Michigan Section
Mathematical Association of America
NEWSLETTER

VOLUME 47, ISSUE 1 DECEMBER 2020

Read these and other stories online at sections.maa.org/michigan/history.html#newsletter_archive.

Contents

In This Issue

Reports from the Executive Committee

Chair's Report

Victor Piercey (Ferris)
<victorpiercey@ferris.edu>

I hope you are safe and healthy as you are reading this. As I am writing, the number of CoViD-19 cases across Michigan and the country are growing considerably as we head into flu season, and it is important for you, your family and friends, and students and coworkers to stay safe.

While mathematics has not been immune from the virus, it has played a role in understanding it. The Great Courses published a video this summer <youtube.com/watch?v=POmuHKzt7HA> written and delivered by MAA Project NExT Director **Dave Kung** (St. Mary's College of Maryland). In addition, the Dana Center featured a blog post I wrote about the importance of quantitative literacy during the pandemic <utdanacenter.org/blog/quantitative-literacy-time-covid-19>.

Across the section, you have made heroic efforts to make sure the mathematics profession continues to thrive during difficult times. From innovative teaching methods, to holding professional development and conferences online, to the sheer volume of webinars offered, you have demonstrated that as a section and as a profession, we are robust and resilient. This is truly inspiring.

In this spirit, consider the following challenge. What are you going to do differently once the pandemic is over? What will you learn from this experience that you can take with you? Are there teaching practices that you will continue? Have you found new collaborators? How is the future of higher education going to evolve? For that matter, how are any of the institutions in which mathematics is done going to evolve? On a more personal note, how have your values and priorities shifted? How will that first post-pandemic handshake or hug represent a new beginning for you?

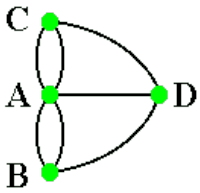
I hope that when you next hear from me, we will be on our way out of the pandemic. Even if we aren't, though, I know you will continue to flourish and grow.

Upcoming Meetings

- Northern Michigan University is tentatively scheduled to host the 2021 Michigan Section–MAA Upper Peninsula Regional meeting on October 1–2. More information will be made available next year.

- Lansing Community College will be hosting the 2021 MichMATYC Conference on October 8-9, 2021. The theme of the conference is "Mathematics Support and Success: A Vision for the Future." Proposals for presenters are now being accepted! Anyone interested in presenting should submit a proposal by February 1, 2021. Please consider sharing your experience, ideas, and expertise! To submit a presentation proposal, please complete the Conference Presenter Form (also available at the website below).
  If you have questions or if you encounter problems with the online form, please email Maria Johnson or call (517) 483-1073. See also <michmatyc.org/upcoming/michmatyc-2021/>.

Back to Contents



$$[X,[Y,Z]]+[Y,[Z,X]]+[Z,[X,Y]]=0$$

Western Michigan University

The Department of Mathematics at Western Michigan University offers a variety of graduate programs. We offer PhDs in Mathematics and Mathematics Education; Master's degrees in Mathematics, Applied and Computational Mathematics and Mathematics Education.

The Department offers several forms of financial assistance. Stipends range from $13,003–$15,577 with possible summer support. Currently all supported doctoral students and master's students receive tuition waivers. Applications are due by February 15, 2021, and are continually filled as long as openings remain.

All application materials are available on our web pages: <www.wmich.edu/math> or e-mail: <math-info@wmich.edu>

Western Michigan University is an Equal Opportunity/Affirmative Action Institution.

Four-Year-College Vice-Chair's Report

Amy Shell-Gellasch
(EMU)
<ashellge@emu.edu>

This fall report will sound almost exactly like last fall's report. That is because with the postponement of our spring meeting, we have simply pushed the meeting back one year: same weekend, same place, and many of the same speakers. I am grateful to Grand Valley State University for being so easy to work with during the cancellation and re-booking of the meeting. The meeting will be Friday and Saturday April 9th and 10th at the downtown Grand Rapids Campus of GVSU, in the DeVos Center. This is a lovely classroom and meeting space that should work perfectly for our meeting. It is in the heart of Grand Rapids, with hotels and restaurants within walking distance, so those coming in from out of town can leave their cars at their hotel. For more local attendees, we will have free parking in one of the nearby campus lots.

Please see the following page for a call for papers and student posters. If you submitted an abstract or poster for the 2020 meeting and would like to roll that over to the 2021 meeting, please contact Amy Shell-Gellasch at the address below. Registration and hotel information will become available on the meeting website after the new year, followed by a tentative program and call for papers. The website for the meeting is <gvsu.edu/mism2020/> and is also available from the section website.

Please encourage your students (undergraduate and graduate) to attend and give a talk or poster. Prizes are awarded for best student talk and poster. If you are interested in helping judge posters or talks, or to help in any way with the meeting, we can always use extra hands.

To help or for more information, please contact me at <ashellge@emich.edu>. I would like to thank all of the programming committee: **Laura McLeman**, **Sang Lee**, **Akula Tefera**, and **Matt Boelkins**.

Back to Contents

Section Representative's Report

Mark Bollman (Albion)
<mbollman@albion.edu>

These are very interesting times for the MAA, and I mean that in the best way possible.

With the cancellation of MathFest, the MAA Congress met in 6 hours (spread over 3 days) of Zoom meetings in late July. There was considerable discussion given over to diversifying MAA membership and programs. Some new initiatives have been rolled out, and others will soon follow. Check these out at MAA Connect, which is your point of access to these and other programs of the national organization.

We also discussed, at some length, the status of national meetings going forward. The 2021 Joint Mathematics Meetings, which will now be held virtually, will be the last JMM co-sponsored by the MAA. Beginning in 2022, most of our national activities will shift to MathFest. This transition is another work in progress. Currently, we hope that MathFest 2021 will still be a safe in-person gathering, in Sacramento, CA.

With this change at the national level comes increased opportunities at the Section level. New Section speaker programs will provide the opportunity for Michigan to host nationally-prominent speakers more frequently at our Section meetings. Additionally, we expect that the SIGMAAs will play a bigger role at and beyond individual Section meetings.

I remain interested in everyone's thoughts about the direction of the MAA. Please contact me at <mbollman@albion.edu> with your ideas and suggestions.

Back to Contents

Secretary-Treasurer's Report

Ken Schilling
(UM-Flint)
<ksch@umich.edu>

The Michigan Section's current bank balance (as of October 25) is $8,952.76. This is considerably higher than our balance at this time last year, mostly because our greatest expense each year is the Spring Annual Meeting, which of course we were forced to postpone in 2020.

In 2020, our section received $1,488 in support from the Washington office of the MAA. We also derive some revenue from advertising and occasional other sources, but most of the section's income is from members' voluntary dues payments.

Since I am working from home this year, we are asking that members pay their dues by PayPal rather than by mailing personal checks, if at all possible. Please direct online payments using PayPal (<paypal.com>) to <MichiganSectionDues@gmail.com>. Please provide your name, institution, mailing address, and email address in the notes for your payment. If you cannot pay by PayPal, please contact me directly (at <ksch@umich.edu>). The voluntary dues contribution for individuals remains $15, or $30 (or more) for a sustaining membership. Institutional membership dues are $40 or $70, depending on the size of the institution.

As always, the members of the Executive Committee thanks you for your support of the Section's activities through your voluntary contributions.

Back to Contents

MMPC Co-Directors' Report

Andy Poe (NMU) <apoe@nmu.edu>, Dan Rowe (NMU) <darowe@nmu.edu>

The 63rd MMPC Honors Top Students

The 63rd Annual Michigan Mathematics Prize Competition began with the Part I Examination given on Tuesday, October 8, 2019. A total of 3701 students from 128 schools answered 40 challenging multiple choice questions covering the entire spectrum of high school mathematics. Of these, 1079 students were invited to take the Part II Exam on Wednesday, December 4, 2019, an exam consisting of five very challenging problems for which the students needed to show all their work and prove their answers correct. You can read these problems following this report.

The year's Examination Committee consisted of Chair **Dorin Dumitrascu** (Adrian C), **Bingwu Wang** (EMU), **Lazaros Kikas** (U Detroit Mercy), and **Michael Dabkowski** (UM-Dearborn).

The top 100 scorers of the Michigan Mathematics Prize Competition were invited to attend the annual banquet on Saturday, March 7, 2020 at Albion College.

Dorin Dumitrascu of Adrian College delivered a well-received keynote address. A delicious pasta buffet was revealed for dinner and then the assembly honored Michigan's most gifted high school math students.

Table 1 shows the top 10 MMPC Competitors for 2019–2020.

Name	School	Award
Maxim Q. Li	Okemos High School	Gold (First-Level)
Steven N. Raphael	Roeper School	Gold (First-Level)
Alex Xu	Troy High School	Gold (First-Level)
Daniel Y. Xu	Cranbrook Schools	Silver (First-Level)
Derek Zhu	Huron High School	Silver (First-Level)
Yajvan M. Ravan	Churchill High School	Silver (Second-Level)
Reagan Choi	Troy High School	Silver (Second-Level)
Alan C. Zhu	Greenhills School	Silver (Third-Level)
Kenta J. Suzuki	Cranbrook Schools	Silver (Third-Level)
Daniel Tian	Northville High School	Silver (Third-Level)

Table 1: Top 10 MMPC Competitors for 2019–2020

Note that **Maxim Li**, **Steven Raphael**, and **Alex Xu** had a three-way tie for first place and were all three named champions of the event.

The 40 students placing 11th–50th received Bronze Awards. These top 50 finishers shared $20,000 in scholarships ranging in value from $250 to $2500.

Honorable-Mention Awards went to those students placing 51st–100th. These students received a copy of *How To: Absurd Scientific Advice For Common Real-World Problems* by **Randall Munroe**, writer and artist of the popular XKCD comic strip <xkcd.com>. (Incidentally, if you have never read the XKCD comic strip, you ought to. It advertises itself as a strip dedicated to romance, sarcasm, math, and language. I like all four of those things, and I'm guessing you do, too.)

Back to Contents

In addition, there were a dozen raffle prizes, most of them gag gifts, but also some calculators, compliments of Mu Alpha Theta, a mathematics honor society for students in high school and two-year colleges.

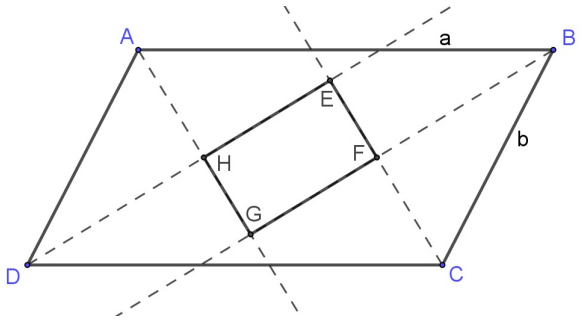
Ruth Favro (LTU), a long-time champion of women in mathematics, presented the award to our top female competitor, **Kristine X. Zheng** of Huron High School (who earned 24th place overall). She won this award last year as well.

Due to a very sudden administrative decision, Dr. Rowe and I were asked to host the competition for a fourth year. However, due to COVID-19, we have elected to suspend the event for one year. Next year's team will have a very important decision to make. Will the 2021–2022 event be called the "64th" or the "65th" event?

We have greatly enjoyed hosting the Michigan Mathematics Prize these past three years. Northern Michigan University had never been the organizing school until now, and the event had not been hosted in the Upper Peninsula since the 1980's.

2019–2020 MMPC Part II Problems

1. Consider a parallelogram $ABCD$ with sides of length a and b, where $a \neq b$. The four points of intersection of the bisectors of the interior angles of the parallelogram form a rectangle $EFGH$. A possible configuration is given below.



Show that

$$\frac{\text{Area}(ABCD)}{\text{Area}(EFGH)} = \frac{2ab}{(a-b)^2}.$$

2. A metal wire of length 4ℓ inches (where ℓ is a positive integer) is used as edges to make a cardboard rectangular box with surface area 32 square inches and volume 8 cubic inches. Suppose that the whole wire is used.
   (i) Find the dimension of the box if $\ell = 9$, i.e., find the length, the width, and the height of the box without distinguishing the different orders of the numbers. Justify your answer.
   (ii) Show that it is impossible to construct such a box if $\ell = 10$.
3. A *Pythagorean n-tuple* is an ordered collection of counting numbers $(x_1, x_2, \ldots, x_{n-1}, x_n)$ satisfying the equation

$$x_1^2 + x_2^2 + \cdots + x_{n-1}^2 = x_n^2.$$

   For example, $(3, 4, 5)$ is an ordinary Pythagorean 3-tuple (triple) and $(1, 2, 2, 3)$ is a Pythagorean 4-tuple.
   (a) Given a Pythagorean triple (a, b, c) show that the 4-tuple (a^2, ab, bc, c^2) is Pythagorean.
   (b) Extending part (a) or using any other method, come up with a procedure that generates Pythagorean 5-tuples from Pythagorean 3- and/or 4-tuples. Few numerical examples will not suffice. You have to find a method that will generate infinitely many such 5-tuples.

Back to Contents

(c) Find a procedure to generate Pythagorean 6-tuples from Pythagorean 3- and/or 4- and/or 5-tuples.

Note. You can assume without proof that there are infinitely many Pythagorean triples.

4. Consider the recursive sequence defined by $x_1 = a, x_2 = b$ and

$$x_{n+2} = \frac{x_{n+1} + x_n - 1}{x_n - 1}, \quad n \geq 1.$$

We call the pair (a, b) the *seed* for this sequence. If both a and b are integers, we will call it an *integer seed*.

(a) Start with the integer seed $(2, 2019)$ and find x_7.
(b) Show that there are infinitely many integer seeds for which $x_{2020} = 2020$.
(c) Show that there are no integer seeds for which $x_{2019} = 2019$.

5. Suppose there are eight people at a party. Each person has a certain amount of money. The eight people decide to play a game. Let A_i, for $i = 1$ to 8, be the amount of money person i has in his/her pocket at the beginning of the game. A computer picks a person at random. The chosen person is eliminated from the game and their money is put into a pot. Also magically the amount of money in the pockets of the remaining players goes up by the dollar amount in the chosen person's pocket. We continue this process and at the end of the seventh stage emerges a single person and a pot containing M dollars. What is the expected value of M? The remaining player gets the pot and the money in his/her pocket. What is the expected value of what he/she takes home?

Nominations for Section Officers

Nancy Colwell (SVSU) <nccolwel@svsu.edu>

Due to the cancellation of our annual meeting and the uncertainty caused by the pandemic, elections for section officers were held online in April, and many of our officers volunteered to stay in their roles for an additional term. Thanks to those who voted! An updated list of section officers can be found on page 19.

At our annual meeting this spring, we will elect several officers for next year, including four-year-college and two-year-college vice-chairs and a director of the Michigan Mathematics Prize Competition (MMPC).

The **four-year-college vice-chair** serves for one year and is in charge of the annual meeting. Typically the four-year-college vice-chair is elevated to the position of section chair for the following year, and serves as the past chair in the year after serving as chair. The **two-year-college vice-chair** serves for at least one year and provides an important link between the Michigan Section of the MAA and MichMATYC. Finally, the **MMPC director** serves for 3 years and administers all aspects of this competition. This position may be held by co-Directors. See the section by-laws for more detail; they can be found at the section's web page, <sections.maa.org/michigan/>. Note that these officers must be MAA members.

We are also searching for a **public information officer**, who will be responsible for writing and distributing press releases about the section. This is typically limited to information about the winners of the Michigan Mathematics Prize Competition, which is sent out to the home newspapers of each of the winners.

The section is always in need of individuals to contribute to the work of the section – volunteers are vital to the running of the section. If you are interested in volunteering your time (or know someone who is) please contact Nancy Colwell <nccolwel@svsu.edu>. If you have any questions about how you might contribute, please don't hesitate to ask. Thanks!

Back to Contents

2020 Award for Distinguished College or University Teaching of Mathematics Presented to Douglas A. Lapp

Carl Lee (CMU) <lee1c@cmich.edu>

The Michigan Section of the Mathematical Association of America is pleased to present the 2020 Award for Distinguished College or University Teaching of Mathematics to Dr. Douglas A. Lapp of Central Michigan University.

Douglas Lapp
2020 Distinguished Teaching Award Recipient

Doug is receiving this award for his commitment to excellence in teaching at CMU and his dedication to promoting active learning and the use of technology throughout the country. He has provided professional development on active learning and technology use for teaching mathematics throughout the United States at both the secondary and college level, including at Penn State University, the University of Ottawa (Canada), Northern Illinois University, Middle Tennessee State University, and East Carolina University.

At CMU, Doug has received the College of Science and Technology's Outstanding Teaching Award and has chaired the Active Learning Committee, which provides faculty with professional development on engaging undergraduates in the learning process. He has also led undergraduate research in the Long-term Undergraduate Research Experience (LURE) program as part of the two-year NSF LURE program conducting research on student learning of College Algebra concepts. This led to a publication in 2013 with his undergraduate students in the Mathematics Teacher journal and was selected as a finalist for NCTM's outstanding publication award for 2013–2014 publication year.

Doug's curriculum development has also provided activities and active learning discussion questions for use in calculus, linear algebra, and abstract algebra. These activities were incorporated into linear and abstract algebra courses at CMU and used in research studies conducted at CMU and Alma College with Dr. Mel Nyman. He has published several articles in the International Journal of Mathematical Education in Science and Technology and The International Journal for Technology in Mathematics Education on the learning of linear algebra, exploring the way students connect abstract concepts so that technology can be used to dynamically link multiple representations, deepening student understanding.

From a leadership perspective, Doug has worked in several roles at both the state and national level. He served as editor of the international journal Contemporary Issues in Technology and Mathematics Teacher Education, a peer-reviewed publication of the Association of Mathematics Teacher Educators and the Association for the Advancement of Computing in Education. Within Michigan, Doug has been vice president of the Michigan Council of Teachers of Mathematics and served on the Committee for Teacher Preparation Standards for Mathematics 5–9 and 7–12 grade bands. Nationally, he currently serves as chair of the SAT Subject Mathematics Test Development Committee.

It is therefore with great pride and pleasure that the Michigan section of the Mathematical Association of America presents the 2020 Award for Distinguished College or University Teaching of Mathematics to Douglas A. Lapp.

Back to Contents

2021 Distinguished Teaching Award Nominations Due December 31, 2020

Angela Kubuna (UM-Ann Arbor) <akubena@umich.edu>
Distinguished Teaching Award Committee Chair

Nominations for the Michigan Section's 2021 Distinguished Teaching Award are now being accepted, and must be received by December 31, 2020 to be considered. The Distinguished Teaching Award Committee strongly urges departments or individuals to nominate deserving faculty for this award. We recognize that there are many outstanding teachers in the section, but we can consider only those who are nominated.

The committee particularly welcomes nominations of individuals from groups (or types of institutions) that have historically been underrepresented in mathematics or in the list of previous recipients of the award. Past recipients may be found at <sections.maa.org/michigan/history.html#award>. The person selected by the committee will be presented with the award in the spring at the annual meeting of the Michigan Section, and will also, pending submission of additional supporting material and membership in the MAA, become the Michigan Section nominee for the national MAA Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching of Mathematics.

Nomination Instructions Completed nominations must be received by December 31, 2020, to be considered for the 2021 Award. The nomination form is available on the section's website as a Microsoft Word file.

Send an electronic copy of the completed form to Angela Kubena <akubena@umich.edu>; please use "Michigan DTA Nomination" as the subject.

Anyone may make a nomination (of someone else; self-nomination is not permitted), but nominations from chairs or MAA liaisons in departments of mathematical sciences are especially requested.

Eligibility for the Award To be considered for the award, a nominee must:

- Be a college or university teacher who currently teaches a mathematical science at least half-time during the academic year in a public or private college or university (from two-year college teaching through teaching at the PhD level) in Michigan.
  Those on approved leave (sabbatical or otherwise) during the academic year in which they are nominated qualify if they fulfilled the requirements in the previous year.
- Have at least seven years experience in teaching the mathematical sciences.
- Have had teaching effectiveness that can be documented.
- Have had influence in their teaching beyond their own institution.
- Foster curiosity and generate excitement about mathematics in their students.

Back to Contents

Michigan Section Awards 2020 Distinguished Service Award to Gavin LaRose

Nancy Colwell (SVSU) <nccolwel@svsu.edu>

In recognition of his commitment to serving students and teachers of Mathematics, both locally and nationally, the Michigan Section of the Mathematical Association of America has awarded Gavin LaRose its 2020 Distinguished Service Award.

Gavin LaRose is the Karen Rhea Collegiate Lecturer in the Mathematics Department at the University of Michigan. For many years, Gavin has served in a large variety of roles at levels ranging from his department at the University of Michigan to national service such as his work with Project NExT.

At the University of Michigan, in addition to serving on numerous committees, Gavin has been instrumental in administering the series of coordinated introductory courses for calculus and beyond. He has worked tirelessly to continue to improve this program.

Gavin has coordinated a seminar together with the School of Education on the teaching of mathematics. He also co-coordinates the Learning Community on Inclusive Teaching.

For the Michigan Section of the MAA, Gavin served as the four-year-college vice-chair in 2015–16, the chair in 2016–17, and the past chair in 2017–18. Nationally, Gavin has served on various MAA committees, including the Nominating Committee, the Committee on Deborah and Franklin Tepper Haimo Awards, the Membership Committee, and the Committee on Professional Development. He was also a steering committee member of the Committee for the Teaching of Undergraduate Mathematics' Instructional Practice Guide.

Gavin is one of the longest-serving members of the leadership team of Project NExT, working as associate co-director from 1997–2009 and then as associate director from 2009–12. Through Project NExT he has served countless new and developing teachers of mathematics across the country.

Another major way that Gavin has impacted mathematics nationally is through his commitment to advancing teaching with technology. Among other work in this vein, he served as a co-director of several WeBWorK workshops in which participants learn and develop WeBWorK homework problem-writing skills, has created sets of problems for different courses, and has expanded the utility of the existing WeBWorK problem library. Currently, Gavin is an advisory board member for NSF's UTMOST (Undergraduate Teaching in Mathematics with Open Software and Textbooks) grant.

Gavin's service has had a major impact, given the number of University of Michigan students who have taken courses that he has helped administer and improve, the number of new mathematics faculty he has impacted during his work with Project NExT, and the courses that have been improved through utilizing the WeBWorK system.

We thank you Gavin for all your work, and are happy to make this award.

2021 Distinguished Service Award Nominations Due January 31, 2021

Nancy Colwell (SVSU) <nccolwel@svsu.edu>

Nominations are being solicited for the Michigan Section's Distinguished Service Award. The awards committee will accept nominations until January 31, 2021.

Nominations should include the nominee's service in his/her home department as well as service to the section, and any service performed for national mathematics organizations or for the promotion of mathematics in a local community.

Please send nominations to Nancy Colwell <nccolwel@svsu.edu>.

Back to Contents

Join the Alliance for Michigan Inquiry-Based Learning

Nina White (UM-AA) <whitenj@umich.edu>.

The Alliance for Michigan Inquiry-Based Learning (AMiIBL) is a state-wide professional learning community for college and university mathematics instructors. Through live events (virtual for now) and a listserv, instructors can meet, communicate, and support each other as they use inquiry in their classrooms. It is part of the COMMIT network <comathinquiry.org/> and partially funded by an NSF Grant.

For more information, check out our website: <amiibl.org>! Here you can join the listserv, apply for mini-grants, get information about future workshops, and learn more about the community. A few highlights we'd like to point out:

- Join the AMIIBL email list at <groups.google.com/forum/#!forum/amiibl/join> (Click "Ask to join group") to stay up to date on all events.
- Our latest initiative is a series of (virtual) lunch socials where we chat about pedagogy, share tips and resources, and de-stress with a friendly bunch of colleagues! Our next social will be on January 26, 2021 at 1 pm ET and it will be held on the platform Gather.Town at <gather.town/app/gjIsk07K0ziPHqbP/lunch> (Password: lunch). All instructors welcome.
- Through the NSF grant funding AMiIBL is offering $500/person mini-grants to support collaborations among instructors. You can see the official call for proposals at <docs.google.com/document/d/1H-bfvqP5f6MGWT_hBK3ZmtTT_ugkID5IhamO8IWNdf4/edit>. You may also skip the application form and send a very short email pitch directly to Nina White <whitenj@umich.edu>.

Campus News

Albion College

Mark Bollman <mbollman@albion.edu>

Yuming Zhang has joined the department from New Mexico State University as an Assistant Professor of Computer Science. **April Grow** returns as a full-time Visiting Instructor of Mathematics, and after 3 years as a visitor, **Drew Ash** has been moved onto the tenure track as Assistant Professor of Mathematics. **Darren Mason** is leading a college-wide initiative to develop new programs in data science and data analytics.

Back to Contents

Central Michigan University

Ben Salisbury <ben.salisbury@cmich.edu>

Debraj Chakrabarti, **Ben Salisbury**, and **Xiaoming Zheng** were each promoted to professor.

Professor Debraj Chakrabarti was awarded a five-year Simons Foundation Collaboration Grant for his project entitled "Analysis and Geometry in Several Complex Variables." This is the second time Chakrabarti has received the same Simons Collaboration grant, the first time being in 2014.

Professor **Douglas Lapp** was selected to receive the Michigan Section of the Mathematical Association of America Award for Distinguished College or University Teaching of Mathematics in 2020.

Mathematics major **Austin Konkel** was recently named as one of the recipients of the prestigious 2020 Barry Goldwater Scholarship. Goldwater Scholarships, established in 1986 to honor Senator Barry Goldwater, are provided to college sophomores and juniors pursuing research careers in mathematics, engineering, and the natural sciences. Upon graduating, Konkel, a junior at CMU, plans to pursue a PhD in mathematics and work as a professor at a research university.

Mathematics major **Chase Bender** was chosen to present his research at this year's Young Mathematicians Conference at The Ohio State University. Bender's research, "L^p Regularity of the Bergman Projection on Quotient Domains," was co-supervised by Debraj Chakrabarti and **Meera Mainkar**, and supported by CMU's Undergraduate Summer Scholars Program. Bender is currently pursuing an accelerated master of arts degree in mathematics.

Matthew Barco, **Jordan Gill**, **Christal Schoen**, and **Mohyeedden Sweidan** completed PhD degrees in 2019–2020.

Eastern Michigan University

Amy Shell-Gellasch <ashellge@emu.edu>

Steve Blair and **Kim Rescorla** have been promoted to Professor. **Khairul Islam** was promoted to Associate Professor.

Jo Warner, a Teacher/Placement Specialist in Developmental Mathematics, retired at the end of 2019.

Professors **Kim Rescorla** and **Jiuqiang Liu** retired this summer.

Ovidiu Calin published the book *Deep Learning Architectures: A Mathematical Approach* in April, 2020.The book appeared in the Springer Series in Data Sciences and describes how neural networks operate from the mathematical point of view. Calin also presented a pulse device at the University of Michigan AI Symposium 2019 and won the Best Demo Award.

Ferris State University

Kirk Weller <KirkWeller@ferris.edu>

Victor Piercey, together with **Catherine Buell** (Fitchburg State University) and **Rochelle Tractenberg** (Georgetown University), was awarded a National Science Foundation grant to study ethics in mathematics.

Back to Contents

Lawrence Technological University

Bruce Pell <bpell@ltu.edu>, Ruth Favro <favro@ltu.edu>

We welcome new computer science faculty members, **Jose Gonzales-Belmonte** and **Tao Liu**, to the Mathematics and Computer Science Department. Gonzales-Belmonte's research area is in game development and Liu's is in machine learning, computer security, and related areas.

Matthew Johnston and **Bruce Pell** conducted research on the spread of COVID-19 over the summer with a team of LTU students. This correlates with their own research in developing methods for incorporating social behavior and perceptions into their models for forecasting epidemic spread.

Teams from the US and six other countries competed in the 2020 Robofest world championship, the only world robotics competition held this year. **C. J. Chung**, its founder and director, was able to shift to an all-online format; 153 teams comprised of 350 students competed in 13 age divisions and six competition categories.

Congratulations to the student team of **Michael DiFranco**, **Joe Schulte**, and **Asher Schreiber** for their third place finish in the 2020 Lower Michigan Math Competition in April. LTU's two teams were organized by **Guang-Chong Zhu**. The contest was held online this year.

LTU fielded three teams in the 2020 Mathematical Contest in Modeling (MCM), researching Mitigating Plastic Waste and Building an Optimal Sandcastle. The contest was held on two different weekends, mid-February and early March, due to the initial disruptions of the coronavirus pandemic, but was completed before the stay home orders. Plans for the student teams to give talks at the MAA Section meeting on their MCM papers, as well as papers prepared for the SIMIODE Challenge Using Differential Equations Modeling (SCUDEM), were put on hold due to the postponement of the meeting to Spring 2021. Practices are being held for the SCUDEM and the M.A.T.H. Challenge contests, both in November.

Math Club officers for 2020–2021 are **Daniel Piotrowski**, **Andrea Houck**, and **Joe Schulte**.

Michigan Technological University

Jeanne Meyers <jemeyers@mtu.edu>

The department welcomes two new tenure-track assistant professors in statistics: **Fan Dai** received her BS in Statistics from Shanghai University of Finance and Economics in 2013; MS in Statistical and Economic Modeling from Duke University in 2015; and PhD in Statistics from Iowa State University in 2020. Dai's research areas include matrix-free methods for high-dimensional data inference, visualization of high-dimensional continuous or discrete data, and exploratory factor analysis. **Byung-Jun Kim** received his BS and MS in Statistics from Chung-Ang University, Seoul, Korea, and PhD in Statistics from Virginia Tech in August 2020. Kim's research interests include Gaussian graphical models, high-dimensional regression, kernel machine learning-based regression, matched case-control study, measurement error in covariates, multivariate analysis, semiparametric regression, and variable selection.

Yeonwoo Rho was promoted to Associate Professor with tenure, and **Stefaan De Winter** was promoted to Professor, effective August 17, 2020. Professors **Kathleen Feigl** and **Franz Tanner** will be on sabbatical for the academic year.

Professor **Jiguang Sun** was awarded a five-year Simons Foundation Collaboration grant. Stefaan De Winter is spending a fourth year at the NSF as a program officer.

Back to Contents

Oakland University

Daniel Steffy <steffy@oakland.edu>

Charles Ching-an Cheng retired in August 2020, and **Stephen J. Wright** plans to retire at the end of the fall 2020 semester.

Nghia Tran was promoted to the position of associate professor with tenure, and will be on sabbatical leave in fall 2020. **Lih-Ing Roeger** and **Matthew Toeniskoetter** joined the department as visiting assistant professors.

In the summer of 2020, the department ran the Oakland University Math Bridge Program, an outreach program for sixth and seventh grade students from Pontiac.

The department has multiple openings for tenure track positions starting in Fall 2021. More information can be found on our departmental web page <oakland.edu/math/> or at <mathjobs.org>

University of Michigan–Ann Arbor

Nina White <whitenj@umich.edu>

Starting in January 2018, an evolving community of mathematics instructors at the University of Michigan-Ann Arbor have been participating in a Learning Community on Inclusive Teaching (LCIT).

The LCIT was formed to to create a space for graduate students, post-docs, and faculty to discuss research articles and other readings about diversity, equity and inclusion in the contexts of (a) classroom practice, (b) institutional and programmatic structures, (c) mathematics as a discipline, and (d) society more broadly. As a starting point, our readings and discussions serve to disseminate basic awareness and knowledge on the critical issue of how to make mathematics and mathematics classrooms more inclusive.

However, the goals go well beyond simple knowledge dissemination; the format of monthly informal discussions allow for regular attendees to build a sense of community, increasing the collective value put on inclusive teaching in our department. Our ultimate goal is to build and support a critical mass of instructors who care and think deeply about creating classroom spaces that welcome and support students of all backgrounds and identities. As our graduate students and post-docs eventually move on to other institutions, we hope this will have an even further reaching impact on our larger mathematical community.

Faculty members **Gavin LaRose** and **Nina White** have been the organizers of our LCIT; our list of readings is available at <www-personal.umich.edu/~glarose/dept/teaching/lcit.html>. You can contact Nina White <whitenj@umich.edu> if you have questions about our work or forming a similar learning community at your institution or a group of institutions.

Back to Contents

University of Michigan–Flint

Mehrdad Simkani <simkani@umich.edu>

The Mathematics Department is offering two new concentrations: Mathematics for Data Science, and Mathematics for Social Interaction. A Master of Arts in Mathematics program will begin in Fall 2021, with the option of taking all classes online.

Wayne State University

Dan Drucker <ddrucker@umich.edu>

Professor **Daniel Frohardt** retired at the end of the 2019–20 academic year. Professor **Jose-Luis Menaldi** has begun a three-year phased retirement during 2020–21. Assistant Professor **Abhijit Mandal** took a position as assistant professor at the University of Texas at El Paso starting in 2020–21. Professor **George Yin** took a position as professor at the University of Connecticut starting in 2020–21. Professor **Wayne Raskind** has taken a position as director of the Center for Communications Research, a division of the Institute for Defense Analyses, in Princeton, New Jersey.

Pei-Yong Wang has been promoted to full professor. **Matthew Buckman**, **Melinda Lanni**, and **Naresh Mahabir** have been promoted to senior lecturer.

Professors **Fatih Celiker**, **Po Hu**, and **Zhimin Zhang** are on sabbatical leave during Fall 2020. Mathematics Department Academic Advisor **Kim Morgan** is on leave during Fall 2020.

The 28th annual Owens Lecture was delivered on March 4, 2020 by Dr. **Thaleia Zariphopoulou** of the University of Texas at Austin. The title of her talk was "Human-machine interaction models and stochastic optimization."

A new Master of Science in Data Science and Business Analytics program (M.S. with a concentration in Statistics) has been approved. We have also introduced courses on Topological Data Analysis, Introduction to Data Science, Quantum Computing, and Applied Regression Analysis, the latter replacing a course on Linear Statistical Models. Another new course, Fundamentals of Mathematics and Proof-Writing, has been approved. We are awaiting approval for courses on Mathematical Epidemiology and new topics courses for undergraduates.

Richard Pineau has been inducted into the Wayne State University Academy of Teachers. **David Patwin** has received the Dean's Diversity Fellowship Award.

Professors Abhijit Mandal and **Tao Huang** have been awarded 2020–2021 University Research Grants. Professor Huang's project title is "Analysis of Ericksen-Leslie System Modeling Nematic Liquid Crystal Flows." Professor Mandal's project title is "Robust Variable Selection for High-Dimensional Data."

The officers of the WSU Math Society are **Maria Berishaj**, Co- President; **Dalton Cymbal**, Co-President; Richard Pineau, Co-faculty advisor; **Tiana Bosley**, Co-faculty advisor.

The Department of Mathematics at Wayne State University invites applications for a tenure-track position at the rank of Assistant Professor in Statistics, commencing in Fall 2021. Applications should include a cover letter, a detailed CV, a research statement, a teaching statement, and four letters of recommendation, one of which should address teaching. A PhD in Statistics or a related field and a strong interest in research and teaching are required. For more information and to apply, see <mathjobs.org/jobs/list/16481>.

Back to Contents

Spring 2020 Mathematical Contest News

The 80th William Lowell Putnam Mathematical Competition Top Michigan Students

Ruth Favro (LTU) <rfavro@ltu.edu>

The 80th Putnam Competition was held on Saturday, December 7, 2019, with over 4,200 students competing in the 6-hour, 12-question exam. Results were announced in late February, 2020. Congratulations to all who participated in this challenging contest! Top students at Michigan colleges are shown in Table 2.

Top 1–192		Top 199–478.5	
MSU:	**Mohit Bansil**	MSU:	**Neel Modi**, **Luke Wiljanen**
UM:	**Zijian Cheng**	UM:	**Stephen Jasina**, **Omer Siddiqui**, **Conor Thompson**, **Pohsun Wu**

Table 2: Michigan Top Putnam Students

The 2020 Putnam has been postponed to February 20, 2021. The format (in person or online) will be determined by whether most students can return to campuses. See <maa.org/math-competitions/putnam-competition> for more information.

The 2019 American Mathematics Competitions Results

David Friday (Macomb CC) <fridayd@macomb.edu>

The American Mathematical Contest 10 (AMC 10) and the American Mathematical Contest 12 (AMC 12) are 25-question, 75-minute competitions designed to challenge talented high school students outside of their typical classroom curriculum. The AMC 10 is geared toward students at grade 10 or below, and the AMC 12 is geared toward all high school students.

In the 2019–2020 academic year, a total of 36152 students (down from 42101 last year) at 1861 schools worldwide (down from 1920 last year) took part in the AMC 10 A and 27423 students (down from 34476 last year) at 1743 schools worldwide (down from 1872 last year) took part in the AMC 12 A. Additionally, 26553 students (up from 23832 last year) at 1484 schools worldwide (up from 1375 last year) took part in the AMC 10 B, and 20800 students (up from 19116 last year) at 1501 schools worldwide (up from 1459 last year) took part in the AMC 12 B.

One student from the state of Michigan earned a perfect score on one of these competitions: **Alex Xu**, an 11th grader from Troy HS (Troy) earned a perfect score on the AMC 12 A.

Back to Contents

The 2020 American Regions Mathematics League Contest Results

Ruth Favro (LTU) <rfavro@ltu.edu>

The ARML competition was held on the weekend of May 30–31. Due to the coronavirus pandemic, the usual setup of 15-member teams meeting face-to-face at four university locations was replaced with 6-member teams competing online. To do this, the April ARML Local Contest (held onsite at high schools, 6-member teams) was canceled and converted to an online format for the May weekend.

Google Meet was the preferred site, but Zoom was also allowed. Each team had a proctor who was responsible for overseeing the contest rules and communication. Kudos to the ARML organizers for their hard work in making this year's contest a reality, to the D.E. Shaw group and Star League for sponsoring the prizes, and to the Museum of Mathematics (MoMath) for sponsorship to waive the registration fees.

The Michigan All-Stars coaches organized seven teams, with an eighth team organized by Dr. **Rhagunath Khetan** from the Indus Center for Academic Excellence, and a ninth team from Okemos. For the All-Stars, the proctors included three coaches and four parents. We recruited students from the 2019 All-Star teams and the Michigan Mathematics Prize Competition (MMPC) top 200 students. Each team had a student leader who was very helpful in recruiting and organizing.

The contest mirrors the ARML contest, with Team, Relay, and Individual rounds, and a tie-breaker round for the top Individual scorers (the Power round, an hour-long sequence of proofs, is omitted), taking about two and a half hours altogether. There were 270 teams, and over 1500 students participating, from the U.S., Canada, and four other countries.

The All-Stars A2 team came in 8th overall, and the Michigan All-Stars-Troy team came in 11th. Each team member on the top 9 teams received an Amazon gift card. In the Individuals category, **Alex Xu** (Troy team) was in the top 12 with a score of 10. **Daniel Tian** (Troy team), **Steven Raphael** and **Reagan Choi** (both A2 team) were in the next group with a score of 9. All received Amazon gift cards.

Our other teams were the Michigan All-Stars Primes (75th), All-Stars A4 (125th), Michigan All-Stars Integers (198th), Clarkston (199th), and the Non-Mirzakhani Squad (205th). Complete results are at <arml.com/ARML/arml_2019/page/index.php>

Student team leaders were **Derek Zhu** (A2), **Yajvan Ravan** (Troy), **Austin Feng** (Primes), **Arnav Brahmasandra** (A4), **Bonnie Hunh** (Integers), **Parker Szachta** (Clarkston), and **Andrew Zhou** (Non-Mirzakhani). Coaches and parents were **Dave Friday** (Macomb CC), **Cap Khoury** (Everi Games), **Ruth Favro** (LTU), **Ming Zhu**, **Xiang Feng**, **Ren You**, and **Cindy Wang**, with help from **Joe Xiaobing Zhou** and **Tricia Rosenkranz**.

We thank the students and proctors for their participation in this unusual year, and are looking forward to the 2021 ARML contest!

Back to Contents

Michigan Section—Mathematical Association of America

Committees and Appointments

Executive Committee

Chair ('21) Victor Piercey (Ferris State U)
<piercev1@ferris.edu> • 989-964-4353
Vice Chair ('21) Amy Shell-Gellasch (EMU)
<ashellge@emich.edu> • 734-487-1444
Vice Chair ('21) Sang Lee (Grand Rapids CC)
<sanglee@grcc.edu> • 616-234-4076
Sec.-Treas. ('22) Ken Schilling (UM-Flint)
<ksch@umflint.edu> • 810-762-3244
Past Chair ('21) Nancy Colwell (SVSU)
<nccolwel@svsu.edu> • 231-591-2823
Section Rep. ('22) Mark Bollman (Albion C)
<mbollman@albion.edu> • 517-629-0261

Michigan Mathematics Prize Competition (MMPC)

Co-Director ('20) Daniel R. Rowe (NMU)
<darowe@nmu.edu>• 906-227-1594
Co-Director ('20) Andrew Poe (NMU)
<apoe@nmu.edu> • 906-227-1598

2020 Annual Meeting Program Committee

Chair Amy Shell-Gellasch (EMU)
<ashellge@emich.edu> • 734-487-1444
Member Laura McLeman (UM-Flint)
<lauramcl@umflint.edu> • 810-237-6656
Member Sang Lee (Grand Rapids CC)
<sanglee@grcc.edu> • 616-234-4076
Member Akula Tefera (GVSU)
<teferaa@gvsu.edu> • 616-331-3746
Member Matt Boelkins (GVSU)
<boelkinm@gvsu.edu> • 616-331-3384

Audit Committee

Member Dan Isaksen (Wayne State U)
<isaksen@wayne.edu> • 313-577-2479
Member Michael Bolt (Calvin C)
<mbolt@calvin.edu> • 616-526-6719

Michigan Section *Newsletter*

Co-Editor ('23) Clark Wells (GVSU)
<wellsc@gvsu.edu> • 616-331-2444
Co-Editor ('23) Beth Wolf (UM-AA)
<bethwolf@umich.edu> • 734-763-2534
Ad. Manager Will Dickinson (GVSU)
<dickinsw@gvsu.edu> • 616-331-3745

Distinguished Service Award Committee

Chair ('21) Nancy Colwell (SVSU)
<nccolwel@svsu.edu> • 989-964-4353
Member ('21) Victor Piercey (Ferris State U)
<piercev1@ferris.edu> • 231-591-2823

Distinguished Teaching Award Committee

Chair ('21) Angela Kubena (UM-Ann Arbor)
<akubena@umich.edu>• 734-763-3249
Member ('22) Yunus Zeytuncu (UM-Dearborn)
<zeytuncu@umich.edu>• 313-583-5178
Member ('23) Doug Lapp (CMU)
<douglas.andrew.lapp@cmich.edu>• 989-774-5393
Member ('21) Elizabeth Lamprecht (Adrian C)
<elamprecht@adrian.edu>• 517-264-3936

Nominating Committee

Chair ('21) Nancy Colwell (SVSU)
<nccolwel@svsu.edu> • 989-964-4353
Member ('21) Sang Lee (Grand Rapids CC)
<sanglee@grcc.edu> • 616 234-4076
Member ('21) Victor Piercey (Ferris State U)
<piercev1@ferris.edu> • 231-591-2823

MMPC Audit Committee

Member David Redman (Delta C)
<bdredman@delta.edu> • 989-686-9249
Member Michael (Cap) Khoury (Lawrence Tech. U)
<prof.cap.khoury@gmail.com>• 248-204-3531

Back to Contents

Other Appointments and Contacts

Webmaster	('22) Paul Pearson (Hope C) <michmaawebmaster@gmail.com> • 616-395-7529
Public Inform. Off.	Ruth Favro (Lawrence Tech U) <rfavro@ltu.edu> • 248-214-4375
AMC Coordinator	David Friday (Macomb CC) <fridayd@macomb.edu> • 586-226-4731
Archivist	John W. Petro (WMU) <john.petro@wmich.edu> • 616-387-4591

Calendar of Events

Michigan Section–MAA Annual Meeting

2021: Grand Valley State University, April 9–10
<gvsu.edu/mism2021/>.
2022: Alma College

MAA MathFest

2021: Sacramento, CA, August 4–7
<maa.org/meetings/mathfest>
2022: Washington, DC, August 3–6
2023: Tampa, FL, August 2–5

AMS Joint Mathematics Meetings[1]

2021: Virtual, January 6–9
<jointmathematicsmeetings.org/jmm>
2022: Seattle, WA, January 5–8
2023: Boston, MA, January 4–7

AMATYC Annual Conference

2021: Phoenix, AZ, October 28–31
<amatyc.org/page/2021ConfHome>
2022: Toronto, ON, November 17–20
2023: Omaha, NE, November 9–12
2024: Atlanta, GA, November 14–17
2025: Orlando, FL, November 19–22

NCTM Annual Meeting & Exposition

2021: St. Louis, MO, April 21–24
CANCELED
2021: Atlanta, GA, September 22–25
<nctm.org/annual/>
2022: Los Angeles, CA, September 28–October 1
<nctm.org/Conferences-and-Professional-Development/Annual-Meeting-and-Exposition/Past-and-Future-Annual-Meetings/>

[1]The MAA's agreement with the AMS to jointly run the Joint Mathematics Meetings will end following the JMM in 2021.

Back to Contents