# MAA MISSOURI SECTION NEWSLETTER
## Fall 2019 ● VOLUME 39 ● NUMBER 1

## From the Chair (Rhonda McKee)

**2020 MAA Missouri Section Meeting**

The School of Computer Science and Mathematics at the University of Central Missouri is pleased to host the Spring Section Meeting to be held Friday, April 3 and Saturday, April 4, 2020. The Missouri Collegiate Mathematics Competition will take place Thursday evening, April 2, and Friday morning, April 3. Information about meeting registration, hotel reservations and schedules will appear on the meeting website (http://www.ucmo.edu/momaa ), which will be active sometime in November.

The section visitor will be Jennifer Quinn, who will begin a term as MAA President-elect on February 1, 2020. Dr. Quinn will speak on "Digraphs and Determinants" at the opening session and will give the closing plenary address. Theresa Laurent, recipient of the 2019 Missouri Section Teaching Award, will give the Friday evening banquet address.

**Call for Papers**

We invite both faculty and students to give talks at the Spring Meeting. Talks should be 15 minutes long and should focus on mathematics or mathematics education. Examples of topics include, but are not limited to, current mathematics research, new courses that have been developed, and successful teaching techniques. Talks can be either research-oriented or expository in nature.

Many undergraduate and graduate students attend this meeting, and you are welcome to design your talk for these students. Also, if you are advising a student who is doing research, please encourage the student to give a talk and assist the student in preparing it.

**New this year** will be a themed session of contributed talks on Friday afternoon, with this year's theme being "Matrices in Mathematics." Dr. Quinn's opening address will kick off this sequence of talks. Both faculty and students are invited to submit abstracts for this session. Talks may be research-oriented or expository in nature and should be accessible to students. The Executive Committee hopes that this session will be attractive to students who participated in the MCMC. If you want to give a talk in this session, please check the appropriate box on the abstract submission form.

The abstract submission form will be available on the meeting website. It also appears on the last page of this newsletter. You may e-mail a scanned copy of the completed form to mckee@ucmo.edu (please put "MAA Abstract" in the subject line), or you may send a hard copy via regular mail to the address on the form. The deadline for submissions is March 13, 2020.

# From the Section Representative (Jeff Poet)

**Report from Missouri Representative to the MAA Congress**

I attended my second meeting of the MAA Congress in Cincinnati just prior to MathFest in August. My summary here will be brief. The three main themes of our discussions (from my perspective) were improved recruiting and retention efforts for the MAA, new and better means of communication within Sections and between the Sections and the National Office, and the changes that may come with the ending of our the MAA official cosponsorship of the JMM. Membership is down. Participation in meetings by members is also down. We discussed ideas for improved recruitment of early-career mathematicians. It boils down to active members being better able to communicate the value and benefits of the organization to our new colleagues. Many organizations are out there seeking to recruit these people as members. Our best advertising is face to face with our new colleagues within our own institutions. Section officers are encouraged to look over current and past membership rolls and find creative (and likely inexpensive) ways of contacting less active members and encouraging them to come to Section meetings. Be sure that you are up to date on the benefits of membership in the MAA by checking out the website [www.maa.org](www.maa.org).

The National Office is very interested in facilitating communication between members and between Sections. To this end, they are rolling out some new electronic opportunities. Videos of invited addresses from MathFest 2019 are available to view through the website for our members who were unable to attend the meeting in Cincinnati. The MAA is introducing *MAA Connect*, a new community tool. National officers have held office hours and large group videoconferencing (some of which I have attended) in order to hear directly from members about topics of concern or interest.

The financial collaboration with the AMS to host the JMM will soon be coming to an end. Beginning in 2022, all national meeting activities of the MAA will occur at MathFest. With the end of this 20+ year arrangement come opportunities to focus on our own membership and provide enhanced support for our Sections and small group communities like SIGMAAs and Project NExT. The national office is looking at increasing the availability of national speakers to Section Meetings.

Just a couple of reminders on dates: JMM is in Denver this year from January 15-18, 2020. MathFest will be in Philadelphia from July 29 – August 1, 2020.

# From the Secretary/Treasurer (Phoebe McLaughlin)

**Section Teaching Award**

**Call for Nominations**

Nominations for the 2020 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 2020 meeting of the Section and will be widely recognized and acknowledged within the Section.

Anyone is entitled to make a nomination, but nominations from chairs or MAA liaisons in departments of mathematical sciences are especially solicited. For this reason, the call for nominations is sent to both department chairs and MAA liaisons so that the responsibility for nominations can be shared between them.

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.  **The nomination deadline is by March 1, 2020, but submissions before February 15, 2020** 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)

The twenty-fifth Missouri Collegiate Mathematics Competition will be held
7:30pm - 10:00pm, Thursday, April 2, 2020, and 8:30am - 11:00am, Friday, April 3, 2020
on the campus of the University of Central Missouri.

Any college or university in the state of Missouri can send up to two official teams of 1-3
undergraduates each to compete in the competition. Unofficial teams will be allowed, depending
on the amount of available space, but will not be eligible for awards. They will also be charged
the normal registration fee. A one-person team will be allowed if this person is his or her
college's only representative in the competition. A completed registration form for each team
must be received by March 30, 2020. Late registration will be accepted only if there is room
available. No calculators or computers or reference material can be used during the competition.
The contest consists of challenging mathematical problems, comparable to but not quite as
difficult as the Putnam Exam. The official website of the contest is:
http://sections.maa.org/missouri/contest.html.

Additional information, registration forms and past contests can be found at that site.

# Section NExT (Samuel Chamberlain and Erin Martin)

Our fall meeting was Friday, October 4, 2019 at UMKC. Our presenter was David Clark
from Grand Valley State University. He presented a brief introduction to mastery grading. We
had a nice discussion following the talk.

Our spring meeting is Thursday, April 2 and Friday, April 3. 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-a-
missouri-next-fellow

Also, Erin Martin at Lindenwood University has taken over from Azadeh Rafizadeh as one of
the co-organizers of the Missouri Section of Project NExT.

# Campus News:

**Park University (submitted by Charles Smith)**
Park University is pleased to announce that Fred Rickey will be our guest speaker for the 3rd
Annual J. Malcolm Good Mathematics Lecture. Fred Rickey is a well-known mathematical
historian. His lecture will analyze "the Cyphering Books that George Washington compiled as a
teenager and the techniques he used as a surveyor." The date and time still have to be arranged,
but we know that it will take place during the week of March 23, 2020. For more information
about Fred Rickey, please visit his Wikipedia page:
https://en.wikipedia.org/wiki/V._Frederick_Rickey.

**Saint Louis University (submitted by Brody Johnson)**
Saint Louis University launched a Bachelor of Science program in Data Science in Fall 2019 which is jointly administered by the Department of Mathematics & Statistics and the Department of Computer Science. Professor Darrin Speegle (Mathematics & Statistics) will serve as the first Director of Data Science at SLU.

There were several personnel changes over the last year, including both promotions and retirements. Professor Dennis Wacker retired after 50+ years with the University and many years of service as the Lower Division Coordinator of Mathematics & Statistics. Professor Michael Tsau also retired, after serving the Department for more than 35 years. Professor Tsau advised three doctoral recipients and served as the Director of the Graduate Committee for many years. Both Dr. Wacker and Dr. Tsau have been recognized for excellence in teaching and were quite popular with students. Two faculty members received promotions over the last year. The Department of Mathematics and Statistics congratulates Juli Rainbolt (Full Professor) and Ben Hutz (Associate Professor) on their recent promotions.

**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:
http://b.web.umkc.edu/baniyaghoubm/UMKC%20Math%20Newsletter%202019-2020.pdf

*Student Accomplishments:*
Mathematics major Cody Halverson spent the summer in Richfield, Minnesota, interning with Best Buy's corporate office as a financial analyst for the transportation and supply chain department.

Grace Reesman, Mathematics & Physics major, had the opportunity to participate in a 10-week summer REU (Research Experience for Undergraduates) program in physics at Ohio Wesleyan University.

Jasmine Noory, B.S. Mathematics 2018, spent last year in the Post-Bacclaureate Program for Women in Math at Smith College and this summer in the Voting Rights Data Institute Program.

Mathematics B.S. 2019 alumna Amanda Nethington won the national 2019 HOM SIGMAA Student Paper First Place Award sponsored by the History of Mathematics Special Interest Group of the Mathematical Association of America (HOM SIGMAA). Amanda's paper is titled "Achieving Philosophical Perfection: Omar Khayyam's Successful Replacement of Euclid's Parallel Postulate". See: https://www.maa.org/node/1817470/ It will also be published in the upcoming edition of the UMKC honors journal *Lucerna* in early 2020.

Recent graduate student Julia Parker will have her Math 464 WI History of Mathematics paper "Syllogism and Antilogism: The Work of Christine Ladd-Franklin, the First American Woman to Earn a Ph.D. in Mathematics" published on the Mathematical Association of America site

*Convergence* this fall.

Daiwa Emmert, B.S. 2018, appeared on the UMKC TODAY site in February 2019 under the title "Empowering Girls in Math" https://umkc.edu/news/posts/2019/february/empowering-girls-in-math.html

Whitney White, B.S. 2018, appeared on the UMKC TODAY site in April 2019 under the title "Undergraduate Research Provides Rich Experiences" https://www.umkc.edu/news/posts/2019/april/Undergraduate-Research-Provides-Rich-Experiences.html about the paper she wrote in Math 464 WI. She began graduate school at KU Medical Center this fall.

Math Minor, Cemile Arabaci was at Arizona State University for a research experience this past summer, doing dark matter annihilation analysis research.

Congratulations to the 2019-2020 Recipients of mathematics Jedel Scholarships: John P. Murphy, Kathryn Menta and Grace Reesman. The Jedel Scholarship amount is $2,000 per semester.

*Faculty and Department Activity:*
Prof. Yong Zeng has recently taken a leave of absence to serve as a director at the National Science Foundation. Our former chair for 5 years, Prof. Eric Hall has started his sabbatical leave for this academic year. Prof. Xianping Li has accepted a new position at the University of Arizona. He will keep ties with our department by supervising two Ph.D. students and serving as an adjunct professor. Meanwhile, Prof. Hristo Voulov retired in the summer.

Teaching Professor Richard Delaware published on the Mathematical Association of America site *Convergence* an article about his twenty year old Math 464 writing intensive History of Mathematics course https://www.maa.org/press/periodicals/convergence/more-than-just-a-grade-the-hom-sigmaa-student-contest-fosters-writing-excellence-at-umkc .

In our efforts to expand interdisciplinary research in health and biomedicine, four research scholars have joined our department through courtesy appointments. Research Professor Steve Simon, Assistant Professor Sam Ye, Associate Professor An-Lin Cheng and Associate Professor Vincent Staggs are all statisticians who will work in conjunction with our graduate students to support several research endeavors. In addition, Dr. Malinee Konboon who earned her Ph.D. in our department, has returned as an Adjunct Assistant Professor of applied mathematics. She will continue her research in the area of mathematical epidemiology and related fields.

The fourth annual Mathematics and Statistics Research Day (MSRD) was held at the UMKC Department of Mathematics and Statistics on Friday, April 19, 2019. MSRD is a new annual event celebrating student and faculty research, creative, and scholarly activities. This event is

open to the public and promotes undergraduate and graduate student research in mathematics, statistics, and their applications in various fields. The organizers of this event are members of the UMKC Applied Mathematics Group.

We continue our new "fast track" five-year Bachelor/Master of Science program. Undergraduates can apply to the program (typically in sophomore or junior year), and if accepted can take courses during senior year which will grant credit toward both the BS and MS degrees. To complete both degrees in five years takes some planning.

The UMKC Applied Mathematics Group is a research group within the Department of Mathematics and Statistics at the University of Missouri-Kansas City, with interdisciplinary research interests in the areas of mathematical biology, scientific computations, applied analysis, and numerical linear algebra. It also provides high quality teaching and professional service to the community such as mathematical modeling, big data analysis and numerical computations. For more information please visit http://cas.umkc.edu/math/amg/

On Friday Oct. 4 and Saturday Oct. 5, 2019, the 29th annual Kansas City Mathematics Technology EXPO [http://kcmathtechexpo.org/ ] was again held at UMKC, as we have done since 2009. The 2019 Keynote Speaker was Eli Luberoff, CEO of Desmos, and the special Invited Speaker was David Clark. The Math EXPO is a two-day conference for mathematics teachers at the university, 4-year college, 2-year college, and high school level always held the first weekend in October: "A forum for mathematics instructors at both the college and secondary levels to demonstrate how they use technology successfully in their teaching, to learn about new mathematics technology, and to discuss the philosophy and future of technology in the mathematics classroom."

For more department history and news about our alumni, see: http://d.web.umkc.edu/delawarer/MathDeptHistory.htm.

You can always read about our faculty and other current department news on our department web site: http://cas.umkc.edu/math/.

**Washington University in St. Louis (submitted by John McCarthy and Blake Thornton)**
Washington University in St. Louis will host the second meeting of the Saint Louis Academy of Mathematical Sciences (SLAMS) on Thursday, February 20th, 2020 with Professor Michael Christ (University of California, Berkeley) as the keynote speaker.   The first ever SLAMS Julia Robinson Award will also be presented.  This award recognizes contributions to the mathematical sciences in Saint Louis.

# 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 Rhonda McKee, Chair (mckee@ucmo.edu), or any other member of the Executive Committee.

      2020   University of Central Missouri
      2021   Truman State University
      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.*

*Dan Daly*
*Newsletter Editor*

# MISSOURI SECTION OF
# THE MATHEMATICAL ASSOCIATION OF AMERICA

## ABSTRACT FOR CONTRIBUTED PAPERS

Author(s):

_____

Presenting Author:

_____

Presenter is:  faculty member_____ ;  graduate student _____ ;  undergraduate student_____

Institution:

_____

Address:

_____

Phone: (_____) _____ Email: _____

Paper Title:

_____

Abstract:



Is the presentation accessible to students? _____

Is the presentation intended for the Friday "Matrices and Mathematics" themed session? _____

All presentation rooms are equipped with computers, projectors and white boards.

You may email a scanned copy of the completed form to mckee@ucmo.edu (please use "MAA Abstract" in the subject line) or send by land mail to:

Rhonda McKee
School of CS and Mathematics
University of Central Missouri
PO Box 800
Warrensburg, MO 64093

**The deadline for submission is March 13, 2020.**