Michigan Section Mathematical Association of America NEWSLETTER

VOLUME 45, ISSUE 2

March 2019

15

17

18

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

master course material.

Volunteer to Serve the Section

There are volunteer positions with the Section that need to be filled. Volunteer or nominate someone

to help out our local mathematicians!

	Contents		In This Is	ssue	
	Reports from the Board Chair	2 2 4 4 6		Chair's Report	
	Inst. and Sustaining Members Webmaster	6 7	64	Four-Year College Vice Chair's Report Nancy Colwell (SVSU) previews the 2019 Annual	
	Campus News	8		Meeting of our Section and MichMATYC, which will be held April 5–6 at University of Detroit Mercy.	
	Carl Lee Wins Haimo Award	15		be field April 5–6 at Offiversity of Detroit Mercy.	
	Distinguished Teaching Award	15		Section Representative's Report	
	Distinguished Service Award	15		Steve Schlicker (GVSU) gives his farewell report, in which he discusses several important elections.	
	DTA Nominations	16			
	DSA Nominations	16		Secretary-Treasurer's Report	
	From the Origin	17		Mark Bollman (Albion C) reports on the Section's financial situation and membership.	
	Section Officer Nominations	18	Ward 1	manda situation and membership.	
	Meetings	19		Carl Lee Honored by MAA	
	Mathematical Contest News	22		The MAA has awarded Carl Lee (Central Michi-	
_	Committees & Appointments	22		gan U) the Deborah and Franklin Tepper Haimo Award.	
				From the Origin	

Reports from the Executive Board

Chair's Report

I hope this newsletter finds you enjoying a great start to 2019 and eagerly looking forward to the Section meeting at the University of Detroit Mercy!

At the Joint Mathematics Meetings in Baltimore, our own **Carl Lee** of Central



Victor Piercey (Ferris State U) <piercev1@ferris.edu>

Michigan University was awarded the Haimo Award for distinguished teaching, one of the MAA's most prestigious awards. Please join me in expressing the Michigan Section's pride in Dr. Lee's teaching and congratulating him on his well-earned award.

The Section meeting is coming up fast! The program committee is putting together an excellent conference that you won't want to miss. Prior to the opening of the meeting, the Michigan IBL Consortium (<www.inquirybasedlearning.org/michigan-ibl-consortium>), with support from Mathematics Learning by Inquiry (MLI) (<mathlearningbyinquiry.org>), will sponsor a workshop on "Teaching with Inquiry-Based Learning" with facilitators from the University of Michigan Inquiry-Based Learning Center. This free workshop is open to everyone — from experienced

IBL instructors to the IBL-curious. Come for enriching discussions about teaching with your peers from across the state!

Unfortunately, I will not be able to make it to this year's Section meeting. I will be attending the second workshop on Ethics in Mathematics in the United Kingdom. Mathematicians in the UK are raising some very important questions and issues for mathematicians to think about. I hope to be able to report back at the next Section meeting.

Speaking of upcoming Section meetings, mark your calendars for the 2020 Michigan Section meeting, which will be held at Grand Valley State University on April 3–4. We have also confirmed that Alma College will host the 2021 Section meeting, with dates to be determined. If your campus is interested in hosting the Section meeting, please reach out to anyone on the executive committee. Hosing the Section meeting is a great way to promote your institution!

Finally, as I mentioned in the previous edition of the *Newsletter*, the executive committee has been discussing ways to improve inclusivity in our Section. In that direction, members of several equity-oriented mathematical organizations have spoken with me, and we are in the very early stages of planning either a workshop on inclusive practices or a panel on equity at the 2020 meeting. Stay tuned for details!

Join the MAA!

The MAA is a professional society whose mission is to advance the mathematical sciences, especially at the collegiate level. MAA members include high school teachers, college professors, undergraduate and graduate students, pure and applied mathematicians, statisticians, computer scientists, and many others in academia, government, business, and industry. As a member, you will enjoy registration discounts at national meetings, electronic subscriptions to all MAA journals and magazines, automatic enrollment in your local MAA section, and access to employment services and exclusive online resources. To become a member, or to learn more about what the MAA can offer you, visit <maa.org>.

Michigan Section Dues

Your voluntary dues contribution will help support the activities of the Michigan section, such as the Annual Meeting and the *Newsletter*. Dues may be submitted online via PayPal (log in to your account at paypal.com and specify MichiganSectionDues@gmail.com as the address of the recipient), or you may print and mail this form and a check to the address given below.

Enclosed is a check for:

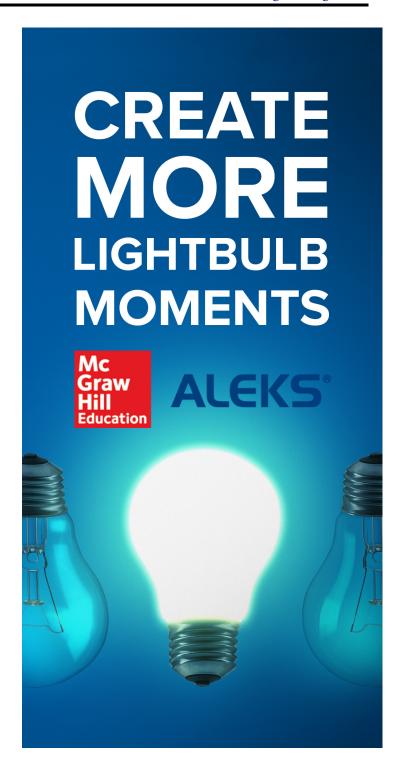
	\$15 regular dues		
	\$30 sustaining membership		
	\$40 small institution dues		
	\$70 large institution dues		
Naı	ne		
Institution			
Mailing address			
	e		

Make checks payable to: Michigan Section–MAA, and mail them to:

Mark Bollman

Email address

Secretary-Treasurer, Michigan Section—MAA Dept. of Mathematics and Computer Science Albion College, Albion, MI 49224-5013.



Four-Year College Vice Chair's Report

The 2019 Annual Meeting of the Michigan Section–MAA and MichMATYC will be held Friday and Saturday, April 5 and 6, 2019, at University of Detroit Mercy. Information about meals, travel, lodging, and the meet-



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

ing schedule, as well as registration information,
is available on the meeting website <sections.
maa.org/michigan/meetings/2019_Spring_
annual_meeting.html>.

We have another great line up of plenary speakers. Roni Ellington of Morgan State University will speak on STEM education. Candice Price of San Diego State University will give a talk titled "Increasing the Rate of Change: The Impact of Broadening the Visibility of Mathematicians of Color." At the Friday evening banquet, our MAA Secretary James Sellers of Penn State University will speak "On Euler's Partition Theorem Relating Odd-Part Partitions and Distinct-Part Partitions." Amanda Serenevy of Riverbend Community Math Center will speak about "Reaching Out to Those Who Have Been Left Out," and Suzanne Weekes of Worcester Polytechnic Institute will close with the talk "Lean Out: Connecting Outside the Ivory Tower." Local invited speakers include Garry Johns of SVSU, Beth Kelch and Myung Pinner of Delta College, Jose Perea of MSU, and Prasad Venugopal of University of Detroit

Mercy. Abstracts and details can be found in the program, which is available on the website; printed copies will also be available at the meeting.

This meeting will officially start on Friday, April 5 at 2:15 p.m., with registration opening at 1:15, and run through Saturday, April 6 around 5:15. There will also be a pre-conference workshop on "Teaching with Inquiry-Based Learning" facilitated by the Center for Inquiry-Based Learning at the University of Michigan, which will start Friday at 8:30 a.m. The program also will include a panel discussion on community outreach programs on Saturday morning, and, just for fun, a math-themed game will be run for student participants on Saturday afternoon. At the closing talk, the Ron Mosier Memorial Award will again be presented to the student(s) with the most outstanding talk.

As always, contributed talks are an essential part of the Annual Meeting. Giving a contributed talk is an excellent way to share your scholarly work, become better acquainted with your Michigan colleagues, and foster opportunities for collaborative work. This year we are also be introducing the opportunity to present your work as a poster presentation. Submissions for contributed talks or posters may be made by emailing me at <nccolwel@svsu.edu> with "MAA Contributed Paper" or "MAA Contributed Poster" in the subject line. Abstracts received after the deadlines will be considered as space permits.

Together with the program committee, local arrangements committee and Section officers, I look forward to seeing you at the University of Detroit Mercy in April!

Section Representative's Report

This is my final Newsletter report as Representative of the Michigan Section. It has been an honor to serve the Section in this capacity and I appreciate having been elected to this position. Throughout my career the MAA has



Steve Schlicker (GVSU) <schlicks@gvsu.edu>

been the most important mathematical organization to me. Its focus on mathematics at the undergraduate level and the variety of programs the MAA offers makes it a valuable resource. Participating in MathFest and the JMM have allowed me to learn more about mathematics and teaching mathematics, keep in contact with colleagues, and feel a part of an amazing organization. I encourage you to participate in the MAA, keep up your membership, encourage your institution to have an institutional membership (and then provide your students with memberships), and encourage your colleagues to be members.

Since this is my last year as Section Representative, Section members will vote on who our next Representative will be. You should already have received an email from the Association informing us that the

candidates for Section Representative are Mark Bollman (Albion College) and Norman Richert (Mathematical Reviews). These are two outstanding candidates and I hope you will take the opportunity to read their statements and carefully consider your vote. The changing of the guard will occur at this year's Section meeting at the University of Detroit Mercy, April 5-6, 2019. There I will have the honor of passing the baton of Section Representative (a tradition that I believe was initiated by Jerry Grossman of Oakland University) to my successor. It will be great to see you there. On that note — please consider giving a presentation at the Section meeting. See the conference website <sections.maa.org/michigan/meetings/</pre> 2019_Spring_annual_meeting.html> for details.

The Congress no longer meets at the Joint Mathematics Meetings, so there is nothing new to report in that regard. One thing we did learn at the JMM is that MAA members will soon choose Michael Dorff's successor as MAA President from among three nominees: Matt Boelkins (GVSU), Lloyd Douglas, and Jennifer Quinn. Each made statements at the MAA business meeting at the JMM. Expect to see voting information from the MAA along with links to videos of the statements the candidates made at the JMM.

Finally, MathFest will be held in Cincinnati this summer from July 31-August 3. Cincinnati is a beautiful mid-size city, and it is not too far from Michigan. You should definitely participate if you can. For example, consider giving a talk in one of the many contributed paper sessions. Information about MathFest can be found at <maa.org/meetings/mathfest>, and a list and descriptions of contributed paper sessions is at <maa.org/tags/contributed-paper-</pre> sessions>.

Thank you for allowing me to serve as your Representative.



Secretary-Treasurer's Report

I would like to thank everyone who has sent in a voluntary section dues payment for 2018-2019. At this time there are 73 duespaying members of whom 45 are sustaining members, who have paid dues of \$30 or more. The list of sustaining members can be found



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

on page 6. In these challenging financial times, your willingness to support the activities of the Section is especially appreciated. I would particularly like to thank William Jackson for his continued support of the Ron Mosier Award as a supplement to his voluntary dues. His contribution will guarantee that the Section can continue to recognize the outstanding student talk at the Annual Meeting.

In addition, we now have 16 institutional members. This list can be found on page 7. If your school is not listed, you might want to remind your department chair

to attend to this matter. Last year at this time there were 71 dues-paying individual members, including 44 sustaining members, and 21 institutional members, so individual membership is steady while institutional memberships are down slightly. If your department has not yet sent in a dues payment and wishes to do so, the membership form can be found on page 3.

The Michigan Section's current bank balance is \$12,067.67. We continue to have a good balance of income and expenses, and the Section remains in sound financial shape. In the immediate future, we expect that the financial pressure which occasionally challenges the spring Section meeting will be less of a concern. Moving forward, the Executive Committee continues to solicit your suggestions for ways in which the Section might use these funds to promote collegiate mathematics in Michigan.

This is my 24th, and final, report to the Section as your Secretary-Treasurer. It has been a privilege to serve the Section and its members for the past 12 years, and a pleasure to work directly with so many talented colleagues on the Executive Committee. Thank you for your support over these years.

Institutional and Sustaining Members

Individual Sustaining Members, 2019

- Edward Aboufadel
- Hasan Al-Halees
- Hyman Bass
- G.F.D. Batterfield
- Larry Beauchamp
- Robert Bell
- Mary Bragg
- Robert R. Bruner
- Joseph Buckley
- Tim Carroll
- Nancy Colwell
- William Dickinson

- John Dwyer
- Paul Eenigenburg
- Ruth Favro
- Daniel Frohardt
- R. Kent Gilbert
- Sid Graham
- Jerrold Grossman
- Jim Ham
- Kristina Hansen
- Konrad Heuvers
- Margret Hoft
- William Jackson

- Gerald J. Janusz
- John Kiltinen
- Frances Lichtman
- Laszlo Liptak
- Tom Miles
- Jack M. Miller
- Robert Myers
- Jon Oaks
- Walter Parry
- John W. Petro
- David Redman
- Norman Richerrt

- Steve Schlicker
- Bertram M. Schreiber
- Larry Smyrski
- Eliot Tanis
- Gerard Venema
- Sylvia H. Verdonk
- Bette Warren
- Howard Whitston
- Matt Wyneken

Institutional Members, 2019

- Albion C
- Central Michigan U
- Davenport U
- Glen Oaks CC
- Grand Valley SU
- Hope C
- Kalamazoo C
- Kettering U
- Monroe County CC
- Mott CC

- Oakland U
- Olivet C
- Saginaw Valley SU
- Siena Heights U
- UM-Dearborn
- UM-Flint
- Wayne State U

Webmaster's Report

The Michigan MAA website is the best place to look for Section newsletters, Section meeting and award information, links to related conferences, the history of the Section, Section bylaws, Section officer contact information, and details on how



Paul Pearson (Hope C) pearsonp@hope.edu>

to become a Section member. As your webmaster, I have redesigned the website so that information is easy to find, and so the site easy to use on any device (especially smart phones). I strive to keep the website current and accurate, so please do not hesitate to email me if you cannot find something that you expect to be on the website, or if something is missing, inaccurate, or out of date. I encourage you to visit the Section website, <sections.maa.org/michigan/>. Plus, while you're there, you can register for the annual section meeting (hint, hint!).

A UNIQUE PhD

in Applied Mathematical Sciences

Exciting collaborations in medical, environmental and industrial research form the core of this program for researchers in industry and academe.

- Teaching Assistantships for full-time students on a competitive basis
- Other Degrees: MA, MS in Applied Statistics, and MS in Industrial Applied Mathematics

Oakland University

www.math.oakland.edu

shillor@oakland.edu (248) 370 3439

Campus News

Alpena Community College

Dan Rothe <rothed@alpenacc.edu>

The new semester is off to a good start here at ACC. Of all the community college reports available at this writing, ACC is the only college up in contact hours for the winter semester compared to last year. Math classes have moved out of Van Lare Hall in preparation for a renovation project that will create a new space for the expanded nursing program. Since Van Lare Hall is the original college building from the 1950s, this is a big move for us. Our offices and classrooms are now scattered through the Besser Technical Center and Center Buildings.

We have spent some time revising placement test scores to work with the new version of Acuplacer. It will probably take a while to refine these scores to give accurate placement.

Dual enrollment and early college programs continue to help enrollment in our math classes. We are offering off-campus classes in Rogers City, Indian River (Inland Lakes High School), and Lincoln (Alcona High School) as well as at the Alpena and Oscoda campuses. We also have an online Intermediate Algebra class.

Sigma Zeta Math/Science Honor Society inducted four new member in the fall. They held a bake sale and toured the Lafarge Cement Plant in Alpena (the world's largest cement plant). Spring plans include helping with the regional Science Olympiad Tournament and going on an out-of-town field trip yet to be determined.

Adrian College

Elizabeth Lamprecht <elamprecht@adrian.edu>

Professor **Jo Lynne Hall** is working on her graduate certificate in Online Teaching and Learning from Michigan State University. This is a 9-credit-hour program

designed to help teachers and other professional presenters to create an online class or program that utilizes technology and has rigor. She is currently working on her second of three classes required by the program.

Albion College

Mark Bollman < mbollman@albion.edu>

Paul Anderson has returned from his fall sabbatical.

The Albion faculty recently unanimously approved the reinstatement of the department's major in computer science.

The Mathematics and Computer Science Department at Albion encourages people from around the world, and our Section colleagues in particular, to show their support for mathematics by wearing plaid on International Plaid Day: April 26, the last Friday of Mathematics Awareness Month.

Central Michigan University

Ben Salisbury

 den.salisbury@cmich.edu>

Carl Lee was awarded the 2019 Haimo Award by the Mathematical Association of America. According to the MAA website: "In 1991 the Mathematical Association of America instituted Awards for Distinguished College or University Teaching of Mathematics in order to honor college or university teachers who have been widely recognized as extraordinarily successful and whose teaching effectiveness has been shown to have had influence beyond their own institutions. In

1993 the MAA Board of Governors renamed the award to honor Deborah and Franklin Tepper Haimo. Each year at most three college or university teachers are honored with this award."

James Angelos retired from CMU in December 2018. The Special Colloquium Series will continue in Spring 2019 with a talk from Anita Bright of Portland State University on April 11, 2019, and from Krishna Garikipati of the University of Michigan on April 23, 2019.

WHO WILL GET PAID TO GET A PHD? SPARTANS WILL.

Michigan State University

is accepting applications for its

Doctoral Program in Mathematics Education

- Designed for those who show promise of becoming researchers and leaders in state, national and international mathematics education communities.
- Administered jointly by the Colleges of Natural Science and Education.
- This program prepares researchers to address critical issues in mathematics teaching, learning, curriculum and policy.



Assistantships and **fellowships** are now available! Apply by **December 1** for enrollment the following fall.

Assistantships include tuition waiver, health insurance, and stipend. Requirement: an undergraduate major in mathematics or the equivalent. Teaching experience is preferred, but not required. **Apply now!**



For more information on this program, please contact: Lisa Keller, Assistant Director of PRIME 517.432.5472 | kellerl@msu.edu https://prime.natsci.msu.edu

Davenport University

Timothy Pennings <tpennings@davenport.edu>

The Davenport University Math Department, together with Computer Science and Nursing, hosted 800 junior high students at DU STEM Days this past academic year. We continue the outreach this summer with our fifth annual DU Summer Mathematics Camp at our Grand Rapids and Holland campuses. At camp, 40-50 students spend four mornings discovering the patterns of group

theory with triangles, rectangles, and other manipulatives.

Jill Vander Stoep (Hope College) and Benjamin Herrman (Holland Christian High School) will be the keynote speakers at our annual Math May Retreat speaking on innovative statistical pedagogy and DESMOS respectively.



Now accepting applications to MS, MPH, and PhD programs

The nation's #1 biostatistics program is Doing a World of Good through cutting-edge research in all areas of applied and theoretic biostatistics, including large-scale statistical computing, longitudinal data, missing data, survival analysis, clinical trial design, and statistical genetics. Numerous student funding opportunities are available, including training grants and research assistantships. Graduates of our program are favored by national employers in many areas, including universities, governmental agencies, pharmaceutical companies, and biotech companies.

APPLY TODAY:

sph.umich.edu/biostat

Delta College

Frances Lichtman <franceslichtman@delta.edu>

The mathematics faculty welcomes **Colleen Thomas** as Associate Dean of the Science and Mathematics Division. Formerly Mathematics and Developmental Studies faculty at Davidson County Community College in North Carolina, Colleen joined Delta College on January 1.

After 16 years of distinguished service, Associate Professor Mary Roberson will be retiring at the end of this academic year. Winner of the 2015 MichMATYC Teaching Excellence Award, Mary has written a textbook for Intermediate Algebra and mentors colleagues at Delta College who teach from it. She has served as a reviewer for the *MathAMATYC Educator* and as chair of the 2016

MichMATYC Fall Conference. The mathematics faculty extends best wishes to Mary as she embarks on new adventures.

Delta College will host the 22nd annual Middle School Mathematics Competition on Saturday, March 16, 2019. This year's theme is "Math Through the Ages." About 350 students are expected to attend. Activities are planned throughout the day for students, family members, and teachers.

Assistant Professor **Beth Kelch** and Associate Professor **Myung Pinner** will give a Local Invited Lecture at the 2019 Annual Meeting of the Michigan Section–MAA. We look forward to seeing you there.

Eastern Michigan University

Carla Tayeh <ctayeh@emich.edu>

Chris Gardiner has begun phased retirement.

EMU is hosting the Machine Learning Conference on April 6, 2019. **Ovidiu Calin** is chairing the conference.

Carla Tayeh was elected to serve as treasurer for the Michigan Association of Mathematics Teacher Educators (MI-AMTE).

Roxanne Katus continues her grant work from the National Aeronautics and Space Administration. The project will complete and archive a comprehensive database of magnetospheric ion temperatures derived from NASA's Two Wide-angle Imaging Neutral-atom Spectrometers (TWINS) Energetic Neutral Atom (ENA)

instrument.

Stephanie Casey and Andrew Ross are writing a new textbook tentatively titled "Introduction to Statistics for Future Secondary Teachers" and are recruiting paid piloters to use the book in the 2019–2020 academic year for the NSF-funded MODULE(S^2) project. If you are curious or interested in being a piloter, please complete the form at <tinyurl.com/modules2pilot>. More information about the project is available at the MODULE(S^2) website <aplu.org/projects-and-initiatives/stem-education/mathematics-teacher-education-partnership/mtep-racs/mtep-racs-modules.html>.

Hope College

Todd Swanson <swansont@hope.edu>

Eric Mann was promoted to associate professor and received tenure.

We are sorry to report that **Rick Vandervelde**, who retired from Hope's Mathematics Department in 2000, passed away last November.

Lawrence Technical University

Na Yu <nyu@ltu.edu>

We welcome Computer Science faculty Paula Lauren and Destiny Anyaiwe, who joined us last fall. Dr. Lauren's work is in data mining and text analysis; Dr. Anyaiwe's work is in bioinformatics and Alzheimer's disease research. New senior lecturers are Yelena Vaynberg and Sharon Carter in Math, and Mazin Al-Hamando in Computer Science. Glen Bauer is acting Dean of the College of Arts & Sciences while the search for a new dean is completed.

Robofest <1tu.edu/robofest/about.asp>, under the direction of **CJ Chung**, is celebrating its 20th year since the initial 1999–2000 year. Over 25,000 students have competed in Robofest, including teams from 15 states in the US and 21 other countries.

The annual Cisler Lecture in Arts & Sciences was held February 28 at 7:00 p.m. Our speaker this year was **Sara A. Pozzi**, Professor of Physics, Nuclear Engineering, and Radiological Sciences at the University of Michigan. Her talk was titled "Physics of Nuclear Nonproliferation."

During the fall semester, the LTU Math Club had a series of talks by students Marianne DeBrito, Courtney Rodebaugh, Ryan Pakledinaz, and Jacob Crane featuring their research, both summer REUs and ongoing school year research with faculty; plus a talk by student Matthew McAllister detailing the life of a triple major. Thanks to Courtney Rodebaugh who led the club as President in the fall, and to incoming co-Presidents Daniel Piotrowski and Michael DiFranco.

We competed in SCUDEM (with 4 teams), MATH Challenge (with 7 teams), and the Putnam Exam. We also entered 4 teams in the Mathematical Contest in Modeling, and are preparing for MCM/ICM presentations, Pi Day, Geek Week, and the Lower Michigan Mathematics Competition. Professor Emerita **Ruth Favro** gave a talk on her 30 years of coaching the MCM.

Oakland University

Daniel Steffy <steffy@oakland.edu>

Anna Spagnuolo will be the new department chairperson starting in the fall. Anna Spagnuolo and **Ravin**-

dra Khattree are on sabbatical leave during the winter semester. **Charles Cheng** has begun phased retirement and will teach one semester per year for the next two to three years before retiring.

Saginaw Valley State University

Emmanuel Ncheuguim <ekengnin@svsu.edu>

Tony Crachiola is on sabbatical leave for winter 2019.

The High School Math Olympics for the Great Lakes Region will took place on the SVSU campus on March 15, 2019.



Schoolcraft College

Randy K. Schwartz <rschwart@schoolcraft.edu>

Evgueni Filipov, of the Department of Civil and Environmental Engineering at the University of Michigan-Ann Arbor, gave a guest lecture on February 4, "Tailoring the Mechanics of Origami to Make Deployable and

Adaptable Structures," co-sponsored by the Math and Physics Club and several departments.

In October, Professors Lois J. Bearden and Lisa C. Zaccone were granted emeritus status following teaching careers of 27 and 20 years at Schoolcraft, respectively.

University of Michigan-Flint

Mehrdad Simkani <simkani@umflint.edu>

Ken Schilling is on sabbatical in Winter 2019. For the past three years, the department has sent students to JMM, one of whom this year will enter a PhD program. On April 2, from 6–8 pm in the Michigan Rooms, the

mathematics department is hosting its semi-annual Family Math Night. This year, 5th-grade students from one local school will partner with elementary education teacher candidates, who will facilitate the evening's activities. Math Field Day was hosted on March 8.

Wayne State University

Dan Drucker <aa1856@wayne.edu>

Professor **Gilbert Strang** of the Massachusetts Institute of Technology will deliver the Twenty-Seventh Annual Owens Lecture entitled "The Functions of Deep Learning" at 2:30 p.m. on Monday, March 25, 2019. He will give a second lecture, entitled "Thoughts on Teaching and Learning Mathematics," on Tuesday, March 26, 2019 at 2:45 p.m. Professor Strang is known for his contributions to finite element theory, the calculus of variations, wavelet analysis, linear algebra, and mathe-

matics education. His latest book, *Linear Algebra and Learning from Data*, serves as the text for an MIT course entitled "Matrix Methods in Data Analysis, Signal Processing, and Machine Learning."

Gang (George) Yin has received a grant from the Army Research Office, "New Mathematical Models and Analysis for Stochastic Mean-Field Models, Stochastic Recursive Algorithms with Interactions, Hybrid Systems, and Distributed Controls and Games."

The Department of Mathematics at Wayne State University is seeking outstanding candidates for a full-time (non-tenure track) postdoc associate position in Numerical Analysis and Scientific Computing. The postdoc associate will have an annual service period of 12 months, beginning August 2019. The postdoc associate will join Professor Hengguang Li's research group, which is developing numerical methods for partial differential equations. This is a two-year position that is renewable for a third year subject to budgetary approval. Applicants must have a PhD in Mathematics or Computer Science and obtain authorization to work in the US by the start date. Candidates with a strong teaching record and evidence of research excellence in numerical methods for PDEs and high-performance computing are preferred. For more details, see <mathjobs.org/jobs/jobs/13622>.

Awards

Carl Lee (Central Michigan U) Wins the Deborah and Franklin Tepper Haimo Award

We are pleased to share that Carl Lee (Central Michigan U), the Michigan Section's 2017 Distinguished Teaching Award recipient, was recognized at the 2019 Joint Meetings as one of three recipients of the Deborah and Franklin Tepper Haimo Award for Distinguished College or University Teaching of Mathematics. The official citation is available in the Awards Booklet on the MAA web site at <maa.org/sites/default/files/pdf/jmm/jmm2019/JMM_2019_Prize_Booklet.pdf>.



Carl Lee, 2019 Deborah and Franklin Tepper Haimo Award Winner

Yunus Zeytuncu (UM-Dearborn) Wins 2019 Distinguished Teaching Award

David Murphy (Hillsdale C) <dmurphy@hillsdale.edu>

The Distinguished Teaching Award Committee — **Angela Kubena** (UM-Ann Arbor), **Carl Lee** (Central Michigan U), **Victor Piercey** (Ferris State U), and chair **David Murphy** (Hillsdale C) — is pleased to announce that the 2019 recipient of the Award for Distinguished Teaching of College or University Mathematics is **Yunus Zeytuncu**. Yunus is receiving this award for his excellent teaching at the University of Michigan-Dearborn, his work as founder and Director of the Maize and Blue Math Circle (presently reaching more than 60 K-12 students from Detroit), as co-Director of the Math Corps summer camp outreach program to Detroit Public Schools, and his work to promote undergraduate research, which includes mentoring REU students as well as serving as PI and PI/co-PI for several REU grants. The full citation will appear in the Fall 2019 edition of the Newsletter.

Matt Boelkins Wins 2019 Distinguished Service Award

Laura McLeman (UM Flint) < lauramcl@umflint.edu>

Professor **Matt Boelkins**, of Grand Valley State University, has served the Section in many different capacities, including (but not limited to) as Four-Year-College Vice Chair, Chair, Past Chair, and Governor. In addition, his work organizing the Tri-Section meeting in March 2018 was immeasurable.

In recognition of all his hard work and dedication to the Section — in which he has had a tremendous and measurable positive impact — the Michigan Section of the Mathematical Association of America is pleased to present its 2019 Distinguished Service Award to Matt Boelkins. Details will appear in the Fall issue of the *Newsletter*.

2020 Distinguished Teaching Award Nominations Due December 15, 2019

David Murphy (Hillsdale C) <dmurphy@hillsdale.edu> Distinguished Teaching Award Committee Chair

Nominations for the section's 2020 Distinguished Teaching Award are now being accepted, and must be received by December 15, 2019 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 under-represented 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 15, 2019, to be considered for the 2020 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 Carl Lee <lee1c@cmich.edu>; please use "Michigan DTA Nomination" as the subject. Email is preferred, but you may also send it by mail to:

Carl Lee

Department of Mathematics Pearce 214 Central Michigan University Mt.Pleasant, MI 48859

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.

2020 Distinguished Service Award Nominations Due Mid-January, 2020

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

Nominations are being solicited for the Michigan Section's Distinguished Service Award. The awards committee will accept nominations until mid-January 2020.

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 Victor Piercey <victorpiercey@ferris.edu>.

From the Origin

A Primer on Mastery Grading

David Clark (GVSU) <clarkdav@gvsu.edu>

David Clark is an assistant professor at GVSU, and a truly amateur hiker and board-gamer. He is also a 2018 winner of the MAA's Henry L. Alder Award for Distinguished Teaching by a Beginning College or University Mathematics Faculty Member, honoring beginning college or university faculty whose teaching has been extra ordinarily successful and whose effectiveness in teaching undergraduate mathematics is shown to have influence beyond their own classrooms.

Here's a situation that you have probably encountered. Your Calculus 1 class has three quizzes on derivative calculations. Two students earn these scores:

	Q1	Q2	Q3	Total (of 30)
Alice	2	6	10	18/30 (60%)
Bob	6	6	6	18/30 (60%)

Alice's scores suggest that she started out struggling but has improved and eventually mastered derivative computations. But in the end, she'll earn the same grade as Bob — who has bumped along without changing. Do they both deserve the same borderline-failing grade? Is it reasonable for Bob to pass a class in which he's never written a fully correct solution?

A Mastery Grading System

This type of situation started my interest in mastery grading, an assessment system in which students' final grades are tied directly to demonstrating eventual mastery of specific objectives. Here's what the same quizzes might look like in a mastery grading system. Each quiz earns an overall mark based on all of their work on that quiz:

Not yet: the student hasn't shown mastery of the ideas, **Progressing:** the student demonstrates partial understanding, but has some significant gaps, or

Mastered: the student consistently demonstrates full understanding.

Only "Mastered" counts for credit, regardless of how many attempts are needed.

	Q1	Q2	Q3	Most recent
Alice	Not yet	Progressing	Mastered	Mastered
Bob	Progressing	Progressing	Progressing	Progressing

As we can see, in this system, Alice would get credit for working hard to (eventually) master these ideas.

This type of grading is used in many K-12 schools, but it's just starting to make inroads into college classes. Some other common names for mastery grading systems include "standards-based grading," "specifications grading," and "mastery-based testing." There are also a lot of variations on mastery grading out there, but they all have a few key features in common:

- 1. A list of clear learning objectives, shared with students, that describe concrete things that students will be able to do after taking the class. These objectives can include computations, concepts, and/or more complex ideas or projects.
- 2. Assessments involve one or more objectives, and instructors evaluate whether or not students have demonstrated mastery of each of those objectives separately using a qualitative, all-or-nothing scale.
- 3. Students have (or can earn) multiple attempts to demonstrate mastery of each objective, and they are not penalized for using them.

A Simple Implementation

Here's a concrete example of what this could look like in a Calculus 1 class, in a way that could easily be added into many classes.

The course objectives are a list of 16 topics, which are broad types of problems that every Calculus 1 student should be able to do. These could include evaluating limits, solving optimization problems, and understanding the Fundamental Theorem of Calculus and the Net Change Theorem. For an example of a full list of 16 such topics, see <mbtmath.files.wordpress.com/2016/01/hart-calc-1-topic-list.pdf>.

The course has 4 midterm exams. Exam 1 has one page for each of the first 4 topics, each with a few relevant problems. The student earns a mark of "mastered," "progressing," or "not yet" for each individual topic, based on all of their work on that page.

Exam 2 has a page for each of the 4 next topics, plus pages with new problems on each of the 4 topics from the first exam. Students who've already mastered old topics can ignore them, while others can try them again without penalty. Exams 3 and 4 are similar, each adding 4 new topics and including new versions of all old topics. The final exam is one last opportunity to master each old topic, or perhaps a chance to "re-certify" mastery of certain core topics.

The student's exam grade is the percentage of topics that they master by the end of the course. The course could also include other traditionally graded parts, such as online homework.

The biggest advantage of this kind of grading is that students have big, powerful incentives to deeply learn each idea. They can't get by with partial credit, because there is none. But if at first they don't succeed, there are incentives for them to keep learning rather than giving up and forgetting. This in turn encourages some of the study strategies best supported by research, like interleaving and spaced practice, and helps students develop growth mindsets. Mastery grading also supports rigor by holding students to a very high standard, while recognizing that learning takes time and repeated

effort.

Office hours are wildly different. I see more students, and they are genuinely working to understand things that they don't (yet) understand. They don't plead for more points, because there are none. Grading is quicker and easier too, since I only need to make an overall judgment about mastery, rather than a specific number of points.

What do students think about mastery grading? It takes some work to explain and "sell" it, but the results are worth the time. Here's a representative comment, and if you talk with someone else who's used mastery grading, you'll hear many similar comments:

"Failures were not seen as a bad thing in this class because it is an important aspect in learning. This created less stress on me ... I was able to focus more and show my improvements which really helped me to remember the key concepts taught in this class."

Where to Go Next

At this point I imagine you may have a lot of questions about mastery grading. A list of resources to help you get started with mastery grading can be found at <docs.google.com/document/d/1_7FWgNz7RM7ZFx6OSa7au3mIoXblVKraxaG7RrWvhyI/edit>. Plus, don't forget your colleagues! There are many of us who use mastery grading around the state. Feel free to contact me, too!

Call for Nominations for Section Officers

Laura McLeman (UM-Flint) < lauramcl@umflint.edu>

The Section is always in need of individuals to contribute to its work. As such, this spring at the 2019 Annual Meeting of the Michigan Section–MAA at the University of Detroit-Mercy, the Section will elect several officers. In particular, we are searching for members to serve as Secretary-Treasurer and Two-Year-College Vice Chair. **Amy Shell-Gellasch** (EMU) has been nominated for Four-Year-College Vice Chair.

If elected in a particular role, you will also be a voting member of the Executive Committee of the Section.

Filling these roles is vital to the running of the Section, so if you are interested in volunteering your time (or know someone who is) please contact Laura McLeman auramcl@umflint.edu. If you have any questions about what any one of the above roles entails, please don't hesitate to ask. Thanks!

Meetings

MichMATYC Fall 2019 Conference

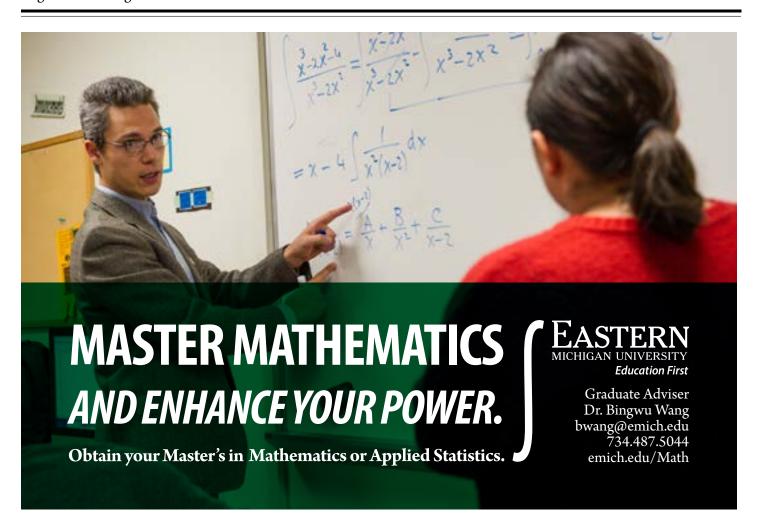
Jeanine DiDonato (Henry Ford C) <jdidonato@hfcc.edu>

Here at Henry Ford College we are busy preparing to host the MichMATYC conference on October 11 - 12, 2019. The theme will be "Mistakes Allow Thinking to Happen." Please see the conference website, <michmatyc2019.org/>, for more details.

Michigan Section UP Meeting

Josh Thompson (Northern Michigan U) <joshthom@nmu.edu>

Mark your calendars — Northern Michigan University will host the 2019 Michigan Section–MAA Upper Peninsula Regional meeting on October 4–5.





Announcing and Inviting Applications for NSF SIMIODE Summer 2019 Workshops Sponsored by the National Science Foundation and SIMIODE July 2019 at George Fox University, Newberg, OR USA

July 18–21, 2019 — 4-Day Intensive SIMIODE Developer's Workshop

Those with experience and ideas for writing differential equations modeling scenarios for classroom use are encouraged to apply. DEMARC (Differential Equations Model and Resource Creators) Fellows who are selected for this workshop are fully funded, including travel up to \$600, room & board, and a stipend up to \$600. Applicants are asked to provide evidence of successful modeling scenario development. The workshop will provide training and support for creating new modeling scenarios. See <simiode.org/nsf2019devworkshop> for complete information and application process.

July 21-26, 2019 — 5-Day SIMIODE Practitioners Workshop

Ideal for those who would like to learn more about how to foster a modeling-first approach in the classroom. Workshop includes hands-on demonstration, group discussions, and activities facilitated by experienced faculty. MINDE (Model Instructors in Differential Equations) Fellows selected for this workshop have a \$300 registration fee and are provided all materials and room & board for 5 days. See < simiode.org/nsf2019pracworkshop> for complete information and application process.

To learn more about SIMIODE – Systemic Initiative for Modeling Investigations and Opportunities with Differential Equations visit <simiode.org/>.

Contact Information Dr. Brian Winkel, Director SIMIODE, <Director@simiode.org>, 26 Broadway, Cornwall NY 12518 USA, 845-534-4887.

Albion College invites applications for a full-time one-year visiting position beginning in August, 2019. Candidates should hold at least a master's degree in mathematics or statistics and be committed to undergraduate teaching. The teaching load is three courses per semester. Information about the department may be found at <albion.edu/academics/departments/mathematics-and-computer-science>.

Interested candidates should send a letter of application, copy of graduate transcript, current CV, and statement addressing teaching to Mark Bollman, Chair, Department of Mathematics and Computer Science, Albion College, Albion, MI 49224. Reference letters will be requested from candidates invited for preliminary telephone interviews. Questions about the search may be emailed to <mbollman@albion.edu>.



A SYSTEMIC INITIATIVE FOR MODELING INVESTIGATIONS & OPPORTUNITIES WITH DIFFERENTIAL EQUATIONS

SCUDEM — Math Modeling Challenge — Seeking Local Site Host Coordinators

SIMIODE announces a new program for high school and undergraduate students: SIMIODE Challenge Using Differential Equation Modeling — SCUDEM. This challenge is for three member teams of students — undergraduates or high school students. SCUDEM takes place over a week-long period that begins on Friday, November 1, 2019, at each team's individual home campus and culminates on Challenge Saturday, November 9, 2019, at a nearby regional host site in the United States and beyond. For complete details about SCUDEM visit <simiode.org/scudem>.

At this time we are seeking local site host coordinators for Challenge Saturday. Complete information, including news of stipends — one half of all visiting team registration fees, and contact information is available at our Invitation to Host SCUDEM IV 2019 site at simiode.org/scudem/2019/hosting>.

In SCUDEM teams work at their home institution, developing approaches and solutions to one of three posed modeling scenarios. They prepare an Executive Summary and a 10 minute Presentation. Scenarios are designed so that every team may experience success in modeling, enhance their model building skills, and increase their confidence in modeling with differential equations.

On Challenge Saturday, teams travel with their faculty coach to a nearby host site for an 8:30 a.m. registration. In the morning teams work on a small addition to their modeling scenario for inclusion in their final submissions. Faculty judge submitted Executive Summaries and participate in a Faculty Development Workshop to help them use modeling in their coursework.

At noon, teams turn in a final version of their Executive Summary which is judged by coaches and visiting faculty present. In the afternoon, each team presents their 10 minute Presentation, scored by an audience of coaches and visiting faculty present. After lunch there will be a team MathBowl for students and a second Faculty Development Workshop program. The challenge culminates in an awards ceremony closing the day by 4:30 p.m. to allow time for travel.

There is a registration fee of \$100 for team participation and faculty development workshop for faculty coach and as many visiting faculty as wish to join. Additional faculty may join workshop and judging activities at no cost. Registration will open on September 1, 2019, but schools should be planning their coaches and teams in advance.

Complete details, including past SCUDEM problems, student submissions, MathBowls, Faculty Development materials, videos of students and faculty sharing their experiences in SCUDEM, and student and coach guidelines are at <simiode.org/scudem>.

SIMIODE — Systemic Initiative for Modeling investigations and Opportunities with Differential Equations is a 501(c)3 Nonprofit organization. All can join SIMIODE free at <simiode.org/>.

If your school is interested in becoming a local SCUDEM IV 2019 site please contact the Director.

Contact Information Dr. Brian Winkel, Director SIMIODE, <Director@simiode.org>, 26 Broadway, Cornwall NY 12518 USA, 845-534-4887.

Spring 2019 Mathematical Contest News

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

The American Mathematics Contest 8 (AMC 8) for students in grades 8 and below is a 25-question, 40-minute multiple choice examination in middle school mathematics designed to promote the development and enhancement of problem solving skills; to demonstrate the broad range of topics available for the junior high school mathematics curriculum; and to promote excitement, enthusiasm and positive attitudes towards mathematics.

The 2018 AMC 8 Exam was taken by 98,448 students from 1844 schools, with an average score of 8.51 out of 25 total points. The top 1% scored 19 or above.

One Michigan student (the same number as last year) got a perfect score of 25: 8th grader **Yashwanth Bajji** from Boulan Park MS (Troy). The highest Michigan team score, established by the top three scorers, was Boulan Park MS (Troy), with a score of 68 out of 75.

No students (down from two last year) in Michigan got a score of 24. However, earning a score of 23 were 8th grader **Austin Feng** of Boulan Park Middle School (Troy) and 7th grader **Jason Zhang** of East Middle School (Plymouth).

Results from the AMC 10/12 A and AMC 10/12 B are still pending.

Congratulations to all of the 2018 AMC 8 winners!

Michigan Section—Mathematical Association of America Committees and Appointments

Executive Committee

Chair	('19) Victor Piercey (Ferris State U)
	<pre><piercev1@ferris.edu> • 231-591-2823</piercev1@ferris.edu></pre>
Vice Chair	('19) Nancy Colwell (SVSU)
	<nccolwel@svsu.edu> • 989-964-4353</nccolwel@svsu.edu>
Vice Chair	('19) Natascha Rivet (Delta C)
	<njrivet@delta.edu> • 989-686-9128</njrivet@delta.edu>
SecTreas.	('19) Mark Bollman (Albion C)
	<mbollman@albion.edu> • 517-629-0261</mbollman@albion.edu>
Past Chair	('19) Laura McLeman (UM-Flint)
	<pre><lauramcl@umflint.edu> • 810-237-6656</lauramcl@umflint.edu></pre>
Sec. Rep.	('19) Steve Schlicker (GVSU)
-	<schlicks@gvsu.edu> • 616-331-2305</schlicks@gvsu.edu>

Michigan Mathematics Prize Competition (MMPC)

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

MMPC Exam Committee

Chair	('19) David Friday (Macomb CC)
	<fridayd@macomb.edu> • 586-226-4731</fridayd@macomb.edu>
Member	('20) Dorin Dumitrascu (Adrian C)
	<ddumitrascu@adrian.edu>• 517-265-5161</ddumitrascu@adrian.edu>
Member	('21) Bingwu Wang (EMU)
	 du> • 724-487-5044
Member	('22) Lazaros Kikas (U Detroit Mercy)
	<kikasld@udmercy.edu> • 313-993-3379</kikasld@udmercy.edu>

2019 Annual Meeting Program Committee

Chair	Nancy Colwell (SVSU)
	<nccolwel@svsu.edu> • 989-964-4353</nccolwel@svsu.edu>
Member	Dawn Archey (U Detroit Mercy)
	<archeyde@udmercy.edu> • 313-993-3376</archeyde@udmercy.edu>
Member	Amy Hlavacek (SVSU)
	<ahlavace@svsu.edu> • 989-964-2254</ahlavace@svsu.edu>
Member	Natascha Rivet (Delta C)
	<njrivet@delta.edu> • 989-686-9128</njrivet@delta.edu>
Member	Amy Shell-Gellasch (EMU)
	<ashellge@emich.edu> • 734-487-1444</ashellge@emich.edu>

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 ('20) Clark Wells (GVSU)

<wellsc@gvsu.edu> • 616-331-2444

Co-Editor ('20) Beth Wolf (UM-AA)

dumich.edu> • 734-763-2534

Ad. Manager Will Dickinson (GVSU)

<dickinsw@gvsu.edu> • 616-331-3745

Distinguished Service Award Committee

Chair ('19) Laura McLeman (UM-Flint)

<lauramcl@umflint.edu>• 810-237-6656

Member ('19) Victor Piercey (Ferris State U)

<piercev1@ferris.edu> • 231-591-2823

Distinguished Teaching Award Committee

Chair ('19) David Murphy (Hillsdale C)

<dmurphy@hillsdale.edu> •

Member ('20) Carl Lee (CMU)

<carl.lee@cmich.edu> • 989-774-3555

Member ('21) Angela Kubena (UM-Ann Arbor)

<akubena@umich.edu> • 734-763-3249

Member ('19) Victor Piercey (Ferris State U)

<piercev1@ferris.edu> • 231-591-2823

Nominating Committee

Chair ('19) Laura McLeman (UM-Flint)

<lauramcl@umflint.edu> • 810-237-6656

Member ('19) Victor Piercey (Ferris State U)

<piercev1@ferris.edu> • 231-591-2823

Member ('19) Natascha Rivet (Delta C)

<njrivet@delta.edu> • 989-686-9128

MMPC Audit Committee

Member David Redman (Delta C)

delta.edu> • 989-686-9249

Member Michael (Cap) Khoury (Lawrence Tech. U)

cprof.cap.khoury@gmail.com>• 248-204-3531

Other Appointments and Contacts

Webmaster ('19) 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

Michigan Section-MAA Annual Meeting

2019: University of Detroit Mercy, April 5-6 <sections.maa.org/michigan/meetings/2019_Spring_annual_meeting.html>.

2020: Grand Valley State University, April 3-4

2021: Alma College

MAA MathFest

2019: Cincinnati, OH, July 31–August 3
2020: Philadelphia, PA, July 29–August 1
2021: Sacramento, CA, August 4–7
2022: Washington, DC, August 3–6
2023: Tampa, FL, August 2–5

MAA-AMS Joint Mathematics Meetings¹

2019: Baltimore, MD, January 16-19

<jointmathematicsmeetings.org/jmm>

2020: Denver, CO, January 15–18 2021: Washington, DC, January 6–9

AMS Annual Meeting¹

2022: Seattle, WA, January 5–8 2023: Boston, MA, January 4–7

AMATYC Annual Conference

2019: Milwaukee, WI, November 14–17

<amatyc.site-ym.com/page/2019ConfHome>

2020: Spokane, WA, November 12–152021: Phoenix, AZ, October 28–312022: Toronto, ON, November 17–20

NCTM Annual Meeting & Exposition

2019: San Diego, CA, April 3-6 <www.nctm.org/annual/>

2020: (NCTM Annual Centennial)

Chicago, IL, April 1–4

2020: St. Louis, MO, October 21–242021: Atlanta, GA, September 22–25

¹The agreement with the AMS to jointly run the Joint Mathematics Meetings will end following the JMM in 2021. Thus, beginning in 2022, this meeting is listed as the AMS Annual Meeting.