholarship, which funds a year of graduate study at the University of Cambridge.

Triantafillou is from Saginaw, Michigan, and double majored in honors mathematics and honors computer science. He was a course assistant for the honors mathematics sequence and led an honors freshman seminar on games and puzzles. At Cambridge he will complete a Master of Advanced Studies (Part III) in theoretical mathematics, a program that provides in-depth exposure to a wide variety of fields in both pure and applied mathematics. He plans to pursue a Ph.D. in mathematics after graduation and hopes to conduct research and teach at a university.

Math has been a lifelong love for Triantafillou. In first grade he completed the sentence "I wish my teacher would…" with "…give me more math homework." But he also is a sports enthusiast and avid fan of Michigan athletics. Triantafillou played running back, linebacker and defensive back on his high school football team. He has been active in intramural sports at UM, playing four years of flag football as well as water polo, softball and dodgeball.

Triantafillou already has demonstrated considerable talent as a teacher, serving as a course assistant for classes as diverse as "Data, Functions, and Graphs" (MATH 105) and "Honors Analysis I" (MATH 395). He tutored middle school and high school students in Michigan's Math Circle. In Fall 2012 he taught an Honors 135 minicourse entitled "Games and Puzzles" that explored practical applications of game theory in different disciplines.

The Astronaut Scholarship is the largest monetary award given in the United States to science, mathematics and engineering undergraduate students based solely on merit. This is the third year in a row that a student in UM's Mathematics Department has been awarded an Astronaut Scholarship. "Receiving the Astronaut Scholarship is a tremendous honor," Triantafillou said. "Astronauts have excited generations of Americans—myself included—by demonstrating the capabilities of the human scientific spirit. Recognition from these heroes is an inspiring vote of confidence as I seek to reflect their spirit of scientific adventure in my quest to understand and explore the world of mathematics."

The Churchill Scholarship is one of the most prestigious and academically competitive opportunities of its kind. Only 14 scholarships are awarded each year nationwide among applicants from 103 American colleges and universities. Triantafillou is UM's 12th Churchill Scholar since the program began in 1959 at the recommendation of Sir Winston Churchill, who wished there always be graduate students from the U.S. attending the college that bears his name at Cambridge. UM was one of only three public universities to have a scholarship winner this year.

Alumni Updates

Randolph B. Osstyn (BA 1967, JD Univ. Detroit) served two years in the Army in Korea after graduation. He then taught high school mathematics in Detroit for seven years. He received his J.D. and has been practicing law in Marquette, MI since 1977. Randy has been a board certified creditor's rights specialist since 1993, and has been selected for inclusion in Michigan Super Lawyers every year since 2009.

William Paul White (BS 1971, MD Wayne State 1988) is a physician at Infinity Primary Care in Michigan.

Lisa Sostecke (BA 1973, DDS 1978) is a semi-retired private practice general dentist in Rockford, MI.

William A. Hawkins (PhD 1982) is the 2013 recipient of the Yueh-Gin Gung and Dr. Charles Y. Hu Award for Distinguished Service to Mathematics from the Mathematical Association of America (MAA). This award honors distinguished contributions to mathematics and mathematical education, and is the most prestigious award made by the MAA.

Adam Coffman (BS 1991, PhD U. Chicago 1997) was promoted to Professor of Mathematics at Indiana University-Purdue University Fort Wayne.

Rorujorona (Harris) Ferrell (BA 2004) received a Master of Social Work in 2009 from the University of Pennsylvania and an M.Ed. in Mathematics from Arcadia University in 2012. This academic year she will be serving as a 2013-2014 Clinton Fellow for the American India Foundation William Jefferson Clinton Fellowship for Service in India.

Paul Georgandellis (BS 2005) is a derivative trader at Belvedere Trading in Chicago.

Allison Northrup (MS 2005) is a financial and risk management actuary at Assurant, Inc. in New York.

Voon Seng Lai (BS 2008) has been named a Fellow of the Casualty Actuarial Society. He is a pricing/programming Actuary at the Hanover Insurance Group.

Chris Marshall (BS 2008, MBA Michigan State 2010) is a senior financial analyst at Levi Strauss & Co. in San Francisco.

Where's Your Math T-shirt Been?

Top row, l-r: Beatrix Balogh (2013) with Ronald Reagan in Budapest, Hungary ; Sam Hern (2012) with Humpty Dumpty at Epic in Verona, WI; Sarah Wales (2014) at Grand Prismatic Spring in Yellowstone; Fiona Tang (2011)at Carnegie Mellon University in Pittsburgh. Middle row, l-r: Bob Nelson (1975) at the LA County Museum; Keary Engle (2007) at the Bechman Center for Chemical Sciences at the Scripps Research Institute; Joe Gilbert (2013) with a waterwheel in Maastricht, Netherlands. Bottom row, l-r: Daniel Smolkin (2013) at the Louvre in Paris; Katie Poggensee (2014) at the Sugar Bowl in New Orleans; Sabrina Yee (2013) on the Las Vegas strip; Christopher Cunningham (2006), Karl Weintraub (2006), and Kariann Mackie in Washington, D.C. For information on ordering your own Mathematics Department t-shirt, contact math.mich@umich.edu.

LSA MATHEMATICS
UNIVERSITY OF MICHIGAN

Department of Mathematics
University of Michigan
530 Church Street, 2074 East Hall
Ann Arbor, MI 48109-1043
734-764-0335
www.lsa.umich.edu/math
math.mich@umich.edu

What Are You Doing?

We'd like to hear from you! Please complete and return this form for our alumni/ae files. You may mail it to the address above, fax it to 734-763-0937, or email the information to math.mich@umich.edu. See www.math.lsa.umich.edu/alumni/

Name_____

University of Michigan Degree(s) with years & advisors_____

Degrees from other Universities/Years_____

Home Address_____

City, State Zip_____

Home Phone_____E-mail_____

Firm/Institution_____

Position_____ Business phone_____

Information about yourself or comments on the newsletter: (unless you request otherwise, we may mention any of this in future newsletters)
_____Check here if you do NOT want this published in the next ContinuUM