

The MAA Ohio Section Newsletter

Volume 10

Spring 2019

Number 14

Ohio MAA Converges on University of Akron for Annual Meeting on April 5 - 6, 2019

The University of Akron is excited to host the Spring Meeting of the Ohio Section of the Mathematical Association of America on April 5 - 6, 2019. A student competition and committee meetings begin at noon with a general welcome at 1:15 p.m. The invited speakers begin on Friday with **Shawn Ryan**, Cleveland State University, **Carl Mummert**, Marshall University and in the evening **Adam Parker**, Wittenberg University, Teaching Award winner. On Saturday, speakers are **TaraLee Mecham**, Women in Mathematics Society and NSA,

Zook Hall, home of the LeBron James Family Foundation College of Education, boasts a fascinating interactive display created by artist Jen Lewin. The installation, entitled Flux Chandelier, is suspended from the first floor atrium through a circular opening to the ground floor lobby. As people walk beneath or near the chandeliers, the colors change. Two smaller displays are located in the rear entry facing the Student Union and in a first floor lounge area facing the Common.

Multiple Groups to Sponsor an Original Source Reading Event at MathFest 2019 in Cincinnati

The History of Mathematics SIGMAA, The Euler Society, the ORESME Reading Group (based in the Cincinnati area), the Arithmos Reading Group (based in the New York City area), and the TRIUMPHS (TRansforming Instruction in Undergraduate Mathematics via Primary Historical Sources) Project are all sponsoring or helping to organize a first-time event at this summer's MathFest in Cincinnati. The plan is to hold a two-hour session on the evening of Thursday, August 1. Anyone interested can participate in a common reading of a portion of Leonhard Euler's *Introduction to Analysis of the Infinite*, vol. I (1748). Readers will spend the bulk of the session at tables of six to eight people, reading and discussing the common text (in Blanton's English translation of the Latin original, published by Springer). Brief remarks on forming and maintaining original source reading groups and on the Euler text will open the session; time for general discussion will come at the end. Do look for this event in the MathFest meeting schedule.

and **Susan Jane Colley**, Oberlin College, Editor of *The American Mathematical Monthly*.

Registration will be in the lobby of Zook Hall. Most of the events will happen in Zook Hall and the Student Union. There will also be contributed paper sessions on both Friday afternoon and Saturday morning for meeting participants. Graduate and undergraduate students in mathematics, mathematics education, or related fields are especially encouraged to attend.



An organizational meeting for the event will be held at Xavier University in Cincinnati on Friday evening, May 24. If you are interested in helping out, please contact Danny Otero (otero@xavier.edu) by May 3, 2019.

Section to Include Business, Industry, and Government (BIG) Speakers



I hope this issue of the Ohio Focus finds your semester off to a good, albeit cold, start.

We had a wonderful fall meeting at Malone University. I want to thank all who attended. We treated were to some excellent talks. Aparna Higgins of University the of Dayton opened the meeting with an

intriguing talk about "Adding (Repeatedly) and Finding Averages (Repeatedly)." JP Cossey from the University of Akron followed up with some thought-provoking student problems in his talk "The Catalan Numbers for Grades K to Infinity." Daniela Calvetti of Case Western explored efficient algorithms and Jennifer Quinn gave two lively and interactive talks, one on counting vs. matching and another on digraphs and determinants (through determined ants). I especially liked Jennifer's character "the Countess."

I'm looking forward to welcoming you all to my academic home, the University of Akron, this spring. We're home to Zippy Kangaroo, John Heisman and the Goodyear Polymer Science and Engineering Center so there's something for everyone.

At the Section Officer's Meeting this past summer at Mathfest, it was encouraged that we invite speakers from BIG (Business, Industry and Government) to our meetings. I am grateful to our Program Committee for stepping up to the challenge and I look forward to the talk from TaraLee Mecham from the NSA. I believe the inclusion of BIG speakers will be a draw for our students and I hope you will encourage your students to attend our spring meeting. We've also invited some additional industry representatives to talk with students in the vendor area during breaks. Of course, there is also the Leo Schneider Student Team Competition held immediately prior to the spring meeting. from across the Ohio Section. We are pleased to have the editor of The American Mathematical Monthly, Susan Jane Colley, give an invited talk through the Editor Lectures Program. I'm certain our 2018 Distinguished College or University Teaching of Mathematics Award winner, Adam Parker will also give a thought-provoking talk. Shawn Ryan of Cleveland State University and Carl Mummert of Marshall University will join us from the northern and southernmost parts of the section to round out the list of invited speakers.

As always, I encourage you to get involved with the section. We're looking to fill some positions on several of the committees this year as other's terms come to an end. These committees are not a huge time commitment but are a valuable part of the Section. Most work is done via email and during meetings held the hour before our Section meetings. These committees include the Committee on Section Activities (CONSACT) which organizes the workshop that takes place immediately after fall section meetings; the Committee on Curriculum (CONCUR) which looks at curricular issues in undergraduate mathematics; the Committee on Teacher Education and Licensure (CONTEAL) which keeps the Section aware of significant changes to K-12 education and licensure requirements and also prepares recommendations for appropriate state authorities; and last but not least, the Committee on Student Members (CONSTUM) which directs and coordinates all activities of the section which are specifically for student members including the Leo Schneider Student Mathematical Competition held before this spring's meeting. I will be making committee appointments over the summer so please email me (kc24@uakron.edu) if you would be interested in joining or chairing a committee.

I'd also like to invite you all to attend MathFest this summer in Cincinnati, July 31 – August 3. I hope you can all take advantage of the conference being held in our backyard. The lineup of invited speakers is impressive. I know I'm looking forward to it.

I can't believe my first year as president is almost done. It's been a busy and productive year and I look forward to starting my second year at the end of the spring meeting. Thank you all for allowing me to serve.

> Katie Cerrone The University of Akron Section President

I'm also looking forward to an exciting lineup of speakers

MAA Stepping Out of Official Organizer Role at JMM After 2021

If you haven't heard by now, the big news, that the MAA will cease to hold official national meetings as part of the Joint Mathematics Meetings (JMM) in January after the Seattle meeting in 2021, is all the buzz! People across the country who are involved in a variety of mathematical communities that straddle the interests of both the MAA and the AMS are scrambling to make sense of what it will mean for the MAA not to have an official presence at the January meetings. On the other hand, MAA leadership is quick to point out that there is no reason why MAA activities cannot continue to take place at the JMM,

even without the full force of the MAA organization on hand to manage things. It will take time for people to figure out what sort of new equilibria can be attained in terms of what successful activities can continue at the January meetings under the MAA umbrella.

You have heard that the decision to pull out of the JMM was made only after careful consideration over a number of years; the ramifications of continuing financial losses year after year at the JMM, together with the promising growth of MathFest, the August national meeting run exclusively by MAA, seemed to settle the deal for leadership. In the meantime, the MAA is on a

Section Teaching Award Deadline Extended to MARCH 15

One way to recognize the many outstanding mathematics educators in the Ohio Section is through the Ohio Section Award for Distinguished College or University Teaching of Mathematics. If you know of such an excellent educator, please consider nominating him or her for this honor. To make a nomination, complete the onepage nomination form, write a description of why you have chosen to nominate this individual, and solicit recommendations from colleagues and current or former students. Nomination forms and detailed instructions are available from the Ohio MAA Website at <u>http://</u> <u>sections.maa.org/ohio/Award/</u>.

Nominees must be members of the MAA and the Ohio Section with over seven years of teaching experience in the mathematical sciences at the college/university level.



much more even keel financially now. Efforts are shifting to make MathFest an even more successful annual meeting, and to build up the communities that fuel the MAA – and especially its Sections – in its mission to serve the wider mathematical community, especially those who teach at the college level.

This summer's MathFest is "in da house!" – please take advantage of the quick trip and come down to Cincinnati to participate in the meeting. In addition to doing a little mathematics with your friends in the Association, the Reds will be in town that week playing the Pirates and FC

Cincinnati will host the Vancouver Whitecaps on the soccer field; with the great restaurants and museums in town, you can make it a really nice trip.

As your Section Representative to Congress, I'm happy to carry your concerns with me to discuss with fellow Congresspersons and with MAA leadership; do let me know what you're excited about in the mathematical world or what concerns you have: email me at <u>otero@xavier.edu</u>.

> Danny Otero Xavier University Section Representative

The winner will become the Ohio Section's nominee for the MAA's 2020 Deborah and Franklin Tepper Haimo Award for Distinguished College or University Teaching of Mathematics. Past winners who have also received the Haimo Award are Aparna Higgins (University of Dayton, 2005) and V. Frederick Rickey (Bowling Green State University, 1993).

Send nominations to Barbara D'Ambrosia, Secretary of the Ohio Section, preferably via e-mail to <u>bdambro-</u><u>sia@jcu.edu</u> or via postal mail to Barbara D'Ambrosia, Department of Mathematics and Computer Science, John Carroll University, 1 John Carroll Blvd., University Heights, OH 44118. Direct questions or comments, to Chris Swanson, Chair of the Teaching Award Committee, at <u>cswanson@ashland.edu</u> or 419-289-5264.

In Memoriam



J. Frederick Leetch II, 89, of Bowling Green, Ohio, passed away on October 9, 2018. He was born September 27, 1929, in Butler, PA. Fred graduated with a B.S. from Grove City College, a M.S. in Mathematics and Ph.D. in Mathematics and Statistics from Ohio State University (1961).

Fred served as a Naval Officer on both a destroyer and an aircraft carrier during the Korean War and retired as a Captain after 30 years. He married Nancy Alice Wikoff in 1958 in Columbus, Ohio. In 1961 they moved to Bowling Green, where Fred taught mathematics and statistics. He served the Ohio Section of the MAA as Program Chair in 1969 - 1970 and as President in 1973 - 1974. After retirement from teaching as Professor Emeritus in 1990, he worked at True Value Hardware Store, was a Master Gardener and woodworker. His many interests included world travel, playing musical instruments, sailing, printmaking, and playing squash.

Nominating Committee Presents Slate of Candidates for Business Meeting

There are two officer positions open for the upcoming year. The Nominating Committee has selected Najat Baji, Sinclair Community College, to be on the Program Committee and David Stuckey, Defiance College, to be President-Elect. Biographical information on these two may be found below. At the business meeting, there will be opportunity to add to the list of candidates.





Najat Baji is an Associate Professor of Mathematics at Sinclair Community College in Dayton. She holds a bachelor's degree in Computer Science, with a minor in Mathematics, and a master's degree in Mathematics from City University of New York. She has taught mathematics for the past 16 years at several institutions across multiple states. Najat enjoys learning computer programming languages as well as human languages. She fluently speaks Arabic, French, Russian, and English. Najat's programming language fluency includes C/C++, Java, HTML, and several scripting languages. Her current project is learning R for statistical modeling.

David Stuckey is an Assistant Professor of Mathematics at Defiance College, which happens to be where he earned his undergraduate degree in Mathematics Education. His master's degree in Mathematics is from Miami University, and he has graduate studies at University of South Carolina and University of Toledo. His current area of interest is number theory.

David taught at Florida State University and Marshall University Community and Technical College before returning to Ohio. Within the MAA Ohio Section, he has been on CONCUR and is currently serving as editor of *Ohio Focus*.

Student Activities at the Spring Meeting

Leo Schneider Student Mathematical Competition

Undergraduate students from institutions of the Ohio section are invited to participate in the ninth annual Leo Schneider Student Mathematics Competition.

This year's competition will take place on Friday from noon until 1:00. Rules and registration information, as well as copies of previous years' problems and their solutions, can be found on the Ohio Section Student Member website, <u>http://constum.ohiomaa.org/</u>. Cash prizes (\$150 for first place, \$120 for second, and \$90 for third) will be awarded on Saturday to the top three teams. We encourage student participation in the entire meeting, including student talks, the student pizza party, and the "awards ceremony" on Saturday. Any questions about the competition or other student activities can be addressed to the chair of CONSTUM, Matthew McMullen at <u>mmcmullen@otterbein.edu</u>.

Try your hand at this problem from the 2018 Leo Schneider Student Mathematics Competition.

Solutions are available at the CONSTUM website, <u>http://constum.ohiomaa.org/</u>.

Problem 4: You roll three fair dice. Find the probability that some subset of the numbers you rolled sums to 3. (This includes possible rolls such as 1, 5, 3.)

Ohio NExT Lines Up Speakers on

Ohio MAA Section NExT (New Experiences in Teaching) is a program for new faculty members. Its goal is to help newer faculty to network with colleagues, to share ideas and experiences that promote professional growth, and to encourage faculty to become involved in the Ohio MAA Section.

Please note that the Ohio NExT schedule has changed significantly in the recent past. If you have attended previously, then you will want to pay particular attention to the new schedule. We hope that this new schedule will fit better with attendees' travel plans.

Preceding the Ohio Section Annual Meeting on the morning of Friday, April 5th, members of Ohio NExT will gather for lunch at 11 a.m. in Student Union 307 on the University of Akron campus. This is a great opportunity to meet old friends and make new ones. After the lunch, the NExTers will spend an hour or so discussing a topic related to the profession.

Then, on Saturday, April 6th, following the Ohio Section Annual meeting, the Ohio NExT program will continue in

Talks by Students

Undergraduates and graduate students are encouraged to submit abstracts for 15 minute talks at the Spring Meeting. Topics may be drawn from any area of mathematics or a related discipline. The presentation may be an expository talk, a recounting of a mathematical internship or a co-op experience, or the results of a research project. It is expected that each talk will be delivered by a single speaker. Each student speaker will receive a certificate acknowledging their contribution to the meeting.

Contributed talks by students, faculty, and others will be given on Friday afternoon and Saturday morning. Talks will be scheduled primarily according to topic and audience level. Student talks are an integral part of the meeting and should be an enjoyable and rewarding experience for all who participate. See the Call for Contributed Papers on page 8 for submission information.

Student Pizza Party

A student pizza party will be held on Friday evening at 7:00 in Student Union 335. There is no charge but meeting registration is necessary. See the Section webpage at <u>www.maa.org/Ohio</u> for online registration. Sudoku games will be available during the pizza party for interested students.

Primary Sources and IBL

Student Union 316 on the campus of University of Akron. The program will begin with lunch followed by workshops from **Dr. Adam Parker** (Wittenberg University) titled "Using Primary Sources in your Classroom" and **Dr. Carl Mummert** (Marshall University) titled "What's up with Inquiry Based Learning." Two contributed talks from Ohio NExTers will also be part of the program. Please consider giving a 15-minute contributed talk by emailing the title and abstract to Chandra Dinavahi (dinavahi@findlay.edu).

The Ohio NExT program is free to Ohio NExT fellows. Ohio NExT is open to anyone in the Ohio Section who is in his/her first five years of teaching in Ohio. If this applies to you, please consider joining us this spring. Contact Chandra Dinavahi (<u>dinavahi@findlay.edu</u>) for membership information and details.

The Ohio NExT committee is coordinated by Chandra Dinavahi, University of Findlay (<u>dinavahi@findlay.edu</u>) and Michael Schroeder from Marshall University (<u>schroederm@marshall.edu</u>).

Mathematics Provides Insight into Self-Organization in Biology Shawn Ryan

In this talk we will consider how mathematical modeling, analysis, and simulation can be used to provide new insight into biological phenomena. In particular, we focus on the self-organization of large-scale groups of insects and bacteria. What makes this problem interesting is that individual interactions at the microscale lead to the onset of mesoscale and then macroscale pat-



terns. In addition, when animals exhibit collective behavior one can observe remarkable properties such as enhanced movement speed, pattern formation, and increased mixing. A deep understanding of how and why these properties emerge is fundamental to pressing biological problems such as the design of microscale devices and biomaterials, treating algal blooms in Lake Erie, or preventing neurodegenerative diseases. Throughout the talk we will use mathematics to explain the underlying mechanisms that lead to these incredible features. By the end we will answer an age-old question "Is 2 > 1?". For biological systems the answer is yes!

Shawn Ryan has taught at Cleveland State University since 2016. He grew up in Northeast Ohio (Mentor) and received his Bachelors and Masters degrees in Applied Mathematics from the University of Akron in 4 total years. He then earned his Ph.D. at Pennsylvania State University studying Mathematical Biology and PDEs in 2014. During his time as a Ph.D. student at Penn State, Shawn received the Department of Mathematics Outstanding Teaching Award as well as The Pritchard Dissertation Award for the most Outstanding Mathematics Ph.D. Thesis. Following this time,

Shawn spent two years as an interdisciplinary postdoctoral research scholar at Kent State University in the Department of Mathematical Sciences and the Liquid Crystal Institute designing computational algorithms for studying foam coarsening and pattern formation in liquid crystals. His active areas of research include selforganization in biological systems, bacterial contamination in the food industry, biomedicine, and material science. He has directed fifteen undergraduate and two honors undergraduate senior theses as well as four Masters exit projects. Shawn enjoys spending his free time with his wife Ashley, a pediatrician at Akron Children's Hospital, and his two daughters Nora and Eliza.



Counting Down from Infinity, and TREE(3) Carl Mummert

One area of combinatorics looks at specific sequences of natural numbers that grow at seemingly inconceivable rates. We will begin with the sequence TREE(n) and Kruskal's theorem, a related result about the combinatorics of finite trees. We'll encounter the specific number TREE(3), once described by Popular Mechanics as "too large to notate directly, too large to comprehend, too large for physics to describe". We'll see the process of "miniturization" that transforms pure existence theorems like Kruskal's into fast-growing sequences like TREE(n). Then we'll look at a "base infinity" number system in which each "digit" can be arbitrarily large. We'll see that counting down to 1 from a base infinity number is not as easy as it sounds.

Photo Credit: Rick Haye/ Marshall University

Carl Mummert is an Associate Professor of Mathematics at Marshall University. An Appalachian native, he attended Western Carolina University, received a Ph.D. from Penn State, and held postdoctoral positions at Appalachian State and the University of Michigan. His research is in mathematical logic (particularly reverse mathematics and computability theory), topology, and combinatorics. He has supervised numerous student research projects, and has several co-authored papers with students. His teaching incorporates techniques from Inquiry Based Learining (IBL), and he is the current Program Officer of the MAA IBL SIGMAA. He is also an active member of the Digital Humanities group at Marshall.

Being Rational About Algebraic Numbers Adam Parker

There is a classic algorithm known to Theon of Smryna in about 130 AD that approximates $\sqrt{2}$ by a sequence of rational numbers. In May 2016, Daniel Vargas, then in 7th grade, noticed a similar process seemed to approximate ${}^{p}\sqrt{k}$. Indeed, in October of that year, I gave a talk at the Ohio Section meeting asking if anyone had seen Daniel's process before. While attempting to prove Daniel's result, we were able to generalize these ideas to construct recursively defined sequences of rational numbers that converge to any given algebraic number, not just p^{th} roots. This is joint work with Daniel Vargas and the Ohio Section's very own Matt Davis of Muskingum University.

Adam Parker is Professor of Mathematics at Wittenberg University in Springfield, OH. He received B.S. degrees in Mathematics and Psychology from the University of Michigan in 1999, followed by his Ph.D. in Algebraic Geometry from the University of Texas at Austin in 2005. While still interested in Algebraic Geometry, he is happy to work with students on any project of their interest. A sepia dot in (1996-1997) ProjectNExT, he has been involved in several parts of the MAA, particularly the Ohio Section where he has chaired the Committee on Curriculum (CONCUR) and the Program Committee.



Adam has won Wittenberg's Omicron Delta Kappa Teaching Award, Witt's Alumni Distinguished Teaching Award, and the Southwestern Ohio Council for Higher Education's (SOCHE) Excellence in Teaching Award twice. Last year he was particularly humbled to receive the Ohio Section of the MAA Distinguished Teaching award. He teaches a wide range of courses and often incorporates primary sources in his teaching. He won the 2014 Polya award for a paper that evolved from using original sources in an ODE course. In his spare time, he enjoys sports, cooking, repairing old mechanical watches and spending time with his dog, Rosie.

Counting Curves: Tales from the Enumerative Crypt Susan Colley

We will consider the Steiner problem (1848) of five conics: to determine how many conics are simultaneously tangent to five others. We will review some of the history surrounding this problem and some of the ingre-



Photo Credit: Jennifer Manna

dients needed to solve it. Finally, we'll speed ahead to modern times and briefly sketch joint work with Gary Kennedy (Ohio State) and Lars Ernström (Ericsson) that uses mathematical techniques inspired by ideas in theoretical string theory to address some analogous questions about "higher-order" contact of plane curves. **Susan Colley** is the Andrew and Pauline Delaney Professor of Mathematics at Oberlin College and currently the Editor of *The American Mathematical Monthly*. She received her B.S. and Ph.D. degrees from MIT in the previous century. Her research interests lie in algebraic geometry and related areas; students may know her from her textbook *Vector Calculus*, 4th ed. Pearson, 2012 and curse her accordingly.

Secret Lives of Mathematicians TaraLee Mecham

Mathematics can be more than just a subject in school; it can be a career. The government is the number one single employer of mathematicians in the country. Many of those mathematicians end up at the National Security Agency, where they find careers in research, information assurance, and cryptanalysis. This talk will be an introduction to the roles of mathematicians at NSA, as well as basics of cryptography.

TaraLee Mecham received her Ph.D. from the University of Oklahoma in 2009, studying geometric group theory. Before starting her career at the NSA, Tara worked at the College of St. Joseph from 2009 to 2011, as well as being a National Project NExT fellow (a green dot). Tara is affiliated with the Women in Mathematics Society (WiMS) at the NSA, whose mission includes improving NSA's outreach to the academic community and enhancing the career development of women mathematicians at the Agency. WiMS financially supports a num-

Fifteen-minute presentations on any topic of general interest in mathematics or related areas are encouraged for the Contributed Paper Sessions on Friday afternoon and Saturday morning at the Annual Ohio Section meeting. Reports on projects, research announcements, or anything you believe would be of interest to those in attendance are welcome. Contributors should send a title and brief abstract by Friday March 22, 2019.

Online submission with your meeting registration (at <u>http://sections.maa.org/ohio/</u>) is strongly preferred, but if necessary, you may submit your title and abstract to the chair of the Program Committee, Michael Schroeder, by e-mail at <u>schroederm@marshall.edu</u>, or by U.S. mail at Dept. of Mathematics, 523 Smith Hall, Marshall University, 1 John Marshall Drive, Huntington, WV 25755.

Abstracts should be between 25 and 75 words in length

Campus News for the Spring

At **Sinclair Community College**, **Joe Czupryn** was hired as an Assistant Professor and **Jose Philip** was hired as an Annually Contracted Faculty beginning in spring 2019.

Brian Shelburne, **Wittenberg University**, is "phasing into" retirement from the Department of Mathematics and Computer Science. **Tyler Highlander**, who is expecting



ber of programs for women in mathematics. One of its most successful ventures has been the MathNet program, a program that matches volunteers at NSA with newly hired mathematicians in an effort to ease the transition of new hires at the Agency. WiMS also works jointly with another Agency program called the Mathematics Education Partnership Program (MEPP), which promotes mathematics and science education at non-profit educational institutions, particularly at the K-12 level.

Call for Papers for the Contributed Sessions of Annual Meeting

and should employ proper English grammar and spelling. Please use only plain text in your title and abstract as the abstract submittal system cannot process TeX or other graphics code.

Each presentation room will have a whiteboard, a PC, a computer projector, and laptop connections. Presenters can either plug their laptops into the overhead projection system or plug a flash drive into the resident computer. If you wish to project from an Apple device then you must bring your own adapter. Internet access will be provided. Speakers with specific questions about technology availability should address them to Malena Espanol at mespanol@uakron.edu.

Due to time and space restrictions, we may not be able to accommodate all talks. Submit abstracts online at the Section web page: <u>http://sections.maa.org/ohio</u>.

his PhD from Wright State University, has been hired as a tenure track Computer Scientist beginning fall of 2019.

The Department of Mathematics and Statistics at **Ohio Northern University** wishes a happy, fulfilling and prosperous retirement adventure to **William Fuller**, esteemed colleague and former chair, who created the applied mathematics program and guided many students.

Annual Meeting Program

With the exception of events in the Student Union, all activities will take place in Zook Hall. These two buildings, close to each other, can be found on the campus map on page 10. Student Union is abbreviated SU.

Friday, April 5

Saturday, April 6

Time	Event	Location	Time	Event	Location
12:00-4:00	Registration	Lower Lobby	8:00-10:00	Registration	Lower Lobby
12:00-1:20	Leo Schneider Team	111, 113,	8:00-10:00	Book Vendors & Exhibits	Lower Lobby
12:00-1:00	Competition Committee Meetings:	101	8:00-8:50	Coffee & Pastries	Lower Lobby
	CONCUR (Curriculum)	226	8:15-8:50	Executive Committee Meeting (if needed)	SU 307
	CONSACT (Section Activities)	321	8:15-8:50	Local Arrangements Committee	226
	CONTEAL (Teacher Education & Licensure)	424	9:00-9:10	Welcome & Announce-	
1:00-4:00	Vendor & Book Exhibits	Lower Lobby		tion Results	108
1:30-1:45	Welcome & Announce- ments	108	9:10-10:10	Invited Address: TaraLee Mecham	100
1:45-2:45	Invited Address: Shawn D. Ryan			Secret Lives of Mathematicians	108
	Mathematics Provides	108	10:10-10:30	Break	Lower Lobby
	Self-Organization in Biology	100	10:30-11:45	Contributed Paper Session	101, 103, 111, 113, 201
2:45-3:00	Break	Lower Lobby	11:45-12:00	Break	
3-4:00	Invited Address: Carl Mummert Counting Down from Infinity, and TREE(3)	108	12:00-1:00	Invited Address: Susan Colley Counting Curves: Tales from the Enumerative	108
4:10-5:50	Executive Committee Meeting	SU 307	1:00-1:10	Closing Remarks	108
4:30-6:10	Contributed Paper Sessions	101, 103, 111, 113, 201	Event locations are subject to change. Check the official program you receive when you register for		
6:10-7:00	Social Time	SU312	the meeting	g in the Lower Lobby of Zo meeting information. p	ook Hall. For lease visit
7:00-8:00	Student Pizza Party	SU 335	http://www.r MAAOhioM	math.uakron.edu/~mespanol/ eeting/maa.html	
7:00-8:00	Banquet	SU 312	(<i>influence</i>) (<i></i>		
8:00-9:00	Invited Address: Adam Parker Being Rational About Algebraic Numbers	SU 312			
9:00-	Business Meeting Presentation of Teach- ing Award	SU 312			

Parking Information

Parking passes will be emailed out one week prior to the meeting. You may park in any of the commuter parking lots with the parking pass that you printed off displayed in your window. Commuter parking lots are labeled with a C.

The directions below have been modified to accommodate the <u>con-</u><u>struction on I-77/I-76</u>.

Tap this number <u>330-972-8282</u> on your phone to call the automated directions line.



From the north, taking I-77 S

Follow I-77 south to exit 23B (Cuyahoga Falls), which is for OH-8 north.

On OH-8 north, take the first exit (Exit 1A) for Carroll Street and Buchtel Avenue.

Go past Carroll Street. Turn left onto Buchtel Avenue. The <u>East Campus Parking Deck</u> is to the left.

In less than one mile on Buchtel Avenue, you will come to the <u>North Campus Parking Deck</u>, which abuts Simmons Hall, and a <u>deck for visitor parking</u>.

From the east, taking I-76 W

Follow I-76 west to Exit 23B to merge onto OH-8 north. On OH-8 north, take the first exit (Exit 1A) for Carroll Street and Buchtel Avenue. Go past Carroll Street. Turn left onto Buchtel Avenue.

The East Campus Parking Deck is to the left. In less than one mile on Buchtel Avenue, you will come to the North Campus Parking Deck, which abuts Sim-

mons Hall, and a deck for visitor parking.

From the west, taking I-76 E

Follow I-76 east (I-77 south) to exit 23B (Cuyahoga Falls), which is for OH-8 north.

On OH-8 north, take the first exit (Exit 1A) for Carroll Street and Buchtel Avenue.

From the south, taking I-77 N/OH-8 N

Follow I-77 north. Take Exit 125A (Cuyahoga Falls) to OH-8 north.

On OH-8 north, take the first exit (Exit 1A) for Carroll Street and Buchtel Avenue.

Go past Carroll Street. Turn left onto Buchtel Avenue. The <u>East Campus Parking Deck</u> is to the left. In less than one mile, you will come to the <u>North Campus Parking Deck</u>, which abuts Simmons Hall, and a deck for visitor parking.

From the north, taking OH-8 S

Follow OH-8 south to Exit 1A, the Buchtel Avenue exit. Merge onto Goodkirk St. and turn right onto Buchtel Avenue.

Turn left on Spicer Street and the <u>East Campus Parking</u> <u>Deck</u> will be on the left.

Or continue on Buchtel Avenue and Simmons Hall to the <u>North Campus Parking Deck</u> and a <u>deck for visitor</u> <u>parking</u>.

Go past Carroll Street. Turn left onto Buchtel Avenue. The <u>East Campus Parking Deck</u> is to the left. In less than one mile on Buchtel Avenue, you will come to the <u>North Campus Parking Deck</u>, which abuts Simmons Hall, and a <u>deck for visitor parking</u>.

Meeting Registration

Online registration is preferred. The Section web site at <u>www.maa.org/Ohio</u> for one-stop registration, banquet reservation, and abstract submission will be open after March 1. The deadline for meeting pre-registration and banquet reservations is **March 29**. Abstracts for contributed papers must be submitted by **March 22**.

On-site meeting registration is always available, but lastminute banquet tickets cannot be guaranteed. Early registration helps those arranging the meeting and is always appreciated. Registration will be held beginning 12:00 p.m. on Friday in the lobby of Zook Hall and will continue Saturday morning at 8:00 a.m.

Meeting participants who are unable to register online at <u>www.maa.org/Ohio</u> may register by mail by sending the following information: name, affiliation, address, phone, e-mail address (if any), type of position, and banquet buffet reservation. Send with check, payable to Ohio Section MAA, for applicable fees [registration fee (\$45 ordinary registration, \$20 retired or part-time, no fee for students or first-time attendees), banquet buffet fee (\$27 per person)] to: Ohio Section MAA Fall Meeting, c/o Malena Espanol, The University of Akron, Department of Mathematics, Akron, OH 44325-4002. Phone: 330-972-6829. Registration by e-mail will be pending receipt of registration fees.

Lodging Information for the Akron Area

Below there is a list of hotels within seven miles of The University of Akron. Blocks of rooms have been reserved at the Courtyard Marriott - Akron Downtown and the Hilton Garden Inn. The special room rate will be available until March 6, 2019 and March 22, 2019, respectively or until the group block is sold-out, whichever comes first. For a more complete list, visit <u>http://www.math.uakron.edu/~mespanol/MAAOhioMeeting/hotels.html</u>.

Hotel Name	Address	Distance from UAkron
Courtyard Marriott Akron Downtown Special rate \$129 + 15.25% Tax	41 Furnace St. Akron, OH 44308	1.20 mi
Hilton Garden Inn Akron Special rate \$119 + 15.25% Tax	1307 E. Market St. Akron, OH 44305	2.28 mi
Country Inn Suites	1420 Main St. Cuyahoga Falls, OH 44221	3.59 mi
Sheraton Suites	1989 Front St. Cuyahoga Falls, OH 44221	4.23 mi
Econo Lodge	2677 Gilchrist Road Akron, OH 44305	4.54 mi
Econo Lodge	2873 S. Arlington Road Akron, OH 44312	5.97 mi
Red Roof Inn	2939 S. Arlington Road Akron, OH 44312	6.17 mi
Quality Inn	2940 Chenoweth Road Akron, OH 44312	6.26 mi
<u>Hampton Inn</u>	880 Arlington Ridge East Akron, OH 44312	6.57 mi
Doubletree by Hilton	3150 W. Market St. Akron, OH 44333	6.72 mi
Hilton	3180 W. Market St. Akron, OH 44313	6.80 mi

2018-2019 Ohio Section Officers and Committees

ELECTED OFFICERS

President

Katie Cerrone-Arnold, University of Akron kc24@uakron.edu (2020)

Past-President

Chris Swanson, Ashland University cswanson@ashland.edu (2019)

Section Representative

Daniel Otero, Xavier University otero@xavier.edu (2021)

Secretary

Barbara D'Ambrosia, John Carroll Univ. bdambrosia@jcu.edu (2021)

Treasurer

Brian Shelburne, Wittenberg University bshelburne@wittenberg.edu (2019)

Treasurer-Elect

Tom Wakefield, Youngstown State Univ tpwakefield@ysu.edu (2019)

OTHER KEY PERSONNEL

Department Liaisons Coordinator

Christopher O'Connor, Shawnee St Univ coconnor@shawnee.edu (2020)

Webmaster

Darren Wick, Ashland University dwick@ashland.edu (2020)

On-line Registration

G. Jay Kerns, Youngstown State University gkerns@ysu.edu (2019)

Newsletter Editor

David Stuckey, Defiance College dstuckey@defiance.edu (2021)

OhioMATYC Liaison

Jim Anderson, University of Toledo Jim.anderson@utoledo.edu (2020)

OCTM Liaison

Elizabeth Haynes, Wilmington University elizabeth_haynes@wilmington.edu (2021)

Archivist

Daniel Otero, Xavier University otero@xavier.edu (2020)

COMMITTEES

* Denotes committee chair. Elected Officers and Committee Chairs are voting members of the Executive Committee. Terms expire at the end of the Spring meetings of the year listed. See the bylaws at <u>http://sections.maa.org/</u> <u>ohio/byLaws.pdf</u> for a description of duties.

Ohio Project NExT Co-Coordinators

*Chandra Dinavahi, University of Findlay dinavahi@findlay.edu (2021) Michael Schroeder, Marshall University schroederm@marshall.edu (2019)

CONTEAL

*Aaron Blodgett, University of Findlay (2020) James Fitzsimmons, Wilmington Coll (2019) Jenna Van Sickle, Cleveland State U (2019) Laurie Dunlap, University of Akron (2020) Najat Baji, Sinclair Community College (2021) Bradford Findell, Ohio State University (2021) Ian Hogan, Central State University (2021)

CONSTUM

*Matt McCullen, Otterbein University (2020) Matt Davis, Muskingum University (2019) Melissa Dennison, Baldwin Wallace U (2019) Alyssa Hoofnagle, Wittenberg Univ (2020) Jaki Chowdhury, Ohio Northern Univ (2021)

CONSACT

*M B Rao, University of Cincinnati (2019) Aurel Stan, Ohio State University (2019) Yong Wang, Ohio Northern University (2019) Lokendra Paudel, University of Akron (2020) Zhijun Yin, University of Akron (2020) Jim Anderson, University of Toledo (2021) Ruma Dutta, Ohio State University (2021) Won Chul Song, University of Findlay (2021)

CONCUR

*Chandra Dinavahi, Univ of Findlay (2019) Mihai Carigiu, Ohio Northern Univ (2019) Glen Lobo, Sinclair Comm College (2019) Kelly Bubp, Ohio University (2020) Anup Lamichhane, Ohio Northern Univ (2021) Giorgi Shonia, Ohio Univ Lancaster (2021)

Program Committee

*Michael Schroeder, Marshall Univ (2019) Moez Ben-Azzouz, Sinclair Comm Coll (2020) Matt Davis, Muskingum University (2021)

OTHER COMMITTEES

Nominating Committee

*John Prather, Ohio Univ Eastern (2019) Barbara Margolius, Cleveland State U (2020) Katie Cerrone-Arnold, U of Akron (President) Barbara D'Ambrosia, John Carroll Univ. (Secretary, nonvoting)

Teaching Award Committee

* Chris Swanson, Ashland U (Past President) Carol Schumacher, Kenyon College (2019) Adam Parker, Wittenberg University (2020) Barbara D'Ambrosia, John Carroll Univ. (Secretary, nonvoting)

LOCAL ARRANGEMENTS FOR MEETINGS

Spring 2019: University of Akron Malena Espanol, mespanol@uakron.edu

Fall 2019: Shawnee State University John Whitaker, jwhitaker@shawnee.edu

Spring 2020: Bowling Green State University Gordon Wade, gwade@bgsu.edu

If you would like to expand your participation in the Section, there are openings in the various committees. You should contact President Katie Cerrone (kc24@uakron.edu) if there is one of interest to you.

Thank You to the many people who have contributed to the news-letter, whether it was with articles, new information, or especially proofing.

David Stuckey, Editor

Calendar

Ohio Section Meetings

Spring 2019 Annual Meeting, April 5 - 6 University of Akron, Akron, OH

Fall 2019 Section Meeting, October 25 - 26 Shawnee State University,

Spring 2020 Annual Meeting, April 3 - 4 Bowling Green State University, Bowling Green, OH

National MAA-AMS MathFest, July 31 - August 3, 2019, Cincinnati, OH



Annual Joint Meetings, January 15 - 18, 2020, Denver, CO

MathFest, July 29 - August 1, 2020, Philadelphia, PA

OHIO FOCUS

The newsletter of the Ohio Section of the Mathematical Association of America, which first appeared in 1973, is published twice yearly in time to reach members before the fall and spring meetings. Newsletters are published online at <u>www.maa.org/Ohio</u>. Notification emails are sent using addresses provided by the MAA.

Editor: David Stuckey, 419-783-2464 <u>dstuckey@defiance.edu</u> Science and Mathematics Division Defiance College Defiance, OH 43512

The deadline for the next newsletter is **August 13, 2019**. E-mail copy is preferred. Please send copy to the editor (see above), and also to the Section Webmaster, Darren Wick, for posting on the web (dwick@ashland.edu).

Other Meetings: Ohio and Near States

OhioMATYC Spring Meeting, March 29 - 30, 2019, Mohican Lodge & Conference Center, Perrysville, OH <u>http://www.ohiomatyc.org/index.php/meetings-</u> menulink/meeting-information-menulink

Kentucky Section MAA Section Meeting, March 29 - 30, 2019, Centre College, Danville, KY http://sections.maa.org/kentucky/meetings/ indexMeetings.shtml

Indiana Section MAA Section Meeting, April 5 - 6, 2019, University of Indianapolis, Indianapolis, IN http://sections.maa.org/indiana/meetings/Current/ announcement.html

Allegheny Mountain Section MAA Meeting, April 5 - 6, 2019, Shepherd College, Shepherdstown, WV <u>http://sections.maa.org/allegheny/</u>

Michigan Section MAA Section Meeting, April 5 - 6, 2019, University of Detroit Mercy, Detroit, MI http://sections.maa.org/michigan/ meetings/2019_Spring_annual_meeting.html

OCTM 69th Annual Conference, October 23 - 25, 2019 Sandusky/ Kalahari, OH http://www.ohioctm.org/https-sites-google-com-aohioctm-org-octm-conferences-69th-annual-conference -sandusky-2019

Other Meetings of Interest

T³ International Conference, March 8 - 10, 2019 Baltimore, MD <u>https://education.ti.com/en/professional-</u> <u>development/t3-international-conferences</u>

International Conference on Technology in Collegiate Mathematics (ICTCM), March 14 - 17, 2019, Scottsdale, AZ <u>https://www.pearson.com/us/about/news-</u> events/events/2019/03/ictcm-2019-conference.html

NCTM Annual Meeting, April 3 - 6, 2019, San Diego, CA <u>https://www.nctm.org/annual/</u>

Joint Statistical Meetings, July 27 - August 1, 2019, Denver, CO <u>http://ww2.amstat.org/meetings/jsm/2019/</u>