A Timeline of Mathematics at Michigan

As the University celebrates its Bicentennial, we share some highlights of the history of Michigan Mathematics. The University has extensive information on all aspects of its history available at: bicentennial.umich.edu/our-history/

A more detailed account of the Mathematics Department history with additional information is available on our website in the history section: lsa.umich.edu/math/about-us/history

August 26, 1817: The University is founded in Detroit as the Catholepistemiad, or University of Michigania, by Augustus Woodward, Rev. John Monteith and Rev. Gabriel Richard.

1835: Michigan voters ratify a state constitution that includes support for a state university.

1837: Ann Arbor is selected by the Michigan Legislature as the home of the University, prompting a move from Detroit.

September 25, 1841: University first offers classes. There are seven students and two professors, Reverend George P. Williams teaching mathematics and science, Reverend Joseph Whiting teaching Greek and Latin. The College of Literature, Science, and the Arts is established as the first college of the University.

1854: There are 63 freshmen. The Mathematics curriculum covers algebra, geometry (Legendre), trigonometry, analytic geometry, and calculus.

1877: There is a staff of five. Curriculum expands slightly to include topics such as quaternions, calculus of variations, calculus of finite differences.

1887: There are courses on projective geometry and theory of functions, including elliptic functions.

1888: Alexander Ziwet (right) and Frank N. Cole join the department. Ziwet remained until 1925 and was a major influence. Both Ziwet and Cole were much involved with formation of the American Mathematical Society (AMS). The department’s Mathematics Club began before 1891 in Ziwet’s parlor.

View From the Chair’s Office
Anthony Bloch

I am looking forward to my second term as Chair of our outstanding Department of Mathematics here at the University of Michigan. The department has been ably steered by Mel Hochster these past nine years, and I would like to thank Mel for his service and for being so very helpful to me during the transition period. Mel has done a superb job, and we all appreciate his hard work and the many things he accomplished for the department.

I will strive to continue our tradition of excellence, and I am indeed fortunate to have the assistance of many wonderful faculty members. I want to thank my Associate Chairs: Andreas Blass, Dick Canary, Kristen Moore, and Karen Smith, as well as Ralf Spatzier, the head of the Personnel Committee, and all the other members of the department who have agreed to serve in various capacities. And I really want to say a heartfelt thank you to Doreen Fussman, our Chief Administrator, and her extremely capable staff, all of whom are absolutely essential to the smooth functioning of our department.

Our faculty include outstanding pure and applied mathematicians, many of whom practice in both areas. We are fortunate to have Erhan Bayraktar in charge of our financial program, Roger Natarajan as actuarial program director, Charlie Doering at the helm of Complex Systems, Silas Alben as AIM Program director, and John Schotland in control of MCAIM, the new Michigan Center for Applied and Interdisciplinary Mathematics.

Sadly, one of our long-time faculty members, Joel Smoller, recently passed away. Joel, who was central to our Partial Differential Equations program, was a great asset to the department over many years. Please find the article honoring his life and his achievements on page 4. Joel will be missed.

Our department is highly regarded both because of the

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**Faculty News**

**Associate Professor Lydia Bieri** and co-authors David Garfinkle and Nicolás Yunes, have a featured article on Gravitational Waves in the August edition of the Notices of the American Mathematical Society. This is the last part of the two-part series. The article is available at www.ams.org.

**Professor Liliana Borcea** was named the 2017 Sonia Kovalevsky Lecturer by the Association for Women in Mathematics (AWM) and the Society for Industrial and Applied Mathematics (SIAM). The lectureship is awarded to anyone in the scientific or engineering community whose work highlights the achievements of women in applied or computational mathematics.

**Assistant Professor Wei Ho** has been selected by the Alfred P. Sloan Foundation as one of the recipients of a 2017 Sloan Research Fellowship. These fellowships recognize early-career scholars who represent the most promising scientific researchers working today, whose achievements and potential place them among the next generation of scientific leaders in the U.S. and Canada.

**Professor Igor Kriz** has been elected to the Learned Society of the Czech Republic. Established in 1994, the Learned Society is an association of distinguished scholars of the Czech Republic. Its main goal is to support free conduct of research and furtherance of scientific knowledge.

**Gavin LaRose** has been named the Karen Rhea Collegiate Lecturer beginning with the 2017-2018 academic year. Collegiate Lecturers are chosen based on their sustained record of excellence in teaching and learning and/or in service or other contribution to the University.

**Assistant Professor Sergey Nadtochiy** has received a Career Award from the National Science Foundation for his project “Quantitative Approach to Large-population Stochastic Dynamic Games.” Career awards are the NSF’s most prestigious awards in support of early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization.

**2017 Simons Fellows**

Three faculty members have received prestigious Simons Fellowships in 2017. **Anna Gilbert**, **Mark Rudelson**, and **Sijue Wu** were three of the 40 mathematicians to receive fellowships, which provide funding for up to a semester long research leave. **Gilbert** studies analysis, probability, discrete mathematics, and algorithms with applications to harmonic analysis, signal and image processing, and massive datasets. **Rudelson**’s research is in analysis and probability, with focus on asymptotic geometric analysis, high-dimensional probability, and convex geometry. **Wu** studies nonlinear partial differential equations (PDEs) from fluid dynamics, including Euler equations, the vortex sheets, water waves and singularities.
Gopal Prasad Retires

Gopal Prasad, the Raoul Bott Collegiate Professor of Mathematics, retired from active faculty status on May 31, 2017.

Professor Prasad received his Ph.D. in Mathematics from the University of Bombay, India, in 1976. In 1975 he got tenure at the Tata Institute of Fundamental Research, and was named a Professor there in 1984. He was appointed a Professor of Mathematics at the University of Michigan in 1992, and in 2008, he was named the Raoul Bott Collegiate Professor of Mathematics. Professor Prasad’s numerous visiting appointments have included stays at Yale University and the Mathematical Sciences Research Institute, Berkeley. He has been a many-time member of and frequent visitor to the Institute for Advanced Study in Princeton.

Considered a leading expert on Lie groups and algebraic groups, Professor Prasad has done ground-breaking research with many collaborators. In his early work, he proved the strong rigidity of lattices in real semi-simple groups of rank 1 and also of lattices in $p$-adic groups, and later studied the topological central extensions of these groups, and computed the metaplectic kernel for isotropic groups. Professor Prasad and A. Rapinchuk gave a precise computation of the metaplectic kernel for all simply connected semi-simple groups. He proved a useful volume formula for semisimple groups, and with UM colleague Allen Moy, worked on the representation theory of reductive $p$-adic groups, developing the “Moy-Prasad filtration” of parahoric subgroups. In recent work with B. Conrad and O. Gabber, Professor Prasad has given a classification of and structure theory for non-abelian pseudo-reductive groups over all imperfect fields. This work settles an outstanding problem in the area and has several important arithmetic applications.

From 1998 to 2011, Professor Prasad was the managing editor of the Michigan Mathematical Journal, during which time he broadened the editorial board to include mathematicians from around the world, and significantly enhanced the Journal’s stature. He was an associate editor for the Annals of Mathematics for 6 years. He served on many departmental and University committees, and chaired the department’s Library Committee for many years. Professor Prasad was recognized with a Guggenheim Foundation Fellowship in 1998 and a Humboldt Senior Research Award in 2006. He was a devoted teacher of both undergraduate and graduate courses, directed 4 Ph.D. students, published 3 research monographs, and had more than 60 research papers and 7 collaborators.

Notes from the Chair

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caliber of our research and our teaching. To maintain our well-earned reputation for excellence, I will work to retain our current accomplished faculty and to recruit other first-rate faculty to replace those pirated by other departments and those who have retired.

We are continually improving our teaching methods as demonstrated by our innovative much admired calculus program and our center for Inquiry-Based Learning directed by Ralf Spatzier. Also, we continue to reach out to the community through the Michigan Math and Science Scholars summer program, as well as our Math Circle program for middle and high school students and teachers. Our teaching program depends on the hard work of our faculty, postdocs, and graduate student instructors. The department is always a hub of activity because we run an exceptional colloquium and seminar program.

We were extremely happy to welcome back UM Ph.D. alumna, Chelsea Walton, as the 2017 Marjorie Lee Browne Colloquium speaker. Her talk “Math in the Age of Trump,” attracted a standing-room-only crowd on Martin Luther King Day. Chelsea shared some of her personal experiences navigating the world of research mathematics as a woman of color.

The speaker for the 2018 Marjorie Lee Browne Colloquium will be Rudy Horne from Morehouse College. Rudy will talk about his experiences as the main mathematics consultant for the recent movie, “Hidden Figures.” If you will be in the Ann Arbor area on Martin Luther King Day, please join us for this exciting talk. You can find all the details on our website.

The Michigan Bicentennial Lecture in February, presented by Stephen Smale, was entitled “Some Perspectives on Mathematics and Applied Mathematics.” Smale, who is a Field’s Medalist, received his undergraduate degree as well as his Ph.D. in Mathematics from UM. He reminisced about his time at the university which was between 1948 and 1956, and he highlighted his current research with members of the UM Department of Computational Medicine and Bioinformatics.

We are looking forward to the visits of Nazir Touzi as our inaugural Van Eenam Lecturer, Richard Taylor as the 2018 Rainich Lecturer, and Gunther Uhlmann as the 2018 Ziwet Lecturer. The math department will host an AMS sectional meeting in the fall of 2018.

I am looking forward to a successful and productive year.
Joel Smoller, 81, passed away September 27, 2017, after a prolonged illness. He was born and raised in Brooklyn, the son of a New York City taxi driver. Despite the hardship of losing his mother at an early age, and with the support of his extended family, he pursued academics in the public schools. He found his love of math in his first geometry course in high school, and then never waivered in his desire to become a mathematician. He attended NYU for his undergraduate degree, and Purdue for his PhD in 1963.

His first and only academic appointment was at University of Michigan Department of Mathematics. His 54 year career here began in 1963 as an instructor. Smoller was promoted to professor in 1970, and was named the Lamberto Cesari Collegiate Professor of Mathematics in 1998. He retired from active faculty status in June, 2017. Smoller’s long and prestigious academic career includes supervising 28 graduate students and mentoring many postdoctoral faculty, producing more than 180 publications in association with 34 co-authors, and teaching hundreds of undergraduate and graduate students.

Smoller specialized first in partial differential equations, but his research regularly grew into different fields as a new passion took hold. He conducted research in shock-wave theory; Navier-Stokes equations; systems of reaction-diffusion equations; stellar dynamics; dynamical systems (Conley Index Theory); and bifurcation theory (symmetry-breaking bifurcations). He pioneered the analysis of numerical difference schemes for conservation laws in several space dimensions, introduced new topological methods to the analysis of partial differential equations, and was fundamental in establishing the shock structure problem in mathematics. Many of his early results have been influential in mathematical biology. Smoller’s more recent research concerned Stability of Kerr (rotating) Black Holes under various perturbations such as scalar waves, Dirac Fields, electromagnetic waves, and gravitational waves; and astrophysical shockwaves, concerned with astrophysical problems including an explanation of the anomalous acceleration of the Universe, wholly within Einstein’s equations of General Relativity and avoiding the cosmological constant, and the notion of dark energy. His book, “Shock Waves and Reaction—Diffusion Equations” became the standard in that area and has been a reference in programs worldwide.

During his career, Smoller received significant recognition for his scholarly activities including a Guggenheim Fellowship in 1980, the Margaret and Herman Sokol Award in 1992, and an Excellence in Research Award in 1996. More recently he was named a senior Humboldt Fellow, and received the prestigious G.D. Birkhoff Prize in Applied Mathematics from AMS/SIAM in 2009.

Smoller is survived by his wife Margaret, children, Debbie, Alex (Lisa Mitchell), and Sally; his stepchildren Anne Dickinson (Patrick) and David Arndt; his granddaughter, Arcadia Mitchell; his brother Howard, and his many friends, coauthors, and colleagues here and abroad.

To carry on Smoller’s tradition of supporting and mentoring young mathematicians, memorial contributions can be made to the Joel Smoller Fellowship Fund in the Department of Mathematics (fund #700262). Contributions can be sent via mail to the UM Department of Mathematics, 530 Church Street, Ann Arbor, MI 48109-1043 (checks to University of Michigan), or online at the following link: http://victo.rs/2y3YoHi.
Math Timeline
(continued from page 4)

1930-1940: The following entered the department: Robert C. F. Bartels in applied mathematics, who later became the first director of the University’s Computing Center; Herman H. Goldstine, in functional analysis, who later worked with von Neumann in developing the digital computer; Sumner B. Myers, in differential geometry and functional analysis; Cecil J. Nesbitt in algebra and actuarial mathematics, and Robert M. Thrall in algebra.

1940-1945: The years of World War II had a major impact on the University. Enrollments were greatly reduced and some faculty took leave for military research. Several faculty joined the department: George E. Hay in applied mathematics, who later became chair in 1957-1967; Erich Rothe, in functional analysis; Samuel Eilenberg and Norman Steenrod, who made major contributions to topology.

1945-1950: Richard Brauer in algebra, William J. LeVeque in number theory, George Piranian and Maxwell Read in complex analysis, Phillip Jones in history of mathematics, and Hans Samelson, in topology and geometry, enter the department. LeVeque was chair from 1967 to 1970.

1950-1960: Frederick Gehring, in complex analysis, Lamberto Cesari, in calculus of variations, and Roger C. Lyndon, in algebra, join the department. In 1952 the Michigan Mathematical Journal is initiated, under the leadership of Rainich, and later George Piranian. H. Chandler Davis, a member of the department, is forced to leave in 1955 because of refusal to answer questions of a Congressional subcommittee on “un-American” activities. This episode is remembered annually at the Senate Lecture on Academic and Intellectual Freedom. George Hay becomes chair in 1957 and holds the position for 10 years.

Over the past year, the department has received several gifts and bequests which will help support faculty, programs, and students for many years to come. Some of the new funds are highlighted here.

The family of Usha Sharma Bhalla (right) established a Mathematics graduate student fellowship fund in her memory. Bhalla was a brilliant student and teacher of math. The family hopes that her passion and aptitude for math will inspire and endure for generations through this endowment.

The Prasad Family Fellowship was established by Professor Emeritus Gopal Prasad, his wife Indu and their children. Through direct gifts and planned giving, this fellowship will support graduate students in the department. The fellowship was presented to one student in 2016 and four students in 2017.

The department received a bequest upon the passing of Marjorie VanEenam Butcher, who received both undergraduate (1947) and Master’s (1949) degrees in Mathematics at UM, and had a long career of teaching at Trinity College. Her mother, Weltha McLachlan VanEenam received a degree in 1918 from UM, studying actuarial mathematics. Marjorie met her husband, Robert W. Butcher, while both were employed as math teaching fellows at UM. The Weltha McLachlan Van Eenam, Marjorie Van Eenam Butcher and Robert Ward Butcher Actuarial Mathematics Fund was established to honor of the memory of the esteemed Professor Emeritus Cecil L. Nesbitt, a dear friend of Weltha, Marjorie and Robert. The newly established VanEenam Lectures will regularly bring a distinguished mathematician or industry leader to the department as a special event. The invited speakers will be in Actuarial/Financial Mathematics.

Benjamin R. Whiteley, who received his master’s degree in 1952, directed a bequest gift to the Huntington Honorary Fund. Whitley had a 44 year career at Standard Insurance of Portland, Oregon. He was hired as an actuarial clerk, later became an actuary, then Vice-President of the Group, and finally was President and CEO for more than 10 years. His bequest will help support the actuarial program and students.

A bequest was received from the estate of Arline G. Dahlke-Daly. Arline was the wife of alum Douglas L. Daly who received his Master’s degree in Mathematics from UM. During his career, Daly was a Mathematics professor at Indiana University, University of Kentucky, University of Missouri, and Illinois Wesleyan University. He finally retired from Ohio University in 1980. The bequest will be used in the Mathematics Strategic fund to support exceptional cutting-edge work that will have a high impact on mathematics, our students, or our department.

Finally, the department recently received a generous bequest from the estate of Rodolfo De Sapio. A long time faculty member of the UCLA Department of Mathematics, De Sapio attended the UM as an undergraduate. He began is studies in the College of Engineering, and after two semesters, switched to the College of LSA and studied mathematics. According to his colleagues, De Sapio’s time at the UM studying mathematics changed his life and gave it meaning. This fund will be used to support the De Sapio Postdoctoral Fellows in the department, with a preference toward work in the Inquiry Based Learning program.
2017 Graduate Program Fellowships & Awards

Alice Webber Glover Math Scholarship
   Yuanyuan Chen
   Lara Du
   Alana Huszar
   Mitul Islam
   Claire Lin
   Takumi Murayama
   Andrew O’Desky
   Yonatan Shelah
   Alexander Vargo
   Umang Varma
   Ningyuan Wang
   Xin Zhang
   Hai Zhu

Department of Mathematics Fellowship
   Daniel Barter
   Yuanyuan Chen
   Rankeya Datta
   Lara Du
   Han Huang
   Grace Ingerman
   Yining Lu
   Rongxiao Mi
   Takumi Murayama
   Raymundo Navarrete
   Michael Newman
   Ashwath Rabindranath
   Jiah Song
   Matthew Stevenson
   Yan Shuo Tan
   Feng Wei
   Yun Wei
   Derek Wood
   Ming Zhang

Mathematics Alumni/Alumnae Scholarship
   Elizabeth Collins-Wildman
   Emanuel Reinecke

Mathematics Department Graduate Fellowship
   Jineon Baek
   Can Chen
   Yiwang Chen
   Gilyoung Cheong
   Kwun Chung
   Robert Cochrane
   Rankeya Datta
   Saibal De
   Montek Gill
   Haoyang Guo
   Jia Guo
   Fanchen He
   Yifeng Huang
   Zhi Jiang
   Joseph Kraisler
   Harry Lee
   Jiayu Liang
   Yuchen Liao
   Yining Lu
   Rongxiao Mi
   Khoa Nguyen
   Matthew Olson
   Gilad Pagi
   Jasmine Powell
   Huajie Qian
   Ryan Sandberg
   David Schwein
   Rishi Sonthalia
   Nathaniel Vaughn
   Hao Wu
   Wijit Yangjit
   Jingjie Zhang
   Tianchen Zhao
   Feng Zhu

Allen L. Shields Fellowship
   Jeremy Hoskins

Allotta Family Scholarship
   Zhan Jiang

Arthur Copeland Memorial Scholarship
   Grace Ingerman
   Alexander Zaitzeff

A. V. Flint Memorial Scholarship
   Francesca Gandini

Ben Dushnik Award in Math
   Yusin Wang

Cameron & John Courtney Scholarship
   Christina Athanasouli
   Yunle Lu

Carroll V. Newsom Scholarship
   Jonathan Guzman
   Aleksander Horawa
   Eamon Quinlan
   Kannappan Sampath
   Nawaz Sultan
   Derrick Sund
   Konstantinos Tsouvalas
   John Wakefield

Edwin Wilkinson Miller Scholarship
   Ruian Chen

Gabrielle & Sophie Rainich Fellowship
   John Holler

Juha Heinonen Memorial Graduate Student Fellowship
   Punya Satpathy
   Yan Shuo Tan

Luther Claborn Mathematics Scholarship
   Elizaveta Rebrova
   Philip Tosteson

Marjorie Lee Browne Scholars
   Jay Barraza
   Anthony Della Pella
   David Guerra
   Jonathan Guzman
   Alex Kapiamba
   Jenia Rousseva
   Ursula Trigos-Raczkowski

Mathematics Scholarship Fund
   Han Huang
   Patrick Lenning

National Science Foundation Fellow
   Amanda Bower
   Mark Greenfield

Devlin Mallory
   Robert Walker
   Rachel Webb
   Farrah Yhee

National Defense Science and Engineering Graduate Fellowship
   Leighton Wilson

Peter Smereka Thesis Award
   Gary Marple
   Olivia Walsh

Prasad Family Fellowship
   Deshin Finlay
   Jacob Haley
   Ashwath Rabindranath
   David Richman

Rackham One-Term Dissertation Fellows
   Trevor Hyde
   Robert Lutz
   Andrew Melfi
   Elizaveta Rebrova
   Philip Tosteson

Rackham Outstanding GSI Award
   Charlotte Chan
   Robert Lutz

Rackham Predoctoral Fellowship
   Charlotte Chan
   Jake Levinson
   Alexander Munk
   Bowei Wu

Rackham Science Award
   Derrick Sund

Research Training Grant (RTG) Algebra
   Harold Blum
   Gene Kopp
   Gilad Pagi
   Rohini Ramadas
2017 Doctorate Degrees

Daniel Barter completed the dissertation “Some Remarks About the Interaction Between Quantum Algebra and Representation Stability” under the direction of Andrew Snowden.

Dondi Ellis completed the dissertation “Motivic Analogues of MO and MSO” under the direction of Igor Kriz. Dondi is an instructor at Washtenaw Community College.

Stefan Froehlich completed the dissertation “Polyhedral Analysis of Plethysms and Kronecker Coefficients” under the direction of John Stembridge.

Roman Gayduk completed the dissertation “Game-Theoretic Approach for Modeling Market Microstructure” under the direction of Sergey Nadtochiy. He will be a Quantitative Analytics Associate at Barclays New York.

Weichen Gu completed the dissertation “Computations of Mather Minimal Log Discrepancies” under the direction of Mircea Mustata. Weichen will be a Quantitative Researcher at Susquehanna International Group.

Kevin Hannay completed the dissertation “Macroscopic Models and Phase Resetting in Coupled Biological Oscillators” under the direction of Victoria Booth and Daniel Forger. He will be an Assistant Professor of Mathematics at Schreiner University.

Jeremy Hoskins completed the dissertation “Diffuse Scattering and Diffuse Optical Tomography on Graphs” under the direction of Anna Gilbert and John Schotland. He will be a Gibbs Assistant Professor at Yale.

Matthew Jacobs completed the dissertation “Algorithms for Multiclass Partitioning” under the direction of Jinho Baik. He will be an Adjunct Assistant Professor at UCLA.

Gene Kopp completed the dissertation “Indefinite Theta Functions and Zeta Functions” under the direction of Jeffrey Lagarias. He will be a Heilbronn Research Fellow at the University of Bristol.

Jake Levinson completed the dissertation “Foundations of Boij-Söderberg Theory for Grassmannians” under the direction of David Speyer. He will be an Acting Assistant Professor at University of Washington, Seattle.

Alexander Munk completed the dissertation “Beliefs and Uncertainty in Stochastic Modeling” under the direction of Erhan Bayraktar. He will be a Quant/Financial Engineer at Chicago Trading Company.

Rohini Ramadas completed the dissertation “Dynamics on the Moduli Space of Pointed Rational Curves” under the direction of Sarah Koch and David Speyer. She has a NSF Postdoctoral Fellowship at Harvard.

Andrew Schaug completed the dissertation “Dualities Arising from Borcea-Voisin Threefolds” under the direction of Yongbin Ruan.

Robert Silversmith completed the dissertation “A Mirror Theorem for Symmetric Products of Projective Space” under the direction of Yongbin Ruan. He will be a Research Assistant Professor at Simons Center for Geometry and Physics in Stony Brook, NY.

Derek Wood completed the dissertation “A Mode Coupling Theory for Random Waveguides with Turning Points” under the direction of Liliana Borcea. He will be a technical staff member with Systems and Technology Research in Woburn, MA.

Michigan Reception
2018 Joint Mathematics Meetings
Michigan Mathematics Alumni and Friends Reception
Friday, January 12, 2018
5:30 pm to 7:00 pm
Balboa Room, Marriott Marquis San Diego Marina
RSVP to math.mich@umich.edu
All are welcome!
Scholarship Recipient
Amanda Burcroff

I am currently a junior at UM studying honors mathematics and computer science. Mathematics has always been a passion of mine, and I first realized my potential in math when I completed all of my high school’s math courses and began to take proof-based undergraduate courses as a high school sophomore. By the time I graduated high school I had taken six college math courses, and I was very eager to continue. My sights were set on a career in mathematics when I took the first course in the UM honors sequence, Math 295, and realized that there was nothing I would rather do.

The generous financial support I have received from Math Department scholarships has allowed me to focus fully on my studies and to work to be an active part of the UM community. I have had the opportunity to research with Michigan’s Lab of Geometry and take several graduate-level classes. I have enjoyed teaching and working with other students through the four course assistant positions I have held for UM math courses and through my leadership in the Women in Mathematics Club as well as the Society of Undergraduate Math Students. My time at UM also allowed me to study abroad in Hungary with the Budapest Semesters in Math program and land a spot at the prestigious University of Chicago summer research program. I hope to continue on to graduate school in theoretical mathematics.

B. Roger Natarajan
Actuarial Program Director

Members of the Actuarial Alumni Leadership Council who met in October

Actuarial Program Highlights

Our Actuarial Program at UM was given the prestigious designation of a Center of Actuarial Excellence (CAE) in 2010 by the Society of Actuaries, which continues to be renewed annually. We went through a 5-year validation of our designation as CAE in 2015. We are of course proud that we are only one of 29 actuarial schools in the entire world (not just the U.S.) with this elite status.

I am extremely pleased that the Student Actuaries at Michigan (SAM) club has more than 250 members. Currently, there are 106 students who have declared Actuarial Math as their major. More importantly, another 150 students (two-thirds of them freshmen and sophomores) have expressed interest in joining our field. I cannot be more proud of the SAM Board who has done an outstanding job of bringing awareness of the actuarial field to the student community at large.

The Actuarial Program and the University Career Center jointly held the Second Annual Actuarial Career Expo on October 5, 2017. Nineteen organizations participated in this event, with more than 125 students having the opportunity to meet with employers, who conducted 144 interviews the following day. More employers are paying increased attention to our actuarial students, who have business acumen in addition to actuarial technical knowledge. Even though every actuarial math major can take various business courses, it is a significant competitive advantage if a student is accepted by the Ross School of Business to minor in business administration. We are encouraging actuarial students to add a business minor to their curriculum.

We held our Fifteenth Annual Nesbitt-Huntington Actuarial Commencement on April 29, 2017 for those who graduated during the academic year 2016-17. Our keynote Speaker was James W. MacGinnitie, who was a former President of the Society of Actuaries, Casualty Actuarial Society, American Academy of Actuaries, and International Actuarial Association. Of the 47 actuarial students who graduated in the academic year 2016-17, 14 of them had second major and another 11 of them had a minor in a related area (Economics, Statistics, Computer Science, and Business Administration).

The Society of Actuaries and the Casualty Actuarial Society have made significant changes to the actuarial exams needed to become associates of the respective actuarial bodies. There are also changes to the subjects for which one can get credit for VEEs (Validation by Education Experience). We are investigating ways to make the necessary adjustments to keep our program highly competitive in the market place.

The group “Student Actuaries at Michigan” in FaceBook facilitates communication among the current and former students. Currently, there are 564 members in this group. In addition, we encourage all the alumni/ae to join University of Michigan Actuaries group in LinkedIn using the link www.linkedin.com/groups/2486220. There are 460 members in this group. These groups allow for more direct communication to and between our alumni. I plan to keep in touch with our students and alumni through these social media outlets.
Departmental Scholarships
During the 2016-17 academic year, the Department provided scholarship support to 57 students. The majority of the 13 named scholarship funds were established by individuals to provide tuition support. More details on the funds, and the impact on the recipients’ educational career, will be included on our webpage.

Putnam Competition
The Department’s team for this year’s William Lowell Putnam Competition placed 18th out of more than 400 teams. The members of the team were Samuel Tenka, Alan Xu, and Pengbo Zhang. In the individual competition, Pengbo Zhang, Shiliang Gao, Samuel Tenka and Alan Xu finished in the top 300 out of more than 4100 students.

In the 34th Annual University of Michigan Undergraduate Mathematics Competition Raghav Prabhu placed first, with a tie for second place between Hai Tran Bach and Juntai Zhou.

Evelyn O. Bychinsky Awards
recognizing underclass students who show exceptional promise in mathematics:
Amanda Burcroff
Ryan Capouellez
Wenyu Jin
Max Kontorovich
Xuanan Li
Wanxing Liu
Eric Winsor
Tiantian Ye

Leon P. Zukowski Prize
recognizing outstanding service in the Mathematics Learning Center:
Nurul Hazita Mohd Azmi

Mathematics Alumni/Alumnae Scholarship
Andrew Gitlin

Jack McLaughlin Award in Algebra
Daniel Minahan

Wilfred Kaplan Award in Applied Mathematics
Thierry Laurens

William LeVeque Award in Number Theory
Yifan Wu

Frank Raymond Award in Geometry and Topology
Carsten Sprunger

George Piranian Excellend in Mathematical Writing Award
Samuel Tenka

Sumner B. Myers Award in Analysis
Xuanan Li

Marilyn and Stewart Gloyer Award
Lawrence Teng

Outstanding Achievement in Mathematics Awards
Ruizhi Deng
Siddhant Dogra
Zihao Gao
Zifan Li
Joshua Lucksom
Tianrui Wang
Qinglai Zeng
Mengrui Zhang
Mingyuan Zhang
Shangnan Zhou

Otto C. Richter Memorial Prize
Rui Zhong

Irving Wolfson Award
Bryce Peterson

D.W. Simpson Award
Kah Jun Lim

Natarajan Family Award
Qinglai Zeng
Rohini Choudhury

Lois Zook Levy Award
recognizing an outstanding mathematics student who plans to pursue a career in K-12 mathematics education:
Sarah Stecher

Michigan Mathematics Merit Scholar
Aman Sharma
Zitong Chong
Raghav Prabhu

Margaret S. Huntington Awards
Claire Hartman
Bharat Chopra
Aleksander Kupe
Lee-Yang Lin
Sean Russell
Joshua Segal
Kai Xuan Shau
Matthew Stewart
Hannah Vogelsang

Outstanding Graduating Seniors
Gwyneth Moreland
Carsten Sprunger
Wenli Zhao

Wirt and Mary Cornwell Prize in Mathematics
Yifan Wu

Left: Wenli Zhao, Carsten Sprunger, and Gwyneth Moreland, winners of the Outstanding Graduating Senior Award. Above: Roger Natarajan presents the Irving Wolfson Award to Bryce Peterson.
Alumni Updates

Frank Benford (B.S. 1967) recently published two papers on the subject of Benford random variables. Frank is the grandson of physicist Frank Benford (also a UM graduate) for whom “Benford’s Law” is named.

Teresa Peteson (B.S. 1967, M.A. 1968) is an Adjunct Math Professor with Gogebic Community College in Houghton, MI.

Stephen E. Usher (M.A. 1977, Ph.D. Economics 1978) reports that during his education he studied one summer in Switzerland with the late Dr. Georg Unger. Unger wrote his dissertation under Paul Finsler - famous for Finsler spaces - but also for an allegedly failed theory of sets. Finsler’s set theory was rejected by the profession, but Unger taught it to Usher and gave him an English translation. Much later the translation made its way to Usher’s friend Dr. David Booth, a mathematician from University of Wisconsin, and he, together with Renatus Ziegler, a Swiss PhD mathematician, published FINSLER SET THEORY: PLATONISM AND MATHEMATICS. In the third chapter of his set theory Finsler gives this definition: “A set M of SIGMA is said to be circle-free if M together with every set essential in M is independent of the concept ‘circle-free’.” The definition is thus circular!

David Kotzian (B.A. 1981, J.D. 1984, Ph.D. Economics 1987) completed a joint degree program in Economics and Law, with concentrations in labor economics and econometrics. Since 1985 he has been representing employees in discrimination, wrongful discharge and other civil rights cases. He is currently a shareholder in a Detroit area law firm.

Nancy Dynes (B.S. 1987, MBA 1996 Indiana) is a Metric Consultant with Eli Lilly. She reports that her math degree prepared her well for understanding data and developing operational metrics - skills that were not taught back then but are valuable now.

Michelle Scavone (BS 1989) is a Senior Consultant with Willis Towers Watson.

Adam Bloomfield (B.S. 1993, M.D. 1997 Rutgers) is the Field Medical Director, Respiratory/Infectious Diseases for AstraZeneca.

Geoffrey Buhl (B.A. 1997) received his PhD from University of California, Santa Cruz. He was recently promoted to Professor of Mathematics at California State University Channel Islands.

Haywai Hayward Chan (B.S. 2005) is a Software Engineer at Google.

Phoenix Zhang (B.S. 2015) is an Actuarial Analyst at Spring Consulting Group.

Awards Ceremony & Graduation Reception

Clockwise from left: Joe Conlon with Zihao Gao, 1 of 10 Outstanding Achievement in Mathematics awardees; PhD recipient Weichen Gu with Mel Hochster; Hannah Vogelsang, Matthew Stewart, and Alexsander Kape, 3 of 9 Margaret S. Huntington Prize awardees; Aman Sharma, Raghav Prabhu, and Zitong Cheng are the Michigan Mathematics Merit Scholars; Wenju Jin, Ryan Capouellez, Amanda Burcreff, and Max Kontorovich are 4 of 8 recipients of the Evelyn O. Bychinsky Award, presented by Stephen DeBacker.
Where’s Your Math T-shirt Been?

First row l-r: Bert Ortiz skiing on the solstice, Mt. Rainier, WA; Tali Khain (2019) and her brother on a mountain in CA; Noah Luntzlara (2021) at Arch Rock on Mackinac Island, MI. Second row l-r: Jessica Fintzen at Haribo in Kessenich, Germany; Daniel Hirschman at Brown University; Conor Puritz and Hannah Vogelsong (2020) in Versailles; Kerry Taylor (2019) at the National Trout Memorial, Kalkaska, MI. Third row l-r: Roi Ozrach (2020) in Jerusalem; Eric Tang (2017) on the Great Wall; Kyle Sinclair (2011) with his bride on their honeymoon in Machu Picchu; Fourth row l-r: Loren Spice in Hong Kong; Anna Clinger in Antarctica; Megan Tartal at Purdue; Mengxi Wang at D.E. Shaw.
Please send alumni updates or other information to math.mich@umich.edu

Want Your Own Math T-Shirt?

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