MAA MISSOURI SECTION NEWSLETTER
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From the Chair (Bryan Clair)

2014 MAA Missouri Section Meeting

The Department of Mathematics and Computer Science at Saint Louis University will be hosting the Spring Meeting on Friday, March 28 and Saturday, March 29, 2014 (with the Missouri Collegiate Mathematics Competition beginning the evening of Thursday, March 27). MAA Second Vice President Jennifer Quinn of the University of Washington, Tacoma, will be visiting the section and speaking at the meeting.

More information on the meeting will become available on the meeting webpage, http://mathcs.slu.edu/maa14

Suggestions for the meeting are welcome and may be sent to Section Chair Bryan Clair (bryan@slu.edu).

Call for papers
You are invited to present at the Spring Meeting. Presentations are to be between 15 and 20 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 form for contributing a presentation at the meeting is on the last page of this newsletter. It is also available on the meeting webpage (http://mathcs.slu.edu/maa14) and will be available there as an electronic fillable form. You may email your information directly to Bryan Clair (bryan@slu.edu, use "MAA abstract" in your subject line) or by mail to the address on the form. Email submissions should include all of the information requested on the form.

The deadline for receipt of abstracts is **March 16, 2014**.

From the Chair-Elect (Robert Roe)

The Mathematics & Statistics department here at Missouri University of Science & Technology is looking forward to hosting the 2015 section meeting. We have tentatively selected Friday, March 27 and Saturday, March 28 for the meeting dates with, as usual, the MCMC beginning the

evening of Thursday, March 26. With 2015 being the centennial year for the Mathematical Association of America I encourage everyone to be thinking about ways to help us commemorate the anniversary. In particular, if you have ideas about centennial activities for the section meeting please contact me at rroe@mst.edu.

From the Past Chair (Mary Shepherd)

If you missed it last spring, the "Combined Section Meeting of the Missouri River Sections" (Missouri, Kansas, Iowa, and Nebraska/SE South Dakota Section) came off very successfully. We had attendees from all 4 sections and an extended program. There were about 190 people at the banquet on Friday night. If you missed 2013, make plans to attend the Spring 2014 meeting at St. Louis University. Bryan Clair is working on a great program.
Each year, every section is encouraged to send an officer to MathFest to participate in the program and particularly to attend the Section Officers' Meeting. I do enjoy going to these meetings, and I learn things about the MAA and the sections and get ideas each time I go. MathFest 2013 was in Hartford, Connecticut and I wanted to share some of the ideas and information that came from that section officers' meeting.

The MAA membership has been declining in recent years. Many of us, me included, find that our section membership is our "connection" to the MAA and to the wider mathematical community within our geographical area. It is at section meetings that we catch up with our math colleagues from across the state. We as section members could take a more active role in encouraging our non-member colleagues to join us at section meetings and maybe even join the MAA. There is a new simplified membership structure, too. Just go to the MAA website (www.maa.org) for more details. The MAA website is also new.   Check it out!

2015, will be the centennial year of the MAA founding. The sections are being encouraged to think of ways to celebrate this, not only within our Missouri section, but also at an expanded MathFest in Washington, DC in 2015. Lots of ideas were floated and I list just a few here.

1. Have a birthday celebration complete with a birthday cake.
2. Frame and display historical documents from the section. Afterwards consider sending them to the MAA archive at the University of Texas Austin.
3. Take a group photo of the spring 2015 section meeting.
4. A video will be provided to you about the centennial. This video is 15 minutes and celebrates MAA's first 100 years. Consider showing it during the section meeting!
5. Create a section T-shirt to wear during the section meeting and later at MathFest. Note that, like books, the MAA sections cannot sell T-shirts directly. There was a discussion about who could sell them; some suggestions were to have a student math club sell t-shirts, to sell them for cost only, or to increase the registration fee to cover the T-shirt and give one out with each registration.
6. Add a 5 minute centennial talk at the beginning of a specific lecture.
7. Add some activity that looks forward to the year 2040, 2065 or 2115.
8. Consider bringing something unique from your section to handout out to students at MathFest.
9. Encourage non-members to become members before MathFest 2015!

What are your ideas? The Missouri Section is one of the oldest sections, and members from Missouri were very instrumental in the initial formation of the MAA. Leon Hall has done a nice

history of the Missouri section and it is posted on the Missouri section website at
http://sections.maa.org/missouri/history.pdf
Go take a look at our history. Let's locate the section flag (maybe in Springfield?) and come up
with some great ideas for celebrating the MAA Centennial and our own section's part in that.

May you all have a wonderful, fruitful school year and I look forward to seeing you all in St.
Louis in 2014.

From the Governor (Susan Callahan)

I attended my first Board of Governors meeting on August 1, 2012, in Madison, Wisconsin.
During the course of the day we heard reports from MAA officers, MAA staff, and various
committees and councils. We addressed and approved changes in policy statements, and we
approved prize winners and election results. I will elaborate on the most interesting/relevant
aspects of the meeting.

Meetings
Attendance at the Joint Mathematics Meetings in Boston was very good. Both student and
nonstudent attendance increased about 20% from the previous year, resulting in a total
attendance of 7156. The 2013 Joint Meetings will be held January 9-13 in San Diego, and
MathFest 2013 will be held in the Connecticut Convention Center in Hartford. The year 2013 is
the year of the "Mathematics of Planet Earth," and programs for both meetings will reflect that
emphasis.

Financial
Treasurer Jim Daniels reported that the MAA is in its eighth consecutive year of operating
deficits, with deficit amounts expected to total over $1,000,000. This trend should be reversed.
He feels the MAA should have free reserves equal to 40% of the operating budget and that this
goal can be reached if we can realize operating surpluses for ten years. A draft of the 2013
Budget was presented and the governors were asked for input. Due to the current dynamic
economic situation and the major changes in operations being considered by the MAA, the
Board did not vote on the budget. An email vote on an updated budget will be conducted this
fall. The Board did approve a revision of the "Investment Policy and Guidelines."

Headquarters/Operations
Executive Director Michael Pearson reported that the Association has realigned its internal
management structure. This included creating the position of Deputy Executive Director. Linda
Braddy, the person hired for this position, will oversee the MAA's externally-funded projects.
Plans are being made to increase revenue and improve the efficiency of operations. This
includes redesign of the web site, which should be up and running in April 2013, and increasing
participation in the AMC. Also, MAA books are now sold through the MAA Web Store
powered by Amazon. When members shop for books, the first price they see will be the list
price for nonmembers. Our member discount is obtained by way of a coupon. All members will
be able to obtain coupon codes.

Second Century Campaign
This is a comprehensive campaign connected to the 2015 Centennial Celebration.   Such a
campaign begins with a silent phase where plans are made and initial major donations are

solicited. The campaign is publicly announced later. The silent phase has been launched and a steering committee is in place.

Policies
The Board adopted a policy "Avoiding Implicit Bias: Guidelines for MAA Selection Committees." This policy was written to help award committees avoid subconscious discrimination in the selection of recipients. The policy could also be useful in making committee appointments and selecting invited speakers at both the section and association levels.

The Board also approved a motion that all print journals of the MAA will move to a system of doubly-masked review, under which editors make a good-faith effort to see that authors' identities are not explicitly present in manuscripts sent for review.

Prizes and Elections
The Board approved the recipients for three awards for outstanding journal writing and elected two governors-at-large, two council chairs and a member of the Audit Committee. They also approved the next Leitzel lecturer, the next Hedrick lecturer, and three candidates to appear on the ballot for election to the Nominating Committee. The Board also approved seven recipients (including Yungchen!) for Meritorious Service Certificates. Hortensia Soto-Johnson was elected as the next Associate Treasurer. Brian Hopkins was approved as the editor-elect of *College Mathematics Journal* and David Richeson was approved as the editor-elect of *Math Horizons*. Ruth Charney will be a Polya Lecturer for 2013-2015. William Hawkins was approved to receive the 2013 Gung and Hu Award, and Matthias Beck, Margaret Robinson and Francis Su were approved to receive the 2013 Haimo Award.

Other Actions
The Board of Governors also:
- approved the minutes of the January 2012 Board Meeting
- accepted the bylaws for seven sections
- approved changes in the charges of three committees: the Committee on Management Evaluation and Oversight, the Joint Data Committee and the Committee on the Mathematical Education of Teachers
- approved changes to the Lester R. Ford Award, including changing the name of the award to the Paul R. Halmos--Lester R. Ford Award
- approved revised guidelines for the Morgan Prize
- passed motions recognizing Joseph Gallian and Gavin LaRose for their work with Project NExT.
- passed a motion recognizing the late Phoebe Leboy for her contributions as principle investigator on the AWARDS project.

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The Board of Governors met on July 31, 2013, in Hartford, Connecticut. During the course of the day we heard reports from MAA officers, MAA staff, and various committees and councils. We approved a large number of recommendations and elected various council chairs and governors-at-large. I will elaborate on a few issues and list other actions.

Financial
The Board approved the proposed 2014 budget. The budget has a deficit of $294,802. The report of the Budget Committee noted that declining membership is a significant factor. They

hope the new membership schedule will alleviate this concern. Also, savings from infrastructure investments will probably not go into effect until 2016. The projected revenue is conservative and the Committee expects the actual deficit to be less than the stated amount.

An independent audit of the MAA's financial statements was conducted by the firm Tate & Tryon. No issues of non-compliance or deficiencies were found. A member of the Audit Committee reported that Tate & Tryon said the MAA is a well-run organization with respect to internal controls, the diversity of revenue streams is good, and there is very little debt.

Section Information
The chair of the Committee on Sections called attention to two items:
- A new policy approved by the executive committee last June says that subvention payments to sections will be delayed until section and financial reports are submitted to the MAA national office
- If a section has an official representative (other than the section governor) at the section officer's meeting at MathFest, the section will, in the following year, receive $250 in addition to its regular subvention payment. The section is responsible for reimbursing its official representative this amount plus any additional amount that the section feels appropriate.

Prizes, Elections and Editorial Boards
The Board approved the recommendations for the 2014 Haimo Award (Andrew Bennett, Gavin LaRose and Carl Lee), the 2014 Leitzel Lecturer (Joe Gallian), and the 2014-16 Polya Lecturer (William Dunham).

The Board elected a member of the Audit Committee, two governors-at-large, and two council chairs (including Chris Stevens as chair of the Council on Prizes and Awards).

The Board approved the recommendation of Michael Jones as Editor-Elect of *Mathematics Magazine,* and approved the proposed editorial boards for *Math Horizons* and the *College Mathematics Journal* (including Curtis Cooper and Shing So as Problems and Solutions Editors).

Other Actions
The Board of Governors also:
- approved the minutes of the January 2013 Board Meeting
- ratified the election of applicants to membership in the MAA
- accepted the bylaws for one section
- approved a recommendation on the makeup of the Mary P. Dolciani Award Committee
- approved revised guidelines for the Sliffe Award
- approved a recommendation that the Porter Public Lecture Committee be a standing committee in the Outreach Council
- approved a recommendation that the AMS-MAA Joint Committee on Mathematicians with Disabilities be dissolved, with the understanding that the councils on the profession and on programs and students in the mathematical sciences will be sure that the issues addressed by the dissolved committee will still be appropriately addressed within the MAA (dissolution of this joint committee is subject to the approval of appropriate AMS groups)

From the Liaison Coordinator (Yungchen Cheng)

Currently, there are no liaisons from St. Louis community College - Forest Park and Statistics Department, University of Missouri. If you are with these institutions and would like to volunteer, please contact me (yungchencheng@missouristate.edu). Our current list of liaisons is available at http://sections.maa.org/missouri/liasons.html.

From the Acting Newsletter Editor (Yungchen Cheng)

The next Missouri Section Newsletter will be published in March, 2014. Please send any news, comments, questions or corrections to me at yungchencheng@missouristate.edu.

From the Secretary (Grant Lathrom)

Section Teaching Award

STATE YOUR INTENTION TO NOMINATE BY **DECEMBER 1, 2013**.

NOMINATIONS ARE DUE **JANUARY 1, 2014**.

Nominations for the 2014 Missouri Section Award for Distinguished College or University Teaching of Mathematics are now being accepted. The Missouri Section Selection Committee will choose one of the nominees for the Section Award. The awardee will be honored at the Spring 2014 meeting of the Section and will be widely recognized and acknowledged within the Section. The awardee will also be the official Section candidate for the pool of Section awardees from which the national recipients of the MAA Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching of Mathematics will be selected except that one of the national winners may be selected from another source. There will be at most three national awardees, each of whom will be honored at the national MAA meeting in January 2015 and receive a $1,000 check and a certificate. More information about the teaching award can be found on the MAA web site http://sections.maa.org/missouri/teaching.html.

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

We urge you to submit a nomination 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. In addition to discussing this memo with your colleagues, preferably at a department meeting, please post it in a prominent place in your department.

Eligibility
- College or university teachers assigned at least half-time during the academic year to teaching a mathematical science in a public or private college or university (from two-year college teaching through teaching at the Ph.D. level) in the United States or Canada. 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.
- At least five years teaching experience in a mathematical science.
- Membership in the Mathematical Association of America.

Guidelines for Nomination

The 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 institutions**
- 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, for example, the Putnam Prize Competition or the Mathematical Contest in Modeling, or attracting students to become majors in a mathematical science or to become Ph.D. candidates).

**"influence beyond their own institution" can take many forms, including demonstrated lasting impact on alumni, influence on the profession through curricular revisions in college mathematics teaching with national impact, influential innovative books on the teaching of college mathematics, etc.

Procedures
- Send an email to Grant Lathrom lathrom-g@mssu.edu stating your intention to nominate by December 1, 2013.
- Nominations must be submitted on the Teaching Nomination Form. Anyone may nominate an eligible candidate, but self-nomination is not permitted.
- Please follow the instructions on that form precisely to assure uniformity in the selection process both at the Section and national levels. If a file on a Section awardee significantly exceeds the prescribed limits (as stated on the back of the Nomination Form), it will not be considered for a national award and will be returned to the Section.
- Nominations for the Missouri Section Award should be sent to Grant Lathrom at the address below so as to be received no later than January 1, 2014. Nominations for candidates who are not members of the Missouri Section should be sent to the Secretary of the nominee's Section.

<center>
Dr. Grant Lathrom
Department of Mathematics
Missouri Southern State University
3950 Newman Rd
Joplin, MO 64801
email: lathrom-g@mssu.edu
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The Section Selection Committee will select the Section awardee during January and communicate its selection to the national selection committee no later than February 1 so that the national Committee can then make its selections.

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.

SECTION TEACHING AWARD

Congratulations to Anneke Bart of St. Louis University for winning the 2012 Missouri Section Teaching Award.

PAST TEACHING AWARD WINNERS

1992   August J. Garver, University of Missouri, Rolla
1994   Curtis N. Cooper, Central Missouri State University
1996   T. Christine Stevens, St. Louis University
1997   Troy L. Hicks, University of Missouri, Rolla
1998   Robert Kennedy, Central Missouri State University
1999   Rhonda McKee, Central Missouri State University
2000   Edward L. Spitznagel, Washington University
2001   Louis J. Grimm, University of Missouri, Rolla
2002   Robert Sheets, Southeast Missouri State
2003   W. Thomas Ingram, University of Missouri, Rolla
2004   Les Reid, Southwest Missouri State
2006   Timothy Ray, Missouri State University
2007   Kenneth W. Lee, Missouri Western State University
2008   Shing So, University of Central Missouri
2009   James Guffey, Truman State University
2010   Jeff Poet, Missouri Western State University
2011   Richard Delaware, University of Missouri-Kansas City
2012 - Anneke Bart - St. Louis University

From the Student Chapter Coordinator (Les Reid)
It's been an honor and a pleasure to serve a Student Chapter Coordinator for the last 12 years.

There are three goals I have not been as successful in achieving as I'd wanted to. Hopefully, my successor will have better luck.

- Reviving Moribund Chapters: Several chapters are no longer active. In a number of cases, this is due to a lack of time to participate on the part of the students (primarily because of outside jobs). Nevertheless, I hope this trend can be reversed.
- Creating New Chapters: A number of member schools have math clubs, but no student chapters per se. Perhaps these clubs could be converted to student chapters. Another possibility would be to have joint KME (or PME) and MAA organizations.
- Building a Sense of Community: It would be nice if there were some communication between chapters at different schools. As a first step in this direction, I made a webpage of resources for student chapters to use (http://people.missouristate.edu/lesreid/maa/), which I will turn over to my successor. I

think it would be a good idea to also create a Facebook or other social media page for our chapters.

Best of luck!

From the Web Administer (Scott Thatcher)

- Please check to see that your institution's information is correct and that it has a marker on our map of Missouri.
- Please check for Spring 2014 section meeting information later in the school year.
- Please read the history of the section if you've never done so.

Missouri Collegiate Mathematics Competition (Curtis Cooper)

The eighteenth Missouri Collegiate Mathematics Competition will be held

> 7:30pm - 10:00pm, Thursday, March 27, 2014, and
> 8:30am - 11:00am, Friday, March 28, 2014

on the campus of St. Louis 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 24, 2014. 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.

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 Bryan Clair, Chair (bryan@slu.edu), or any other member of the Executive Committee.

> 2014   Saint Louis University
> 2015   Missouri University of Science and Technology
> 2016   Missouri Western State University
> 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

From the Campuses:

College of the Ozarks (submitted by Craig Haile)
Shawnda Bradshaw, Associate Professor of Mathematics, joined the faculty at College of the Ozarks in August 2013. She will specialize in Developmental and General Education mathematics courses. She received her B.S. from the College of the Ozarks and her Master's of Education from Missouri State University. Shawnda served on the faculty of North Arkansas College for six years prior to coming to C of O.

In August 2012, Barbara Fennell (Ed.D., (ABD), Department of Physics and Astronomy, Ball State University) joined the Mathematics/Physics department as Assistant Professor. She has an M.Tech in Physics from Southeastern Oklahoma State University and has more than 15 years of higher education teaching experience.

Culver State College (submitted by Gary Cochell)
Our news for the past year was that we again hosted the AMC 10B and 12B exams in Feb. 2013. Over 100 high school students from the regions came to campus to take the exams.

Missouri S&T (submitted by Robert Roe)
On September 1, 2013, Prof Leon Hall stepped down, after 15 years of dedicated service, as department chair of Missouri S&T's Mathematics and Statistics Department. He also retired on the same date. Leon first came to the department in 1965 as an undergraduate major. He earned his BS degree in 1969, MS in 1971 and PhD in 1974 in Mathematics all from the University of Missouri Rolla.   With 28 years as a faculty member of the S&T math department, Leon has been a member of the department, either as a student or a faculty member, for a total 37 years. His steady guidance and good humor will be missed. He and his wife Pennye plan to spend their retirement in Rolla so hopefully we will often see Leon around the department and also at MAA section meeting.

After an extensive national search Dr. Steve Clark, the one internal candidate, was named by the Provost as the new department chair.

Professors Akim Adekpeduou, Vy Le, and V. Samaranayake received Outstanding Teacher Awards from Missouri S&T for the 2012-2013 academic year.

Prof. X. He is a Co-PI for the grant "Robust Ceramic Coaxial Cable Down-Hole Sensors for Long Term in Situ Monitoring of Geologic CO2 Injection and Storage" from the Department of Energy. The total amount of the grant is in excess of one million dollars. Prof He is also a C0-PI on a Department of Transportation grant entitled "NUTC/Reliability-based Optimization Design of Geosynthetic Reinforced Road Embankment" for just over $16,000.

John Singler, an assistant professor of mathematics and statistics, is working with Belinda Batten, a professor of mechanical engineering at Oregon State University, on feedback control of partial differential equations (PDEs), which has many potential applications including reduction of energy consumption in commercial buildings, and controlling airflows in order to reduce fuel costs in planes or lower vehicle noise emissions. Their research is funded by a grant from the National Science Foundation.

Missouri State University (submitted by Yungchen Cheng)

The Ninth MAKO Undergraduate Math Research Conference will be held on Saturday, Nov. 9, 2013. Undergraduates from Missouri, Arkansas, Kansas and Oklahoma are invited to present short talks on their research. Funding for this conference is provided by an NSF grant through the MAA Regional Undergraduate Mathematics Conferences Program. Find out more information about the 2013 MAKO Conference.

Dr. Clay Sherman retired at the end of Spring 2013 semester after 25 years at MSU.

Missouri Western (submitted by Gavin Waters)

At Missouri Western, Jeff Poet, along with biology colleague Todd Eckdahl and Davidson College (NC) collaborators Malcolm Campbell and Laurie Heyer, was awarded a National Science Foundation research grant
in excess of $1 million to continue synthetic biology research with undergraduates at both institutions for the next three years. This is the largest NSF grant ever awarded to Missouri Western. The group is modeling, designing, constructing, and testing a modular system for optimizing the production of a metabolite of the user's choice in E. coli.

Dr. Lori McCune was hired in the Fall of 2012 as a visiting assistant professor; she accepted a tenure-track position in Spring 2013. She earned her Ph.D from University of Nebraska-Lincoln in 2011 in the field of Commutative Algebra. She is interested in student research and enjoys baking.

Saint Louis University (submitted by Brody Johnson)

The department has made a number of new hires in recent years, including Michael Lamar (2011), Daniel Freeman (2012), James Gill (2012), and Haijun Gong (2012). The hires of Lamar and Gong contribute to recent expansion in the area of statistics, while Freeman and Gill expand the existing group in analysis. The department would also like to acknowledge the retirement of Professors Charles Ford and John Cantwell. Professor Ford joined the faculty in 1976 and retired in 2010 with more than 30 years of service at SLU. Professor Cantwell was hired in 1967 and served the department for 45 years, retiring in 2012. The department is saddened to report the passing of Emeritus Professor Raymond Freese in March of 2012. Ray was on the faculty from 1961 until 2007, serving as chairman of the department from 1971 to 1986 and directing some 19 Ph.D. students over his time at SLU.

The present research groups within the department can be loosely broken down as follows, although there are many members of the department whose interests span more than one of the areas listed below.

Algebra: R. Blyth, D. Jackson, G. Marks, M. May, S.J., J. Rainbolt, A. Srivastava
Analysis: B. Currey, D. Freeman, J. Gill, B. Johnson, N. Randrianarivony, D. Speegle
Computer Science: E. Chambers, J. Fritts, M. Goldwasser, J. Sukhodolsky

Geometry/Topology: A. Bart, B. Clair, K. Druschel, S. Harris, J. Hebda, J. Kalliongis, D. Letscher, K. Scannell, C. Stevens, M. Tsau
Statistics: H. Gong, M. Lamar

More detailed information can be found on the department's web page: http://mathcs.slu.edu/

Finally, the department is happy to report that Professor Christine Stevens has been recognized as a 2013-2014 Fulbright Scholar, receiving funding for her research grant entitled "Character Groups, Duality and Weakened Lie Groups." Professor Stevens will visit the Universidad Complutense de Madrid for the spring semester of 2014 to work on this research project.

Southeast Missouri State University (submitted by Jerzy Wojdylo)

New faculty:
Dr. Emmanuel Thompson, Statistics/Actuarial Science. Ph.D. University of Calgary, "Ultimate Ruin Probability in the Dependent Claim Sizes and Claim Occurrence Times Models" (2013)

Dr. Xiang-Sheng Wang, Differential Equations/Mathematical Biology. Ph.D. City University of Hong Kong + University of Science and Technology of China (joint program) "Uniform Asymptotics of the Meixner Polynomials and Some q-Orthogonal Polynomials" (2009). Prior to our position, Dr. Wang received postdoc fellowships at City University of Hong Kong, York University (Canada), and Memorial University of Newfoundland.

Promotion:
Dr. Yanping Xia (Statistics) was promoted to Associate professor with tenure.

Truman State University (submitted by David Garth)

This year the Mathematics department at Truman State University lost two of its faculty members, Martin Erickson and Sam Lesseig.

Martin John Erickson was born in 1963 in Detroit, Michigan. He received his Ph.D. in Mathematics in 1987 from The University of Michigan, Ann Arbor, studying with Thomas Frederick Storer. He joined the faculty in the Mathematics Department of Truman State University (then known as Northeast Missouri State University) when he was twenty-four years old, and remained there for the rest of his life.

Marty began his love of math early. When he was in second grade he was so good with numbers that he joined the fourth grade class across the hall for his math lessons. He loved to talk about math, do math, teach math, and write about math.

In addition to his teaching and research, Erickson authored or co-authored eight books, beginning in 1996 with *Introduction to Combinatorics*. Much of his work featured one of two themes. The first was problem-solving. He participated in math contests in high school and college (narrowly missing qualification for the United States Math Olympiad team), and kept his love of math problems throughout his career. Two of his books, *Principles of Mathematical Problem Solving* with Joe Flowers and *Aha! Solutions*, were devoted to problem-solving. He contributed many original problems, and was always happy to work on problems with interested students throughout the world. An example can be found on this site: Complete Residue Systems

for Lucas Numbers.

The second common theme of Erickson's work was mathematics as an art. He himself was an artist; his paintings are math constructs. One of his paintings provided the cover art for *Introduction to Combinatorics*. His view of mathematics as art can be seen in his books *Pearls of Discrete Mathematics* and *Beautiful Mathematics*, and formed a recurring theme of this latest, *Mathematics for the Liberal Arts*, written with Donald Bindner and Joe Hemmeter.

Martin Erickson is survived by his parents, Robert and Lorene Erickson, his brother, Matthew, and his wife, Christine.

Samuel (Sam) L. Lesseig of Kirksville, Mo passed away Monday, August 26, 2013. He was born January 19, 1939 at Great Bend, KS. He is survived by his wife, Dee and three children, Vance, Corey and Kristin Lesseig, three sisters, and six granddaughters.

Sam graduated from Hays High School, Hays, KS in 1957, Fort Hays State University with a B.S. in mathematics and subsequently achieved a M.S. in mathematics at Kansas State University. He then entered a doctoral program at Southern Illinois University and also attended Kent State University on a Computer Science Fellowship.

In 1963 he joined the faculty at Northeast Missouri State Teachers College now Truman State University where he continued as a professor until his death. In addition to his teaching role in the mathematics department Sam's most significant contribution to the University was the creation and establishment of a woman's golf team at Truman State University in 1984. He coached two all-Americans and 14 academic all-Americans while leading the Bulldogs to 11 postseason appearances at the National Golf Coaches Association Division II National Championships and the NCAA Division II and III Women's Golf Championships. In 1999-2000, four members of the team were named to the NGCA all-academic team, the most in school history. The Bulldogs qualified as a team for the inaugural NCAA meet and returned as a squad after a thrilling second place playoff finish at regionals in 2006-07. Truman finished eighth that year at the national meet held in Houston, Texas. Throughout his life Sam was influential to a broad range of students, golfers and individuals in the community and will be missed by all those who knew him.

University of Missouri – Kansas City (submitted by Richard Delaware)
Fall 2011

During Fall 2011, Associate Professor Eric Hall spent most of the semester on leave at the University of the Aegean in Greece, living on the island of Samos in the city of Karlovassi, working with colleagues Kyriakos Keremidis and Eleftherios Tachtsis in research on ultrafilters and other areas of set theory. For the last part of his leave, he moved to Hebrew University in Jerusalem, Israel to work with internationally known mathematician Saharon Shelah working on models of ZFA set theory without the Axiom of Choice.

2012

In Fall 2012, we welcomed one new tenure-track mathematician, Majid Bani-Yaghoub, as an Assistant Professor; Ph.D. 2009, Applied Mathematics, Carleton Univ., Canada, M.S. 2006, Applied Mathematics, Carleton Univ., Canada, B.S. 1997, Applied Mathematics, University of

Tabriz, Iran. His research interests are: Ordinary, Partial and Delay Differential Equations with applications in Biology, Nonlinear Wave Equations, Reaction-Diffusion Modeling and Analysis of Infectious Diseases, Single Species Populations and Interacting Signaling Pathways. He has come from Texas A&M University where since 2010 he has been variously a Postdoctoral Research Associate in the Department of Veterinary Integrative Biosciences, and both a Visiting Assistant Professor and Lecturer in the Department of Mathematics.

In May 2012 UMKC undergraduate mathematics major Jesse Hamer was the winner of the 9th annual HOMSIGMAA (History of Mathematics Special Interest Group of the Mathematical Association of America) contest for expository papers written in History of Mathematics courses across the country for his paper "Indivisibles and the Cycloid in the Early 17th Century." [Our department has done well in this contest: In 2011, we had a first place winner, in 2010 we had three UMKC finalists and one first place winner, in 2008 we had one finalist, in 2006 we had three finalists and one first place winner, and in both 2005 and 2004, we won (or co-won) first place.] Jesse's paper was written in Spring 2012 for our History of Mathematics, Writing Intensive course.

In May 2012, Becky Roberts retired after 28 years of service as a non-regular instructor and award-winning teacher. Yong Zeng was promoted to Professor, starting September 1, 2012.

Our department undertook a major course redesign of College Algebra and built a new Interactive Learning Center computer lab in the Miller Nichols Library, coordinated in Fall 2012 by Eric Hall, our first semester of full implementation. The rationale for the course redesign was UMKC's recent involvement in the national Access 2 Success Initiative which revealed that students who enrolled and successfully completed college-level math during their first year are more likely to be retained for their sophomore year. According to the National Center for Academic Transformation (NCAT), redesigned courses have high student success rates and demonstrate increased efficiencies in course delivery. Our redesign is based on the emporium model.

In 2012 we also pioneered our first online version of Mathematics for Liberal Arts, designed and taught by Stephanie Van Rhein, who in Fall 2013 is starting her third year with us. She is also creating an online version of our Calculus I course, using videos of the entire course posted on YouTube by Richard Delaware. Stephanie has become our first off-campus fulltime faculty member, living in Springfield and teaching online courses for us.

Lastly, during Fall 2012, Associate Professor Liana Sega began her year-long leave by attending workshops at the Mathematical Sciences Research Institute (MSRI) in Berkeley, CA, where she initiated a new collaboration with Marilina Rossi visiting from the University of Genoa, Italy.

2013
In January 2013, Dr. Sega participated in a National Science Foundation panel in Arlington, Virginia, and during Spring 2013 moved to Berkeley as a research member of MSRI meeting researchers in her area from around the world, and in particular attending the work-shop on Representation Theory, Homological Algebra, and Free Resolutions held Feb. 11-17.

For the calendar year 2013, Department Chair Professor Jie Chen is on a research leave as a Visiting Scientist at the Stowers Institute for Medical Research (SIMR) in Kansas City, MO. She

is collaborating with researchers at the Bioinformatics Center of SIMR on research projects that involve bio-informatics and statistics. Note that our department is participating in the 2013 International Year of Statistics.

Naveen Vaidya joined our department in January 2013 as a new tenure-track mathematician, having come from Western University, London, Ontario, Canada, where since 2010 he has been a Postdoctoral Research Fellow in the Department of Applied Mathematics. From 2008-2010, he was a Postdoctoral Re-search Associate in the Theoretical Biology and Biophysics Group at the Los Alamos National Laboratory in Los Alamos, New Mexico. Dr. Vaidya's research interests include applied mathematics, with specific areas of interest in mathematical biology (viral dynamics and immune systems, epidemiology, and ecology), mathematical and computational modeling, differential equations, dynamical systems, optimal control, and biostatistics. Currently, his primary focus lies on developing within-host and between-hosts models of infectious diseases, particularly HIV and influenza.

As of May 2013, we celebrate 80 years of mathematics at UMKC, 1933-2013, and in Fall 2013 UMKC as a whole celebrated its 80th anniversary.

From June 14-22, 2013, our current IPh.D. student Jing Zhang was accepted into and attended the Hyman P. Minsky Summer Seminar, organized by the Levy Economics Institute of Bard College with support from the Ford Foundation.

In August 2013, we heard the good news that undergraduate mathematics major Jenna Miller won the Advanced Category Essay prize in the UMKC Ilus W. Davis Writing Competition, and her expository paper "Casting Light on the Statistical Life of Florence Nightingale" will be published in the UMKC Fall 2013 Sosland Journal. The paper was written during Spring 2013 for our History of Mathematics, Writing Intensive course. We also learned that the UMKC Honors Undergraduate Journal Lucerna has accepted for publication in the January 2014 Volume, both an expository mathematics paper written by Mathematics major Anna Riffe titled "The Impossible Proof: An Analysis of Adrien-Marie Legendre's Attempts to Prove Euclid's Fifth Postulate", and a second expository paper written by Neiloy Medhi titled: "A Meta Analysis of Polls from the 2012 Presidential Election". Both papers were written in Spring 2013, Anna's for our History of Mathematics, Writing Intensive course, and Neiloy's for an Independent Study course with Dr. Zeng.

In Fall 2013, Bill Kalahurka joined us as an Assistant Teaching Professor. He obtained his Ph.D. from the University of Texas - Austin in 2010, with a dissertation on the topology of tiling spaces. He has been working since then in Austin as an Assistant Professor at Huston-Tillotson University. His hometown is Kansas City, and in addition to teaching, Bill will join the department's course redesign team, serving as coordinator for our redesigned College Algebra project.

David A. Spade also joined us in Fall 2013 as a new tenure-track statistician, having completed his degree in Statistics in May 2013 from Ohio State University. Prior to his Ph.D. degree, he earned his Bachelor's degree in Mathematics in 2006 at West Liberty University in West Virginia and his Master's degree in Statistics in 2010 at Ohio State University. Dr. Spade's research interests include Bayesian methodology, Markov chain Monte Carlo methods, statistical phylogenetics, and statistical computing.

In Fall 2013, Xianping Li too joins us as a new tenure-track mathematician, having obtained his Ph.D. in Mathematics from the University of Kansas in 2011. He has since been a Visiting Assistant Professor at the University of Central Arkansas until May 2013. His research is in scientific computation and mesh adaptation, especially for anisotropic diffusion problems, currently focusing on parallel computing and mesh adaptation for 3D anisotropic diffusion problems. He is also interested in numerical computation in many fields including engineering, biology, finance, and physics.

Lastly in Fall 2013 Brent Wilson, who earned his MS from us in 2012 and is pursuing an IPh.D. in our department, joins us as a full time non-regular Instructor. Brent has been an Adjunct Mathematics Instructor for the Metropolitan Community Colleges since 2010. From June 17-28, 2013, he was accepted with full financial support and attended the Princeton RTG (Research Training Group) Summer School in Financial Mathematics with funding from NSF. Brent will be helping with our new course redesign of Intermediate Algebra.

Since 2009, the annual Kansas City Regional Mathematics Technology EXPO [http://kcmathtechexpo.org/] has been held at UMKC. Richard Delaware has participated for all 23 years of the EXPO, and is now site coordinator and financial secretary. The EXPO is a two-day conference for mathematics teachers at the 4-year college, 2-year college, and high school level held the first weekend in October. Its purpose is to be: "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."

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

Washington University (submitted by Ron Freiwald)
Professor Greg Knese joins our faculty this fall as a new assistant professor. Greg received his Ph.D. from Washington University in 2007 and returns after time teaching at University of California, Irvine, and the University of Alabama. Greg's research work is analysis, operator theory and complex analysis.

Professor Songhao (Travis) Li joins us this fall as a new Chauvenet lecturer. He received his Ph.D. this year from the University of Toronto. His research interests center around Poisson geometry. He joins Ivan Horozov and Peter Luthy who continue this year as Chauvenet Lecturers.

We also welcome two one-year visitors to our statistics program:

- Professor Laura Dumitrescu received her Ph.D. in 2010 from University of Ottawa and comes to us from a postdoctoral position at Carleton University. Some of her research interests include small area estimation, robust estimation, and mixed models.
- Professor Todd Kuffner received his Ph.D. in 2011 from Imperial College London, and comes to us after most recently teaching at the American University of Beirut. His research interests are in mathematical statistics, likelihood and asymptotics, and econometrics.

Professors Al Baernstein and Stanley Sawyer have retired.

During the 2013-2014 academic year we will be searching for two new faculty members, one in mathematics and the other in statistics, who both would arrive, we hope, in Fall 2014.

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This form can be submitted electronically at http://mathcs.slu.edu/maa14 . Forms should be submitted by email to bryan@slu.edu (please use "MAA abstract" in the subject line) or sent by regular mail to:

> MAA Spring 2014 Meeting
> c/o Bryan Clair
> Department of Mathematics and Computer Science
> 220 N. Grand Ave.
> Saint Louis University
> St. Louis, MO 63103

The deadline for submission is **March 16, 2014.**