

MEETING ANNOUNCEMENT

The **Mathematics Department** of **Missouri Western State College** in St. Joseph is looking forward to hosting the **Spring Meeting of the Missouri Section of the Mathematical Association of America** on **April 1 and 2, 2005**. In addition, the **Ninth Annual Missouri MAA Collegiate Mathematics Competition** will be held on **Thursday evening, March 31st, and Friday morning, April 1st**.

Among the invited speakers at the spring meeting will be **Dr. Bryan Shader**, professor of mathematics at The University of Wyoming. Dr. Shader is noted as an excellent communicator of mathematics and will challenge students and faculty alike. In addition to many publications and directing the research of several M.S. and Ph.D. students, Dr. Shader served as co-director of the Rocky Mountain Mathematics Consortium Summer School from 1997 to 2003, and is currently an associate editor for *Linear Algebra and its Applications*. **Dr. Carl Cowen**, Dean of the School of Science at Indiana University - Purdue University Indianapolis (IUPUI) and President-elect of the MAA, has agreed to be our keynote speaker on Saturday morning of the conference. The topic of his talk will be connections between mathematics and biology. An abstract for his talk is printed on the next page. **Dr. Les Reid**, Professor of Mathematics, Southwest Missouri State University, and the 2005 recipient of the MAA Missouri Section Distinguished Teaching Award, will deliver the banquet address on Friday, April 1st.

Future Meeting Sites

The Spring Meeting is held at various locations around the state. As part of its long-range planning, the Executive Committee is entertaining invitations for future meetings in 2010 and thereafter. The meeting sites for the past several years and the next five years are listed below for your convenience. If your campus would be willing to host a Spring Meeting, then please contact Jeff Poet, Chair, or any other member of the Executive Committee. Please see the inside of the front cover for information on the members of the committee.

1985	Central Missouri State University	1998	Southwest Missouri State University
1986	Southwest Missouri State University	1999	Rockhurst College
1987	Truman State University	2000	Central Missouri State University
1988	Washington University	2001	U. of Missouri-Rolla
1989	University of Missouri-Columbia	2002	Truman State University
1990	College of the Ozarks	2003	Washington University
1991	University of Missouri-Rolla	2004	Southeast Missouri State University
1992	Northwest Missouri State University	2005	Missouri Western State College
1993	Westminster College	2006	University of Missouri-Columbia
1994	Missouri Southern State College	2007	College of the Ozarks
1995	Central Missouri State University	2008	Southwest Missouri State University
1996	Southeast Missouri State University	2009	Truman State University
1997	Missouri Western State College	2010	Central Missouri State University

Abstract of Dr. Cowen's Talk

Dr. Rita Colwell, a research microbiologist and former Director of the National Science Foundation, regards the mathematical sciences as the backbone for US Scientific and Engineering research. Many scholars see the next few decades as a time of intensive progress in the biological sciences. Dr. Colwell sees mathematics as being an integral part of the progress in biology, not a traditional view, but a forward looking one. In this talk, Carl Cowen will outline some of the research areas in the emerging collaborations between mathematical and biological scientists. In addition, Cowen, who began his study of the mathematics of neuroscience in 2002-03 at the Mathematical Biosciences Institute at Ohio State University, and who last year worked as a junior post-doc in the lab of Professor Christie Sahley in the Purdue University Biology Department, will illustrate the connection between mathematics and neuroscience with a discussion of the Pulfrich phenomenon, an experiment that helps illuminate how the brain processes visual images. There are few mathematical or biological prerequisites for this discussion.

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.

Also, faculty 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.

Abstract forms will be available soon on the web at <http://cte.rockhurst.edu/brandtk/momaa/forms.html>. Abstracts may be submitted by mail to:

Jeff Poet
Department of Computer Science/Mathematics/Physics
Missouri Western State College
4525 Downs Drive
St. Joseph, Missouri 64507

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, 2005**.

From the Governor

Leon Hall (UMR)

The MAA Board of Governors met on August 11, 2004 and the MAA Section Officers met on August 12, 2004 in Providence, RI. Highlights of these sessions follow.

The financial status of the Association is healthy, but a financial goal is to build investments up to the commonly accepted benchmark for organizations of one to two times the operating budget (currently about \$7 million), so investments need to approximately double to reach the neighborhood of \$14 million.

One interesting bit of financial information is that the District of Columbia considers un-cashed checks to be “abandoned property” and then, after a fairly short time measured best in months, not years, claims the property. So, if you receive checks of any kind from the Association, cash them promptly.

Executive Director Tina Straley reported that a new MAA thrust is in the public policy area. To see what things the Association is doing along these lines look on the web at <http://www.mathsci.appstate.edu/~sjg/maasciencepolicycommittee/>.

Child care at the Meetings will be given a trial run in Atlanta this coming January. There is a link to this on the main national MAA page.

The amount and adequacy of the travel allowance from the national office to MathFests and the January Meetings for governors and other section officers was discussed at both the governors meeting and the section officers meeting, and will be considered further in January after being looked at by the Finance and Investment Committees. The allowance amount is now \$500 and has remained the same for several years. One suggestion was to see if the sections could help with these travel expenses. We should discuss this issue at our spring meeting. Apparently, some of the other sections are relatively wealthy and could easily afford to provide supplementary travel support, but this should be considered by all sections, especially in view of the limited travel funds available at many schools.

The American Mathematics Competitions had a good year and the US International Olympiad team placed second this year. Individual MAA members can help the AMC by encouraging schools in your area to participate. Also, you can get the list of students who did well from Steve Dunbar at the AMC Office in Lincoln, NE and recognize those in your area. Finally, personal involvement by MAA members is always welcome. Again, Steve Dunbar is the person to talk with.

Project NextT, section NextTs, and Project ACCESS are well worth our support. Exxon funds for Project NextT are being phased out, and how to replace this money is being actively studied. Sections, departments or even individuals might want to think about helping by providing funds for one NextT Fellow, for example. Project ACCESS is like Project NextT but is for two-year college faculty. We should remember to continue to welcome two-year college faculty to our section meetings; one requirement for Project ACCESS Fellows is to participate in a MAA section meeting. When they do so, we want them to want to come back.

Some of you remember from my last governor’s report that a joint NCTM/MAA position paper on calculus in secondary schools was being worked on. This project is now on hold, probably permanently. The issue was fraught with opportunities for misunderstanding.

Last April, I received the “Missouri Section Governor’s Box of Stuff” from Vic Gummersheimer. This contains a lot of records of section activities (principally meetings) going back into the 1960s. Let’s not forget about getting a Section History put together. If you run across anything having to do with the history of the section, **DO NOT THROW IT AWAY**. Maybe your institution hosted the meeting one year and you have records of that. Because the governor and the secretary/treasurer each appear to have section history-related documents, if you find anything, please send it to one of us. If I get any more stuff, I’ll have to get a bigger box, so maybe the secretary should be your first choice. (Mary, you’re welcome!)

As many of you know by now, Keith Brandt has taken over the responsibility of managing the Missouri MAA Section web page. One useful piece of information that I learned from Roseann Brown, the MAA Director of Information Services, was that such a change in the physical location, and thus the url for the web page, does not mean all of you will have to change our section’s Bookmark or Favorite setting on your individual computer. At least not after this time, if you set the url to be the same as the link to the Missouri Section page that is on the national MAA page. This link is <http://maa.org/missouri>, and when we change administrators and tell Roseann (or her successor) what the new url is, it will be changed at MAA headquarters and the above link will automatically point to the new location.

Respectfully submitted,

Leon M. Hall
Missouri Section Governor

Show Me Undergrad Math Conference

Southeast Missouri State University is hosting a one-day undergraduate math conference on Saturday, November 6, 2004. Students will present and hear papers on topics in mathematics. There will be guest speakers, and it promises to be a great day! If you are interested, details are on our web site: <http://cstl-csm.semo.edu/hwang/conference.htm>

We hope to partner with other Missouri schools, and to possibly move the conference around the state in the coming years. If you have interest in participating, or if you have any questions, then please contact W.Y. Chan (wchan@semo.edu), Tim Ray (timray@image.semo.edu), or Haohao Wang (hwang@semo.edu).

Missouri MAA Collegiate Mathematics Competition

The ninth Missouri Collegiate Mathematics Competition will be held Thursday, March 31, 2005 and Friday, April 1, 2005 on the campus of Missouri Western State College in St. Joseph, 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 to compete, 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 only be allowed in the competition if this person is his or her college's only representative in the competition. A completed registration form for each team must be sent one week before the competition begins. Late registration will be accepted only if there is room for the team in the competition. No calculators or computers or reference material can be used during the competition. The contest will consist of challenging mathematical problems, comparable but not quite as difficult as the Putnam Exam. The Putnam Exam is a national exam sponsored by the MAA and given to outstanding college mathematics students. Previous Putnam Exams can be found in past October issues of the American Mathematical Monthly.

The first session will begin on Thursday, March 31 at 7:30 pm and lasts until 10 pm and will consist of 5 problems for each team to solve. The second session will begin on Friday, April 1 at 8:30 am and will end at 11 am. It will contain an additional 5 problems. Each problem will be worth 10 points and will be scored by a committee of the MAA Missouri section. The committee consists of the following members: Mangho Ahuja (SEMSU), Jim Bruening (SEMSU), Hang Chen (CMSU), Curtis Cooper (CMSU), Joseph B. Dence (UMSL), Leon Hall (UMR), and Don Vestal (MWSC). Some partial credit may be earned for substantially correct work toward a solution to the problem.

There will be a registration fee of \$40 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.

Past contests, solutions, pictures, registration form, etc. can be found at <http://www.math-cs.cmsu.edu/~curtisc/contest.html>.

Any questions about the competition can be sent to

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fax: (660) 543-8006
email: cnc8851@cmsu2.cmsu.edu

CALL FOR NOMINATIONS

2005 MISSOURI SECTION AWARD FOR DISTINGUISHED COLLEGE OR UNIVERSITY TEACHING OF MATHEMATICS

Nominations for the 2005 Missouri Section Award for Distinguished College or University Teaching of Mathematics are now being accepted. The award recognizes teachers of mathematics at the post-secondary level who have been widely recognized as extraordinarily successful.

The Section Selection Committee will review all nominations and determine which candidate, if any, best fulfills the guidelines given below. (If no nominated candidate is found to have outstanding qualifications, then the award will not be given.) The Missouri Section awardee will be honored at the Spring 2005 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 2006 and receive a \$1,000 check and a certificate.

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

- Nominations must be submitted on the "**Nomination Form**" found on the Missouri Section web page at <http://momaa.math.umr.edu/forms/MAATeachAwardForm.pdf>. 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 (as found at http://momaa.math.umr.edu/forms/teaching_award_guidelines.html), 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 Bob Sheets, Chair of the Selection Committee, at the address below so as to be received no later than **February 1, 2005**. Nominations for candidates who are not members of the Missouri Section should be sent to the Secretary of the nominee's Section.

Dr. Robert Sheets
Department of Mathematics MS 6700
One University Plaza
Southeast Missouri State University
Cape Girardeau, MO 63701-4799

From the Campuses

Central Missouri State University (Warrensburg)

The department hired two new faculty:

New Faculty

Dr. Xiaodong Yue recently received his Ph.D. in Electrical Engineer (Communications Networks) from the University of Cincinnati. He earned his B.S. and M.S. degrees from Shanghai Jiao Tong University. He is a technical reviewer for several IEEE publications and has written several journal articles. His expertise is in wireless telecommunications and networking, mobile computing and pattern recognition.

Mr. Dustin Jones will join our faculty in January 2005. He is working on his Ph.D. in Mathematics Education at the University of Missouri - Columbia. He earned his B.S. at Southwest Baptist University and his M.S. at Texas A&M University. He has taught in Plano, TX, and at the Christian Fellowship School in Columbia. He has served as a graduate assistant and instructor at UMC.

(Submitted by Ed Davenport.)

Culver-Stockton College (Canton)

Professor Gary Cochell taught this past summer at Cornell University in Ithaca, NY.

Senior **Laura Walters** attended a REU at Iowa State University in Mathematics and Computer Science.

(Submitted by Gary Cochell)

Drury University (Springfield)

We have six department members now. Our chair is **Bob Robertson**. Two years ago, **Scott Simmons** joined us from Texas A&M International in Laredo. Last year, **Sergey Borodich** came to Drury from Central Missouri State – he teaches our statistics curriculum. This year we welcome **Scott Sigman** from Southwest Baptist University in computer science. **Charles Allen** and **Carol Browning** are completing the work on their NSF grant for writing a calculus text using problem-based learning. **Charles Allen** plans to retire at the end of this school year.

Last spring, we had three students present results of their research: **Lauren Dreher** and **Jeff Clark** each presented at the KME meeting, and **Nick Barnhart** presented at the state MAA meeting. Our students have an active math club and enjoy participating in mathematical and programming contests.

(Submitted by Carol Browning)

Missouri Western (St. Joseph)

Dr. Don Vestal was promoted to Associate Professor and awarded tenure effective Fall 2004.

Dr. Sharon Vestal was honored at Western's annual employee awards ceremony. She received the MWSC Foundation's Jesse Lee Myers Excellence in Teaching Award. The Myers award is given annually to faculty members who demonstrate extraordinary teaching ability and make outstanding contributions in their fields.

Dr. Jeff Poet, along with his student research team: **Dustin Daffron, Heather Goforth, Chris Thomas,** and **Victor Onkoba**, will have their article "On Super Edge-Magic Labelings of Unions of Star Graphs" published in the *Journal of Combinatorial Mathematics and Combinatorial Computing*.

The Missouri Lambda chapter of Kappa Mu Epsilon initiated 18 new members in Spring 2004. The speaker for the ceremony was **Dr. Kevin Anderson**.

The CS/M/P department sponsored the fourth annual Calculus Bee in celebration of Mathematics Awareness Month in April. The winners of first, second, and third place were **Liam Davis-Mead, Therese Hand,** and **Matt Korte**, respectively. For more information on this event, go to <http://www.mwsc.edu/csmp/calctree/main.html> . (Submitted by Sharon Vestal)

Northwest Missouri State University (Maryville)

Dr. Christine Benson was promoted to Associate Professor.

The department is part of a Mathematics and Science Partnership grant funded through DESE for 3 years for \$2.4 million. This is an offspring of our current NSF grant that is ending this year. The department has committed resources to fund incoming freshman scholarships, over \$80,000 in the last few years.. (Submitted by Dennis Malm.)

St. Louis University

Dr. Michael K. May is again chairman of the Department of Mathematics and Computer Science. Father May served as interim dean of the College of Arts and Sciences for the past two years.

New faculty in the department are:

Simrat Margot Ghuman, who received her Ph D in Mathematics from Rice University and comes to us from the University of Hawaii.

Jacob Sukhodolsky, who received his Ph D. in Technical Systems Control from Erevan State University (Armenia) and comes to us from Parks College.

Ventzeslav V. Valev, who received his Ph D in Mathematics from the Russian Academy of Sciences in Moscow and comes to us from Parks College. (Submitted by Raymond Freese)

Saint Charles Community College

Kyle Linden is a new full-time mathematics faculty member at St. Charles CC in St. Peters MO. That brings the number of FT math faculty to 10. (Submitted by Wanda Long.)

Southeast Missouri State University (Cape Girardeau)

Craig Roberts and **Jerzy Wojdylo** were tenured and promoted to Associate Professor effective Fall 2004.

Haohao Wang was named a Project NExT Fellow.

Tamela Randolph and **Craig Roberts** received the 2004 College of Science and Mathematics Teaching Award.

Tim Ray, **W.Y. Chan**, and **Haohao Wang** received a grant from the MAA to conduct an Undergraduate Mathematics Conference on November 6, 2004 (See the announcement on page 4 of this brochure). They invite your students to attend/present at this conference. For complete details see www5.semo.edu/math/. (Submitted by Vic Gummersheimer.)

Southwest Missouri State University (Springfield)

New Faculty: **Mark Rogers**, Assistant Professor; **Donna Sherrill**, Lecturer; **Roger Quigley**, Lecturer

Retirement: **Roger Hainline**, Lecturer

Awards: **Les Reid** (2004 Missouri MAA Distinguished College or University Teaching of Mathematics), **Kishor Shah** (2004 SMSU University Teaching Award), **Xingping Sun** (2004 SMSU Research Award), **Paula Kemp** (2004 CNAS Service Award), **Jennifer Pope**, **Dao Tran** (2004 SMSU KME Merit Award), **Homero Flores** (2004 CNAS Outstanding Graduating Senior)

Sabbatical: **Les Reid** (Fall 2004)

Leave: **George Mathew** (2004-2005)

Internal Grants: **Richard Belshoff**, **Xingping Sun** (2004 Summer Faculty Fellowship), **David Ashley**, **Yungchen Cheng**, **Lynda Plymate**, **Jorge Rebaza** (2004 SMSU Teaching Fellowship)

External Grant: **Larry Campbell** (with **Terry Goodman**, CMSU; Missouri DESE, *Collaborative STEP in Southwest Missouri*)
(Submitted by Yungchen Cheng)

Truman State University (Kirksville)

Truman Receives NSF grant to Support its Mathematical Biology Initiative.

The grant supports a program of extended interdisciplinary research experiences for cross-disciplinary teams of undergraduates that will be mentored by cross-disciplinary teams of faculty from mathematics and biology. Each year the program will engage a minimum of ten sophomores, juniors, and seniors in the entire research enterprise. Proposed projects represent a wide array of biological and mathematical sub-disciplines and will expose all participants to a broad spectrum of research modes and techniques (i.e., molecular-, cellular-, organismal-, and population/community-level questions within biology; and analytic, modeling, visualization, and statistical questions within mathematics).

Students will participate in cross-disciplinary teams of two undergraduates (one biology major and one mathematics major), and each team will be mentored by a pair of faculty members consisting of a biologist and mathematical scientist. Each student-faculty team will pursue interdisciplinary research questions, as well as engage in a series of programmatic activities designed to foster both intellectual independence and professional and social interaction within the cross-disciplinary student cohort, and to establish long-term collaboration among mathematics and biology faculty.

The proposed program goes beyond a 10-week summer experience by maintaining the student cohort's activities into the adjacent academic year. The program is designed to continue to deeply engage students and faculty teams during the academic year, in both sustained research and community-building activities.

The NSF program under which the award was issued is the "Interdisciplinary Training for Undergraduates in Biological and Mathematical Sciences (UBM) program". The project is directed by **Jason Miller**, Associate Professor of Mathematics (PI), **Jon Beck**, Associate Professor of Computer Science (co-PI), **Michael Kelrick**, Professor of Biology (co-PI), and **Jeffrey Osborn**, Professor of and Convener of Biology (Co-PI); these faculty will also actively guide research students. Other faculty members who will be involved as research mentors for undergraduates include the following: **Brent Buckner**, Professor of Biology, **Scott Burt**, Assistant Professor of Biology, **Dean DeCock**, Assistant Professor of Mathematics, **Laura Fielden**, Associate Professor of Biology, **Jon Gering**, Assistant Professor of Biology, **Hyun-Joo Kim**, Assistant Professor of Mathematics, **Phil Ryan**, Associate Professor of Mathematics, and **Scott Thatcher**, Assistant Professor of Mathematics.

Truman's Mathematical Biology Initiative has the support of several regional industries and research institutions such as A.T. Still University of Health Sciences (Kirksville, MO), the Donald Danforth Plant Science Center (St. Louis, MO), the University of Missouri Bioinformatics Consortium (Columbia, MO), the Missouri Biotechnology Association, Monsanto (St. Louis), and others.

Further information about Truman's Mathematical Biology Initiative can be found on-line at <http://mathbio.truman.edu>.

University of Missouri-Rolla

1. We hired two new Instructors beginning this fall, **David Leach** and **Kimberly Kinder**.

Kim Kinder: She received an MS in Education, Central Missouri State U., 1988, and has taught high school mathematics in Montrose, Slater, and since 1993, Cuba (MO). She has been an Adjunct Instructor for East Central College, Columbia College, and UMSL. She also has considerable professional experience attending and presenting workshops, both subject matter and teaching related, and many of these deal with the use of technology in teaching mathematics and some deal with grant writing.

David Leach: He received an MS in Applied Mathematics, Santa Clara University, 1994, and has worked for General Electric, IBM, and Bank of America; He taught mathematics (full time) at Western Nebraska Community College, and since 2000 at Jefferson College in Hillsboro. He has been a panelist for NSF's CCLI (Center for Curriculum Learning and Instruction) and STEP (The Science Technology Engineering and Mathematics Talent Expansion Program) programs.

2. **Dr. Martin Bohner** was promoted to Associate Professor with tenure.
3. **Dr. Roman Dwilewicz** (already Associate Professor) was awarded tenure.
4. **Dr. Steve Clark** is on sabbatical this fall at Baylor.
5. **Dr. Ilene Morgan** and **Dr. Gaoxiang Gan** are also on leave this fall. (Submitted by Leon Hall.)

The **MAA Missouri Section Newsletter** is published in October, March, and May each year. This Newsletter is also available on the Missouri Section Home Page which can be accessed through <http://cte.rockhurst.edu/brandtk/momaa/>.

If anyone would like to read future issues of MAA Missouri Section newsletters online rather than receiving a hard copy, then please contact me at jbruening@semo.edu. This will save the Section additional printing costs. Thank you.