

# **MAA MISSOURI SECTION NEWSLETTER**

## **Fall 2021 • VOLUME 41 • NUMBER 1**

### **From the Section and Program Chairs (Lori McCune and Liana Segal)**

The Department of Mathematics and Statistics at the University of Missouri-Kansas City is proud to host the 2022 MAA Sectional meeting. The conference will take place on April 7-9, 2022 on our Volker campus in Kansas City, Missouri. We are currently preparing for a fully in-person conference. The plenary speakers will be Sarah J. Greenwald from Appalachian State University, who will deliver the Polya lecture, and Tim Chartier from Davidson University, who will be a section visitor. Registration information, abstract submission and other details will become available in January 2022 on the web site: <https://cas.umkc.edu/areas-of-study/mathematics-and-statistics/maa-conference-2022.html>. If you have any suggestions for panel discussions or other contributions, please contact the program chair, Liana Segal, at [segal@umkc.edu](mailto:segal@umkc.edu). We hope to see you in Kansas City in April!

The section has a Zoom account through the national MAA organization that we can use for section activities such as book club meetings, section happy hour meetings, student activities, etc. If you have ideas for virtual activities that the section could host throughout the semester please contact the section chair, Lori McCune, at [lmccune@missouriwestern.edu](mailto:lmccune@missouriwestern.edu).

Section meeting locations have been planned through 2023. If your institution is willing to host a section meeting after 2023, contact the section chair, Lori McCune, at [lmccune@missouriwestern.edu](mailto:lmccune@missouriwestern.edu).

### **From the Section Representative (David McCune)**

This is my first year serving as the Missouri section representative and I'm excited to serve the section in this role. I attended my first MAA Congress at MathFest last August and I'd like to use this newsletter to report the highlights of what I learned.

MathFest was completely virtual this year. The MAA would like to hold the next MathFest in person, but they are exploring possible virtual options. There was some discussion at the

Congress about whether or not future MathFests should always include a virtual option in order to increase access to the conference, but no consensus was reached.

MathFest is now the only national conference for the MAA, as January 2022 will mark the first time in many years that the MAA will not officially participate in the Joint Meetings. (The meetings are still considered “joint” because of the participation of organizations such as SIAM and AWM.) The next national conference hosted by the MAA is the 2022 MathFest, which will occur in Philadelphia. The conference was supposed to occur in Washington DC but had to be moved due to venue issues. The MAA hopes that by not participating in the Joint Meetings, it can better support Sections and SIGMAAs, and produce a more robust MathFest.

I would encourage everyone to check out MAA Connect, the MAA’s “new online community for members to connect, communicate and collaborate with peers.” I’ve used the platform to ask questions about my courses and I’ve received thoughtful and detailed responses. I’ve only engaged with the general member community in which all members can ask general questions, but Connect also has subcommunities that you can join if you would like targeted advice about teaching differential equations, diversity and inclusion issues, publishing in MAA periodicals, etc.

Like most institutions, the MAA was negatively affected by the Covid pandemic. MAA membership took a pretty substantial hit as people didn’t renew their memberships, most likely because of financial strain caused by the pandemic. This drop in membership and the cancellation of MathFest 2020 put quite a bit of financial strain on the MAA. At the time of our Congress meeting the 2020 financial audit was not complete and so we didn’t get a complete picture of the damage; however, it seems that membership numbers recovered pretty quickly and federal money mostly mitigated the temporary financial damage. It seems that the MAA weathered the pandemic as best as could have been expected.

Grappling with the pandemic has caused the MAA to rethink and update all of its virtual programming. Moving forward, the MAA hopes to increase the support that it can offer its members virtually. The aforementioned MAA Connect represents one such effort. The MAA also hopes to increase the number of webinars it offers; the registration links for many of these webinars can be found on Connect. I haven’t attended any of these but my wife attended some free webinars about how to use the statistical package R, and she found them helpful.

As many of you know (because it’s old news), the MAA recently partnered with Taylor & Francis to publish MAA periodicals. As part of that partnership, MAA members still have access to MAA publications but also have access to non-MAA journals such as PRIMUS. Here’s a bit of new news: the MAA is starting a data science journal called Data Science & Undergraduate Mathematics. It’s not clear when the journal will start publishing, but the MAA has created an inaugural editorial board and has developed funding proposals. If you, like me, have grown tired of hearing the term “data science” then perhaps this news doesn’t sound exciting; however, the

journal's approach to data science will be very broad, and therefore there might be papers on topics such as using data to implement projects in calculus courses, for example.

If you have any questions about the goings-on of the national MAA, don't hesitate to send me an email.

David McCune

Representative of the Missouri Section of the MAA

[mccuned@william.jewell.edu](mailto:mccuned@william.jewell.edu)

## **From the Secretary/Treasurer (Phoebe McLaughlin)**

### **SECTION TEACHING AWARD**

#### **CALL FOR NOMINATIONS**

Nominations for the 2022 Missouri Section Award for Distinguished College or University Teaching of Mathematics are now being accepted. The Missouri Section Selection Committee will determine the recipient of the award from those nominated. The awardee will be honored at the Spring 2022 meeting of the Section and will be widely recognized and acknowledged within the Section.

We urge you to submit a nomination for the MAA Missouri Section Teaching Award if you have someone eligible and qualified in your department in order that your candidate has an opportunity to be considered for the Section Award and, if so selected, also for the national award. Even if not selected this year, it is an honor for someone to have been nominated; your department will receive recognition for its commitment to excellence in teaching, and the work done in preparing a nomination folder for your candidate is not wasted since your candidate can be nominated again in a future year. Self-nomination is not permitted.

Please discuss this memo with your colleagues and post it in a prominent place in your department.

#### **Eligibility**

- College or university teachers who currently teach a mathematical science at least halftime during the academic year in a public or private college or university (from two-year college teaching through teaching at the Ph.D. level) in the state of Missouri. Those on approved leave (sabbatical or other) during the academic year in which they are nominated qualify if they fulfilled the requirements in the previous year.
- More than seven years of experience in teaching a mathematical science.
- Membership in the Mathematical Association of America.

## Guidelines for Nomination

Nominees should

- Be widely recognized as extraordinarily successful in their teaching.\*
- Have teaching effectiveness that can be documented.
- Have had influence in their teaching beyond their own institution.\*\*
- Foster curiosity and generate excitement about mathematics in their students.

\* "teaching" is to be interpreted in its broadest sense, not necessarily limited to classroom teaching. It may include activities such as preparing students for mathematical competitions at the college level such as the Putnam Prize Competition or the Mathematical Contest in Modeling, attracting students to become majors in a mathematical science or to become Ph.D. candidates, working with pre-service or in-service teachers, etc.

\*\* "influence beyond..." can take many forms, including demonstrated lasting impact on alumni, influence on the profession through curricular revisions in college mathematics teaching with wide-ranging impact, influential publications or innovative books concerned with the teaching of college mathematics, etc.

### Nomination Materials -

1. **Narrative:** Please describe the nominee's extraordinary success in teaching by providing a narrative of the nominee's background, experience, teaching style, special contributions, other teaching awards, and any additional evidence of the nominee's unusual achievement in teaching. Please limit this portion to no more than five double spaced pages.
2. **Letters of Recommendation:** Please include two letters of recommendation of no more than one page each, from the nominee's colleagues (one of whom could be the department chair).

**Nomination Deadline** – Send all nomination materials to the Secretary, Phoebe McLaughlin, at [pmclaughlin@ucmo.edu](mailto:pmclaughlin@ucmo.edu). The nomination deadline is **by March 1, 2022**, but **submissions before February 15, 2022** are greatly appreciated.

We look forward to your participation in this exciting MAA venture of taking substantive action to honor extraordinarily successful teaching. We want to see such teaching recognized at all post-secondary school levels. We depend on you to help us identify those who merit such recognition.

### REMARKS

Nominations for someone from another Section should be sent to the Secretary of the nominee's Section.

At the national level, MAA recognizes outstanding teaching with the Deborah and Franklin Tepper Haimo Award for Distinguished College or University Teaching of Mathematics; each year at most three awards are given. At least one of the Award recipients must be a current Section nominee. This Section nominee may be the current recipient of the Section Award for Distinguished Teaching or a previous recipient of such an award from any Section. At most one of the Haimo Award recipients may be other than a current or past recipient of a Section Award for Distinguished Teaching. Your nomination for a Section Teaching Award provides the opportunity for the person to be nominated for the national Haimo Award for **two consecutive years** if the nominee is not chosen in Year 1.

## Missouri Collegiate Mathematics Competition (Chip Curtis)

We are pleased to announce that the Missouri Collegiate Mathematics Contest (MCMC) will return to a face-to-face format for the spring of 2022.

The contest is open to teams of one-to-three students from colleges in Missouri. Each school can register up to two official teams and any number of unofficial teams. A team of one student is allowed only if that is the only team from that school.

As in years prior to 2020, it will consist of one part on Thursday evening of the section meeting from 7:30 – 10:00 p.m. and one part on Friday morning from 8:30 – 11:00 a.m. Each part will consist of five questions.

Registration information will be posted on the Missouri MAA Section homepage.

## Section NExT (Samuel Chamberlin and Erin Martin)

Our annual spring meeting is Thursday, April 7 and Friday, April 8, 2022. We would love to get applications for new fellows. Please encourage your new colleagues to apply. There is more information about the application process at <https://sites.google.com/site/mosectionnext/home/become-amissouri-next-fellow>"

## Campus News:

### Saint Charles Community College (submitted by Wanda Long)

Jennifer LeGrand retired in June 2021. Demetrius Moore was hired as new developmental faculty for Fall 2021.

### **Southwest Baptist University (submitted by Amos Gichamba)**

Dr. Kevin Hopkins retired as of June 2021. Before his retirement, he served as the Division Head of Computing and Mathematics. Prior to his appointment as Division Head of Computing and Mathematics in the Fall of 2020, Dr. Hopkins served as the Chair of the Mathematics department for 31 years. Dr. Amos Gichamba succeeded Dr. Hopkins as the Division Head of Computing and Mathematics.

#### ***Faculty Achievements:***

- Dr. Tim Chappell, who is starting his third year at SBU, completed requirements for an interdisciplinary Ph.D. in Mathematics and Curriculum & Instruction from the University of Missouri-Kansas City in May, 2020. His dissertation was titled *A Longitudinal Study of Modeling-Based College Algebra and Its Effect on Student Achievement*.

#### ***Student Accomplishments:***

- This past summer, math major Hannah Kaufman participated in a Research Experience for Undergraduates through UCLA, where she and others in her group studied large linear systems.

### **University of Missouri – Kansas City (submitted by Richard Delaware)**

For both recent student accomplishments and faculty activity see our latest **RooMath News** newsletter posted at:

<https://cas.umkc.edu/areas-of-study/mathematics-and-statistics/roo-math-newsletter.html>

#### ***Student Accomplishments***

**Thao Tran** graduated with a master's degree in statistics in spring 2021, at which time she obtained an internship at the Federal Reserve Bank of Kansas City.

Congratulations to the 2021-2022 recipients of mathematics Jedel Scholarships: **Seth Kacich** and **Zach Bright**. The Jedel Scholarship amount is \$2,000 per semester.

The following three students wrote their expository papers for Math 464 WI History of Mathematics:

- **Kylie Brous** wrote an expository paper titled "The Mystery of Negative and Imaginary Logarithms" (based on Euler's paper E807), published in the UMKC student Honors Journal *Lucerna* in January 2021, p. 121, see [here](#). Euler's accessible

narrative of his work, is filled with candid remarks like “*Notice, then, that we encounter quite palpable contradictions, whichever way we turn.*”

- **Laura Behm** published her expository paper titled “Conversational Physics” about Galileo’s work, in the UMKC *Sosland Journal* in September 2021, under Advanced Level, Runners-up, see [here](#) .
- **Richard Schneider** published his expository paper titled “Irrational Philosophy? Kronecker’s Constructive Philosophy and Finding the Real Roots of a Polynomial”, in the *Rose-Hulman Undergraduate Mathematics Journal* in July 2021, see [here](#).

### ***Faculty and Department Activity and Accomplishments:***

**Dr. Matthew McCoy** joined UMKC in fall 2021 after receiving his Ph.D. from UMKC in the area of computational mathematics with applications to numerical computation of residual diffusivity in regimes with small molecular diffusivity. Dr. McCoy has research interests in numerical solutions to singularly perturbed differential equations, adaptive mesh methods, finite element methods, and applications to fluid dynamics.

**Professor Yong Zeng** has returned to campus this fall from serving the National Science Foundation as a Program Director. His service at NSF as a rotator from the University of Missouri - Kansas City increased the visibility of UMKC (including our department) and the UM System.

In Academic Year 2020-2021, our department awarded a total of 83 Mathematics & Statistics degrees, including 19 graduate degrees.

The Seventh Annual UMKC Math & Stat Research Day (April 23, 2021) was held with speakers from different universities including Washington State University, Iowa State University, University of Kansas, University of Missouri-Kansas City, and University of Leicester, UK. The main theme was “Mathematical & Statistical Models of the COVID-19 Pandemic” with a special focus on magnitude, demographics, and dynamics of COVID-19 in Kansas City.

Starting fall 2022, the department will become part of the new UMKC **School of Science and Engineering**, under a major restructuring of how UMKC is organized. The school will be divided into several divisions, and we will share one with Computer Science.

The department will offer the new Bachelor of Applied Science with emphasis in Data Analytics, as well as new Minor Programs both in Data Analytics and in Statistics starting Fall 2022.

### **Hiring Notice:**

The Department of Mathematics and Statistics at the University of Missouri-Kansas City invites applications for a tenure-track position at the rank of Assistant Professor. The department seeks a dynamic colleague committed to fostering excellence in research, teaching, and service. An ideal

candidate is expected to have a research agenda focusing on Mathematical Methods in Data Science, seek external funding, and provide effective teaching at the undergraduate and graduate level. We especially encourage applications from candidates from marginalized or underserved communities. Research areas may include Applied Partial Differential Equations, Applied Topology, Applied Harmonic Analysis, Optimization and Stochastic Control, Numerical Analysis, and other emerging areas, with applications in Data Science.

We expect new faculty to be successful in scholarly activities through publications, grant writing, and collaboration with the faculty in our department, college, and university. Primary teaching responsibilities will be teaching two mathematics/data science courses per semester at different levels. Other duties may include service at the department, college, and university level as well as the service to the professional community.

#### Minimum Qualifications

A Ph.D. in Applied Mathematics or a closely related field (or expected to graduate with a Ph.D. before August 2022) and successful teaching experience at the college level.

#### Preferred Qualifications

We are interested in applicants who have an established record of research in applied and computational mathematics, show potential to build interdisciplinary and industry connections through their research, and are qualified to teach graduate and undergraduate classes in the areas of applied mathematics and data science.

#### Full Time/Part Time

Full-time, tenure-track, benefit eligible, 9-month faculty appointment to begin in **fall of 2022**.

Click [here](#) to apply

## FUTURE MEETING SITES

The Spring Meeting is held at various locations around the state. The meeting sites for the next several years are listed below for your convenience. If your campus would be willing to host a Spring Meeting, please contact Lori McCune, Section Chair ([lmccune@missouriwestern.edu](mailto:lmccune@missouriwestern.edu)), or any other member of the Executive Committee.

2022 University of Missouri – Kansas City  
 2023 Missouri State University

*The MAA Missouri Section Newsletter is usually published in November, March and May each year. Please send any news, comments, questions or corrections to me at [ddaly@semo.edu](mailto:ddaly@semo.edu).*

*Dan Daly  
 Newsletter Editor*

**MISSOURI SECTION OF  
THE MATHEMATICAL ASSOCIATION OF AMERICA**

**ABSTRACT FOR CONTRIBUTED PAPERS**

Author(s):

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Presenting Author:

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Presenter is: faculty member \_\_\_\_\_ ; graduate student \_\_\_\_\_ ; undergraduate student \_\_\_\_\_

Institution:

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Address:

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Phone: (\_\_\_\_) \_\_\_\_\_ Email: \_\_\_\_\_

Paper Title:

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Abstract:

Is the presentation accessible to students? \_\_\_\_\_

You may email a scanned copy of the completed form to [segal@umkc.edu](mailto:segal@umkc.edu) (please use “MAA Abstract” in the subject line) or send by land mail to:

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