Wisconsin Section
Mathematical Association of America
NEWSLETTER
Spring 2020

Representative's Report

By Clare Hemenway
UW-Stevens Point at Wausau

My term on the MAA Congress ends this June. I want to thank all of you for entrusting me to serve MAA Wisconsin as its first Section Representative in the relatively new MAA governance structure. It has been a privilege and an honor. I can assure you that the MAA is committed to enhancing the professional and pedagogical development of all its members as it fulfills its stated mission to "advance the understanding of mathematics and its importance in our world."

You should already have received an e-mail ballot to select the next Wisconsin Section Representative. Please participate in the election.

The MAA wants your input as to how it can have more meaningful connections with its members—whether through webinars, travelling workshops, more SIGMAA support, and/or support of Sections. Also, the MAA is always looking for volunteers to serve on its many committees. Please consider donating your talents, creativity, skills, and time to the MAA in whatever way you are able.

Contents

Representative's Report 1
Chair's Report 2
Student Activities Report 2
Section NExT-Wisconsin 3
Contests 3
Candidate for Chair-Elect 4
88th Annual Meeting of MAA Wisconsin Section 5
Know Your Wisconsin Mathematician 7
In Memoriam 10
Campus News 10
MAA-Wisconsin Executive Committee 11

Lastly, I want to encourage everyone to read the Instructional Practices Guide and try to incorporate some of its suggestions in order to create a more active learning environment in your classes.

Have a wonderful new year! I will see you April 24-25 at the MAA-Wisconsin Spring Meeting at UW Stout.

Distinguished Teaching Award

The Wisconsin Section Distinguished Teaching Award was established in 1991. It stands as a concrete statement that mathematicians at the college and universities in Wisconsin place high importance on teaching. The Wisconsin Section is proud of its growing list of award recipients. These men and women of mathematics who have been recognized for their excellent work as teachers represent the commitment to teaching that exists among mathematicians throughout the state.

Nominations for the 2021 Wisconsin Section Distinguished Teaching Award are now being accepted. The nomination form and instructions are available on the MAA-Wisconsin web site at http://sections.maa.org/wisconsin/award.shtml

Chair's Report

By Kseniya Fuhrman, Milwaukee School of Engineering

Greetings friends, colleagues and students! The 88th annual spring meeting of the Wisconsin Section of the MAA will be held at UW-Stout on April 24-25, 2020. Chair-Elect **Ken Price** (UW-Oshkosh) is putting together an exciting program. **Lisa Marano** (West Chester University), **Eric Rawdon** (St. Thomas University), and **James Sellers** (University of Minnesota - Duluth) will be our invited speakers. I want to thank Ken, as well as the faculty and staff at UW-Stout for their hard work in organizing the meeting. Please consider giving a contributed talk and encourage your students to do so as well. It is always very encouraging to see the student accomplishments in our section. The highly anticipated gameshow Face Off! will take place on Friday afternoon. Many thanks to **Steve Szydlik** (UW-Oshkosh) for producing this exciting event. More information about the spring meeting can be found on the meeting website.

We will have the section business meeting at 8 am on Saturday, April 25. We have several agenda items, including election of Chair-Elect, discussion of upcoming opportunities for involvement on the executive committee, and conversation regarding MAA Connect initiative by MAA. I hope that many of you will consider attending. At that time, **Irfan Ul-Haq** (UW-Platteville), will complete his term as Immediate Past Chair. We thank Irfan for his leadership and service to the section.

As my time of serving as the Chair is coming to an end, I would like to thank the executive committee for welcoming and supporting me these past two years. You are a fun and hardworking group! This section, as a whole, is very dear to my heart. I think of myself as a "Wisconsin product", as I received my BS degree from UW-Whitewater, MS and PhD degrees from UW-Milwaukee, and am now working at MSOE. Many of you have guided and mentored me since my early years at UW-Whitewater. I would not be where I am today if it was not for the caring and inspiring professors, mentors, and colleagues that I have had throughout my education and working career. It is an absolute pleasure to keep seeing many of you at the MAA events.

Student Activities Report

By Balamurugan Pandiyan, UW-Whitewater

At the upcoming Spring meeting at UW-Stout, there will be various activities for students such as Face Off, The Math Game Show, quiz contests, and poster readings. As usual, Face Off will be produced by **Steve Szydlik** from UW-Oshkosh. The quiz contests and poster readings will be available in the student retreat room. Students will have time during the meeting to answer four challenging problems for the contest. Additionally, there will be four posters on display in the student retreat room describing the brief story of mathematicians, Henri Poincare, Srinivasa Ramanujan, Leonhard Euler and Edward Norton Lorenz.

To increase awareness among various students' activities, flyers will be distributed to the organizers and speakers. Please encourage your students to attend whether or not they are able to give talks. There will be up to three student awards for the winners of the quiz contests.

Bylaw revision

The MAA is now requesting that each section review their bylaws every ten years. Our bylaws are up for review in 2022. The process will begin in the summer of 2020, with an ad-hoc committee. If you are interested in serving on this committee, please contact Section Chair Kseniya Fuhrman, fuhrman@msoe.edu.

Section NExT-Wisconsin

By Wesley Hough, UW-Whitewater

The Section NExT – Wisconsin annual fall conference was held on November 2 and 3 at the University of Wisconsin – Platteville Baraboo Sauk County. We were pleased to have **Gulden Karakok** from the University of Northern Colorado as our remote guest speaker. Professor Karakok is the chair of the MAA Committee on Assessment, and she spoke about best practices in classroom learning assessment in alignment with the MAA Instructional Practices Guide. Meeting attendance was much lower than expected, but the member speakers were high-quality as per usual. At the conference, Section NExT – Wisconsin leadership and members brainstormed ideas to increase participation for future events.

We are still in the brainstorming phase for the panel discussion immediately following the MAA Wisconsin Sectional meeting at the University of Wisconsin – Stout on April 24-25, 2020. Possible themes include: effective assessment, mastery based grading, novel proof grading strategies, and spicing up your calculus course. We anticipate opening the panel to all interested parties.

Contests

By Laura Schmidt, UW-Stout

The AMC 8 competition was held on November 12, 2019. A total of 528 Wisconsin students participated in the competition, similar to the last few years' numbers of 577, 549 and 552, and a significant drop from previous years of about 959 and 1,300. Two students received a perfect score from Wisconsin. Congratulations to J. Li, a 7th grader from De Pere Middle School, and S. Ross, an 8th grader from Eagle School of Madison. The average score for Wisconsin students was 10.3, compared with the national U.S. average score of 9.4. For the fifth year in a row Wisconsin has outperformed the US average! This is a great trend for our Wisconsin students.

The AMC 10 and 12 contests will be held on January 30 and February 5, 2020. Data will be reported at the Spring Meeting.

The Section contest examination was given on Thursday, December 5th, 2019. There were 37 schools reporting scores this year for a total of 829 students. This is lower than the number of schools participating (45, 50 and 44 schools in past three years), however more overall students than last years' 713, but less overall students from earlier years (930 and 1,157 students). The cutoff for the top 1% was a score of 120 out of 120 this year. There were 18 perfect scores this year. The students with perfect scores were **T. Fetting** (Appleton East HS), **Z. Joseph** and **T. Reimer** (Appleton North HS), **J. Hellweg** (Appleton West HS), **S. Polentini**, **S. Harkavy**, and **D. Zhou** (Arrowhead Union HS), **A. Liu** and **D. Perelman** (Brookfield Academy), **J. Rusch**, **A. Wang**, **E. Wang**, and **M. Pokorny** (Homestead HS), **O. Van Note** (James Madison Memorial HS), **J. Wood** and **T. Rose** (Marquette University HS), **R. Yan** (New Berlin Eisenhower HS), and **H. Coyle** (Whitefish Bay HS). Congratulations to all of them!

Kevin Haertzen and the University of Wisconsin – Platteville completed their second year directing the contest. Thank you for your willingness to host the contest.

Candidate for Chair-Elect

Chunping Xie received his Ph.D. degree in Harmonic Analysis from the University of Alabama. He worked at Arkansas Tech University before he joined Milwaukee School of Engineering as Associate Professor in Mathematics Department in 2008. He has been an MAA member since 2001. He won the highest teaching award in MSOE – the Oscar Werwath Distinguished Teacher Award in 2017. He has 20 publications in peer reviewed national and international journals.

Dr. Xie is a long-term member of MAA and has been active in the activities of MAA sections both at MAA Oklahoma-Arkansas Section in the past and MAA Wisconsin Section currently. He periodically presents his research papers and gives talks on the Section Meetings. He has been the liaison of Mathematics Department of MSOE to the Section for more than six years. He has built his unique perspectives as a scholar with international and national working experience, and along with his years of participation in MAA, he is eager to share his vision and expertise. He is willing and fully ready to serve the Wisconsin Section through the Chair-Elect role.

Volunteers Needed

The Section continually seeks nominations for **Chair-Elect**. This is a three-year position. The Chair-Elect organizes the spring meeting. The following year, the Chair-Elect becomes Chair, and presides at each meeting of the Section and of the Executive Committee of the Section, as well as appointing committees and Executive Committee members as needed. The final year, the Immediate Past Chair continues to sit on the Executive Committee, and oversees the selection of the Distinguished Teaching award recipient. Self-nominations for Chair-Elect are encouraged.

In addition, the Section is currently seeking someone to fill the position of **Public Information Officer**. The Public Information Officer edits the newsletter and maintains the Section web page. The candidate would shadow the current Public Information Officer, Benjamin Collins, during the 2020-2021 academic year. The new Public Information Officer's five-year term would then begin in Spring 2021 and run through Spring 2026.

For more information on the duties of the MAA-Wisconsin Executive Committee, see the Executive Committee Handbook at http://sections.maa.org/wisconsin/MAA-WIExecCommitteeHandbook.pdf.

Send nominations for either position to Section Chair Kseniya Fuhrman at (fuhrman@msoe.edu). Section officers must be members of the MAA.

88th Annual Meeting of MAA Wisconsin Section

April 24-25, 2019, UW-Stout

Invited Speakers

Lisa Marano, West Chester University

Mathematics and Community Engagement: A story about finding mathematical problems in the community and bringing mathematics into the community

ABSTRACT: First-year seminars, learning communities, service-learning courses, undergraduate research projects, and capstone experiences are among a list of high-impact educational practices compiled by George Kuh (2008), which measurably influence students' success in areas such as student engagement and retention. It is recommended that all college students participate in at least two of these HIPs to deepen their approaches to learning, as well as to increase the transference of knowledge (Gonyea, Kinzie, Kuh, & Laird, 2008). In Mathematics, if a student participates in service-learning, it is typically in the form of tutoring, in conjunction with a school or with an after-school program, or consulting for a non-profit by modeling or performing statistical analysis. Today, I will discuss a number of service-learning projects which were developed for mathematics courses, neither of which involves these traditional opportunities. I will also describe my current research project which has potential impact on my community and yours.

Eric Rawdon, University of St. Thomas

Some applications of knot theory in the sciences

ABSTRACT: People are often perplexed when I tell them that I study knots. While I do enjoy letting them stew in confusion for a few moments, I eventually explain to them that knot theory does have some cool applications. I will talk about a few different "applied" projects I have been involved in over the years. In particular, I will talk about knots and links in proteins, the action of topoisomerases on DNA, and knotting in subatomic particles.

James Sellers, University of Minnesota Duluth

Revisiting What Euler and the Bernoullis Knew About Convergent Infinite Series

ABSTRACT: All too often in first-year calculus classes, conversations about infinite series stop with discussions about convergence or divergence. Such interactions are, unfortunately, not often illuminating or intriguing. Interestingly enough, Jacob and Johann Bernoulli and Leonhard Euler (and their contemporaries in the early 18th century) knew quite a bit about how to find the exact values of numerous families of convergent infinite series. In this talk, I will show two sets of exact results in this vein. The talk will be accessible to anyone interested in mathematics.

Special Invitation from the Chair-Elect

Chair-Elect Ken Price is looking for speakers to participate in a panel discussion on the Math Initiative. **You are invited to submit a title and abstract for a ten-minute presentation in this session.**

Panelists can talk about any innovative, enlightening, or otherwise significant work stemming from their institution's participation in the Math Initiative. This could include data analysis on student performance, new advising tools or pathways that were developed, curriculum changes that have the potential to positively impact student success, such as pathways for undeclared students, or any other work to improve mathematics general education. **This is an opportunity to discuss and share your work with a large audience of Wisconsin math faculty.**

The event will last for about one hour, starting with introductions and short presentations. We will conclude with ten to fifteen minutes of questions, answers, and discussion, as time allows.

Please submit your title and abstract for a ten-minute presentation over email to maameeting2020@uwosh.edu by Friday, April 3, 2020.

Meeting Website

https://abrahamdavidsmith.gitlab.io/maa-stout-2020/

Lodging Information

Cobblestone Inn and Suites (715) 233-0211

- 30 rooms available with group rate for April 24, 2020.
- Group rates $105–110, depending on size an occupancy.
- Ask for MAA group rate with Group Account 149138
- This hotel is within easy walking distance of campus.

Quality Inn & Suites (715) 233-1500

- 30 rooms reserved under group "MAA Conference" for April 24, 2020.
- Reservation cutoff date: February 24, 2020.
- Note! When calling to reserve a room under this MAA block, select 2 on the phone menu, to go to group reservation.
- Group rates for Double Beds, No Smoking: $89.99 for single or double. Extra occupant is $40.00.

AmericInn by Wyndham (715) 235-4800

- 30 rooms reserved under group "MAA Conference" for April 24, 2020.
- Reservation cutoff date: March 24, 2020.
- Group rates: $94.00 – $150.99, depending on size and occupancy.

Call for Speakers

Talks of all kinds are welcome, particularly ones that are accessible to students. If you wish to present a talk, please complete the form at:

http://sections.maa.org/wisconsin/meetings.shtml

Due date: March 1, 2020. Talks received after March 1 will be considered only as time and space permit.

Student Speakers

The Wisconsin Section of the MAA encourages undergraduate students who have done research in mathematics to give a 25-minute presentation about their work at the Spring Meeting. If you wish to present a talk, please complete the form at:

http://sections.maa.org/wisconsin/meetings.shtml

Due date: March 1, 2020. Talks received after March 1 will be considered only as time and space permit.

Registration

http://sections.maa.org/wisconsin/registration_form/index.html

Pre-registration deadline: April 3, 2020

Pre-registration fees: MAA Member, $30; Retired MAA Member, $20; K-12 Teacher, $20; Student, Free; Other, $40

Banquet cost: Regular: $20, Student: $5

Registration after pre-registration deadline of April 3, 2020. will be $40 for all except students, who will still be free.

Regular banquet tickets (if available) will be $25 after the pre-registration deadline of April 3. Student banquet tickets remain $5.

Know Your Wisconsin Mathematician

Interview with Shubhangi Stalder, UW-Milwaukee at Waukesha, by Clare Hemenway

Where did you grow up?
I was born in Nairobi, Kenya. I lived until age 7 in Lindi, Tanzania, and then until age 23 in Pune, India, after which I came to the United States for a Ph.D. at the University of Wisconsin-Milwaukee.

When did you decide that mathematics was what you wanted to do with your life?
As far as I recall, mathematics came to me with ease where I could even teach it to others from a very young age. However, I did not get very good grades initially. But I still remember the moment during my second-to-last year of undergraduate studies at Sir Parshurambhau College in Pune, India, where I attended a mathematics lecture on space-filling curves. The teacher started by saying to write anything – even doodles – and he could come up with the mathematical representation of it. I remember being mesmerized by this concept that you can take anything and come up with a mathematical model that describes it fully. That was possibly a turning point for me in deciding to do mathematics.

Even if someone else has found a result before us, happening upon it for the first time ourselves is exciting!

In college and graduate school, I figured out how to overcome anxiety on exams and started getting amazing grades. This is when I knew I had to help others do the same. I felt that if I could do it, anyone could do it with hard work and tenacity.

Where did you go to undergraduate school?
I did my undergraduate studies at Sir Parshurambhau College located in Pune, India.

What about graduate school?
I did a master's at Pune University, India, after which I came to the University of Wisconsin-Milwaukee and received a second master's and then a doctoral degree studying Ring Theory with **Mark Teply**.

What was the influence of your family on your education?
Both my parents were teachers. My dad taught math and science at a teacher's college. My mom taught math in high school. My ancestors on my dad's side were all educators also, except for my grandpa who was an award-winning surgeon in East Africa. My dad died when I was only 12 and my mom raised us as a single mom. My mom's uncle and a cousin were also professors of mathematics. But my mom's influence was the strongest. It is with her support and guidance that I have accomplished what I did. I strongly credit her for the drive I have now. At the same time, I want to mention that there were some family members and teachers who openly doubted I would succeed academically. My mom helped to counter their negative influence.

Are there any teachers who had influenced you to become a mathematician?
Yes, there have been many teachers that influenced me in becoming a mathematician. **Dr. Railkar** and **Dr. Modak** in Sir Parshurambhau College and **Dr. Joshi** and **Dr. Gopalkrishnan** at Pune University. **Dr. Modak** would personify mathematical objects like vector spaces and functions. He would talk as if these objects lived in space and had feelings. This was very impactful, and when I teach I try to bring in what I learned from him so long ago. **Dr. Railkar** always started class with questions and would let me and my friend struggle to find the answers which cultivated an intuitive sense of mathematics. He would always say that it's just a matter of time until we would stumble upon the truth that is waiting out there to be found. Even if someone else has found it before us, happening upon it for the first time ourselves is exciting! It gave us the same joy that whoever discovered it first might have felt.

After coming to the University of Wisconsin-Milwaukee, I want to mention **Mark Teply** who was my advisor, **Eric Key**, and **Kevin McLeod**. **Mark Teply** always pushed for more when I thought I had nothing left to give, and he kept me motivated and gave guidance to complete my thesis. **Eric Key** developed further my intuitive ability, and **Kevin McLeod** showed me how I could let students find their intuitive sense of mathematics even at earlier levels like mathematics for elementary teachers. I have been lucky to have taken classes with these amazing teachers

without whom I could not do what I do today, and am very grateful for their hard work. As one of my students said, "You can never erase the influence of a good teacher."

How did you end up at the University of Wisconsin-Milwaukee at Waukesha?

After getting my doctorate, I knew I wanted to teach at the undergraduate level, and my first job was at the University of Wisconsin Marathon, a campus of the former University of Wisconsin Colleges that is now called the University of Wisconsin-Stevens Point at Wausau. After two years there, I transferred to the Waukesha campus which is now the University of Wisconsin Milwaukee at Waukesha. I have been here ever since.

What have your students meant to you as a teacher and mathematician?

In my culture, they say students are a gift to you from above to help you learn your subject even better. Every single student who has touched my life has changed me bit by bit, increasing my knowledge of mathematics and how an individual learns and grows from their mistakes. They have taught me a little more on the hidden intricacies of even basic elementary mathematics that suddenly become visible. The depths of understanding can be more vast than you first think. To truly know something, you need to remain open to learning from different angles and different contexts. As I heard a teacher say once, there is a beginning to learning but no end.

Every single student who has touched my life has changed me bit by bit, increasing my knowledge of mathematics and how an individual learns and grows from their mistakes.

What courses do you like to teach?

Although I like teaching all my classes, my favorite courses to teach are probably College Algebra the corequisite model, Mathematics for Elementary Teachers, and Calculus II.

I mention Calculus II because there I can share the presentation of parametric functions (e.g., mathematical models to represent a doodle) that were part of why I became a math major.

The College Algebra corequisite model is a course I have developed with other colleagues that integrates developmental and college algebra all in one semester in six credits. Here I have developed a text that incorporates mindfulness and growth mindset ideas to help students who have fear and anxiety or low self-confidence. Also, the non-standard arrangement of topics includes projects that use STEM discipline simulations that students have to make sense of by using the mathematics learned in class. Even at this level, we can show students how beautiful mathematics is and develop an intuitive sense of mathematics beyond rote memorization. There are many students who say they will keep my book forever because of the mindfulness training. They say it has helped make a difference in their lives beyond math in reducing anxiety and fear and creating a general sense of well-being.

I also love teaching Mathematics for Elementary Teachers courses as I get to show the beauty in the simplest of concepts like fractions that cause so many students headaches. For example, a visual representation of division of rational numbers like $\frac{4}{15} \div \frac{2}{5}$ can show students how the problem is equivalent to $\frac{4 \div 2}{15 \div 5}$ and $\frac{4}{15} \times \frac{5}{2}$.

How have you found that teaching of mathematics has changed over the years?

Teaching math has changed dramatically over the years. From not having even the simplest of calculators, to massive computers that only a few privileged could use, to handheld devices with algebra systems that can graph in a few seconds. This has transformed what a teacher can now bring to the students. From a pure lecture-based course to flipped courses, and now you can even get some conceptual knowledge without an in-person teacher through YouTube and other online sources. But this online information is just the first level of knowledge and drill skills. You still need a teacher to motivate and guide your thinking, someone you can have a dialogue with, to take your understanding to a new level that you may not be able to get from just doing automated drills with artificially intelligent software. To get a depth of knowledge still requires that human teacher-student interaction.

How have you been you involved with the MAA?

I have been a member since getting my Ph.D. I regularly read MAA journal articles and attend and present at MAA conferences. Learning from my colleagues about what are

new and innovative ways to think and teach is the best part of being a member of MAA.

What do you think is the best part of being a mathematician?

Perhaps the best part of being a mathematician is getting that dopamine hit after solving problems. A natural way to feel high is to do mathematics. I also love to wander in my mind's universe looking for solutions, where in a way, all my worldly troubles take a back seat. Even when one consciously stops working on a problem and resumes daily life, there can be that epiphany even in dreams at times that presents a solution. I would not give that up for anything. I also think day-to-day problems can sometimes be solved with the general logic that comes from mathematical training.

I love to wander in my mind's universe looking for solutions, where all my worldly troubles take a back seat.

What is the worst part of teaching mathematics?

The worst part of teaching mathematics is how U.S. society tolerates not being good at mathematics as sort of a given truth. When a child or student says "I hate math" or "I am bad at math," the parent or a friend who hears it might say "that's okay" or "I know, me too!" or even "you won't need it when you get out of school anyway." Parents can decide how to help their kids, but math is more doable than most think. I truly believe that in society, if everyone takes responsibility for not accepting this status quo, we can change how people see mathematics and help kids to succeed. In all my math courses, I stop class when someone says "I am bad at math" or "I hate math" or "I don't understand anything" to analyze why they said what they said. Most often it is only one step or a tiny concept they did not understand. This was apparently their way to deal with the discomfort when one does not understand something. I can usually get students to change their representation of mental distress into something more constructive. Later in the semester, I thankfully can hear students helping each other not to say such negative things about mathematics or themselves. Instead, they either choose to reword constructively or stay neutral in their describing of the discomfort. Being comfortable with the discomfort that arises from failure and from not immediately knowing a solution is an important step in doing mathematics. This can take a lot of patience, but it's worth it to train your mind.

What of your work do you like the best? What are you most proud of?

The excitement and twinkle or spark in students' eyes when they "get it" motivates me every day. I also love showing students how math is more than just right or wrong answers and helping them to find their own mathematical voice. I like designing questions so that there isn't just one answer so that all students have a chance of creating solutions at different levels. In this and other ways, I feel I have been able to reach students who feel they cannot do mathematics. I also love improving and learning from students and other teachers. I am proud of my latest textbook for the College Algebra corequisite model which was the result of months of hard work. I am grateful to have received teaching awards like the University of Wisconsin System Board of Regents Teaching Excellence Award in 2015 that was partly due to my work on a developmental corequisite flipped course.

What is your advice to college students and new teachers?

For college students from developmental math onward, I would say hard work and compassion toward oneself and others are the tickets to success. Barring brain dysfunction, you should be able to master mathematical topics at different levels. It will need trust in the natural state of human brains and letting go of preconceived notions of one's ability. For new and old teachers, I would say trust in your students' ability and believe that you can reach them. If a teacher believes in their students' ability, they are less likely to give up and may keep looking for how to build a bridge from what students know to what you want them to know. Always be open to learning from fellow teachers and your students.

Who is a Wisconsin Mathematician that you would like to know? Send suggestions for the next KYWM to Ben Collins, collinbe@uwplatt.edu .

In Memoriam

Richard Allen (Dick) Askey, Professor Emeritus at UW-Madison, died on October 9, 2019. A memorial to Prof. Askey by former MAA President David Bressoud appeared in the MAA blog Launchings.

Campus News

Beloit College

By Paul Campbell

Paul Campbell, **Dave Ellis**, and **Bruce Atwood** have retired after 42, 31, and 17 years at the College. The department is searching this year for replacements. Meanwhile, **Mehmet Dik** (Rockford University) and **Paul McComb** (Rock Valley College) are helping out part-time.

Paul Campbell's essay "Does mathematics teach how to think?" was published in *The Best Writing on Mathematics 2019*. Despite a paucity of evidence, he likes to think that the answer to the question is yes.

UW-Eau Claire (Barron County Campus)

By aBa Mbirika

Two student-faculty research teams recently advanced to the finalist round of competition in the Foxconn Technology Group's Smart Cities – Smart Futures Competition held on Dec. 19 at Carroll University in Waukesha. Students in the team earning a grand prize of total $5,500 were **Owen (Haoyu) Xu**, **Gabrielle Hull**, **Selina (Yexuan) Sun**, and **Connor (Haiyuan) Yu**. Students in the team that earned a top-10 finish among the finalists and a prize of total $3,000 were **Kylie Van Dyke**, **Andy (Sicheng) Mo**, **Anna (Yuchi) Dong**, **Harry (Linze) Li**, and **Colin (Jinghao) Zhou**. Both teams were mentored by faculty member **Wufeng Tian**. Info available at this link.

Students **Hannah LeMoine**, **Anna (Yuchi) Dong**, and **Andy (Sicheng) Mo** were awarded with a national award and a prize of $1,500 by the American Mathematical Association of Two-Year Colleges Student Research League for a paper they wrote titled "To Grid or Not to Grid". Info available at this link.

Wufeng Tian had a paper recently accepted to be published in the International Journal of Computing Science and Mathematics titled "A fast ADA algorithm for nonlinear Poisson equation in heterogeneous dielectric media". Draft available at this link.

UW-Eau Claire (Eau Claire Campus)

By aBa Mbirika

In January 2020, we sent 6 research students and 11 of our faculty to present and attend the Joint Mathematics Meeting in Denver, CO. Student posters were as follows: **Dan Guyer** and **Miko Scott** on "Cool Combinatorial Characteristics of the Fibonacci Sequence Modulo 10," **Bridget Lee** on "Centralizer-like Subgroups Associated with the n-Engel Word In the Direct Product of Groups" (Honorable Mention Award), **Foong Min Wong** on "3D Visualization of Algebraic Surfaces Using Bertini real, Python and Blender" (Outstanding Poster Award), and **Michaella Burg** on "A New Bidding System in the Game of Bridge." Student talks were as follows: **Dan Guyer** on "The C-complex clasp number of links" and **Tyler Gonzales** on "Extensions of M-matrix theory to rectangular M-matrices." Faculty posters were as follows: **Melissa Troudt** on "Collaborative Research: Initiating a Foundational Research Model for Secondary Mathematical Knowledge for Teaching (INFORMS MKT)." Faculty talks were as follows: **Mckenzie West** on "Computing curves on surfaces," **Carolyn Otto** on "A class of virtual knots with crossing weight zero," **Chris Ahrendt** on "Bifurcations of a discrete analog of the Bernoulli differential equation", **Shanise Walker** on "Lower bounds for induced poset saturation," **Feroz Siddique** (Barron Campus) on "A generalization of exchange rings," and **aBa Mbirika** on "Two research projects birthed from curiosity, recreation, and joy."

Suzie Giebel was hired in the math department office as our new University Services Program Associate to work alongside Academic Department Associate **Nicole Owen**. Suzie was formerly the Office Assistant/Student Manager in the UWEC Printing Services for 5 years and also a Davies Center Manager, but we are happy that

she is now calling the Math Department her permanent home. Suzie is a native of Eau Claire and graduated from Eau Claire North. Her and her husband Brett are the proud parents of four kids: Brandon, Sean, Teagan, and Payton. They also have two fur children (i.e., dogs in this case) named Brutus and Sophie. Suzie's hobbies include walking her dogs, reading, puzzles, watching her daughters play softball (note: dad Brett is the coach!), and eating all things Italian. Welcome Suzie to the math department!

Katrina Stullken Rothrock was hired to start in Summer 2020 as an Assistant Professor and Developmental Program Coordinator. She completed her PhD in Mathematics Education in 2019 from the University of Kansas. Since 2013, she has been a STEM pre-service teacher educator in the Center for STEM Learning at the University of Kansas. She began her professional career as an architectural electrical engineer before she shifted her focus to mathematics education. She is looking forward to joining the UWEC math family soon.

Vicki Whitledge, **Carolyn Otto**, and **Chris Davis** were awarded sabbaticals for the 2020-2021 academic year. They will be doing the following (1) Whitledge: Data Analytics Techniques in Actuarial Science, (2) Otto: Applications of Milnor's mu-bar Invariants for Links, and (3) Davis: A Trio of Questions about Knot Concordance.

Shanise Walker is the first recipient of the Vicki Lord Larson and James R. Larson Tenure Track Time Reassignment Grant.

Chris Ahrendt and **Herschel Day** were promoted to the rank of Full Professor.

Silviana Amethyst visited for the Fall 2019 semester at the Institute for Computational and Experimental Mathematics (ICERM) at Brown University in Providence, RI. The program was called Illustrating Mathematics and focused on developing and sharing novel ways of presenting mathematical theory. She presented her art and instructional tools from numerical algebraic geometry at the Big Bang Science Fair, had a piece accepted into a juried show, and that same piece published in a book of mathematical art. Valuable connections and collaborations between mathematicians and artists were fostered, and will be sure to lead to many new pieces and projects. While there, Silviana also taught sessions on OpenSCAD, Python, and Git.

Faculty emeritus **Bob Langer** has been having math adventures with **aBa Mbirika** exploring topics in number theory the past year. Also, Bob is happy to announce that his grandson Isaac is an undergraduate math major at UC-Berkeley and plans to go to graduate school!

Abra Brisbin and **Erica Maranhao do Nascimento** (former visiting international student at UWEC) had a paper published by the Journal of Statistics Education titled "Reading versus doing: Methods of teaching problem-solving in introductory statistics."

Christopher Davis and his students **Eric Anderson** (UWEC Alumnus), **Jonah Amundsen**, and **Dan Guyer** had a paper accepted by Rocky Mountain J. Math. titled "The C-complex clasp number of links."

Christopher Davis had a paper accepted by Canadian Mathematical Bulletin titled "Concordance, crossing changes, and knots in homology spheres."

Christopher Davis had a paper appear in Journal of Topology titled "Topological concordance of knots in homology spheres and the solvable filtration."

Christopher Davis and **JungHwan Park** (Georgia Institute of Technology) had a paper appear in The Mathematical Proceedings of the Cambridge Philosophical Society titled "Concordance to links with an unknotted component."

Christopher Davis, **Carolyn Otto**, **Taylor Martin** (Sam Houston Univ.), and **JungHwan Park** (Georgia Institute of Technology) had a paper appear in The Transactions of the AMS titled "Every genus 1 algebraically slice knot is 1-solvable."

aBa Mbirika and student **Emily Gullerud** (UWEC alumnus) had a paper accepted by INTEGERS: The Electronic Journal of Combinatorial Number Theory titled "An Euler Phi Function for the Eisenstein Integers and Some Applications."

aBa Mbirika was featured on a podcast called "My Favorite Theorem". This is a podcast show that interviews mathematicians and asks two questions: (1) What is their favorite theorem? and (2) what food and drink would they pair with this theorem. To listen to the podcast interview of aBa go to this link.

UW-Milwaukee

By Jay H. Beder

L. Ridgeway Scott, professor emeritus of Computer Science and Mathematics at the University of Chicago, will deliver the 2020 Marden Lecture in Mathematics at UWM on April 9 at 4pm in Lubar N140. He has been the Louis Block Professor since 2001 and published over 180 papers and 5 books related to biophysics, parallel computing, and fundamental computational aspects of structural mechanics, fluid dynamics, nuclear engineering, and computational chemistry. This includes his pioneering work on the finite element method for solving partial differential equations. Information about the Marden Lecture can be found at this link.

For the fourth time, the department hosted the regional MathCounts math competition. The contest, held February 1, had 250 competitors from across three chapters: Milwaukee, Wauwatosa, and SE Wisconsin. Senior Lecturer **Joe Franecki** is the department's liaison for MathCounts.

Senior Lecturer **Kelly Kohlmetz**, math literacy pathway coordinator, is featured in an NIC Spotlight article.

Undergraduate computer science major **Frank Owen**, mathematics major **Elliott Fairchild** and Visiting Assistant Professor **Burns Healy** have coauthored a paper to appear in the Mathematica Journal, a peer-reviewed publication dedicated to the usage of Mathematica in research. The paper discusses how one can use the program to calculate sectional and Ricci curvature in Riemannian and pseudo-Riemannian manifolds, and has applications in topology, geometry, mathematical physics and relativity.

Undergraduates **Alex Moxon** (student of **Paul Roebber**) and **Georgio Sarro** (student of **Clark Evans**) presented posters at the January meeting of the American Meteorological Society in Boston. Sarro won an award for his presentation.

Paul Roebber was interviewed (twice) on WUWM January 21 – once about weather, which aired Jan 22, and once which will be the first in a series of 6 special Lake Effect segments on climate change, to be aired once per month for the next 6 months.

A Wisconsin Public Radio reporter interviewed **Kevin McLeod** and **Shubhangi Stalder** about remedial math reform and math pathways. The piece aired Monday Feb 3.

UW-Oshkosh

By John Beam

Under the direction of **Eric Kuennen**, UWO will be hosting its fourth annual Mathematical Problem Solving Contest for students in grades 7-10. The contest, to be held on April 23, is expected to attract over 1,000 students from around the state.

UW-Platteville

By Benjamin V.C. Collins

UW-Platteville's "The Platte Villains A-Team" received the Analytic Acumen Award in the Novice Division at the 2019 MinneMUDAC Fall Student Data Science Challenge. The team consisted of students **Nick Buchert**, **Joel Egelhoff**, **Kristin Sheyko**, **Emma Dums**, and **Daniel Zellmer** under the guidance of faculty advisor **Michael Black**.

The University of Wisconsin-Platteville Math Department expresses its deepest sympathies to the family, friends and former co-workers of Kellie Knox, who passed away Jan. 29. She was a member of the mathematics department for more than a decade and earned both bachelor's and master's degrees from UW-Platteville. Kellie's obituary is available at this link.

UW-Stout

By Steven Deckelman

A contingent of Stout faculty attended the UW-System Math Initiative Workshop in Madison in the fall. **Andrei Ghenciu**, **Nelu Ghenciu**, **Laura Schmidt**, **Derek Sturgill** and **Steve Deckelman** attended.

Andrei Ghenciu, **Nelu Ghenciu**, and **Steve Deckelman** attended JMM in Denver. Andrei gave an Invited Session talk on Symbolic Dynamics, "Almost specified iterated constructions over countable alphabets."

Saleh Alnaeli and **Chris Mooney** were awarded Stout Research Fellowships for next year.

The department is very excited to be hosting the 2020 state MAA meeting in April. The department last hosted the state meeting in 2011.

MAA-Wisconsin Executive Committee

Representative to the MAA Congress	Clare Hemenway, UW-Stevens Point at Wausau
Chair	Kseniya Fuhrman, Milwaukee School of Engineering
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