

MAA MISSOURI SECTION NEWSLETTER

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From the Chair (Amila Appuhamy)

2017 MAA Missouri Section Meeting

The Department of Mathematics at Missouri Southern State University is pleased to host the Spring Section Meeting on Friday, March 31 and Saturday, April 01, 2017. Also the Missouri Collegiate Mathematics Competition will be held on Thursday evening and Friday morning, March 30 & 31.

Our invited speakers are

- **Plenary Speaker on Friday (March 31st)**
Dr. Linda Hand, Missouri Southern State University.
- **Banquet Speaker on Friday (March 31st)**
Dr. Betty Mayfield, Hood College.
- **Plenary Speaker on Saturday, (April 1st)**
Dr. Lance Miller, University of Arkansas, Fayetteville.

Registration and more information about the meeting is now available on the meeting webpage www.mssu.edu/maa-meeting. Registration fees are discounted by \$5 for registration received before March 10, 2017.

Call for papers

You are invited to present at the Spring Meeting. Presentations should be 15 minutes in length and may be on research topics or expository in nature, and may deal with any topic in mathematics or mathematics education. For example, papers may pertain to your current mathematical scholarly activity, new courses that you have developed, or successful techniques you have found useful in teaching. You may opt to design a presentation directed to the undergraduate and graduate students attending the meeting. Faculty members are urged to assist students in presenting papers at the meeting. The online abstract submission form is available on the meeting website. Submissions online are preferred; however, there is a form for

contributing a presentation at the meeting on the last page of this newsletter for those unable to submit their abstracts online. You may attach a scanned copy of the completed form and email to appuhamy@mssu.edu or send to the address on the form. Please put “MAA Abstract” in the subject line if you email it.

We will have space for student posters to be presented at the meeting on Friday. Students are invited to submit poster abstracts using the Abstract Submission form on the meeting webpage.

Deadline for submissions is March 10, 2017.

From the Section Representative (formerly Governor) (Mary Shepherd)

There is so much news since my last report I don't know where to start. Let's get this up front. MAA MathFest will be in Chicago, July 26 – 29, 2017. I hope to see many of you there. Registration opens March 1 and MAA members get discounted registration.

I think the most important news is that the governance structure at the MAA has changed. At the business meeting of the MAA in January, the membership approved updates to the association bylaws and articles of incorporation. These changes have already taken effect, as of February 1, 2017. The major changes include (1) the Executive Committee is replaced by a Board of Directors (9 members); and (2) the Board of Governors no longer exists. Instead a Congress has been formed and MAA Sections will elect representatives to the new Congress. The Congress will help advise the Board of Directors. Current governors will continue as Section Representatives (our new title) in the Congress. There are more details on the MAA website. I will be available at our upcoming section meeting to answer questions about these big changes.

We have a new MAA president, Deanna Haunsperger, who took over from Francis Su whose term ended January 31. Although I was unable to stay for the Joint Math Meetings in January, Francis's retiring president address was truly inspirational and has been viewed many times on Facebook. If you haven't seen it, here is a link: <https://mathyawp.wordpress.com/2017/01/08/mathematics-for-human-flourishing/>. It is well worth the viewing.

I would encourage you to continue participating in the MAA. The MAA is again looking for members of its many committees. A link to nominate someone (or yourself) is <https://www.surveymonkey.com/r/PDXSSQL>. Or you can send me names and I can submit nominations. The charges to the various committees can be found on the MAA website (www.maa.org). Currently only 3 Missouri section members are on national committees.

Another way to participate will be in the upcoming elections. Vote for MAA President and Vice-President March 21 through May 2, 2017.

The MAA website has had a significant upgrade. Check it out. www.maa.org

There is always interesting information at the Section Officer's Meeting. Here are some of the highlights.

- There is a new app (currently for iOS, soon for Android) called MathFeed that scrapes Internet sources for mathematics related stories. There are articles from the popular press, math-related blogs, and MAA and AMS journals. It is available to anyone, but it is especially useful for MAA members: once you sign in one time, the app remembers you, and you can read articles from all your MAA journals there. If you have a departmental membership, your students can do the same. Look for it in the App Store! Please spread the word about MathFeed, and let Francis Su (the developer) know how you are using it.
- Several sections are now using PayPal or similar applications for meeting registrations. If we are interested, I can get us in touch with sections who have done this.
- The MAA has a recently approved "welcoming" policy. There is a reference to Section meetings. Here is the policy.

"It is the Group's official position that it will make every reasonable effort to schedule its national meetings in localities which respect the participants' human rights and freedom from discrimination based on sexual orientation, gender, race, national origin, creed, or color. The Mathematical Association of America encourages the free expression and exchange of ideas in an atmosphere of mutual respect and collegiality. The MAA strives to foster a welcoming environment for all.

While MAA does not control the behavior of third parties, the MAA requests that all individuals involved in MAA, its Sections, or its Special Interest Groups, conduct themselves professionally and respectfully toward its conferences' participants, staff, and vendors. Through this contract the Hotel and/or Convention Center represents to the MAA that they will do everything in their power to create a welcoming environment based on MAA's above stated policies."

As always, it is a pleasure to have served as Section Governor, and now, for the final year of my 3 year term as Section Representative. If you have any questions, comments, complaints, suggestions related to the MAA at the national level, please let me know.

See you all in Joplin at the end of March!
Respectfully submitted,
Mary Shepherd,
Section Representative, Missouri Section of the MAA

MAA Statement on Immigration Ban

On January 31, 2017, the MAA published a following statement with regards to President Trump's immigration ban. It is located at <https://app.box.com/v/maaec-immigration-statement>.

Missouri Collegiate Mathematics Competition (Curtis Cooper)

The twenty-second Missouri Collegiate Mathematics Competition will be held 7:30pm - 10:00pm, Thursday, March 30, 2017, and 8:30am - 11:00am, Friday, March 31, 2017 on the campus of the Missouri Southern State University.

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 Monday March 27, 2017. 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://www.math-cs.ucmo.edu/~hchen/contest/>

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

Section NExT Information (Samuel Chamberlain and Azadeh Rafizadeh)

All information concerning the upcoming Missouri Section NExT meeting in Joplin, MO can be found at <https://sites.google.com/site/mosectionnext/home>.

FUTURE MEETING SITES

The Spring Meeting is held at various locations around the state. The meeting sites for the past several years and the next several years are listed below for your convenience. If your campus would be willing to host a Spring Meeting, please contact Amila Appuhamy, Chair (Appuhamy-A@mssu.edu), or any other member of the Executive Committee.

2017 Missouri Southern State University

- 2018 Drury University
- 2019 Lindenwood University
- 2020 University of Central Missouri
- 2021 Truman State University
- 2022 University of Missouri – Kansas City
- 2023 Missouri State University

From the Campuses:

Culver-Stockton College (submitted by Gary Cochell)

We will be hosting the AMC 10B/12B exams on February 15.

Southwest Baptist University (submitted by Kevin Hopkins)

SBU hosted mathleague.org Elementary and Middle School math contests on Jan. 21 and 28, 2017. Nearly 650 students participated. This was the 18th year to host some type of math contest at Southwest Baptist University. From hosting math contests, Dr. Kevin Hopkins (Professor and department chair) began running Math Contest Camp in 2006. For summer 2017 (the 12th year), four one-week camps are planned. Information about the camp is available at <https://sites.google.com/site/sbumathcon/math-contest-camp-2017>.

Dr. Kevin Hopkins was one of four contributors to

“**NEW! A full suite of Interactive Figures** has been added to support teaching and learning. The figures illustrate key concepts and allow manipulation. They have been designed to be used in lecture as well as by students independently. Videos that use the Interactive Figures to explain key concepts are included. The figures are editable using the freely available GeoGebra software. The figures were created by Marc Renault (Shippensburg University), Steve Phelps (University of Cincinnati), Kevin Hopkins (Southwest Baptist University), and Tim Brzezinski (Berlin High School, CT).”

produced with the release of the 14th edition of Thomas' Calculus, copyright 2018. See Features tab at <https://www.pearsonhighered.com/program/Hass-Thomas-Calculus-plus-My-Math-Lab-with-Pearson-e-Text-Access-Card-package-14th-Edition/PGM1248191.html> for the source of the quote above.

St. Charles Community College (submitted by Wanda Long)

Wanda Long, Professor, retired from the Mathematics Department of St. Charles Community College in June 2016. She now is Professor Emeritus.

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

Spring & Summer 2016

Student Accomplishments:

***Melissa Menning** earned her doctoral degree in Mathematics with co-discipline in Curriculum and Instruction in Spring 2016, under the supervision of Dr. Liana Segal. Her thesis, “Cohomology of modules over short Gorenstein rings”, has already given rise to a joint paper with Dr. Segal, accepted for publication in the Journal of Commutative Algebra.

*Master's student **Abhishek Mallela** successfully published his master's project work in the peer reviewed Journal of Computational and Applied Mathematics, with co-authors his faculty mentor Dr. Naveen Vaidya and collaborator Dr. Suzanne Lenhart (UT – Knoxville).

*For the first time expository papers written by our undergraduate majors, for Math 464 WI History of Mathematics in Spring 2015, have been published this past June 2016 in the latest issue of the peer-reviewed online **Rose-Hulman Institute of Technology Undergraduate Mathematics Journal**, volume 17, issue 1, 2016, located at: <https://www.rose-hulman.edu/mathjournal/v17n1.php> Dr. Richard Delaware sponsored each of the following two students. **Laila Awadalla**, who graduated in May 2015, during this past academic year took graduate classes here, and in Fall 2016 began a Ph.D. program in mathematics at the University of Nebraska – Lincoln, wrote “Cantor’s Proof of the Nondenumerability of Perfect Sets”. **Chase Crosby**, who graduated in December 2015, and was hired in Summer 2016 as an actuarial assistant at Blue Cross and Blue Shield of Kansas City starting his career as an actuary, wrote “An Examination of Richard Dedekind’s “Continuity and Irrational Numbers”.

***Xing Song**, a Ph.D. student under the supervision of Professor Kamel Reka, in addition to recently publishing in peer reviewed journals, during summer 2016 worked in the Global R&D division of the Reinsurance Group of America on developing and refining some predictive regression or classification models, in particular on an underwriting model for identifying smokers/non-smokers.

*The winner of the 2016 departmental GTA Excellence in Teaching Award is **Colin Barker**. Also, **Jones Mutua** won a GTA Superior Teaching Award from the School of Graduate Studies.

*For Summer 2016, undergraduate students **Ronald Morris, Scott L. Nickell, LeAnna Cates, and Fatima Shariff** were awarded a UMKC SUROP (Summer Undergraduate Research Opportunity) grant.

*The second annual **Mathematics and Statistics Research Day (MSRD)** was held at the UMKC Department of Mathematics and Statistics on Friday, April 15, 2016. 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. All three organizers of this event are members of the UMKC Applied Mathematics Group: Drs. Majid Bani Yaghoob, Naveen K.

Vaidya, and Xianping Li. For more information please visit

<http://b.web.umkc.edu/baniyaghoubm/msrd2015.htm>

Faculty and Department Activity:

*In the past year, **Dr. Liana Segal** gave three invited research talks in conferences organized by the American Mathematical Society, including the January 2016 annual Joint Mathematics Meetings in Seattle. She is continuing an active collaborative research program, supported by a 5 year Simons Collaborations for Mathematicians grant. Liana was also a plenary speaker and a career panelist in the 14th Emmy Noether High School Day at Texas Tech University held in May 2016 in Lubbock, TX.

***Dr. Naveen K. Vaidya** was awarded a World Outreach Grant of \$4,780 from the Society for Mathematical Biology used to support students, postdocs, and junior faculty from Nepal, India, Sri Lanka, and Indonesia to participate in the **Mathematical Biology Workshop (MBW)** in Kathmandu, Nepal on May 26, 2016. Dr. Vaidya also received Euro 1,000 from Commissions for Developing Countries used to support student participants of the **International Conference on Application of Mathematics to Non-linear Sciences (AMNS)** also in Kathmandu, Nepal, May 26-29, 2016, and was one of the members of the AMNS organizing committee. The conference drew more than 200 participants from 17 countries around the world. MBW was the first workshop of mathematical biology in the history of Nepal. The primary objective of the workshop was to provide an opportunity for mathematicians and biologists in Nepal and neighboring countries to explore mathematical skills that can be applied to address issues of real-life biological systems. Earlier he was invited to deliver a colloquium lecture in the Department of Mathematics and Statistics, Oakland University, Rochester, MI on Nov. 24, 2015, as well as talks in the 5th International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems (October 2-4, 2015, London, Canada), and the 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications (July 1 - 5, 2016, Orlando, FL).

*The **Interdisciplinary Applied Mathematics Program (IAMP)** is a one-year program initiated by the Applied Mathematics Group (AMG) at the UMKC Department of Mathematics and Statistics for the year 2016. The mission of this program is to promote student research and education in the field of Applied Mathematics at UMKC. The students will gain experiences employing mathematical techniques to solve real-world problems. The focus areas are mathematical modeling and analysis of infectious diseases, evolution of populations with climate change, image processing, and chaotic dynamical systems.

*The **UMKC Applied Mathematics Group** is a new 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/mathematics/amg/>

Fall 2016

*As he has since Fall 2015, **Dr. Yong Zeng** continues to serve as a rotating Statistics program director of the Division of Mathematical Sciences in the National Science Foundation (NSF) through May 2017. He remains a faculty member at UMKC, but temporarily works at NSF in Washington, D.C.

*We have introduced a 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.

*In collaboration with the Department of Civil and Mechanical Engineering in the School of Computing and Engineering (SCE), our department Calculus Coordinator Liana Segal created two new courses restricted (for now) to SCE students. In Fall 2016 we are introducing **Math 266 Accelerated Calculus I** (4 credit hours), and in Spring 2017 **Math 268 Accelerated Calculus II** (3 credit hours).

*On Friday Oct. 7 and Saturday Oct. 8, 2016, the 26th annual **Kansas City Mathematics Technology EXPO** [<http://kcmathtechexpo.org/>] was again held at UMKC, as we have done since 2009. The 2016 Keynote Speaker was Laura Taalman, and the special Invited Speaker was Patrick Honner. 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.” We hope many of you will attend one year, or work with us in other ways!

For more department history and news about our alumni, see:

<http://d.web.umkc.edu/delawarer/MathDeptHistory.htm>

You can read about our faculty and other current department news, such as our current RooMath News newsletter, on our department web site: <http://cas.umkc.edu/mathematics/>

The MAA Missouri Section Newsletter is 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 _____ a graduate student _____ an undergraduate students _____

Institution: _____

Address: _____

Phone: (____) _____ Email: _____

Paper Title: _____

Abstract: _____

Is the presentation directed towards a student audience? _____

All presentation rooms are equipped with computers and projectors or presenters can connect their own laptop computers to use projectors. Rooms will also have white boards.

You may attached a scanned copy of the completed form and email to appuhamy-a@mssu.edu (please use “MAA Abstract” in the subject line) or send by regular mail to:

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The deadline for submission is March 10, 2017