

MAA MISSOURI SECTION NEWSLETTER

FALL 2010 • VOLUME 31 • NUMBER 1

2011 MAA Missouri Section Meeting

The Computer & Mathematical Sciences Department at **Columbia College** will be hosting the Spring Meeting on Friday April 1 and Saturday April 2, 2011 (with the Missouri Collegiate Mathematics Competition beginning the evening of Thursday March 31). The Missouri Mathematical Association of Two Year Colleges (MOMATYC) will be having their annual meeting with us this year. Each organization will follow its usual schedule but there will be more opportunities to eat and more talks to choose from. **David Bressoud**, MAA President, and Polya Lecturer **Erik Demaine** will be speaking at the meeting.

I welcome any suggestions for the meeting.

Suzanne Tourville
Section Chair
setourville@ccis.edu

CALL FOR PAPERS

You are invited to present a paper at the Spring Meeting. Papers 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 honors students in presenting papers at the meeting. MAA student memberships will be awarded as prizes for the top student papers.

The abstract form is on the last page of this newsletter. Abstracts should be submitted by mail to:

Suzanne Tourville
Department Computer & Mathematical Sciences
Columbia College
Columbia, MO 65216

Or e-mail to setourville@ccis.edu.

Please include all of the information requested on the abstract form: presenter's name, title, affiliation, contact information, title of paper, abstract, AMS subject classification, and special accommodations needed (overhead projector, computer, etc.). Also please indicate if the speaker is a student and if the paper is directed toward a student audience. Deadline for receipt of abstracts is **March 1, 2011**.

Newsletter Editor and Web Page Administrator Nominations

Nominations for the positions of Newsletter Editor and Web Page Administrator are now being accepted. Each is a 3-year position.

The Newsletter Editor publishes the Section Newsletter on a regular basis, keeping the Section membership informed of all regular and special meetings and other pertinent information

The Web Page Administrator maintains the Section's web page, keeping the contents up-to-date and posting newsletters, meeting information, and other relevant items as they become available.

Please send nominations to the Section Chair Suzanne Tourville at setourville@ccis.edu. Nominations will be forwarded to the nominating committee.

Section Teaching Award

STATE YOUR INTENTION TO NOMINATE BY DECEMBER 1, 2010.

Nominations for the 2011 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 2011 meeting of the Section and will be widely recognized and acknowledged within the Section. The awardee will also be the official Section nominee for the 2011 Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching of Mathematics awarded by the MAA. There will be at most three national awardees, each of whom will be honored at the national MAA meeting in January 2012 and receive a \$1,000 check and a certificate. A special session at that meeting is devoted to talks by the awardees on aspects of their teaching. Anyone may make a nomination. An outline of the nomination process can be found on the MAA web site <http://www.maa.org/awards/teachingawards.htm>. Self-nomination is not permitted. If you are planning to nominate someone from your department, please send the name of your nominee to Mary Shepherd at MSHEPRD@nwmissouri.edu by **December 1, 2010**. The deadline for the submission of all materials remains February 1, 2011.

Eligibility

Nominees must satisfy the following criteria:

- 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 Mary Shepherd MSHEPRD@nwmissouri.edu stating your intention to nominate by **December 1, 2010**.
- Nominations must be submitted on the "**Nomination Form**" found on the Missouri Section web page at <http://www.maa-mo.org/teachingaward/teachingaward.html>. Anyone may nominate an eligible candidate, but self-nomination is not permitted.
- Please follow the instructions on the 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 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 Mary Shepherd at the address below so as to be received no later than **February 1, 2011**. Nominations for candidates who are not members of the Missouri Section should be sent to the Secretary of the nominee's Section.

Dr. Mary Shepherd
Department of Mathematics
Northwest Missouri State University
Maryville, MO 64468

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 Suzanne Tourville, Section Chair, or any other member of the Executive Committee.

2005	Missouri Western State College	2013	Northwest Missouri State University
2006	University of Missouri-Columbia	2014	Saint Louis University
2007	College of the Ozarks	2015	Missouri University of Science and Technology
2008	Missouri State University	2016	Missouri Western State University
2009	Truman State University	2017	Missouri Southern State University
2010	University of Central Missouri	2018	Drury University
2011	Columbia College	2019	OPEN
2012	University of Missouri-St. Louis	2020	University of Central Missouri

MISSOURI PROJECT NExT

Project NExT (New Experiences in Teaching) is a national program for new or recent faculty in the mathematical sciences who are interested in improving the teaching and learning of undergraduate mathematics. Missouri NExT is a similar program designed for faculty members in the Missouri Section of the MAA. Any full-time faculty member in the Section with less than 6 years in current position is invited to apply to become a Missouri NExT Fellow. Information about Project NExT is available at the NExT web site.

Project NExT Fellows will meet for a morning workshop on Friday April 1, 2011 just prior to the Spring Missouri Section meeting. At the workshop, the Fellows will have a chance to interact with one another while attending sessions dealing with different aspects of our profession. It is anticipated that contact between fellows will continue through the year, both electronically and in person. Fellows will be linked in an electronic network with one another and with a number of distinguished teachers of mathematics.

SUPPORT: Expenses for the Friday morning program including breakfast and lunch, and full registration costs for the Missouri Section Spring meeting will be covered for new Fellows. The remainder of the expenses should be covered by the Fellows' home institutions. However some funds may be available for accommodation costs in cases where the Fellow's home institution is not able to cover these costs (see application form). Financial support for this program is provided by the Missouri Section of the MAA and by another grant.

TO APPLY: Application forms can be found at http://web.missouri.edu/~aubreyja/mo_next/application.html

Send completed form by March 1, 2011 to:

Dr. Mary Shepherd
 Temporary Missouri NExT Organizer
 Department of Mathematics
 Northwest Missouri State University
 Maryville, MO 64468

E-mail: msheprd@nwmissouri.edu

Missouri Collegiate Mathematics Competition

The fifteenth Missouri Collegiate Mathematics Competition will be held Thursday, March 31, 2011 and Friday, April 1, 2011 on the campus of Columbia College in Columbia, 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 Monday March 28, 2011. 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 first session will begin on Thursday evening at 7:30 pm and last until 10 pm and the second session will begin on Friday at 8:30 am and will end at 11 am. There are five problems in each session. Each problem will be worth 10 points and will be scored by a committee of the MAA Missouri section. Some partial credit may be earned for substantially correct work toward a solution to the problem. The team earning the highest total points is the winner. In case of a tie, the committee will vote to determine the winning team.

The registration fee is \$90 per team. A complementary continental breakfast will precede the Friday morning competition. Each team member and the faculty sponsor are invited to a Friday pizza party at 11:30 am. Each team member is also invited to be a guest at the MAA Missouri Section Banquet on Friday night. At that time, the results of the competition will be announced. A traveling trophy will be awarded to the first place team. In addition, each member of the first place team will receive a plaque. Certificates will also be given to each participant in the competition.

Any questions about the competition can be sent to

Curtis Cooper
Department of Mathematics and Computer Science
University of Central Missouri
Warrensburg, MO 64093
(660) 543-8851
fax: (660) 543-8013
email: cooper@ucmo.edu

P.S. The Missouri Collegiate Mathematics Competition home page can be accessed directly with the URL <http://www.math-cs.ucmo.edu/~hchen/contest/>

FROM THE GOVERNOR

The MAA Board of Governors met August 4, 2010 in Pittsburgh, PA. MAA President David Bressoud presided.

It was noted that, by email before the meeting, the Board approved

- The election of Caren Diefenderfer, Joseph Gallian, and David Stone to the Nominating Committee for the 2011 Election. The continuing members of this committee are Carl Cowen and Deanna Haunsperger (chair).
- The appointment of Susan Colley to the College Mathematics Journal Editorial Board.
- The revised Bylaws of the Mathematical Association of America to be submitted to the membership for voting at the MathFest 2010 Business Meeting.

Among other things, President Bressoud announced the continued work on the NSF-DRL REESE grant, *Characteristics of Successful Programs in College Calculus*, and in the second round of pilot-testing the surveys that will go to the participating institutions and instructors. He said we are moving toward hiring a consultant for the Second Century Campaign that will coincide with MAA's 100th birthday party in 2015 and support the programs and activities of MAA's next century. There will be a steering committee formed in the near future. He thanked many people who had worked very hard to bring it about, especially Wayne Roberts.

Secretary Faires mentioned that committee appointments have occupied a good part of the time in her office since the January meeting. She mentioned the usefulness of the website MAA database Personify in the appointment process and asked for corrections (if any).

The total attendance at MathFest 2009 in Portland was 1516 (mathematicians: 1079, undergraduate students: 247, graduate students: 85). At the end of regular registration, the numbers for MathFest 2010 were roughly equal to 2009's.

Highlights of the MathFest 2010: Robert Devaney's three Hedrick Lectures on complex dynamics, Bill McCallum's Leitzel Lecture on the influence of Felix Klein's "Elementary Mathematics from an Advanced Standpoint", Ami Radunskaya Falconer Lecture on the mathematical challenges in the treatment of cancer, MAA Invited Addresses by Frank Farris, Rebecca Golding, Marty Golubitsky, and Zvezda Stankova, Invited Paper Sessions on "Visualizing Combinatorics through Tilings", a special emphasis on biomathematics, and Somer Gentry's MAA Lecture for Students.

The attendance (5795) at the 2010 JMM in San Francisco was lower than 2009's (6965) but higher than 2008's (5653). Both the numbers of undergraduate (683) and graduate (932) students continued to go up.

The Treasurer's section on the website (<http://www.maa.org/treasurer/>) is now being used effectively to make the MAA finance programs transparent to the membership. The Treasurer's report indicated that the MAA is doing well. Membership is down and continues to be a concern. Publication is a little better, journal costs are down as a result of electronic issues, and meeting are about the same with some bring spots in MathFest. Our audited 2007, 2008, 2009 "Total Net Assets" numbers were at \$14.1M, \$12.7M, and \$13.7M, respectively.

The Investment Committee reported that the MAA Investments continue to follow the market as it continues to grow but at a decreasing rate. We have had four good quarters but the increases have been getting smaller. In the recent past we took a conservative position and held much of our assets in cash. This was a wise move and

we lost considerably less than some other academic institutions. In order to recover, we had started to slowly reduce our excess cash position by buying back into the market with a dollar-averaging plan.

The Audit Committee reported that the auditors gave us an unqualified opinion that the financial statements of the MAA are free of material misstatement, and they qualified the MAA as “low risk” in regard to our performance in overseeing the federal grant revenue that we have overseen.

The Budget Committee reported that the actual operating budget results for 2009 were a deficit of \$225,780, much larger than originally approved. Most of the larger than expected deficit was from drops in revenue, particularly advertising and sponsorships. At this time, the forecast operating deficit for 2010 is \$37,559. The proposed 2011 budget projected a deficit of \$18,770, very close break even. The forecast is very conservative and there is reasonable hope the net revenues could outpace the budgeted amounts.

First Vice-President Su reported that the MAA participated in an NSF-funded workshop to study whether women are under-represented in receiving prizes and awards from the scientific societies. Data shows that in the last 20 years of MAA awards, women have been represented at or above their percentage in the MAA in service and teaching awards, but they have been underrepresented in the scholarly awards. Recommendations include, for example, striving for diverse committee composition, careful awards description, discussing award criteria before discussing candidates, and continue to ensure that invited speakers at meetings reflect the diversity we desire our organization to have.

Second Vice-President Ensley mentioned that the Strategic Planning Working Group on SIGMAAs had begun its work and plans to submit their final report by January 2012.

Executive Director Straley reaffirmed the national office’s commitment to continue streamlining practices and improving efficiency in order to balance the operating budget. She commented on the complexity and costs of having too many membership categories. She believed that we need to structure our membership to greatly simplify the dues matrix and thus allow for other innovations in the future. She noted our continued public outreach efforts through the American Mathematics Competition, as well as our increased influence and visibility in public policy over the past year through a Congressional Lunch Briefing and the Science Policy Committee Hill Visit Days. Our book sales are up at Amazon after previous year’s drop, but the sales through BrightKey are flat. The use of technology presents many opportunities for MAA and often forces the national office’s hand in order to just keep up with the competition and the members’ expectations. A proposal was submitted to NSF to establish a Mathematical Center focused on undergraduate education. Many excellent ideas in the proposal are worth pursuing, regardless of the funding. There were organizational structure changes, including merging two publication departments and enhancing efficiency and effectiveness in marketing strategies and planned campaigns.

Currently funded projects:

- Characteristics of Successful Programs in College Calculus (NSF-DRL)
- WeBWork: Improving Student Success in Mathematics (NSF-DUE)
http://webwork.maa.org/wiki/Main_Page
- MAA Distinguished Lecture Series (NSA) www.maa.org/dist-lecture
- MAA Regional Undergraduate Mathematics Conferences (NSF-DMS) www.maa.org/rumc
- MAA SUMMA Research Experiences for Undergraduates (NSA, NSF, Moody’s) www.maa.org/nreup
- MAA Professional Enhancement Program (PREP) (NSF) www.maa.org/prep
- Syndication of “Hard Problems” on American Public Television
<http://www.maa.org/news/091409hp.html>
- Travel Grants for Undergraduate Students to Attend National Meetings (NSA, NSF)

- Tensor Grants for Women in Mathematics (Tensor Foundation) <http://www.maa.org/wam/tensor.html>
- Tensor SUMMA Grants (Tensor Foundation) <http://www.maa.org/programs/tensor-summa.html>

Twelve lectures have been held at the Carriage House since January 2010. Stories on the lectures and interviews (including audio excerpts) are available through the MAA website. In addition, video segments of the lectures are posted on the new MAA Video channel on YouTube <http://www.youtube.com/maavideo>.

The 2010 AMC 10 and AMC 12 contests were held on February 9 and February 24. Total numbers of students taking exam were: 62,254 (AMC 10A), 38,091 (AMC 10B), 67,155 (AMC 12A), and 40,750 (AMC 12B). A total of 4,058 schools returned results in 2010 compared to 4,129 in 2009 and 4,028 in 2008. There were 47 universities and colleges participated as AMC 10/AMC 12 Host Sites, up from 43 last year and 36 in 2008.

The 2010 AIME 10 and AMC 12 contests were held on March 16 and March 31. Total numbers of students taking exam were: 3,618 (AIME I) and 2,904 (AIME II).

The 2010 USA Mathematical Olympiad was held on April 27-28. This year we also held the USA Junior Mathematical Olympiad for students in 10th grade and below. There were 329 students invited to the USAMO and 235 students to the USAJMO.

The advent of electronic memberships, more than 2,500 to date, has more than doubled the number of visits to the electronic editions of the journals (AMM, MM, & CMJ). On average, the number of downloads and viewed (as pdfs) lags behind views of the tables of contents, which suggests that many visitors look at no more than one article.

JSTOR currently hosts the MAA electronic archive for the three journals. In its new Current Scholarship Program, JSTOR will post new issues as they are published (along with the three years not yet available in the archive).

Recent issues of MAA Focus have each featured an attractive full-color poster: MathFest 2010 in February/March, Math Awareness Month in April/May, and Math and Biology in June/July. Future issues will contain posters highlighting the history of mathematics and MAA's participation in the USA Science & Engineering Festival.

The news content of the MAA website (including "Math in the News" items) has been continually updated. We also post MAA's Twitter feeds and keep up with MAA's fan page on Facebook. We now have more than 600 Twitter followers and more than 1,300 fans of the MAA on Facebook. These efforts are having a significant effect in boosting traffic to the MAA website.

We will revise the MathDL Collection using some of the resources from MathDL, some from the partners, and other resources not in either category. These resources would be keyed to topics in a syllabus for math courses typically offered in the freshman and sophomore years of college. We would start with one variable calculus, followed by other courses as finances permit: multivariable calculus, differential equations, linear algebra, number theory, and probability and statistics.

It has been a busy first quarter for book publications. In print early in 2010 were: *An Episodic History of Mathematics*, Steven Krantz (MAA Textbooks) and *Excursions in Classical Analysis*, Hongwei Chen (CRM). In production are: *Randomness & Recurrence in Dynamical Systems* by Rodney Nillsenm, *Calculus as Algebra* by Judith Grabiner, *Rediscovering Mathematics* by Shai Simonson, *Calculus: An Active Approach with Projects* by Stephen Hilbert *et al.*, *The Beauty of Fractals* by Denny Gulick and Jon Scott, *Mathematics and Sports* by Joseph Gallian (Dolciani), *Charming Proofs* by Claudi Alsina and Roger Nelsen, *Methods for Euclidean*

Geometry by Owen Byer *et al.*, *Functions, Data, Models* by Sheldon and Florence Gordon, *Invitation to Complex Analysis* by Ralph Boas, and *Special Relativity* by John de Pillis.

E-book Calculus: Modeling and Application, 2nd Edition, by David A. Smith and Lawrence C. Moore of Duke University, will be available for fall 2010 adoption. It will be available through License Agreement subscription, which makes it very low cost to the end user. Schools that adopt the text will be charged each semester on a sliding scale based on the number of students expected to be using the text.

New titles for our 2010 book sales include: *Combinatorics: A Guided Tour*, *An Episodic History of Mathematics*, *Lie Groups*, *The Calculus Collection*, *Mathematics in Historical Context*, *Counterexamples in Calculus*, and the second edition of Ralph Boas' *Invitation to Complex Analysis*. Bestselling books in 2010: 1. *Game Theory and Strategy*, 2. *Math Through the Ages*, 3. *Mathematical Interest Theory*, 4. *Mathematics in Historical Context*, 5. *Counterexamples in Calculus*, 6. *Who Gave you the Epsilon?*, 7. *Lie Groups*, and 8. *Combinatorics: A Guided Tour*.

Membership renewal rates, for the most part, are stable. The overall membership has decreased a little bit, though this has largely been expected, due to less aggressive/more cost effective acquisition efforts, and better identification of deceased lifetime and retired emeritus members. The erosion of student and departmental memberships is a concern however. The adoption of e-memberships has been solid so far, with nearly 15% of members having converted, and student conversions just beginning to take place. (Note: Our Section currently have 146 active members, the renewal rate was 72%, with 14% converting to e-membership.)

The MAA Staff Handbook has been thoroughly reviewed. The updated Handbook, reviewed by legal counsel, but with a few items pending, was approved by the Personnel Committee in May. It will be distributed among staff as soon as the few open items are finalized.

Submissions to the Monthly were up somewhat in 2009. We had a total of 884 submissions in 2009, compared to 837 in 2008. Of the papers submitted in 2009, we have accepted 37 articles and 39 notes, with 16 articles and 7 notes still under considerations. The issue of January 2012 College Mathematics Journal will be dedicated to the memory of Martin Gardner and the mathematics he popularized.

The revised Bylaws of Florida, Northeastern, Northern California-Nevada-Hawaii, Southwestern, Texas, and Wisconsin were approved.

Information of the Project NExT is available at <http://archives.math.utk.edu/projnext/>.

A policy on College Placement Testing in Mathematics was approved to be included in the front of the User's Guide for the Placement Test Program.

Dates and locations for future Joint Meetings and MathFests are

2011	New Orleans, LA	Joint Meetings	January 6-9
2011	Lexington, KY	MathFest	August 4-6
2012	Boston, MA	Joint Meetings	January 4-7
2012	Madison, WI	MathFest	August 2-4
2013	San Diego, CA	Joint Meetings	January 9-12
2013	Hartford, CT	Math Fest	August 1-3
2014	Baltimore, MD	Joint Meetings	January 15-18
2014	Portland, OR	MathFest	August 7-9
2015	San Antonio, TX	Joint Meetings	January 10-13
2015	Washington, DC	MathFest	August 5-8

2016	Seattle, WA	Joint Meetings	January 6-9
2017	Atlanta, GA	Joint Meetings	January 4-7

After the Board meeting, the four governors of the Iowa, Kansas, Missouri, and Nebraska/South Dakota sections were invited by the Committee on Sections for a meeting to explore a possible merger of these four sections due to the fact that the other three sections are becoming small. By holding meetings together, the programs will be stronger, more activities, and interacting with more people. On the other hand, issues such as longer/more expensive travels to meetings, reductions in internal opportunities (leadership roles, awards, etc.), and the math competition are concerns. We have been assured that it will up to the sections to decide whether to merge with others. None of the four governors was enthusiastic about the idea, but we also felt the sections should have a chance to discuss further and make their own decision. To help a broader discussion, a joint meeting of representatives from the four sections has been scheduled on Saturday, November 6 from 10:00a up to 3:00 pm at Rockhurst University in the Science Center Building Room 203. If any of you are interested to attend the meeting, or if you can't but have some comments to share, please let me know as soon as possible. Any decision that would impact our section will, of course, have to be discussed during our next spring meeting. I just wanted to share this development with you.

Yungchen Cheng

The **MAA Missouri Section Newsletter** is published in November, March, and May each year.

I did not receive any news from campuses for this newsletter. If you have information to include in the March newsletter, feel free to send it now!

Please send any news, comments, questions or corrections to me at setourville@ccis.edu.

Suzanne Tourville
Newsletter Editor

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

ABSTRACT FOR CONTRIBUTED PAPERS

Name(s) (* means Speaker): _____

Institution: _____

Address: _____

Phone: (____) _____

Email: _____

PAPER TITLE: _____

BRIEF ABSTRACT OR DESCRIPTION OF PAPER:

AMS SUBJECT CLASSIFICATION (see [Math. Subj. Class.](#)) _____

TECHNOLOGY NEEDS:

Is the speaker a student? _____

Is the presentation directed toward a student audience? _____

PLEASE RETURN THIS FORM BY **MARCH 1, 2011**, TO:

Abstracts should be submitted by mail to:

Suzanne Tourville
Department Computer & Mathematical Sciences
Columbia College
Columbia, MO 65216

Or e-mail to setourville@ccis.edu.