Ohio Focus

The MAA Ohio Section Newsletter

Volume 10 | Fall 2018 | Number 13

Malone University Hosting the Fall Ohio MAA Meeting on October 26-27, 2018

Four speakers have been invited to provide addresses for the Fall Meeting of the Ohio Section MAA. **Jennifer Quinn,** University of Washington, **Aparna Higgins**, University of Dayton, **JP Cossey,** University of Akron, and **Daniela Calvetti,** Case Western University will be sharing at Malone University in Canton on October 26-27, 2018. Committee meetings begin at 12:00 on Friday with the first invited address "*Adding (Repeatedly) and Finding Averages (Repeatedly)*" by Aparna Higgins beginning at 1:30 in the Johnson Center Sanctuary. There will be contributed paper sessions on Friday afternoon and Saturday morning. Graduate and undergraduate students in mathematics or related fields are encouraged to attend.

To the left, **Adam Parker**, center, is the most recent recipient of the Ohio Section Teaching Award. Other winners, also from Wittenberg University, are **Al Stickney**, left, and **Bill Higgins**. Recent recipients include **Bonita Lawrence**, Marshall University, below left, and **Carol Schumacher**, Kenyon College. Details on Adam's nomination on page 5 and making a nomination on page 7.

Postcard Notification Being Phased Out

For years, Ohio Section MAA members have received postcards notifying them that the electronic version of the Ohio *FOCUS* was available on the Ohio MAA website. This is found at http://sections.maa.org/ohio/. The address labels were supplied by the national office of the MAA.

For purposes of cost, efficiency, and effectiveness, the section has opted to change the notification system. Fall 2018 will be the last time postcards will be sent. Instead of receiving a yellow postcard, you will be getting an email from national MAA. Therefore, it is important that the national office has a correct address for you. You can verify your email address on the MAA website https://www.maa.org.

President Encourages Participation in a Variety of Opportunities

Greetings from Denver! I'm writing this from the airport as I depart from Mathfest but I know most of you won't be reading it until well into the fall semester. I'm always reenergized after attending conferences, either nationally or at the state level. To hear about the work that others are doing and connecting with colleagues always gets me excited about new opportunities. I find this especially helpful as the fall semester approaches. I don't always get to attend the national meeting and I thank the section for the financial support that allowed me to be a representative at the section officer's meeting.

At this meeting we were updated on a taskforce that national is forming to provide more support to sections. We also had several speakers encourage us to integrate BIG (business, industry and government) entities into our meetings. There was much discussion about how to encourage more students to attend the meetings, either through career related talks or BIG speakers. I am excited to discuss these opportunities with the section officers at our next executive committee meeting.

I want to thank you for allowing me to serve as President for the next two years. I look forward to an exciting year. Getting involved with the section has been one of the most rewarding decisions of my career and I encourage you to participate. Whether it's giving a talk at one of the section meetings, serving as an officer or joining one of our standing committees, we're always looking for energetic participants to help keep the section

strong. If you are interested in joining any of the committees, please send me an email or give me a call.

I'd like to thank Doug Ward and the organizing committee for organizing the spring meeting at Miami University. Thank you also to the program committee, chaired by Barbara Margolius for lining up such an entertaining and informative list of speakers. Elizabeth Mayfield of Hood College delved into the history of mathematics for talks on women in math during Euler's time and on Gerbert d'Aurillac. Olga Brezhneva of Miami University presented a fascinating talk on optimization. The students and faculty attending were entertained by Arthur Benjamin and his Bingo Paradoxes and we learned about the mathematics involved in escape rooms from Christopher Swanson of Ashland University. Thank you especially to Chris for his service these past two years as president.

I'm looking forward to the fall meeting at Malone University, and not just because it's within biking distance from my house.☺ Thank you to Kyle Calderhead and the organizing committee for hosting the Fall 2018 meeting. Speaking will be Aparna Higgins from the University Dayton, Jennifer Quinn from the University of Washington, Daniela Calvetti from Case Western and JP Cossey from the University of Akron. Thanks to the program committee for this year, especially Mike Schroeder, this year's program chair and Project NExT organizing committee member.

Speaking of Project NExT, I'd like to encourage any new faculty in their first five years of teaching to consider joining. As a former section fellow and organizing committee member, the workshop holds a special place in my heart. It's a wonderful opportunity to meet other new faculty from the section, gain some professional development, learn about teaching practices that work and to talk about how to start your career. Please contact the organizing committee, Chandra Dinavahi, Michael Schroeder or newly appointed member, Malena Espanol, if you are interested in joining or could recommend a new faculty member in your department. I'd also like to remind everyone of the format change for the NExT workshop which now starts with a lunch on Friday, before the meeting at the workshop following the section meeting on Saturday afternoon.

There are so many outstanding faculty in our section. Would you please consider nominating your colleagues for one of the section or

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Association Identifies Priorities and New Special Interest Areas

At MathFest in Denver just a few weeks ago, I attended my first meeting of the one-year-old and still-new MAA Congress, a reconstitution of the former MAA Board of Governors. Indeed, this meeting was only the second one of the newly reformed body. As you may know, the Association significantly revised its Bylaws in January, 2017. At this time the Board of Governors was morphed into a Board of Directors, made up of the officers of the Association which retained the general administration of the MAA, and a Congress, through which the membership's representatives, selected from its 29 sections together with at-large members from its Councils and Committees, advise the Board of Directors, perform strategic planning and make recommendations to them on policies and programs.

These are very exciting times for the MAA, as it continues to revitalize itself through these new structures at the opening of its second century. (You haven't yet forgotten the massive celebration of the MAA Centennial that we held in 2015-2016, have you?) What is most important, the Association has been taking stock of its fundamental mission in service to its members. The Board of Directors and the MAA Congress are in the midst of preparing a trio of documents that will enunciate the fundamental statements of the MAA's identity and chart a course for strategic planning in the coming years: a Mission Statement, a list of Core Values, and a Vision Statement. These documents are yet to emerge from their drafting stages yet, but you can look forward to seeing them soon. Rest assured that at the top of the Association's list of priorities, you'll still find *Accessibility* to mathematics for all students; *Leadership* in promoting mathematics and its profession within society in general, and especially in the teaching of mathematics; and attention to supporting a professional *Community* of mathematicians. Related to these efforts, a new document of guidelines for MAA selection committees (including committees of MAA sections) on *Avoiding Implicit Bias* was recently approved by the Congress and Board. This document is available for review at the MAA website.

Of course, many of the issues before the Congress involve improving the inner organization of the MAA. A small number of modifications to the Councils and Committees of the MAA have been recently proposed by the Committee on Councils and Committees (yes, that's its name) with an aim to ease the work of the hundreds of volunteers who make the MAA run. These go from renaming a few committees to reorganizing others. For instance, the Council on Programs and Students in the Mathematical Sciences has been renamed the Council on Teaching and Learning of Mathematics, a much more descriptive moniker for the body that oversees almost a dozen MAA committees, including the Committee on Undergraduate Student Activities and Chapters, the Committee on the Undergraduate Program in Mathematics (CUPM), the Committee on the Mathematical Education of Teachers (COMET), and the Committee on the Putnam Prize Competition. At the other end of the spectrum, the Council on Outreach Programs, which had oversight over a small number of joint boards with other allied organizations (the College Board, AMS, SIAM, NCTM) will be dissolved, as this oversight has been found to be of minimal benefit to the work of these committees.

In addition, the Board of Directors and Congress are encouraged by efforts across the Association to improve its longstanding budgetary problems. A significant positive impact has been felt by the transfer to Taylor & Francis of the publication of its flagship print journals (the *Monthly*, *Mathematics Magazine*, the *College Mathematics Journal*, and *Math Horizons*). I can also let you know that my good friend Dominic Klyve (Central Washington University) has been named the new editor of *CMJ*.

There is also news about activities of the Association that may have more interest to you directly. For instance, three new SIGMAAs have been approved, bringing the total number of these special interest groups to 17. The new ones are: SIGMAA-MKT (mathematical knowledge for teaching), SIGMAA-REC

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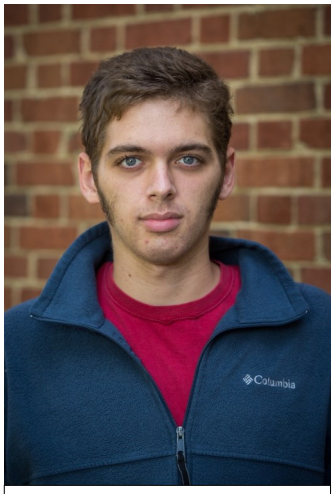
Results of 2018 Ohio Section of the MAA Leo Schneider Student Team Competition

The fifteenth annual Leo Schneider Student Team Competition was held at Miami University of Ohio on April 6, 2018. Thirty-four participants formed into twelve teams and represented seven institutions: Ashland University, Case Western Reserve University, Cleveland State University, Miami University of Ohio, Ohio Northern University, Shawnee State University, and Wittenberg University.



Nathaniel Coffin was one of the winning team members from Miami University

First Place ($150): Miami University of Ohio --- Orion Koleva and Nathaniel Coffin.

Second Place ($120): Case Western Reserve University --- Heather Weaver, Ben Young, and Todd Cheng.
Third Place ($90): Case Western Reserve University --- Raul Arturo Hernandez-Garcia, Jennifer Lin, and Alex Balsells.

The sixteenth annual competition will take place April 5, 2019 at the University of Akron. For more information regarding the competition, check out the CONSTUM website:http://www.constum.ohiomaa.org/.

Many thanks go to the members of CONSTUM who created, administered, and graded the 2018 competition:
Matt Davis (Muskingum College)
Melissa Dennison (Baldwin Wallace University)
David Gerberry (Xavier University)
Alyssa Hoofnagle (Wittenberg University)
Matt McMullen (Otterbein University)
Tom Wakefield (Youngstown State University)

President's Message

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national awards including the Henry L. Alder Award for Distinguished Teaching by a Beginning College or University Mathematics Faculty Member (Deadline: October 1), the Gung and Hu Distinguished Service Award (Deadline: December 1) or the Dolciani Award (Deadline: October 1). Additional information about the nomination process can be found on the national MAA website. Also, remember that nominations for the Ohio Section Teaching Award are due January 1 and can be sent to Chris Swanson, the Award Committee chair.

Thank you again for allowing me to serve as your president these next two years. I look forward to seeing many of you at the fall meeting at Malone in Canton.

Katie Cerrone
The University of Akron
Section President

Section Representative's Message

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(recreational mathematics), and SIGMA-SPORTS (math and sports, of course!). In addition, there is a new MAA Career Resource Center with a lot of great information for people looking for careers in the mathematical sciences (visit https://mathcareers.maa.org/ to see). Also a new *MAA Instructional Practices Guide* has been released which "aims to share effective, evidence-based practices instructors can use to facilitate meaningful learning for students of mathematics." I heartily recommend that if you are teaching mathematics now, you should review this great new resource.

Of course, this represents just the highlights of the large volume of business being performed within the limits of the Association. I urge you to make connections with those communities of the MAA which have appeal to you: check out the ever-changing website; consider joining a SIGMAA (or two or three); volunteer to support the Ohio Section by participating in one of the Section's committees that meet just before the section meetings start; study the *Instructional Practices Guide*; and make plans to attend the Joint Meetings in Baltimore in January. (Consult the calendar and committee list printed at the back of this newsletter for details.) Oh, and please put the dates July 31 - August 3 on your calendar for next summer, because MathFest 2019 will be held in downtown Cincinnati!

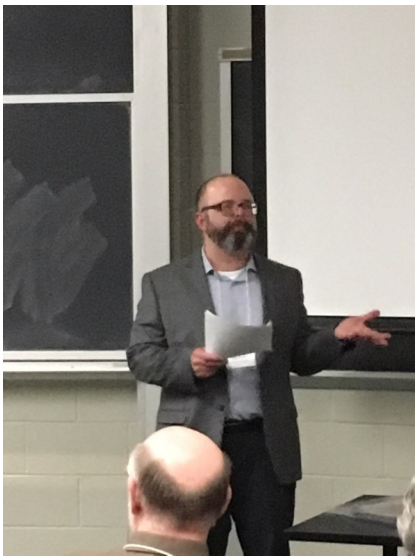
With best wishes for another great school year, I look forward to chatting with you at a section meeting about issues of concern to you about the MAA.

Danny Otero
Xavier University
Section Representative

Dr. Adam Parker Awarded 2018 Distinguished Teaching Award

The recipient of the 2018 Ohio Section's Award for Distinguished College or University Teaching Award in Mathematics is Dr. Adam Parker of Wittenberg University. Dr. Parker was presented with the award at the spring 2018 meeting at Miami University.

Dr. Parker has been an active member of the MAA since 2006 and is also a member of the AMS and the AWM. He has chaired numerous contributed talk sessions at sectional meetings as well as presenting contributed talks himself. He was a member of CONCUR from April 2006 – 2009, serving as Chair during his last two years. In April 2010 he was elected to a three year term on the Ohio Section Program Committee serving as Chair during the 2012 – 2013 academic year. He also assisted in the planning and hosting of two Ohio Section meetings held at Wittenberg.



Dr. Parker is the recipient of several other awards both for teaching and research. In fact, he received the Wittenberg Alumni Award on the same day as receiving the Ohio Section Teaching Award. In 2014 he was the recipient of the MAA George Pólya Award for his article "Who Solved the Bernoulli Differential Equation, and How Did They Do it?", awarded for articles of expository excellence published in *The College Mathematics Journal*. In 2007 he was the recipient of the Omicron Delta Kappa (ODK) Excellence in Teaching Award. Nominated by the student members of ODK, the National Service Fraternity, the winner is a faculty member with less than 5 years teaching experience. He was also an Excellence in Teaching Award Winner, Southwestern Ohio Council for Higher Education (SOCHE) in 2008.

His interests in excellent teaching extend beyond the bounds of campus. In the fall of 2008, he and six other faculty members from the science departments proposed and successfully funded a Saturday Science Outreach program aimed at area high school and home schooled students. Each month a participant would organize a Saturday morning program around their discipline. As a result of this work he was a 2010 winner of the Wittenberg Faculty Recognition Award for Outstanding Contribution to the Springfield Community.

Some insights into Dr. Parker's teaching and mentoring can best be expressed through student comments. One student commented,

> "Now in my senior year, He has been nothing but supportive and helpful …. When I get stuck on an approach, or lack the vision for my next step, He is there with a new perspective or insight into how I might go about figuring it out on my own. He never simply gives me the answer, but guides me in the way of figuring it out for myself."

Another student writes that, "Without his guidance I

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Jim Albert Honored as Distinguished University Professor at BGSU

Dr. Jim Albert has been approved by the Bowling Green State University Board of Trustees for the title of Distinguished University Professor to recognize his outstanding professional achievements that have brought broad national and international recognition of his scholarly work. This distinction notes that Dr. Albert's contributions will have enduring impact in the broader discipline of interest that goes well beyond his primary disciplinary area. Dr. Chen Hanfeng notes "As the chair and his colleague, I am very proud of Dr. Jim Albert's achievements and appreciative for his exceptional contributions to our statistical programs, to the department, to the university, and to the advancements of statistical science."

As of June 2017, Albert's 104 peer reviewed publications have received a total of 6990 citations and 2508 since 2011. One of his papers, 'Bayesian analysis of binary and polychotomous response data', received 2816 citations. Over his career at BGSU, Jim Albert has received over 24 grants and research awards and has published 14 books. He was awarded the Founders Award by the American Statistical Association in 2015.

Call for Papers for October Meeting

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 Fall 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 **October 12**, **2018**.

Online submission with your meeting registration (at http://sections.maa.org/ohio/) is strongly preferred, but if necessary, you may submit your title and abstract to the chair of the Program Committee. Send it to Michael Schroeder, either at schroederm@marshall.edu, 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 and should employ proper English grammar and spelling. Please use only plain text in your title and abstract because the abstract submittal system cannot process TeX or other graphics code.

Each presentation room will have a whiteboard/ chalkboard, 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. The Malone campus is on Eduroam and wi-fi is available. If you wish to project from an Apple device then you must bring your own adapter. Document cameras (Elmo's) are available, but please indicate a need for one when registering. Internet access will be provided. Speakers with specific questions about technology availability should contact local arrangements coordinator Kyle Calderhead at kcalderhead@malone.edu.

Ohio NExT Program Includes Camaraderie, Fall Workshop, and Discussion

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 Fall Meeting on the morning of Friday, October 26th, members of Ohio NExT will gather for lunch at 11 a.m. on the Malone University campus. This is a great opportunity to meet old friends and make new ones, as well as visit with some of the section's plenary speakers for the conference. After the lunch, the NExTers will spend an hour or so discussing a topic related to the profession.

Then, on Saturday, October 27th, following the Ohio Section Fall meeting, the Ohio NExT program will continue on the campus of Malone University. The program will begin with lunch followed by the CONSACT workshop with a presentation given by Dr. M.B. Rao (University of Cincinnati) titled "Interactive graphics using R – Shiny package." After the CONSACT workshop, there will be two contributed talks from Ohio NExTers followed by a final workshop by Dr. Jennifer Quinn (University of Washington - Tacoma) titled "Exposition in the Way to Write for the MAA."

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 fall or next spring. For membership information and details contact Chandra Dinavahi (dinavahi@findlay.edu). Ohio NExT is coordinated by committee chair Chandra Dinavahi of the University of Findlay (dinavahi@findlay.edu) and committee members Malena Espanol from The University of Akron (mespanol@uakron.edu) and Michael Schroeder from Marshall University (schroederm@marshall.edu).

Adam Parker Award

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would be months behind and lost behind mountains of material. He taught me how to read papers and textbooks more effectively and formalize my own mathematical ideas."

Dr. Parker is an outstanding teacher and leader. I look forward to his talk at the spring 2019 meeting.

Katie Cerrone
2017 – 2018 Teaching Award Committee Chair

Nominate a Colleague for Section Distinguished Teaching Award

There are many outstanding mathematics educators in the Ohio Section, and one way to recognize them for their excellence is to nominate them for 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 one-page 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 http://sections.maa.org/ohio/Award/. Nominees must be members of the MAA and the Ohio Section, and they must have more than seven years of teaching experience in the mathematical sciences at the college/university level.

The award will be presented at the 2019 Spring Meeting of the Ohio Section, and appropriate publicity will be generated at the winner's home institution. 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 Ohio Section winners who have gone on to receive the Haimo Award are Aparna Higgins (University of Dayton, 2005) and V. Frederick Rickey (Bowling Green State University, 1993).

Nominations should be sent to Barbara D'Ambrosia, Secretary of the Ohio Section of the MAA, via e-mail to bdambrosia@jcu.edu (preferred) 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.

If you have questions or comments, please contact Chris Swanson, Chair of the Teaching Award Committee, at cswanson@ashland.edu or 419-289-5264. The nomination deadline is January 1, 2019.

Fall Workshop to Focus on Interactive Graphics – R Package – Shiny

It is typical that an undergraduate mathematics student takes an introductory statistics class. Graphical display of data is usually an integral part of the class. Once we venture into graphical displays, it is not hard to extend the display to include interactive graphics. The current workshop lasting about two hours is designed to empower the teachers to take that little extra step.

Until twenty years ago, trained programmers did graphics using some specialized software. Interactive graphics were extremely rare. These software were proprietary and expensive. The operating system varied from one software to another. The advent of the internet made computing accessible to all. The computing software R was the brainchild of Ross Ihaka and Robert Gentleman, New Zealand. R was released to the public free in 1995. R is a collection of packages each tailored to some specific statistical computations. Because of its open source paradigm, the growth of R has been explosive with over 10,000 packages contributed by researchers free. Its graphical features are of publication-quality used by Google, media, and newspapers, among many others. An offshoot of R is R Studio, which was created in 2011. Under the leadership of Hadley Wickham, R studio released path-breaking packages capable of doing state-of-the-art data manipulations and graphics. Shiny was a package that emanated from the R Studio. This package can facilitate interactive graphics. The focus in the workshop is on this package and its usage.

MB Rao's first job was with the University of Sheffield. Then he moved to University of Pittsburgh and North Dakota State University. Currently, he is with the University of Cincinnati with joint appointments in the Department of Environmental Health and Biomedical Engineering. He published three books and one of them is in computing with R. His research interests are varied from measure theory, linear algebra, probability, and applied statistics. He has been a regular fixture in MAA meetings for over 25 years.

As usual, the workshop will begin immediately following the conclusion of the conference program and will include lunch. The fee for the workshop is $25 which includes the meal. Participants may register for the workshop at the time of on-line registration for the Fall meeting. **Please bring your laptop.** If not registering online, contact MB Rao at raomb@ucmail.uc.edu.

Updates From Schools Across the Section

The Mathematics Department at **Baldwin Wallace University** is proud to welcome Dr. **Laura Croyle** to our faculty. Laura will be participating in the MAA's PiC Math program.

In the Fall of 2017 and 2018 Dr. **Aaron Montgomery** and **Joel Kavaras** worked with the Cleveland Metroparks on investigating the spread of Beech Leaf disease. Joel was supported by the Ohio Space Grant Consortium.

Stephanie Egler, an undergraduate student of **David Calvis**, has submitted an article on her undergraduate research into the Towers of Hanoi.

Dr. **Kate Lane** was recognized as the GCCTM Outstanding Mathematics Educator--University Professor!

Dr. **Susan Penko** retired in Spring of 2018. The department will miss her and wishes her the best of luck on her new adventures!

Otterbein University welcomes new faculty member Dr. **Kirk Kayser** this fall. He received his B.S. and M.S. in Mathematics from the University of Toledo, and in 2018 he earned his Ph.D. in Applied Mathematics from the Arizona State University. His current research interests involve socioeconomic modeling.

Ohio University Chillicothe has appointed **Dywayne Nicely**, Associate Professor of Mathematics, as Interim Associate Dean for the campus. Nicely attended Marshall University in West Virginia and completed a Bachelor of Science in Mathematics in 2001 and a Master of Arts Degree in Mathematics in 2003. Then, in 2008, he completed his Doctoral Degree in Mathematics from Baylor University in Waco, Texas.

Two new assistant professors will join the Department of Mathematics at The **University of Akron** this fall 2018. Dr. **Alexander Hoover** received a Ph.D. in Mathematics from University of North Carolina at Chapel Hill in 2015. He spent three years as a postdoctoral fellow at Tulane University. His research interests include Mathematical Biology, Biofluids, Computational Fluid Dynamics, and Neuromechanics. Dr. **Lingxing Yao** received a Ph.D. in Applied Mathematics from University of North Carolina at Chapel Hill in 2007. He then held teaching and research positions at University of Utah, University of Minnesota, and Case Western Reserve University. Dr. Yao's research includes Numerical Analysis, Computational Fluid Dynamics, Mathematical Modeling, Stochastic Processes, and Mathematical Biology.

The department has also three new Assistant Professors of Instruction. **Diana Eames** received a M.S. in Applied Mathematics from The University of Akron in 2011. She has been teaching for the department for the last three years as a visiting Assistant Professor of Instruction. Dr. **Benjamin Mackey** received a Ph.D. in Mathematics from Michigan State University in 2017. He has been teaching at The University of Akron in the Department of Developmental Programs and at Cleveland State University. Dr. **Patrick Starvaggi** received a Ph.D. in Applied Mathematics from Kent State University in 2014. He is coming from Southern Connecticut State University, where he was an assistant professor for the last 4 years.

Dr. **Malena Espanol** has been awarded tenure and promoted to Associate Professor. Her research consists of designing and analyzing numerical methods for problems arising in solid mechanics, materials science, and image processing.

Dr. **Robert Miller** joined **Urbana University**, a branch campus of **Franklin University**, as the full time Math Instructor on August 7, 2018. Dr. Miller holds an M.S. in Mathematics from Miami University, an M.A. in Philosophy from the Franciscan University of Steubenville, and a Ph.D. in Philosophy from the International Academy for Philosophy in Liechtenstein. Dr. Miller previously taught mathematics and philosophy at Zane State College, in addition to serving as the math department chair and as the adviser and coordinator for the Miami University Bachelor in Engineering program at Zane State College.

The Department of Mathematics and Computer Science at **John Carroll University** has undergone a number of changes since last spring. They have said farewell to five faculty members: **Doug Norris** and **Marc Kirschenbaum** have retired, and **Paige Rinker**, **Brendan Foreman**, and **Billie Marget** have left the university to pursue other opportunities.

The department is delighted to welcome four visiting faculty members: **Daniel Bossaller**, with a Ph.D. in

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Campus News Updates

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Mathematics (ring theory and linear algebra) from Ohio University (2018); **Jonathan Gurary**, with a Ph.D. in Computer Engineering (mobile authentication and security) from Cleveland State University (2018); **Robert Short**, with a Ph.D. in Mathematics (applied topology) from Lehigh University (2018); and **Kathryn Trapp**, with a Ph.D. in Mathematics (numerical analysis) from Carnegie Mellon University (2004).

Finally, department chair duties have transferred from **Paul Shick** to **Barbara D'Ambrosia**. The department thanks Paul for his seven years of dedicated service in the position of chair.

The Department of Mathematics at the **University of Dayton** welcomes two lecturers for the 2018-2019 academic year. **Nick Axmaker** has an MS in mathematics from Wright State University. **Sasith Rajasooriya** has an MS in statistics from Georgia Southern University and a Ph.D. in Statistics from the University of South Florida.

At **Sinclair Community College**, **Najat Baji** received tenure and **Wendy Cheng**, **Valerie Cope** and **Olga Stephens** were promoted to Associate Professor effective fall 2018. **Joe Czupryn** was hired as a one-term Annually Contracted Faculty for fall 2018.

Marshall University has many items to report. Dr. **Avishek Mallick** has been tenured and promoted to associate professor. His research is in applied probability and statistics.

The 30th Cumberland Conference in Combinatorics, hosted at Marshall May 19-20, 2018, had about 60 participants and was funded by the NSF and Marshall University. The conference was organized by Drs. **JiYoon Jung**, **Carl Mummert**, **Elizabeth Niese** and **Michael Schroeder**.

Chloe' Marcum attended the NSF-funded Emerging Scholars Program REU at Saint Mary's College of Maryland, June-July 2018, at the end of her first year at Marshall.

Dr. **Michael Schroeder** and two students each gave separate presentations at the Conference on Combinatorics and its Applications in Singapore this July. Graduate student **Adam O'Neal** and undergraduate **Kira Owsley**, were two of only seven participants to receive NSF funding for their travel. Schroeder presented recently published wok, O'Neal's work has been submitted and Owsley's is in preparation for submission. Schroeder's travel was funded by Marshall.

Drs. **Carl Mummert** and **David Cusick** attended the National IBL Conference - Austin, Texas, May 31 thru June 2, 2018. IBL abbreviates Inquiry-Based Learning. Their travel had partial funding from our department.

The Department of Mathematics at **Youngstown State University** recently hired assistant professor **Alexis Byers**, who graduated from Western Michigan University with a Ph.D. in graph theory. They also hired three lecturers, **Emily Dolsak**, **Alayne Leone**, and **Sepideh Khavari**, all of whom have MS degrees from YSU.

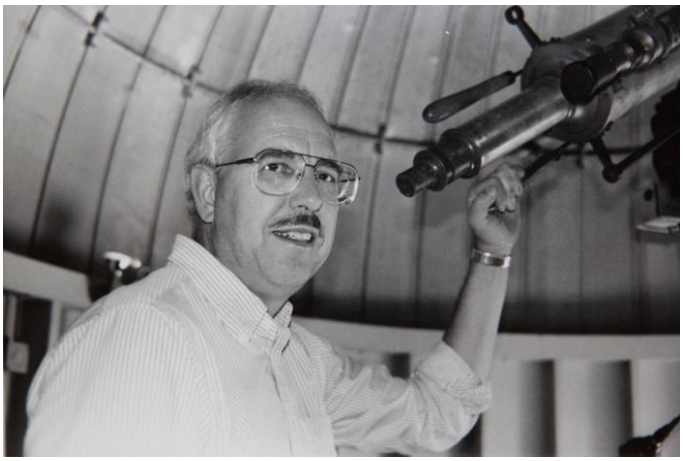
At **Ashland University**, the Department of Mathematics and Computer Science welcomes **Steven Scheirer** as a Visiting Assistant Professor. Steven received his B.S. degree from Moravian College and his M.S. and Ph.D. from Lehigh University, all in Mathematics. His research interest lies in the area of algebraic topology, specifically topological robots. **Darren Wick** returns to a full teaching load after being on senior study leave during the Spring 2018 semester. **Gordon Swain** will be on senior study leave during the Spring 2019 semester.

Should your school consider Departmental Membership? MAA Departmental Membership now includes Student Membership for an unlimited number of nominated full-time enrolled mathematics students and MAA Membership for one faculty member (who will act as the Departmental Membership Administrator). Some of the benefits are:

- Membership in the local MAA section (Ohio)
- Online subscriptions to all four journals and *MAA FOCUS*
- All faculty members in the department receive $100 off for every hosted WeBWorK course
- Access to the MAA e-library
- Students and Administrator Members receive discounts on MAA books and registration for MathFest and Joint Mathematical Meetings.

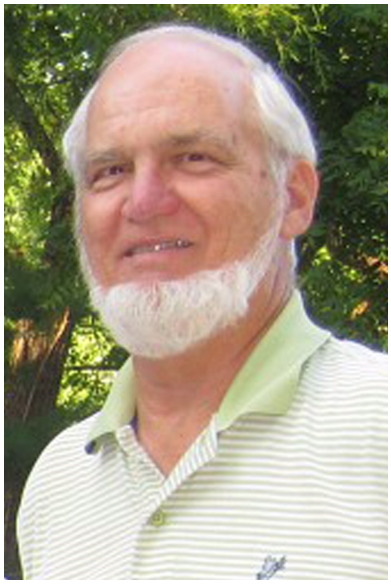
For more details about this opportunity, visit https://www.maa.org/membership/membership-categories/departmental-membership-benefits.

In Memoriam



John Michel, who modeled passion for teaching, mathematics, and liberal arts experiential learning, passed away on May 15, 2018. Dr. Michel earned his undergraduate degree from the University of Missouri, and his master's and doctorate from the University of Wisconsin. Prior to coming to Marietta College in 1970, Dr. Michel was a mathematics research fellow, teaching assistant and research assistant at the University of Denver. From 1963-65, he was a systems analyst and mathematician at the Jet Propulsion Laboratory for the California Institute of Technology. In addition to teaching applied math, he also served as Chair of the Department and Chair of the Faculty Council.

Known for his excellence in teaching, he was recognized twice with the Edward G. Harness Fellowship. He received the Marietta College Service Award in 2002. He retired in 2004, earning the title Emeritus Professor of Mathematics. As an active member of the MAA, he co-founded Ohio NExT. He also served terms as MAA president and secretary-treasurer. In 2009, MAA recognized him with the Certificate of Meritorious Service.



John William "Bill" Friel, Professor Emeritus at University of Dayton, died peacefully on June 11, 2018 at age 81. Bill earned a B.A. in Mathematics from Loras College and an M.A. in Mathematics from Duquesne University. Bill retired from UD in 1999 after 36 years of service, and continued to teach part-time at UD until 2007.

Professor Friel taught FORTRAN in the Computer Science Department at University of Dayton, and was one of the early adopters of MAPLE in UD's calculus classrooms. He served many years as Marshal and Head Marshal for UD.

Bill was very active in the MAA, of which he was a member for more than 50 years. In the Ohio Section he served as President (1987 - 1988), Secretary-Treasurer (1999 - 2006), and Treasurer (2006 - 2007).

Registration Information for the Upcoming Fall Section Meeting

Online registration is preferred. Visit the Section web site at http://www.maa.org/Ohio on or after Tuesday, September 11, for one-stop registration, banquet reservation, and abstract submission. The deadline for meeting pre-registration and banquet reservations is October 19. Abstracts for contributed papers must be submitted by October 12.

On-site meeting registration is always available, but last-minute banquet tickets cannot be guaranteed. Early registration is appreciated by those arranging the meeting. Registration will begin Friday at 12:00 pm in the Johnson Center and will continue Saturday morning at 8:00 am.

Meeting participants who are unable to register online at http://www.maa.org/Ohio 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) to: Ohio Section MAA Fall Meeting, c/o Kyle Calderhead, Department of Science and Mathematics, Malone University, 2600 Cleveland Avenue, NW Canton, OH 44709. Registration by mail will be pending receipt of registration fees.

Epic Math Battles: Counting vs. Matching

Which technique is mathematically superior? The audience will judge during this tongue-in-cheek combinatorial competition between the mathematical techniques of counting and matching. Be prepared to explore positive and alternating sums involving binomial coefficients, Fibonacci numbers, and other beautiful combinatorial quantities. How are the terms in each sum concretely interpreted? What is being counted? What is being matched? Which is superior? You decide.

Jennifer Quinn

Jennifer Quinn is a professor of mathematics at the University of Washington Tacoma. She earned her B.A., M.S., and Ph.D. from Williams College, the University of Illinois at Chicago, and the University of Wisconsin, respectively. She has held many positions of national leadership in mathematics including Executive Director of the Association for Women in Mathematics, co-editor of *Math Horizons*, and Second Vice President of the MAA. She is currently the Officer-at-Large on the MAA Board of Directors and the chair of its Council on Publications and Communications. She received a Haimo Award for Distinguished College or University Teaching and a Beckenbach Book award for *Proofs That Really Count: The Art of Combinatorial Proof*, co-authored with Arthur Benjamin. As a combinatorial scholar, Jenny thinks that beautiful proofs are as much art as science. Simplicity, elegance, transparency, and *fun* should be the driving principles.

Digraphs and Determinants: Determinants Through Determined Ants

"There is no problem in all mathematics that cannot be solved by direct counting."

-Ernst Mach

In linear algebra, you learned how to compute and interpret determinants. Along the way, you likely encountered some interesting matrix identities involving beautiful patterns. Are these determinantal identities coincidental or is there something deeper?

In this talk, I will show you that determinants can be understood combinatorially by counting paths in well-chosen directed graphs. We will work to connect digraphs and determinants using two approaches:

- Given a "pretty" matrix, can we design (possibly weighted) digraph that clearly visualizes its determinant?
- Given a "nice" directed graph, can we find an associated matrix and its determinant?

Previous knowledge of determinants is an advantage but not a necessity. This will be a hands-on session, so bring your creativity and be prepared to explore the mathematical connections.

The Catalan Numbers for Grades K to Infinity — JP Cossey

The Catalan numbers are a sequence of positive integers that have literally hundreds of combinatorial interpretations. In this talk I will begin with the basics of Catalan numbers, and discuss how they've led to research projects for undergraduates and masters students. This will be a talk with more questions than answers, and my hope is that these questions will be accessible to students and researchers at all levels.

James P Cossey is primarily a finite group theorist who dabbles in combinatorics. He received his Ph.D. at University of Wisconsin in 2005, and then spent three years as a post-doc at the University of Arizona. JP is now an associate professor at the University of Akron, and has been at Akron for eleven years.

Inverse Problems, Bayesian inference and Sparse Solutions: a Bit of Magic in L^2

Daniela Calvetti

Recasting a linear inverse problems within the Bayesian framework makes it possible to use partial or qualitative information about the solution to improve the computed solution in spite of the inherent ill-posedness of the problem and noise in the data. In this talk we will show how a suitably chosen probabilistic setting can lead to a very efficient algorithm for the recovery of sparse solutions that only requires the solution of a sequence of linear least squares problems. The fast convergence rate of the algorithm and its low computational cost will be discussed and illustrated with computed examples.

Daniela Calvetti received her Laurea in Mathematics from the University of Bologna in 1980 and Masters and Ph.D. in Mathematics from the University of North Carolina at Chapel Hill in 1985 and 1989. After being on the faculty at Stevens Institute of Technology, she joined Case Western in 1997, where she is the James Wood Williamson professor in the Department of Mathematics, Applied Mathematics and Statistics. She enjoys mathematics for what it is and especially for its great potential in applications. The more mathematical side of her research focuses on computational inverse problems, numerical linear algebra, in particular iterative methods for large-scale linear systems, and orthogonal polynomials. Her research interests also include predictive computational mathematical models and parameter estimation within a Bayesian inference framework, motivated by and directed at medical and biological applications, in particular metabolism and neuroscience. She enjoys teaching and regards it as the most natural way to transferring her passion and enthusiasm for mathematics to her students. She has authored about 150 refereed articles and two monographs.

Adding (Repeatedly) and Finding Averages (Repeatedly)

Aparna Higgins

Perhaps you entertained yourself in school by playing with numbers. I would take a number, add its digits, and repeat this with the sum that I had just obtained. What happened? “Inserting Plus Signs and Adding” (by Butler, Graham and Stong) answers that question in just one paragraph, and then continues to explore the topic. I will discuss some of the paths taken by the authors in their exploration. I confess that I was drawn to another paper, “M&m Sequences” (by Shultz and Shiflett), because the title reminded me of my favorite candy. Starting with three numbers, adjoin a fourth number so that the mean of the four numbers is the median of the original three numbers. Repeat in an obvious way, extending the sequence. I was surprised by the behavior exhibited by some of these sequences. We will explore some M&m sequences, and then consider questions asked in subsequent papers on this topic.

Aparna Higgins has taught at the University of Dayton since 1984. She grew up in India, where she completed her undergraduate education. She earned her Ph.D. at the University of Notre Dame in universal algebra in 1983. Eager to involve undergraduates in mathematics research, Aparna started working in graph theory. She has directed thirteen students’ Honors theses, and co-directed research experiences for undergraduates in three summers. Aparna Higgins has been honored to receive four teaching awards, including one from the Ohio Section of the MAA in 1995, and the MAA’s Deborah and Tepper Haimo Award for Distinguished College or University Teaching in 2005. Aparna has served the MAA on the Committee on Student Chapters, and as director of Project NExT. Aparna has also served as the Ohio Section President. The Ohio Section nominated her for an MAA Certificate for Meritorious Service in 2014. Her husband is Bill Higgins, a mathematician at Wittenberg University. Aparna enjoys reading, knitting, cooking Indian food and creating greeting cards (often with a mathematical design).

Fall Meeting Program

Events will take place in the Johnson Center for Worship and the Fine Arts on the West side of campus.
The location of this building can be found on the campus map on page 12.

Friday, October 26		
12:00-4:00	Registration	Johnson Center Lobby
12:00-1:00	Committee Meetings:	
	CONCUR (Curriculum)	JC 201
	CONSACT (Section Activities)	JC 205
	CONTEAL (Teacher Education & Licensure)	JC 207
1:00-4:00	Vendor & Book Exhibits	Johnson Center Lobby
1:15-1:30	Welcome and Announcements	JC Sanctuary
1:30-2:30	Invited Address: "*Adding (Repeatedly) and Finding Averages (Repeatedly)*" **Aparna Higgins**	JC Sanctuary
2:30-2:50	Break	
2:50-3:50	Invited Address: "*The Catalan Numbers for Grades K to Infinity*" **JP Cossey**	JC Sanctuary
4:00-5:40	Executive Committee Meeting	
5:00-6:15	Contributed Paper Sessions	JC 201, 205, 207
6:15-6:50	Social Time	
6:50-8:00	Banquet	JC 100
8:00-9:00	Invited Address: "*Epic Math Battles: Counting vs. Matching*" **Jennifer Quinn**	JC 100

Saturday, October 27		
8:00-10:00	Registration	Johnson Center Lobby
8:00-10:00	Book Vendors and Exhibits	Johnson Center Lobby
8:00-9:25	Coffee and Pastries	Johnson Center Lobby
8:50-9:25	Committee On Local Arrangements	
8:50-9:25	Executive Committee Meeting (if needed)	
9:25-9:35	Welcome and Announcements	JC Sanctuary
9:35-10:35	Invited Address: "*Inverse Problems, Bayesian inference and Sparse Solutions: a Bit of Magic in L^2*" **Daniela Calvetti**	JC Sanctuary
10:35-10:50	Break	
10:50-11:45	Contributed Paper Session	
11:45-12:00	Break	
12:00-1:00	Invited Address: "*Digraphs and Determinants: Determinants Through Determined Ants*" **Jennifer Quinn**	JC 100
1:00-1:10	Closing Remarks	JC 100

Event locations are subject to change. Check the official program you receive when you register for the meeting in the lobby of the Johnson Center.

Driving Directions and Parking at Malone

FROM I-76 EASTBOUND
Take I-76 onto US-224 East.
Take Exit 4A towards Canton.
Merge onto I-77 South.
Go South on I-77 and take State Route 62 East Alliance Exit 107B.
Take Cleveland Avenue exit, and turn left onto Cleveland Avenue.
Malone is on the left after the post office.

FROM I-76 WESTBOUND
Take I-76 West to Akron.
Go South on I-77 to Canton and exit at State Route 62 East Alliance Exit 107B.
Take Cleveland Avenue exit, and turn left onto Cleveland Avenue.
Malone is on the left after the post office.

FROM I-77 SOUTHBOUND
Take I-77 South and exit at State Route 62 East Alliance Exit 107B.
Take Cleveland Avenue exit, and turn left onto Cleveland Avenue.
Malone is on the left after the post office.

FROM I-77 NORTHBOUND
Take I-77 North and exit at State Route 62 East Alliance Exit 107B.
Take Cleveland Avenue exit, and turn left onto Cleveland Avenue.
Malone is on the left after the post office.

Any place that is not specifically marked should be fine for parking. Lots labeled G, including the largest one next to the circled building, are for general use.

Cleveland Avenue is the main road on the left of the map and the Johnson Center for Worship and the Fine Arts is immediately off of it.

Multiple Hotels Available in the Canton Area

Websites for the following facilities are available at https://www.malone.edu/maa-conference/, but it is recommended that you call in order to ask for the Malone/ conference discount. All are about 4 miles from campus off of the 109B exit for I-77.

Malone University has an arrangement with the Hyatt Place Canton at Belden Village. Guests should ask for Carrie Pekar at 330-244-1700. The address is 5421 Whipple Ave, NW Canton, Ohio 44720.

Staybridge Suites Canton lists a starting price of $120.28. It is at 3879 Everhard Road, NW Canton, Ohio 44709. The phone number is 1-330-966-6620.

Residence Inn Canton by Marriott is located at 5280 Broadmoor Circle NW, Canton, OH 44709. Opening rates are $119. You can call 1-330-493-0004.

Fairfield Inns and Suites by Marriott is also located on Broadmoor, at 5285 Broadmoor Circle NW, Canton, OH 44709. Rates begin at $104 and the phone number is 1-330-493-7373.

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
Aaron Blodgett, University of Findlay
Blodgett@findlay.edu (2020)

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.

Ohio Project NExT Co-Coordinators
*Chandra Dinavahi, University of Findlay
dinavahi@findlay.edu (2021)
Michael Schroeder, Marshall University
schroederm@marshall.edu (2019)
Malena Espanol, University of Akron
mespanol@uakron.edu (2020)

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)
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

Fall 2018: Malone University
Kyle Calderhead, kcalderhead@malone.edu

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

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

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 www.maa.org/Ohio. Notification emails are sent using addresses through the MAA.

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Science and Mathematics Division
Defiance College
Defiance, OH 43512

The deadline for the next newsletter is **February 1, 2019**. Email 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).

Calendar of Events and Upcoming Meetings

Ohio Section Meetings

Fall 2018 Section Meeting, October 26 - 27
Malone University, Canton, OH

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

Fall 2019 Section Meeting, TBD
Shawnee State University,

Spring 2020 Annual Meeting, TBD
Bowling Green State University, Bowling Green, OH

National MAA-AMS

Annual Joint Meetings, January 16 - 19, 2019, Baltimore, MD

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

Annual Joint Meetings, January 6 - 9, 2021, Washington, D.C.

MathFest, August 4 - 7, 2021, Sacramento, CA

Annual Joint Meetings, January 5 - 8, 2022, Seattle, WA

Thank You to the many people who contributed to this newsletter, each officer, the local arrangements coordinator and the various school representatives.

David Stuckey, Editor

Other Meetings: Ohio and Near States

Annual Miami University Conference "Making Mathematics Visible", September 21 - 22, 2018
Oxford, OH
http://miamioh.edu/cas/academics/departments/mathematics/about/events/annual-mathematics-conference/index.html

OCTM Annual Conference, October 11 - 12, 2018
Akron, OH
http://www.ohioctm.org/conferences/68th-annual-conference-akron-2018

Indiana Section MAA Section Meeting, October 13, 2018, Hanover College, Hanover, IN
http://sections.maa.org/indiana/meetings/Current/announcement.html

AMS Fall Central Sectional Meeting, October 20 - 21, 2018, University of Michigan, Ann Arbor, Ann Arbor, MI
http://www.ams.org/meetings/sectional/sectional.html

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

Other Meetings of Interest

AMATYC Annual Conference, November 15 - 18, 2018
Orlando, FL
https://amatyc.site-ym.com/page/2018ConfHome

T^3 International Conference, March 8 - 10, 2019
Baltimore, MD https://education.ti.com/en/professional-development/t3-international-conferences

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

NCTM Annual Meeting, April 3 - 6, 2019, San Diego, CA https://www.nctm.org/Conferences-and-Professional-Development/Annual-Meeting-and-Exposition/Past-and-Future-Annual-Meetings/

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