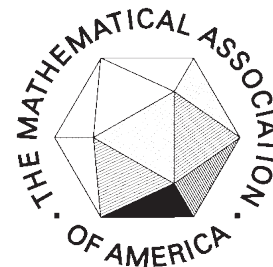


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Michigan Section – MAA NEWSLETTER

Volume 37, Number 2

April 2011

**Michigan Section Annual Meeting
Western Michigan University
May 6–7, 2011**

**Coming to
Kalamazoo ...**

Dan LaDue
*Common Core State Standards
Initiative for Mathematics in
Michigan*

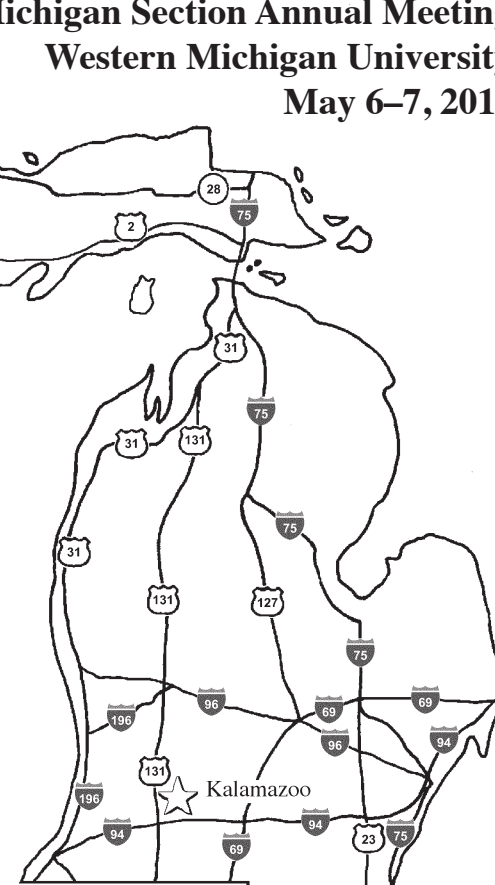
Erik Demaine
*Algorithms Meet Art, Puzzles, and
Magic*

Ivars Peterson
Möbius Madness

Michael Dorff
Moving Through Dimensions

Paul Zorn
Extreme calculus

... and much more



ALSO IN THIS ISSUE:

54rd Annual Michigan Mathematics Prize Competition

Mathematical Association of America
Michigan Section Newsletter
Volume 37, Number 2

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www.michmaa.org

Abbreviations

C = College	MTU = Michigan Technological U
CC = Community College	NMU = Northern Michigan U
CMU = Central Michigan U	OU = Oakland U
EMU = Eastern Michigan U	SHU = Siena Heights U
FSU = Ferris State U	SVSU = Saginaw Valley State U
GVSU = Grand Valley State U	U = University
KU = Kettering U	UDM = U of Detroit Mercy
LSSU = Lake Superior State U	UM = U of Michigan
LTU = Lawrence Technological U	WMU = Western Michigan U
MSU = Michigan State U	WSU = Wayne State U

Calendar of Events

April 13–16, 2011	NCTM Annual Meeting, Indianapolis, IN
May 6–7, 2011	Michigan Section Meeting, WMU
August 4–6, 2011	MAA MathFest, Lexington, KY
November 10–13, 2011	AMATYC Annual Meeting, Austin, TX
January 4–7, 2012	MAA/AMS Annual Meeting, Boston, MA
August 2–4, 2012	MAA MathFest, Madison, WI
November 8–11, 2012	AMATYC Annual Meeting, Jacksonville, FL
January 9–12, 2013	MAA/AMS Annual Meeting, San Diego, CA
August 1–3, 2013	MAA MathFest, Hartford, CT
Oct. 31–Nov. 3, 2013	AMATYC Annual Meeting, Anaheim, CA
January 15–18, 2014	MAA/AMS Annual Meeting, Baltimore, MD
August 7–9, 2014	MAA MathFest, Portland, OR
November 20–23, 2014	AMATYC Annual Meeting, Nashville, TN
January 10–13, 2015	MAA/AMS Annual Meeting, San Antonio, TX
August 5–8, 2015	MAA MathFest, Washington, DC

Organizational Web sites

Michigan Section–MAA	www.michmaa.org
MAA	www.maa.org
NCTM	www.nctm.org
MCTM	www.mictm.org
AMATYC	www.amatyc.org
MichMATYC	www.michmatyc.org
MMPC	www.svsu.edu/mmpc
MiNExT	www.math.hope.edu/pearson/minext.html

Annual Meeting, May 6–7

The Annual Meeting of the Michigan Section of the MAA and MichMATYC (the Michigan Mathematical Association of Two-Year Colleges) will be held on Friday and Saturday, May 6–7, 2011 at Western Michigan University in Kalamazoo. The Program Committee is delighted to announce an exciting collection of plenary, local-invited, and contributed talks that are devoted to interesting results in mathematics as well as the teaching and learning of mathematics.

As in recent years, in order to save on printing costs, an advance copy of the meeting program is not included in the Spring *Newsletter*. Details about the schedule, program, and abstracts are available on the program Web page: www.calvin.edu/~mdb7/2011MAA/michMAA11-welcome.html. The page also can be accessed through the Section Web site: www.michmaa.org. As usual, a printed version of the program (including abstracts) will be provided at the meeting.

The meeting begins Friday morning with a local-invited talk by **Ping Zhang** from the host institution titled “Graph theory: 275 years and counting”. Ping’s research is in the areas of algebraic combinatorics and graph theory, and her doctoral students have been regular speakers at Section meetings. Also Friday morning are local-invited talks by **Michael Merscher** (LTU) and **Jack Rotman** (Lansing CC). Michael is the Section’s 2010 winner of the Distinguished Teaching Award and will speak on “Products of sines”. Jack has twice chaired the AMATYC Developmental Mathematics Committee and will speak on “General Education Mathematics: Really Mathematics? Filter or Enabler?”.

At the Friday luncheon, **Dan LaDue**, Education Consultant for High School Mathematics at the Michigan Department of Education, will speak on “Common Core State Standards (CCSS) Initiative for Mathematics in Michigan”. This talk details the implementation of CCSS in Michigan and describes the CCSS impact and opportunities for learning mathematics at all levels. The Friday and Saturday luncheons will be at the Fetzer Center, a short walk from Rood Hall, where the rest of the meeting will be held.

For the Friday afternoon plenary talk, **Erik Demaine**, from the Mas-



sachusetts Institute of Technology, will give a presentation titled “Algorithms meet art, puzzles, and magic”, in which the audience is expected to participate in live magic demonstrations. Erik might be familiar from his Earle Raymond Hedrick Lectures given at MathFest 2008 or from his appearance in the documentary *Between the Folds* about mathematics and origami. He is also winner of a MacArthur Fellowship and co-author of the book *Geometric Folding Algorithms: Linkages, Origami, Polyhedra*. He comes as a Pólya Lecturer with support from the MAA.

At the Friday awards banquet, **Ivars Peterson** delivers the evening address, “Möbius madness”, about the history and the appearances and applications of the Möbius strip. Ivars is an award-winning mathematics writer and currently is Director of Publications and Communications at the MAA. The awards banquet and evening address will be held at the Fetzer Center as well.

Saturday opens with a plenary talk by **Michael Dorff** from Brigham Young University titled, “Moving through dimensions: shortest paths, soap bubbles, and when does the derivative of the area equal perimeter?”. Michael directs the Center for Undergraduate Research in Mathematics and is a 2010 winner of the MAA’s Deborah and Franklin Tepper Haimo Award. In a Friday contributed session, he is speaking on “What we are doing to increase the number of students taking mathematics courses and becoming math majors?”.

Also Saturday morning are local-invited talks by **Teena Gerhardt** (MSU) and **David Murphy** (Hillsdale C). Teena holds a joint appointment in the Mathematics Department and Lyman Briggs College and is speaking on “Brussels sprouts and bridges: exploring the Euler characteristic”. David is currently president of Michigan NExT, the Section’s Project NExT program, and is speaking on “Euler’s sum of like powers conjecture: history and related problems”.

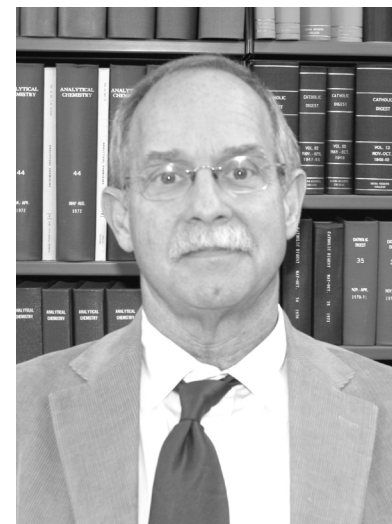
The meeting ends with a lecture by **Paul Zorn**, President of the MAA and from St. Olaf College, which will conclude the Saturday luncheon. Paul’s talk is titled “Extreme calculus” and is a tour of some of the deeper ideas and mathematical techniques that arise from topics in calculus. From 1996 to 2000, he was editor of the MAA journal *Mathematics Magazine*, and his talk will give references to MAA publications and resources that can support taking elementary calculus to its “extremes”.

As in previous years, the meeting includes 20-minute contributed talks covering a variety of topics in mathematics and mathematics education. This includes sessions devoted to talks by undergraduate and graduate students. Please continue to encourage your students to give a talk. As

Annual Meeting continued on page 5

Chairperson’s Report

As your semester winds down it is time to think about, and register for, the Annual Meeting of our Section. This is a great opportunity to relax with your colleagues across the state and enjoy stellar talks, conversations, and debates about mathematics and teaching. This year’s conference will be held on the campus of Western Michigan University (Go Broncos!) on Friday and Saturday May 6–7. Co-Chairs **Mike Bolt** (Calvin C) and **Kristin Chatas** (Washtenaw CC), along with the rest of the program committee, have fashioned an exciting program with a wide variety of invited speakers and contributed talks. We are



grateful to **Dennis Pence** (WMU) and to the local arrangements committee in planning the local arrangements and logistics for the meeting. As a reminder, **David Murphy** (Hillsdale College) is planning on activities for MiNExT. Please encourage all your colleagues to join us for the meeting this year and extend an invitation to your newer colleagues to participate in the Section NExT activities as well. At the national level, the MAA has identified a need to get more graduate students involved in the organization. If graduate students participate in the MAA as students, it is likely they will carry on their participation when they become faculty. It is important that faculty members at all levels become involved professionally in mathematical organizations. With budgets very tight, Section meetings are becoming an even more viable opportunity for us to meet professionally. Full details of the meeting are available by following the link at the Michigan Section Web site www.michmaa.org; there is also a paper registration included in this *Newsletter*. For those planning for next year as well, the 2012 meeting will be held at Saginaw Valley State University; **Hasan al-Halees** (SVSU) has told me he has already booked the meeting rooms!

This past February, the Michigan Section supported the 2011 Concurrent Conferences on Mathematics Education Math In Action: Strategies for Student Success and Conversations among Colleagues: Common Core Standards: Implications for Mathematics Education held on the campus of GVSU. As in the past, the conference was designed to foster communica-

Chair’s Report continued on page 6

Two-Year College Vice Chair's Report

On October 5, 2010, **President Barack Obama** summoned leaders from the business world, community college institutions and philanthropic groups to clarify and discuss ways to improve the impact community colleges have on our society. The president pledged an additional \$500 million per year over the next four years of financial support for community colleges. In addition, the President would like to see an additional five million graduates come from community college by the year 2020.



Community colleges around the country are taking this opportunity to look at new program and certificate opportunities that might exist for the future. Efforts are also in place to improve success and retention of students attending community colleges. Washtenaw Community College is working hard to look to the future, including participation in the "Achieving the Dream" project. To this end, WCC (Ann Arbor, MI) is joining more than 130 community colleges in 24 states to improve completion rates for students limited by socio-economic barriers. The initiative, "Achieving the Dream", provides consultants and coaches to select two-year colleges across the country to expand data collection, conduct program evaluations, and share best practices. Until now, participation in the initiative has been by invitation only.

With funding from the New Economy Initiative, a philanthropic effort to transform southeast Michigan into an innovation-based economy, WCC will have access to experts to create new opportunities for institutional research and program evaluations to ensure that the College is doing all it can to help at-risk students achieve their academic goals. "This partnership is the capstone to outreach efforts WCC has already put in place to serve at-risk students," said **President Larry Whitworth**.

One of WCC's most successful outreach programs is the Harriet Street Center in Ypsilanti, which introduces children as young as five to the College through youth enrichment classes. That programming will expand this summer to include the Parkridge Community Center. The Harriet Street Center is also the place where middle and high school students benefit from special mentoring opportunities. And in another popular program, middle

school students from Ypsilanti visit campus for a unique introduction to higher learning called "College is My Future."

Nine other community colleges in Michigan will participate in the Achieving the Dream initiative. They include Delta College and Glen Oaks, Grand Rapids, Lansing, Montcalm, Mott, Muskegon, Oakland, and St. Clair community colleges.

It is exciting to think about the new possibilities that exist with the support of the federal government through increased funding and through grant opportunities like "Achieving the Dream". There is great opportunity for community colleges to begin working together with the overall goal of improving the experience and outcomes for students.

Kris Chatas, Two-Year College Vice Chair

Annual Meeting continued from page 2

started at last year's meeting, the **Ron Mosier Memorial Award** will be presented to the student(s) with the most outstanding talk. The deadline for student abstracts is March 28. As of this writing, there remains space in the program for additional contributed talks by faculty. So contributions from faculty and students will be accepted beyond the deadlines as long as space permits. Abstracts can be submitted electronically at the Web page mentioned above, or else by e-mail to mbolt@calvin.edu.

An important aspect of the meeting is the book exhibits from the MAA and from other publishers. Because of concerns about sales tax liability, the Washington office of the MAA has announced that there will be no "cash and carry" book sales at Section meetings. MAA books will still be displayed and available for purchase, but all books will be shipped from the Association's headquarters after the meeting ends.

Note that reservations for meals must be received by April 29. Please also be aware that the Executive Committee has decided to continue with the \$25 meeting registration fee for faculty attending the meeting in order to offset rising costs. (The fee is waived for students.) This registration fee is in addition to the regular \$15 annual Section dues.

Special thanks are due to the local arrangements committee consisting of chair **Dennis Pence**, **Steven Mackey**, **Annegret Paul**, and **Laura Van Zoest** from WMU, and **John Fink** from Kalamazoo C. They have done a great job getting many important conference details in order. The program committee consists of chair **Mike Bolt** (Calvin C), **Kris Chatas** (Washtenaw CC), **Dan Isaksen** (WSU), and **Dennis Pence** (WMU). We look forward to seeing you at WMU!

Mike Bolt, Four-Year College Vice Chair

Chair's Report continued from page 3

tion among the many parties responsible for the mathematics education of teachers—college and university mathematicians and mathematics educators, K–12 mathematics supervisors, curriculum directors, and classroom teachers who mentor teacher interns. Co-chairs **Charlene Beckmann** and **Karen Novotny** and host GVSU are to be commended for their work in offering these opportunities for our Section and students.

John Kiltinen (NMU) chaired the Upper Peninsula Regional Meeting. Many of us are unaware of the hard work and importance of this conference. As all of us know, in today's economic environment, it is very difficult for us to attend professional development opportunities. A significant service of MAA sections is the support of annual and regional conferences for our members. Thank you John and all the people who helped and supported your efforts to keep our Upper Peninsula members connected and providing this opportunity for all our members. I appreciate the special efforts of so many of our UP colleagues to attend the Annual Meeting and applaud their efforts to organize a regional meeting of their own.

The Michigan Mathematics Prize Competition (MMPC) is another important and exciting event for the Michigan Section. Hasan al-Halees (SVSU) is currently serving his last term as the Director of the MMPC. We are deeply grateful to Hasan for the work that he accomplished and the continued success of the MMPC and the thousands of high school students who participate. **Stephanie Edwards** (Hope C) has agreed to assume the leadership following Hasan's expired term. Thank you Stephanie.

The 13th Annual Michigan Undergraduate Mathematics Conference (MUMC) sponsored by the Section this Fall was held at Grand Valley State University and was organized by **Firas Hindeleh**, **Akalu Tefera**, and **Paul Fishback** (GVSU). Thanks to the organizers and GVSU for providing this excellent opportunity for our undergraduate students and faculty alike.

As is evident, it takes many committed people to keep the Michigan Section functioning smoothly. We are always looking to find a new volunteers and members, so if you are interested in serving or would like to nominate someone, let us know and encourage your colleagues to join us as well. I would like to extend a special thanks to the Executive Committee members: Mike Bolt (Calvin C), Kristin Chatas (Washtenaw CC), (Albion C), **Darin Stephenson** (Hope C), **John Fink** (Kalamazoo C), **Norm Richert** (Mathematical Reviews), Hasan Al-Halees (SVSU), **Bob Xeras** (SHU), and **Sid Graham** (CMU).

We look forward to seeing you in Kalamazoo at the Annual Meeting.

Tim Husband, Chair

Governor's Report

Here are two highlights from the Board of Governors meeting at the Joint Math Meetings in New Orleans last January. Both of them point to an increasing interest in broadening the reach and widening the impact of the mathematical community.

The first was the discussion of an interim report from the Strategic Planning Working Group on SIGMAAs (Special Interest Groups of the MAA). These are communities of colleagues who share a common interest consistent with the MAA mission. The first of these was formed in 1999. Membership numbers range from 150 (for the brand new Math Circles SIGMAA) to over 500 (for the more seasoned SIGMAAs representing research in undergraduate mathematics education and the history of mathematics.) There are nine other interests represented by these communities: Math and the Arts; Business, Industry, and Government; Mathematical and Computational Biology; Environmental Mathematics; Philosophy of Mathematics; Quantitative Literacy; Statistics Education; Teaching Advanced High School Mathematics; and Mathematics Instruction using the Web.

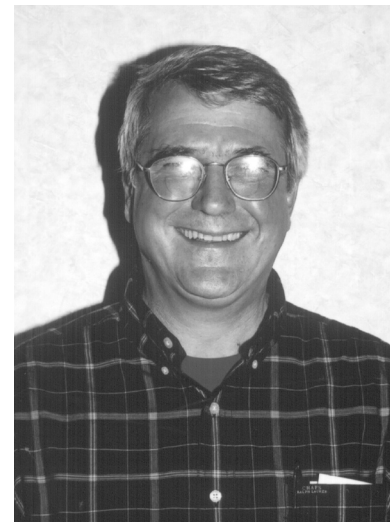
This was part of a larger discussion of the nature of "community" in this electronic age. As each SIGMAA uses a listserv to facilitate information and discussions among members, some saw these as an early version of an "e-community." In the spirit of widening the reach of the mathematical community, others asked if it might be possible to have SIGMAA membership independent of MAA membership. Project NeXT was cited as a good model for this kind of arrangement.

The second highlight was a discussion of a new category of membership intended especially for high school teachers who teach "serious" math.

Both of these discussions point to the possibilities for a much larger understanding of "mathematical communities."

I look forward to seeing many of you at the Spring meeting in Kalamazoo. It looks like a wonderful list of speakers on the schedule for the Spring meeting in Kalamazoo. I hope to see many of you there.

John Fink, Governor



Secretary/Treasurer's Report

I would like to thank everyone who has sent in a voluntary section dues payment for 2010–2011. At this time there are 126 dues-paying members. Fifty-one of these are sustaining members, who have paid dues of \$30 or more. The list of sustaining members can be found on page 28. We were facing a bit of a cash flow problem last Fall, and it was good to see members step up and help solve it. In these challenging financial times, your willingness to support the activities of the Section is especially appreciated. The Michigan Section's current bank balance is \$3911.61, which is back in line with recent Spring balances. We continue to have a good balance of income and expenses, and the Section is in sound financial shape.



In addition, we now have 23 institutional members. This list can be found on page 29. If your school is not listed, you might want to remind your department chair to attend to this matter. If you have not yet sent in a dues payment and wish to do so, the membership form can be found on page 29.

	3/'07	3/'08	3/'09	3/'10	3/'11
<i>Dues-paying members</i>	92	90	90	85	75
<i>Sustaining members</i>	50	50	44	51	51
<i>Institutional members</i>	26	28	24	17	23

There is a change in procedures for the MAA book sale at the Annual Meeting. Due to concerns about sales tax liability, the Washington office has announced that there will be no “cash and carry” book sales at Section meetings. MAA books will still be displayed and available for purchase, but all books will be shipped from the Association's headquarters after the meeting ends. The MAA marketing officials and I apologize for this inconvenience. I will do my best to get orders processed quickly so that books you purchase will be in your hands as soon as possible.

If you have any questions regarding the Section's finances, please feel free to contact me.

Mark Bollman, Secretary/Treasurer

Michigan NExT

The 2011 Michigan NExT Symposium will be held on the afternoon of Saturday, May 7, on the campus of Western Michigan University. It will take place after the lunch at the close of the Section's Annual Meeting. The title of this year's symposium is “Innovations in teaching: the uses of technology in and out of the classroom”. Please consult the Michigan NExT Web page www.hillsdalesites.org/personal/dmurphy/MiNExT2011.html for more information as it becomes available. While we extend a special invitation for pre-tenure faculty members at Michigan colleges and universities to participate, we encourage broad participation from any faculty members who are interested in the increasing role and use of technology in math education.

To register for the symposium, please e-mail **David Murphy** (dmurphy@hillsdale.edu) by Wednesday, April 27.

David Murphy, Hillsdale C

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Teaching Award Nominations Sought

The Distinguished Teaching Award Committee—**Eddie Cheng** (OU), **Lisa DeMeyer** (CMU) and **Mike Merscher** (LTU)—is pleased to announce that the 2011 recipient of this award is **Andrew Ross** from EMU.

Andrew will join the continuing members of the Distinguished Teaching Award Committee (Lisa and Mike) to select next year's recipient of the award. Nominations for the 2012 award will be accepted beginning in the Fall. Completed nominations must be received by November 1, 2011 to be considered for the 2012 Award. A complete description of the process can be found at the Michigan Section Web site at www.michmaa.org/awards.html. The person that the committee selects will receive the Michigan Section Award for Distinguished College or University Teaching of Mathematics at the Annual Meeting of the Michigan Section, and will also, upon receipt of additional supporting material, become the Michigan Section nominee for the national MAA Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching of Mathematics. Information about the additional supporting material that is required can be found at www.maa.org/awards/Haimo_NF.pdf.

Eddie Cheng, OU

Student Chapter News

Alpena Community College

Sigma Zeta Math/Science honor society inducted 10 new student members. This semester, we inducted our 100th member. The organization was started in the Fall of 2007. The members enjoyed a tour of the Silverado plant in Flint last month and will be helping with the Science Olympiad.

Schoolcraft College

The Math and Physics Club has been meeting twice monthly this year, with student **Matt Cornett** as President. Activities include work on mathematics challenges and contests; hosting a March 18 talk by Schoolcraft alumnus **Larry Choraszewski** on elliptic curves and their uses in public key cryptography; and creating demonstrations for an April 2 Science Day for local middle-school students.

Webmaster's Report

During the period from October 20, 2010 to February 20, 2011, the Section's Web site had 1537 visits and 2526 page views. The Section's top five sources for this time were as follows.

Google	614 visits	40% of all visits
Direct traffic	455	30
Google.com referral	116	8
Sections.maa.org	80	5
Yahoo	49	4

The page viewed most often was the index page, which accounted for 35% of all page views. Various issues of the *Newsletter* accounted for 21.8% of all views, and the history of the MMPC accounted for 8.6% of all views. The most common keywords in searches were "MAA Michigan" and "Kevin Wu".

Sid Graham, CMU

MAA Campus Liaisons

To make sure you are informed about all the things happening in the Michigan Section-MAA, please make sure you know who your departmental MAA Liaison is and that you receive periodic updates from your liaison. If your department is without a liaison, please consider volunteering: it's not an overwhelming task and you'd be providing a valuable service to your colleagues and the Michigan Section.

If you have any questions, please contact David Austin at austind@gvsu.edu. Thanks!

David Austin, GVSU

WMU in May

New Officers to be Elected at Annual Meeting

The annual business meeting of the Michigan Section-MAA will take place at 5:00 p.m. on Friday, May 6, 2011 at Western Michigan University during the Annual Meeting. One of the major items of business is the election of officers. The Nominating Committee, chaired by **Darin Stephenson** (Hope C), will propose a slate of candidates. **Mike Bolt** (Calvin C) will be nominated for Chair. **Dan Isaksen** (WSU) will be nominated for Four-Year College Vice Chair. **Kristin Chatas** will be nominated for a second term as Two-Year College Vice Chair. Nominations from the floor are also accepted (permission of the nominees should be secured in advance). The Annual Meeting will also have reports on Section activities during the year, as well as an opportunity for members to raise other issues.

The Nominating Committee is listed on page 31.

Darin Stephenson, Hope C

Positions Available

NOTE: Most positions in the mathematical sciences, including many of the ones listed here, are advertised in Employment Information in the Mathematical Sciences (www.ams.org/eims). The MAA also has a Web site for employment opportunities (www.maa.org/pubs/employ.html). All openings are for Fall 2011 unless otherwise stated, and further information is available from the department.

Saginaw Valley State University (www.svsu.edu/hr/employment) is in the process of filling a tenure-track position at the rank of Assist. Prof.

Schoolcraft College (www.schoolcraft.edu/hr) anticipates a posting this Spring for a full-time instructor specializing in developmental mathematics.

WMU in May

Doctoral Studies at Central Michigan University

Ph.D. with Concentration in the Teaching of College Mathematics

This Ph.D. is a content-based degree designed to prepare individuals for a career in college teaching. The program consists of broadly distributed coursework, professional pedagogical components, teaching internships, and a dissertation. Areas of research strength include applied mathematics, approximation theory, combinatorics, fluid dynamics, functional analysis, operator theory, number theory, algebraic geometry, algebra, differential geometry, statistics, and mathematics education. For information contact: Graduate Coordinator, Department of Mathematics, Central Michigan University, Mt. Pleasant, MI 48859; phone 989-774-3596, fax 989-774-2414, mthgrad@cmich.edu, www.cst.cmich.edu/units/mth.

CMU, an AA/EQ institution, is strongly and actively committed to increasing diversity within its community (www.cmich.edu/aaeo.html).

University of Michigan Biostatistics Department MS, MPH, PhD Degree Programs

Our department offers training in the development and application of statistical and mathematical methods to the design and analysis of biomedical research. We offer course work leading to the degrees of Master of Science, Master of Public Health, and Doctor of Philosophy. We have a large number of funding opportunities for our students including graduate student instructorships, graduate student research assistantships, training grants, scholarships, and fellowships. The faculty conduct cutting-edge research in bioinformatics, imaging, longitudinal data, missing data, survival analysis, statistical genetics, and many other areas. Our graduates have great job opportunities in fields such as government, industry (e.g. biotech, pharmaceuticals), medical research institutions, and universities.

For detailed information on our programs and to find out how to apply go to: www.sph.umich.edu/biostat.

For further information, please contact sph.bio.inquiries@umich.edu.

MMPC Honors Top High School Students

A total of 100 Michigan high school students, from 39 different schools, were honored for their achievement in the 54th Annual Michigan Mathematics Prize Competition at the MMPC Awards Day program, held on Saturday, February 26, 2011 at Saginaw Valley State University. This is the third year of the three-year term of the MMPC Director, **Hasan Al-Halees** (SVSU).

Keith S. Promislow (MSU) spoke on “Energy methods for energy conversion: life is about flowing down hill”, and **Lizhen Ji** (UM-Ann Arbor) spoke on “Mathematics: what, why and how?”

The first-place Gold Award winner was **Allen Yuan** (Detroit Country Day). The second-place Gold Award winner was **Zhuo Song** (Detroit Country Day). The third-place Gold Award winner was **Peter Su** (Salem High School). The first-level Silver Award was shared by **Mason Liang** (Troy High School) and **Heemyung Hwang** (Ann Arbor Huron High School), the second-level Silver Award was shared by **Siddhant Dogra** (Detroit Country Day) and **Joseph Renzi** (University Liggett School), and the third-level Silver Award was shared by **Khetpakorn Chakarawet** (Cranbrook Kingswood), **Randy Jia** (Detroit Country Day), and **Sachin Padmanabhan** (Novi High School). There were 40 Bronze Award winners, and 50 students received an Honorable Mention. The top female winner was Heemyung Hwang.

The top 50 students, from 21 different schools, received \$20,000 in scholarships ranging from \$250 to \$2,500. The Honorable Mention winners this year received \$25 gift cards. Part I of the competition, a 40-question multiple choice test, was administered on October 6. The top 1136 participants in Part I were invited to participate in Part II on December 1. There were 1079 participants in Part II.

Grading day was on January 15. A total of 50 faculty members from universities and colleges throughout Michigan donated their time to carry out the grading process. The official Web site of the MMPC, www.svsu.edu/mmpc, contains information about the competition including scheduling, registration materials, and previous exams and their solutions.

WMU in May

MMPC Top 100 Statistics

- The top Gold Award winner, **Allen Yuan**, a senior, was the top Gold Award winner the past two years. The second-place Gold Award Winner, **Zhuo Song**, is an 8th grader, and was a second-level Silver Award winner last year. The third-place Gold Winner, **Peter Su**, is a junior, and was a first-level Silver Award winner last year.
- Of the seven Silver Award winners, four are seniors, one is a junior, and two are sophomores.
- **Heemyung Hwang**, the top female winner, was also the top female winner last year.

Top MMPC Results for Each Grade

Grade	Place	Score	Grade	Place	Score
12	1	95.4	8	2	94.2
11	3	89.8	7	54	54.0
10	6	84.0	6	42	58.4
9	12	77.8			

Top 100 Results by Grade

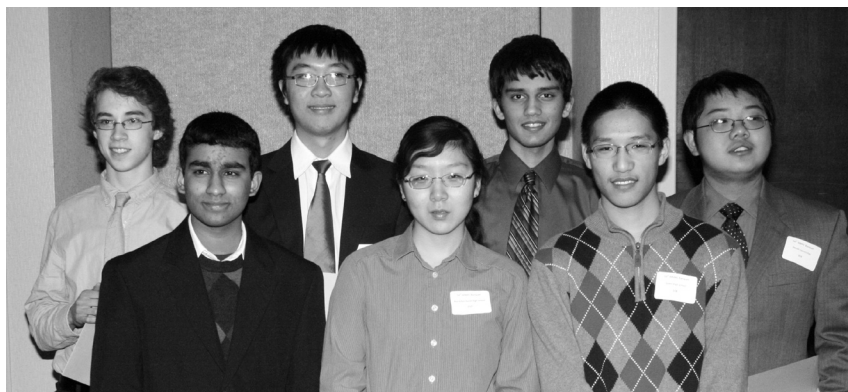
Grade	Total	12	11	10	9	8	7	6
# in Top 100	100	35	24	25	12	2	1	1

Top 100 Results by Gender

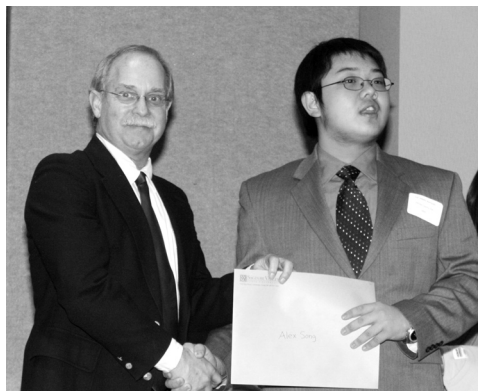
Grade	Total	M	F
Scholarships	50	44	6
Honorable Mention	50	41	9
Total	100	85	15

- A student's score is the sum of the Part I score (out of 40) plus 1.2 times the Part II score (out of 50).
- The cutoff score to qualify for Part II this year was 20 (out of 40).
- The cutoff score to make the top 50 of the competition this year was 55.8.
- 27% of those who qualified for Part II were females.

MMPC Awards Day, Saginaw Valley State University, February 26, 2011



Gold and Silver Award Winners (l to r): Joseph Renzi, Sachin Padmanabhan, Khetpakorn Chakarawet, Heemyung Hwang, Siddhant Dogra, Peter Su, and Zhou Song.



Section Chair Tim Husband recognized Second Place Gold Winner Zhuo Song.



Outgoing MMPC Director Hasan Al-Halees welcomed incoming Director Stephanie Edwards (Hope C). Former Director Eddie Cheng (OU) joined the welcoming.



The schools of the Top 100 were recognized, and the supervisors in attendance received certificates.



Lizhen Ji spoke on "Mathematics: what, why, and how?" in the afternoon.



Ruth Favro recognized the top female winner, Heemyung Hwang.



Curtis Hall was the setting for the banquet.

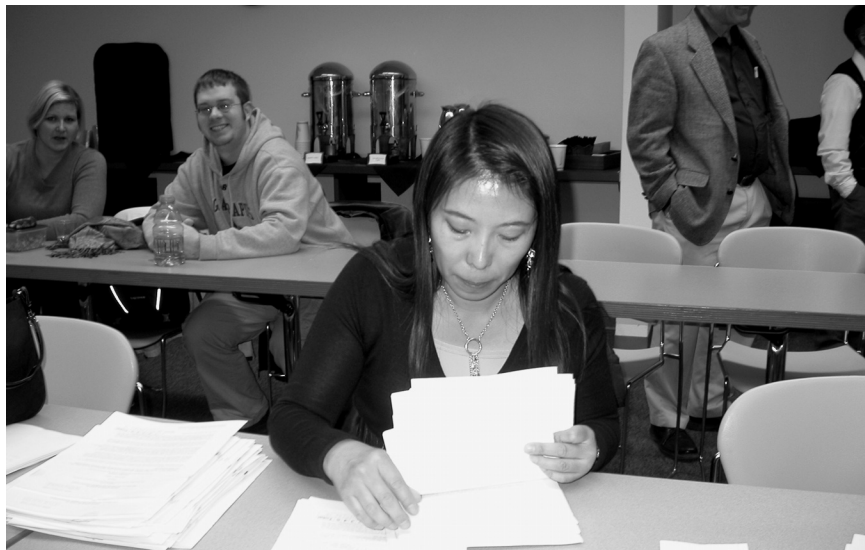


Andrea Kriz of Ann Pioneer H.S. described her experiences at the ARML competition and encouraged others among the Top 100 to take part.

54th MMPC Part II Problems

The top 1000 students had 100 minutes to solve these five problems.

1. Let $x_1=0$, $x_2=1/2$ and for $n \geq 3$, let x_n be the average of x_{n-1} and x_{n-2} . Find a formula for $a_n = x_{n+1} - x_n$, $n=1, 2, 3, \dots$. Justify your answer.
2. Given a triangle ABC . Let h_a , h_b , h_c be the altitudes to its sides a , b , c , respectively. Prove: $1/h_a + 1/h_b > 1/h_c$. Is it possible to construct a triangle with altitudes 7, 11, and 20? Justify your answer.
3. Does there exist a polynomial $P(x)$ with integer coefficients such that $P(0)=1$, $P(2)=3$, and $P(4)=9$? Justify your answer.
4. Prove that if $\cos \alpha$ is rational and n is an integer, then $\cos n$ is rational. Let $\beta=\pi/2010$. Is $\cos \beta$ rational? Justify your answer.
5. Let function $f(x)$ be defined as $f(x)=x^2+bx+c$, where b, c are real numbers.
 - (A) Evaluate $f(1) - 2f(5) + f(9)$.
 - (B) Determine all pairs (b, c) such that $|f(x)| \leq 8$ for all x in the interval $[1, 9]$.



Jennifer Zhao (UM-Dearborn) on Grading Day at SVSU.

Thanks from the MMPC Director

I would like to formally thank many of the people who worked behind the scenes to make this competition and awards ceremony possible.

I would like to begin by thanking the examination committee for their hard work throughout Part I and Part II of the MMPC. This includes **Jennifer Zhao** (UMD), **Eddie Cheng** (OU), **Sid Graham** (CMU), and **Hugh Montgomery** (UM-Ann Arbor). I would also like to extend my gratitude to the reviewers who donated time and effort to make sure this year's MMPC was a success. My thanks go to the graders, who volunteered from many universities and colleges throughout Michigan and donated their time even through severe weather to carry out the grading process. I would also like to thank the MMPC supervisors throughout Michigan high schools who served as contacts and were invaluable participants in this process. I would like to thank **Keith S. Promislow** (MSU) and **Lizhen Ji** (UM-Ann Arbor), who gave talks to the MMPC winners on Awards Day. I would like to thank the companies and foundations that donated to this event during the last three years: the MEEMIC Foundation, DTE Energy, Weinlander Fitzhugh, Glass Tender, The World's Best Roof. I would like to thank **Deborah Huntley**, Dean, College of Science, Engineering & Technology, SVSU, for taking time out of her busy schedule to speak to these young mathematicians at the beginning of the banquet. I would like to thank **Lori Williams**, Science West secretary at SVSU, for her valuable help during the last three years of the competition.

Hasan Al-Halees, SVSU

Distinguished Service Award

Past Chair **Darin Stephenson** is delighted to report that **Sid Graham** of Central Michigan University has been selected to receive the Section's 2010–2011 Distinguished Service Award. Details will appear in the Fall 2011 *Newsletter*, and Sid will be recognized at the awards banquet at WMU on Friday, May 6, 2011.

WMU in May

MichiganTech

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Detailed information is available on our Web site:
www.math.mtu.edu/graduate

For more information contact:

Dr. Tom Drummer
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MAA Associate Executive Director Michael Pearson (l.), with a contingent from UM-AA at JMM 2011 in New Orleans: Karen Rhea, Bob Megginson, and Pat Shure.
(Photo by Ruth Favro)

News from the Campuses

Adrian College [reported by Cynthia Grantz]

As part of the Faculty Brown Bag Scholarship Series, two Department faculty members gave lectures at the College this Spring. In February, **Alia Khurram** presented “Mathematics around us”; her talk was based on a course she taught last year, Mathematics in Nature. The topics she presented included: Fermi problems, mathematical models, crepuscular rays, the Fibonacci sequence and the Golden Ratio, bees and honeycombs. **Alan Von Herrmann**’s talk, Physical Attacks in a Physical World, was the Faculty Brown Bag lecture for March. • This Spring the Department has six students working on capstone projects; the students will present their projects in April. **Anthony Aukskalnis**’s project, “Some mathematics behind medical imaging”, studies how Fourier, Radon, and Hilbert transforms play major roles in CAT/MRI scans. **Nathan Cassidy** is utilizing complexity theory, Godel’s Incompleteness Theorems, finite fields, and cryptography in his project, “Applications of complexity theory in public key cryptography”. **Michael Fisher**’s project is “Classical vector analysis”, and his research studies gradient, curl, and Laplacian operators in modern vector analysis. **Anne Hersman** is using ODEs and linear algebra in her project, “Introductory population dynamics of species”. **Perry Kuiper**’s project, “Adaptive dynamics of the prisoner’s dilemma”, is a continuation of his REU research from Summer 2010 at the U of Illinois. **Jason Ransom**’s project, “Some mathematics and music”, uses Fourier’s theory of harmonic analysis to study how a string can vibrate with a number of different frequencies at the same time. [cgrantz@adrian.edu]

Albion College [reported by Mark Bollman]

Paul Anderson has succeeded **Mark Bollman** as department chair. **David Reimann** is on sabbatical this semester, and **Guy Cox**, of Albion’s Ferguson Center for Technology-Assisted Teaching and Learning, is teaching part-time in the department. Once again, the Math/CS Department at Albion encourages people from around the world to show their support of mathematics by wearing plaid on International Plaid Day: April 29, the last Friday of Mathematics Awareness Month. [Mbollman@albion.edu]

Alma College [reported by Mel Nyman]

Students are busy applying for REUs and summer internships. • Mid-term finds faculty busy with mid-term grades, catching up on scholarship and organizing their teaching for the second half of the Winter term. **Andrew Thall** gave a well-received departmental colloquium on “Irrational base discrete weighted transforms for fast integer multiplication”. • **Tim Sipka** once again carried out a successful collegiate MATH Challenge. The competition has grown to include many out-of-state colleges. The monthly High School MATH Challenge keeps him and **Robert Molina** busy as well. Once again, Robert will represent us at the Forty-Second Southeastern International Conference on Combinatorics, Graph Theory, and

Computing in March. • During the Fall term the department hosted six colloquia by departmental alums who work in non-academic settings. [nyman@alma.edu]

Alpena Community College [reported by Dan Rothe]

Our enrollment is down slightly from last spring but still at high levels compared to the five-year average. Our faculty remains stable with no full-time staffing changes except the addition of **Ruth Carol Laugal** on the Huron Shores campus (Oscoda). She is teaching chemistry and math at the Oscoda campus and satellite locations and Hale and Whittemore High Schools. We will be hosting the Regional Science Olympiad on Saturday, March 12. [rothed@alpenacc.edu]

Central Michigan University [reported by Sid Graham]

CMU alumnus **Lon Mitchell**, currently a faculty member at Virginia Commonwealth University, spoke in the departmental colloquium in February. His topic was “Operators on Spaces of Bourgain and Delbaen”. **Tarah Johnson Ross**, **Sunghoon Chung**, **Dave McDowell**, and **Tom Miles** are new instructors for the Spring semester. [sidney.w.graham@cmich.edu]

Eastern Michigan University [reported by Tim Carroll]

John Curran was promoted to Assoc. Prof. • The following gave talks internationally: **Tanweer Shapla** in Bangladesh, **Xiaoxu Han** in South Korea, **Ovidiu Calin** in Hong Kong, and **Juiqiang Liu** in China. [tcarroll@emich.edu]

Grand Valley State University [reported by Paul Fishback]

David Austin, **Shelly Smith**, **Rebecca Walker**, and **Paul Yu** are currently on sabbatical. • GVSU will sponsor its REU program from June 12 to August 7. Faculty participants are **Edward Aboufadel**, **Filiz Dogru**, **Jonathan Hodge**, and **Will Dickinson**. • The 2010 Michigan Undergraduate Conference took place at the Grand Rapids Campus of GVSU on October 9. **Dan Kalman**, American University, gave a wonderful talk entitled “The most wonderful theorem in mathematics”. [fishbacp@mail.gvsu.edu]

Hope College [reported by Todd Swanson]

Aaron Cinzori has assumed the duty of department chair. • **Darin Stephenson** is on sabbatical for the Spring semester, and **Mark Pearson** has returned from a year-long sabbatical. • **Stephanie Edwards** has agreed to become the new director of the MMPC. • **Nathan Tintle** received the “Dean’s Science Division Mentoring/ Advising/ Teaching Award.” This award, selected by a panel of students, recognizes a faculty member who has gone beyond the call of duty in being an exceptional mentor, advisor, and teacher to students. [swansont@hope.edu]

Michigan Technological University [reported by Jeanne Meyers]

Andreas Artemiou (Ph.D. 2010, Statistics from Pennsylvania State U) joined the Department as a tenure-track Assist. Prof. **Cafer Caliskan** joined the Department has a Visit. Assist. Prof. He earned his Ph.D. from Florida Atlantic U in 2010.

Vladimir Tonchev is on sabbatical leave for the 2011 Spring Semester. The following faculty members are on professional leave this academic year: **Huann-Sheng Chen** continues his professional leave at the National Cancer Institute (part of NIH). **Ethan Smith** is a postdoctoral fellow at the Centre de Recherches Mathématiques (CRM) at the U of Montreal. **Yolanda Muñoz Maldonado** has a SAMSI New Research Fellowship at the Statistical and Applied Mathematical Sciences Institute (SAMSI), which is located in North Carolina's research triangle. **Fabrizio Zanella** is spending the calendar year at MIT as a Visit. Scholar/Visit. Prof. conducting research with **Richard Stanley**. [jemeyers@mtu.edu]

Saginaw Valley State University [reported by Anthony Crachiola]

Tyler Haynes will retire this year after 27 years with the department. The department is in the process of filling a tenure-track position at the rank of Assist. Prof. • SVSU hosted the MMPC Awards Day on February 26 (see www.svsu.edu/mmpc/ for details). The annual SVSU high school Math Olympics Competition will be held on March 25. [acrachio@svsu.edu]

Schoolcraft College [reported by Randy Schwartz]

Bradley Stetson's work in e-learning and instructional technology was recently recognized by two national organizations. The Instructional Technology Council (Washington, DC) named Brad as one of its 15 Distinguished Educators for 2011, and the National Institute for Staff & Organizational Development (Austin, TX) has named Brad to receive a 2011 NISOD Excellence Award. [rschwartz@schoolcraft.edu]

University of Michigan-Flint [reported by Ken Schilling]

The Mathematics Department Research Seminar featured a talk by **Divakar Viswanath** of UM-Ann Arbor on "Lorenz equations: from computation towards analysis", and by our faculty members **Cam McLeman** on "Stacking oranges a la Lucas", **Daniel Coffield** on "A model for Chagas disease", and **Kenneth Schilling** on "Derivative arrays". **Laura McLeman** will speak at an NCTM Research Pre-session on "Understanding perceptions using children's thinking activities", and will also speak at the 2011 annual AERA meeting, with the same title. **Daniel Coffield** will speak in a mini-symposium on Vector-borne Diseases at the Annual Meeting of the Society for Mathematical Biology in Krakow on "A model for Chagas disease with vector consumption and transplacental transmission". The department has been conducting a Teaching Circle on the preparation of our secondary mathematics preservice teachers. [ksch@umflint.edu]

MathFest 2011



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Contest News

AMC 8. The MAA Committee on the American Mathematics Competitions (CAMC) is dedicated to the goal of strengthening the mathematical capabilities of our nation's youth. The CAMC believes that one way to meet this goal is to identify, recognize, and reward excellence in mathematics through a series of national contests called the American Mathematics Competitions. What happens before and after the AMC Contests can have lasting educational value. Talents will be enhanced if one practices beforehand: by working through previous examinations, by participating in math leagues, and, most importantly, by studying mathematics more intensely than one normally does in school.

The American Mathematics Contest 8 (AMC 8) for students in grades 8 and below is a 25-question, 40-minute multiple-choice examination in middle school mathematics designed to promote the development and enhancement of problem-solving skills; to demonstrate the broad range of topics available for the junior high school mathematics curriculum; and to promote excitement, enthusiasm, and positive attitudes towards mathematics.

The 2010 AMC 8 Exam was taken by 4323 students (down from 5072 in 2009) from 55 schools in Michigan on November 16, 2010. The overall Michigan average score was 8.78, a half point lower than last year.

Twelve students in Michigan got a perfect score. Among them are one 6th grader and four 7th graders. The 6th grade winner was **Mitchel Huang** from Teams Inc (Novi). The 7th grade winners were **Anil Palepu** from Novi Middle School (Novi) and **Safal Bora, Dhruv Medarametla**, and **Justin Xu** from Boulan Park Middle School (Troy). The 8th grader winners were **Alex (Zhuo Qun) Song** and **Andrew Xu** from Detroit Country Day Middle School (Beverly Hills), **Daniel Gershenson** from Houghton Schools (Houghton), **Raghu Arghal** from Novi Middle School (Novi), **Steven Cheng** from Boulan Park Middle School (Troy), and **Evan Bao** and **Michelle Liu** from Smith Middle School (Troy).

HMMT 2011. The Harvard-MIT Mathematics Tournament (HMMT) is an annual mathematics tournament for high school students, held at MIT and at Harvard in alternate years. With 900 participants, HMMT is one of the largest math contests in the United States. It is run exclusively by MIT and Harvard students. Most of them participated in math contests in high school, and they try to incorporate what they liked best about those competitions into HMMT to make the contest both challenging and entertaining for all the participants. The February 2011 competition was held at MIT on Saturday, February 12. The Michigan HMMT team, Michigan All-Stars, is coached by Detroit Country Day School (DCDS, Beverly

Hills) mathematics teacher and Department Head, **Ross Arseneau**. The team is sponsored by the DCDS Mathematics Competition Club. The team members are **Siddhant Dogra** (DCDS Sophomore), **Rolland He** (Troy Senior), **Heemyung Hwang** (Ann Arbor Huron Senior), **Randy Jia** (DCDS Senior), **Soo-Min Kim** (Troy High School Senior), **Mason Liang** (Troy High School Senior), **David Lu** (DCDS Junior), and **Allen Yuan** (DCDS Senior). Individually the participants chose two of four subjects (Algebra, Geometry, Combinatorics, and Calculus) for their subject test; among them, Allen Yuan and David Lu ranked 4th and 9th respectively for the Algebra/Combinatorics Subject Test, Mason Liang and Randy Jia ranked 15th and 17th respectively for the Algebra/Geometry Subject Test, and Soo-Min Kim ranked 15th for the Geometry/Combinatorics Subject Test. The DCDS and Friends team finished 13th overall in the combined Sweepstakes, with a team ranking of 5th on the subject test team aggregate, 19th in Guts, and 19th on the Team Test.

Ada Dong, OU

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Sustaining Members Listed

The Michigan Section dues structure includes a sustaining individual member category for those who make a \$15 contribution beyond the basic dues rate of \$15. For 2010–2011, as of February 15, the 51 members of the Section listed below are sustaining members. The Section is grateful to those several individuals who generously exceeded the suggested sustaining member contribution. If you have not already sent in your dues, please do so, using the form on page 29, and please be generous!

Edward Aboufadel
Yousef Alavi
Steven Althoen
Curt Baragar
Steve Blair
Mary L. Bragg
Robert Bruner
Joseph Buckley
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Lisa DeMeyer
Peter Duren
John M. Dwyer
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Frank Sherburne
Elliot Tanis
Richard Vandervelde
Gerard Venema
Bette Warren
Robert Wasserman
Deborah Welsh
Clinton Williams
Matt Wyneken
Robert Xeras

Institutional Members

As of February 18, the 23 colleges and universities listed below have begun or renewed their institutional memberships in the Michigan Section for 2010–2011. Tardy institutions and others who wish to join are encouraged to send in their dues, using the form below.

Albion College	Lawrence Technological University
Andrews University	Northern Michigan University
Aquinas College	Oakland University
Calvin College	Olivet College
Central Michigan University	Siena Heights University
Grand Valley State University	Spring Arbor University
Henry Ford Community College	University of Michigan-Dearborn
Hillsdale College	University of Michigan-Flint
Hope College	Wayne State University
Kellogg Community College	West Shore Community College
Lake Michigan College	Western Michigan University
Lansing Community College	

Section Dues: Individual • Institutional

The 2010–2011 individual and institutional membership dues for the Michigan Section are now being accepted. The \$15 individual dues payment (or \$30 contributing member payment) and the \$40 (small school) or \$70 (large school) institutional dues help support the activities of the Section such as its annual meeting and *Newsletter*. This coupon may be used to submit dues payments.

Enclosed is a check for:	Regular Dues	@ \$15	<input type="checkbox"/>
	Contributing Membership	@ \$30	<input type="checkbox"/>
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Name: _____

Institution: _____

Mailing Address _____

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Make checks payable to the Michigan Section–MAA, and mail them to: **Mark Bollman, Secretary/Treasurer, Michigan Section–MAA, Department of Mathematics and Computer Science, Albion College, Albion, Michigan 49224-5013.**

COMMITTEES AND APPOINTMENTS

Michigan Section

Mathematical Association of America

Contact Information

Executive Committee

<i>Chair</i>	Timothy Husband (11)	SHU	thusband@sienaheights.edu	517-264-7647
<i>Vice Chair</i>	Kris Chatas (11)	Washtenaw CC	kchatas@wccnet.edu	734-477-8566
<i>Vice Chair</i>	Michael Bolt (11)	Calvin C	mbolt@calvin.edu	616-526-6719
<i>Sec/Treas</i>	Mark Bollman (13)	Albion C	Mbollman@albion.edu	517-629-0261
<i>Past Chair</i>	Darin Stephenson (11)	Hope C	stephenson@hope.edu	616-395-7524
<i>Governor</i>	John Fink (13)	Kalamazoo C	John.Fink@kzoo.edu	269-337-7062

Michigan Mathematics Prize Competition (MMPC)

<i>Director</i>	Hasan Al-Halees (11)	SVSU	hhalees@svsu.edu	989-964-7108
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Exam Committee:

<i>Chair</i>	Jennifer Zhao (11)	UMD	xich@umd.umich.edu	313-593-4985
<i>Member</i>	Eddie Cheng (12)	OU	echeng@oakland.edu	248-370-4024
<i>Member</i>	Sid Graham (13)	CMU	grahalsw@cmich.edu	989-774-3813
<i>Member</i>	Hugh Montgomery (14)	UM-AA	hlm@umich.edu	734-763-3269

Program Committee: 2011 Annual Meeting

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<i>Co-Chair</i>	Kris Chatas	Washtenaw CC	kchatas@wccnet.edu	734-477-8566
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<i>Member</i>	Dan Isaksen	WSU	isaksen@math.wayne.edu	313-577-2491

Local Arrangements Committee: 2011 Annual Meeting

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<i>Member</i>	Steven Mackey	WMU	steve.mackey@wmich.edu	269-387-4539
<i>Member</i>	Laura Van Zoest	WMU	laura.vanzoest@wmich.edu	269-387-4533
<i>Member</i>	Annegret Paul	WMU	annegret.paul@wmich.edu	269-387-3614

Michigan Section Newsletter

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Distinguished Service Award Committee

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<i>Member</i>	Matt Boelkins (11)	GVSU	boelkinm@gvsu.edu	616-331-3384
<i>Member</i>	Timothy Husband (13)	SHU	thusband@sienaheights.edu	517-264-7647

Distinguished Teaching Award Committee

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<i>Member</i>	Michael Merscher (13)	LTU	merscher@ltu.edu	248-204-3513

Nominating Committee

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<i>Member</i>	Kris Chatas (11)	Washtenaw CC	kchatas@wccnet.edu	734-477-8566

Audit Committee

<i>Member</i>	Chris Gardiner	EMU	cgardiner@emich.edu	734-487-3386
<i>Member</i>	Gerald D. Ludden	MSU	ludden@math.msu.edu	517-353-6335

MMPC Audit Committee

<i>Member</i>	Margret Höft	UM-Dearborn	mhoft@umd.umich.edu	313-593-5007
<i>Member</i>	John Mooningham	SVSU	jwm@svsu.edu	989-964-4183

Organizing Committee: Upper Peninsula Regional Meeting

<i>Chair</i>	John Kiltinen	NMU	kiltinen@nmu.edu	
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Other Appointments and Contacts

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Michigan Section-MAA Web Site

www.michmaa.org

National MAA Headquarters, Washington, DC


www.maa.org, 800-741-9415



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APPLICANT INFORMATION

Prefix	First Name	MI	Last Name
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Street Address 2			
City		State	Zip
Telephone [home and office]		Email	
Year of Birth	Highest Degree Earned	Year Awarded	Awarding Institution
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REMITTANCE**

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A10GENMTG

Annual Meeting, May 6–7

The Annual Meeting of the Michigan Section of the MAA and MichMATYC (the Michigan Mathematical Association of Two-Year Colleges) will be held on Friday and Saturday, May 6–7, 2011 at Western Michigan University in Kalamazoo. The Program Committee is delighted to announce an exciting collection of plenary, local-invited, and contributed talks that are devoted to interesting results in mathematics as well as the teaching and learning of mathematics.

As in recent years, in order to save on printing costs, an advance copy of the meeting program is not included in the Spring *Newsletter*. Details about the schedule, program, and abstracts are available on the program Web page: www.calvin.edu/~mdb7/2011MAA/michMAA11-welcome.html. The page also can be accessed through the Section Web site: www.michmaa.org. As usual, a printed version of the program (including abstracts) will be provided at the meeting.

The meeting begins Friday morning with a local-invited talk by **Ping Zhang** from the host institution titled “Graph theory: 275 years and counting”. Ping’s research is in the areas of algebraic combinatorics and graph theory, and her doctoral students have been regular speakers at Section meetings. Also Friday morning are local-invited talks by **Michael Merscher** (LTU) and **Jack Rotman** (Lansing CC). Michael is the Section’s 2010 winner of the Distinguished Teaching Award and will speak on “Products of sines”. Jack has twice chaired the AMATYC Developmental Mathematics Committee and will speak on “General Education Mathematics: Really Mathematics? Filter or Enabler?”.

At the Friday luncheon, **Dan LaDue**, Education Consultant for High School Mathematics at the Michigan Department of Education, will speak on “Common Core State Standards (CCSS) Initiative for Mathematics in Michigan”. This talk details the implementation of CCSS in Michigan and describes the CCSS impact and opportunities for learning mathematics at all levels. The Friday and Saturday luncheons will be at the Fetzer Center, a short walk from Rood Hall, where the rest of the meeting will be held.

For the Friday afternoon plenary talk, **Erik Demaine**, from the Mas-



sachusetts Institute of Technology, will give a presentation titled “Algorithms meet art, puzzles, and magic”, in which the audience is expected to participate in live magic demonstrations. Erik might be familiar from his Earle Raymond Hedrick Lectures given at MathFest 2008 or from his appearance in the documentary *Between the Folds* about mathematics and origami. He is also winner of a MacArthur Fellowship and co-author of the book *Geometric Folding Algorithms: Linkages, Origami, Polyhedra*. He comes as a Pólya Lecturer with support from the MAA.

At the Friday awards banquet, **Ivars Peterson** delivers the evening address, “Möbius madness”, about the history and the appearances and applications of the Möbius strip. Ivars is an award-winning mathematics writer and currently is Director of Publications and Communications at the MAA. The awards banquet and evening address will be held at the Fetzer Center as well.

Saturday opens with a plenary talk by **Michael Dorff** from Brigham Young University titled, “Moving through dimensions: shortest paths, soap bubbles, and when does the derivative of the area equal perimeter?”. Michael directs the Center for Undergraduate Research in Mathematics and is a 2010 winner of the MAA’s Deborah and Franklin Tepper Haimo Award. In a Friday contributed session, he is speaking on “What we are doing to increase the number of students taking mathematics courses and becoming math majors?”.

Also Saturday morning are local-invited talks by **Teena Gerhardt** (MSU) and **David Murphy** (Hillsdale C). Teena holds a joint appointment in the Mathematics Department and Lyman Briggs College and is speaking on “Brussels sprouts and bridges: exploring the Euler characteristic”. David is currently president of Michigan NExT, the Section’s Project NExT program, and is speaking on “Euler’s sum of like powers conjecture: history and related problems”.

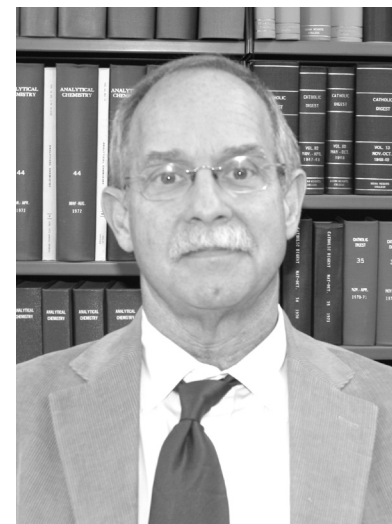
The meeting ends with a lecture by **Paul Zorn**, President of the MAA and from St. Olaf College, which will conclude the Saturday luncheon. Paul’s talk is titled “Extreme calculus” and is a tour of some of the deeper ideas and mathematical techniques that arise from topics in calculus. From 1996 to 2000, he was editor of the MAA journal *Mathematics Magazine*, and his talk will give references to MAA publications and resources that can support taking elementary calculus to its “extremes”.

As in previous years, the meeting includes 20-minute contributed talks covering a variety of topics in mathematics and mathematics education. This includes sessions devoted to talks by undergraduate and graduate students. Please continue to encourage your students to give a talk. As

Annual Meeting continued on page 5

Chairperson’s Report

As your semester winds down it is time to think about, and register for, the Annual Meeting of our Section. This is a great opportunity to relax with your colleagues across the state and enjoy stellar talks, conversations, and debates about mathematics and teaching. This year’s conference will be held on the campus of Western Michigan University (Go Broncos!) on Friday and Saturday May 6–7. Co-Chairs **Mike Bolt** (Calvin C) and **Kristin Chatas** (Washtenaw CC), along with the rest of the program committee, have fashioned an exciting program with a wide variety of invited speakers and contributed talks. We are



grateful to **Dennis Pence** (WMU) and to the local arrangements committee in planning the local arrangements and logistics for the meeting. As a reminder, **David Murphy** (Hillsdale College) is planning on activities for MiNExT. Please encourage all your colleagues to join us for the meeting this year and extend an invitation to your newer colleagues to participate in the Section NExT activities as well. At the national level, the MAA has identified a need to get more graduate students involved in the organization. If graduate students participate in the MAA as students, it is likely they will carry on their participation when they become faculty. It is important that faculty members at all levels become involved professionally in mathematical organizations. With budgets very tight, Section meetings are becoming an even more viable opportunity for us to meet professionally. Full details of the meeting are available by following the link at the Michigan Section Web site www.michmaa.org; there is also a paper registration included in this *Newsletter*. For those planning for next year as well, the 2012 meeting will be held at Saginaw Valley State University; **Hasan al-Halees** (SVSU) has told me he has already booked the meeting rooms!

This past February, the Michigan Section supported the 2011 Concurrent Conferences on Mathematics Education Math In Action: Strategies for Student Success and Conversations among Colleagues: Common Core Standards: Implications for Mathematics Education held on the campus of GVSU. As in the past, the conference was designed to foster communica-

Chair’s Report continued on page 6

Two-Year College Vice Chair's Report

On October 5, 2010, **President Barack Obama** summoned leaders from the business world, community college institutions and philanthropic groups to clarify and discuss ways to improve the impact community colleges have on our society. The president pledged an additional \$500 million per year over the next four years of financial support for community colleges. In addition, the President would like to see an additional five million graduates come from community college by the year 2020.



Community colleges around the country are taking this opportunity to look at new program and certificate opportunities that might exist for the future. Efforts are also in place to improve success and retention of students attending community colleges. Washtenaw Community College is working hard to look to the future, including participation in the "Achieving the Dream" project. To this end, WCC (Ann Arbor, MI) is joining more than 130 community colleges in 24 states to improve completion rates for students limited by socio-economic barriers. The initiative, "Achieving the Dream", provides consultants and coaches to select two-year colleges across the country to expand data collection, conduct program evaluations, and share best practices. Until now, participation in the initiative has been by invitation only.

With funding from the New Economy Initiative, a philanthropic effort to transform southeast Michigan into an innovation-based economy, WCC will have access to experts to create new opportunities for institutional research and program evaluations to ensure that the College is doing all it can to help at-risk students achieve their academic goals. "This partnership is the capstone to outreach efforts WCC has already put in place to serve at-risk students," said **President Larry Whitworth**.

One of WCC's most successful outreach programs is the Harriet Street Center in Ypsilanti, which introduces children as young as five to the College through youth enrichment classes. That programming will expand this summer to include the Parkridge Community Center. The Harriet Street Center is also the place where middle and high school students benefit from special mentoring opportunities. And in another popular program, middle

school students from Ypsilanti visit campus for a unique introduction to higher learning called "College is My Future."

Nine other community colleges in Michigan will participate in the Achieving the Dream initiative. They include Delta College and Glen Oaks, Grand Rapids, Lansing, Montcalm, Mott, Muskegon, Oakland, and St. Clair community colleges.

It is exciting to think about the new possibilities that exist with the support of the federal government through increased funding and through grant opportunities like "Achieving the Dream". There is great opportunity for community colleges to begin working together with the overall goal of improving the experience and outcomes for students.

Kris Chatas, Two-Year College Vice Chair

Annual Meeting continued from page 2

started at last year's meeting, the **Ron Mosier Memorial Award** will be presented to the student(s) with the most outstanding talk. The deadline for student abstracts is March 28. As of this writing, there remains space in the program for additional contributed talks by faculty. So contributions from faculty and students will be accepted beyond the deadlines as long as space permits. Abstracts can be submitted electronically at the Web page mentioned above, or else by e-mail to mbolt@calvin.edu.

An important aspect of the meeting is the book exhibits from the MAA and from other publishers. Because of concerns about sales tax liability, the Washington office of the MAA has announced that there will be no "cash and carry" book sales at Section meetings. MAA books will still be displayed and available for purchase, but all books will be shipped from the Association's headquarters after the meeting ends.

Note that reservations for meals must be received by April 29. Please also be aware that the Executive Committee has decided to continue with the \$25 meeting registration fee for faculty attending the meeting in order to offset rising costs. (The fee is waived for students.) This registration fee is in addition to the regular \$15 annual Section dues.

Special thanks are due to the local arrangements committee consisting of chair **Dennis Pence**, **Steven Mackey**, **Annegret Paul**, and **Laura Van Zoest** from WMU, and **John Fink** from Kalamazoo C. They have done a great job getting many important conference details in order. The program committee consists of chair **Mike Bolt** (Calvin C), **Kris Chatas** (Washtenaw CC), **Dan Isaksen** (WSU), and **Dennis Pence** (WMU). We look forward to seeing you at WMU!

Mike Bolt, Four-Year College Vice Chair

Chair's Report continued from page 3

tion among the many parties responsible for the mathematics education of teachers—college and university mathematicians and mathematics educators, K–12 mathematics supervisors, curriculum directors, and classroom teachers who mentor teacher interns. Co-chairs **Charlene Beckmann** and **Karen Novotny** and host GVSU are to be commended for their work in offering these opportunities for our Section and students.

John Kiltinen (NMU) chaired the Upper Peninsula Regional Meeting. Many of us are unaware of the hard work and importance of this conference. As all of us know, in today's economic environment, it is very difficult for us to attend professional development opportunities. A significant service of MAA sections is the support of annual and regional conferences for our members. Thank you John and all the people who helped and supported your efforts to keep our Upper Peninsula members connected and providing this opportunity for all our members. I appreciate the special efforts of so many of our UP colleagues to attend the Annual Meeting and applaud their efforts to organize a regional meeting of their own.

The Michigan Mathematics Prize Competition (MMPC) is another important and exciting event for the Michigan Section. Hasan al-Halees (SVSU) is currently serving his last term as the Director of the MMPC. We are deeply grateful to Hasan for the work that he accomplished and the continued success of the MMPC and the thousands of high school students who participate. **Stephanie Edwards** (Hope C) has agreed to assume the leadership following Hasan's expired term. Thank you Stephanie.

The 13th Annual Michigan Undergraduate Mathematics Conference (MUMC) sponsored by the Section this Fall was held at Grand Valley State University and was organized by **Firas Hindeleh**, **Akalu Tefera**, and **Paul Fishback** (GVSU). Thanks to the organizers and GVSU for providing this excellent opportunity for our undergraduate students and faculty alike.

As is evident, it takes many committed people to keep the Michigan Section functioning smoothly. We are always looking to find a new volunteers and members, so if you are interested in serving or would like to nominate someone, let us know and encourage your colleagues to join us as well. I would like to extend a special thanks to the Executive Committee members: Mike Bolt (Calvin C), Kristin Chatas (Washtenaw CC), (Albion C), **Darin Stephenson** (Hope C), **John Fink** (Kalamazoo C), **Norm Richert** (Mathematical Reviews), Hasan Al-Halees (SVSU), **Bob Xeras** (SHU), and **Sid Graham** (CMU).

We look forward to seeing you in Kalamazoo at the Annual Meeting.

Tim Husband, Chair

Governor's Report

Here are two highlights from the Board of Governors meeting at the Joint Math Meetings in New Orleans last January. Both of them point to an increasing interest in broadening the reach and widening the impact of the mathematical community.

The first was the discussion of an interim report from the Strategic Planning Working Group on SIGMAAs (Special Interest Groups of the MAA). These are communities of colleagues who share a common interest consistent with the MAA mission. The first of these was formed in 1999. Membership numbers range from 150 (for the brand new Math Circles SIGMAA) to over 500 (for the more seasoned SIGMAAs representing research in undergraduate mathematics education and the history of mathematics.) There are nine other interests represented by these communities: Math and the Arts; Business, Industry, and Government; Mathematical and Computational Biology; Environmental Mathematics; Philosophy of Mathematics; Quantitative Literacy; Statistics Education; Teaching Advanced High School Mathematics; and Mathematics Instruction using the Web.

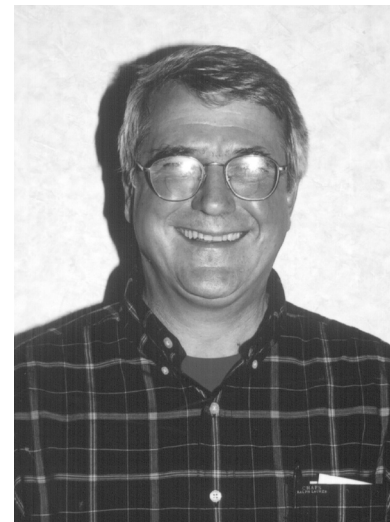
This was part of a larger discussion of the nature of "community" in this electronic age. As each SIGMAA uses a listserv to facilitate information and discussions among members, some saw these as an early version of an "e-community." In the spirit of widening the reach of the mathematical community, others asked if it might be possible to have SIGMAA membership independent of MAA membership. Project NeXT was cited as a good model for this kind of arrangement.

The second highlight was a discussion of a new category of membership intended especially for high school teachers who teach "serious" math.

Both of these discussions point to the possibilities for a much larger understanding of "mathematical communities."

I look forward to seeing many of you at the Spring meeting in Kalamazoo. It looks like a wonderful list of speakers on the schedule for the Spring meeting in Kalamazoo. I hope to see many of you there.

John Fink, Governor



Secretary/Treasurer's Report

I would like to thank everyone who has sent in a voluntary section dues payment for 2010–2011. At this time there are 126 dues-paying members. Fifty-one of these are sustaining members, who have paid dues of \$30 or more. The list of sustaining members can be found on page 28. We were facing a bit of a cash flow problem last Fall, and it was good to see members step up and help solve it. In these challenging financial times, your willingness to support the activities of the Section is especially appreciated. The Michigan Section's current bank balance is \$3911.61, which is back in line with recent Spring balances. We continue to have a good balance of income and expenses, and the Section is in sound financial shape.



In addition, we now have 23 institutional members. This list can be found on page 29. If your school is not listed, you might want to remind your department chair to attend to this matter. If you have not yet sent in a dues payment and wish to do so, the membership form can be found on page 29.

	3/'07	3/'08	3/'09	3/'10	3/'11
<i>Dues-paying members</i>	92	90	90	85	75
<i>Sustaining members</i>	50	50	44	51	51
<i>Institutional members</i>	26	28	24	17	23

There is a change in procedures for the MAA book sale at the Annual Meeting. Due to concerns about sales tax liability, the Washington office has announced that there will be no “cash and carry” book sales at Section meetings. MAA books will still be displayed and available for purchase, but all books will be shipped from the Association's headquarters after the meeting ends. The MAA marketing officials and I apologize for this inconvenience. I will do my best to get orders processed quickly so that books you purchase will be in your hands as soon as possible.

If you have any questions regarding the Section's finances, please feel free to contact me.

Mark Bollman, Secretary/Treasurer

Michigan NExT

The 2011 Michigan NExT Symposium will be held on the afternoon of Saturday, May 7, on the campus of Western Michigan University. It will take place after the lunch at the close of the Section's Annual Meeting. The title of this year's symposium is “Innovations in teaching: the uses of technology in and out of the classroom”. Please consult the Michigan NExT Web page www.hillsdalesites.org/personal/dmurphy/MiNExT2011.html for more information as it becomes available. While we extend a special invitation for pre-tenure faculty members at Michigan colleges and universities to participate, we encourage broad participation from any faculty members who are interested in the increasing role and use of technology in math education.

To register for the symposium, please e-mail **David Murphy** (dmurphy@hillsdale.edu) by Wednesday, April 27.

David Murphy, Hillsdale C

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Teaching Award Nominations Sought

The Distinguished Teaching Award Committee—**Eddie Cheng** (OU), **Lisa DeMeyer** (CMU) and **Mike Merscher** (LTU)—is pleased to announce that the 2011 recipient of this award is **Andrew Ross** from EMU.

Andrew will join the continuing members of the Distinguished Teaching Award Committee (Lisa and Mike) to select next year's recipient of the award. Nominations for the 2012 award will be accepted beginning in the Fall. Completed nominations must be received by November 1, 2011 to be considered for the 2012 Award. A complete description of the process can be found at the Michigan Section Web site at www.michmaa.org/awards.html. The person that the committee selects will receive the Michigan Section Award for Distinguished College or University Teaching of Mathematics at the Annual Meeting of the Michigan Section, and will also, upon receipt of additional supporting material, become the Michigan Section nominee for the national MAA Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching of Mathematics. Information about the additional supporting material that is required can be found at www.maa.org/awards/Haimo_NF.pdf.

Eddie Cheng, OU

Student Chapter News

Alpena Community College

Sigma Zeta Math/Science honor society inducted 10 new student members. This semester, we inducted our 100th member. The organization was started in the Fall of 2007. The members enjoyed a tour of the Silverado plant in Flint last month and will be helping with the Science Olympiad.

Schoolcraft College

The Math and Physics Club has been meeting twice monthly this year, with student **Matt Cornett** as President. Activities include work on mathematics challenges and contests; hosting a March 18 talk by Schoolcraft alumnus **Larry Choraszewski** on elliptic curves and their uses in public key cryptography; and creating demonstrations for an April 2 Science Day for local middle-school students.

Webmaster's Report

During the period from October 20, 2010 to February 20, 2011, the Section's Web site had 1537 visits and 2526 page views. The Section's top five sources for this time were as follows.

Google	614 visits	40% of all visits
Direct traffic	455	30
Google.com referral	116	8
Sections.maa.org	80	5
Yahoo	49	4

The page viewed most often was the index page, which accounted for 35% of all page views. Various issues of the *Newsletter* accounted for 21.8% of all views, and the history of the MMPC accounted for 8.6% of all views. The most common keywords in searches were "MAA Michigan" and "Kevin Wu".

Sid Graham, CMU

MAA Campus Liaisons

To make sure you are informed about all the things happening in the Michigan Section-MAA, please make sure you know who your departmental MAA Liaison is and that you receive periodic updates from your liaison. If your department is without a liaison, please consider volunteering: it's not an overwhelming task and you'd be providing a valuable service to your colleagues and the Michigan Section.

If you have any questions, please contact David Austin at austind@gvsu.edu. Thanks!

David Austin, GVSU

WMU in May

New Officers to be Elected at Annual Meeting

The annual business meeting of the Michigan Section-MAA will take place at 5:00 p.m. on Friday, May 6, 2011 at Western Michigan University during the Annual Meeting. One of the major items of business is the election of officers. The Nominating Committee, chaired by **Darin Stephenson** (Hope C), will propose a slate of candidates. **Mike Bolt** (Calvin C) will be nominated for Chair. **Dan Isaksen** (WSU) will be nominated for Four-Year College Vice Chair. **Kristin Chatas** will be nominated for a second term as Two-Year College Vice Chair. Nominations from the floor are also accepted (permission of the nominees should be secured in advance). The Annual Meeting will also have reports on Section activities during the year, as well as an opportunity for members to raise other issues.

The Nominating Committee is listed on page 31.

Darin Stephenson, Hope C

Positions Available

NOTE: Most positions in the mathematical sciences, including many of the ones listed here, are advertised in Employment Information in the Mathematical Sciences (www.ams.org/eims). The MAA also has a Web site for employment opportunities (www.maa.org/pubs/employ.html). All openings are for Fall 2011 unless otherwise stated, and further information is available from the department.

Saginaw Valley State University (www.svsu.edu/hr/employment) is in the process of filling a tenure-track position at the rank of Assist. Prof.

Schoolcraft College (www.schoolcraft.edu/hr) anticipates a posting this Spring for a full-time instructor specializing in developmental mathematics.

WMU in May

Doctoral Studies at Central Michigan University

Ph.D. with Concentration in the Teaching of College Mathematics

This Ph.D. is a content-based degree designed to prepare individuals for a career in college teaching. The program consists of broadly distributed coursework, professional pedagogical components, teaching internships, and a dissertation. Areas of research strength include applied mathematics, approximation theory, combinatorics, fluid dynamics, functional analysis, operator theory, number theory, algebraic geometry, algebra, differential geometry, statistics, and mathematics education. For information contact: Graduate Coordinator, Department of Mathematics, Central Michigan University, Mt. Pleasant, MI 48859; phone 989-774-3596, fax 989-774-2414, mthgrad@cmich.edu, www.cst.cmich.edu/units/mth.

CMU, an AA/EQ institution, is strongly and actively committed to increasing diversity within its community (www.cmich.edu/aaeo.html).

University of Michigan Biostatistics Department MS, MPH, PhD Degree Programs

Our department offers training in the development and application of statistical and mathematical methods to the design and analysis of biomedical research. We offer course work leading to the degrees of Master of Science, Master of Public Health, and Doctor of Philosophy. We have a large number of funding opportunities for our students including graduate student instructorships, graduate student research assistantships, training grants, scholarships, and fellowships. The faculty conduct cutting-edge research in bioinformatics, imaging, longitudinal data, missing data, survival analysis, statistical genetics, and many other areas. Our graduates have great job opportunities in fields such as government, industry (e.g. biotech, pharmaceuticals), medical research institutions, and universities.

For detailed information on our programs and to find out how to apply go to: www.sph.umich.edu/biostat.

For further information, please contact sph.bio.inquiries@umich.edu.

MMPC Honors Top High School Students

A total of 100 Michigan high school students, from 39 different schools, were honored for their achievement in the 54th Annual Michigan Mathematics Prize Competition at the MMPC Awards Day program, held on Saturday, February 26, 2011 at Saginaw Valley State University. This is the third year of the three-year term of the MMPC Director, **Hasan Al-Halees** (SVSU).

Keith S. Promislow (MSU) spoke on “Energy methods for energy conversion: life is about flowing down hill”, and **Lizhen Ji** (UM-Ann Arbor) spoke on “Mathematics: what, why and how?”

The first-place Gold Award winner was **Allen Yuan** (Detroit Country Day). The second-place Gold Award winner was **Zhuo Song** (Detroit Country Day). The third-place Gold Award winner was **Peter Su** (Salem High School). The first-level Silver Award was shared by **Mason Liang** (Troy High School) and **Heemyung Hwang** (Ann Arbor Huron High School), the second-level Silver Award was shared by **Siddhant Dogra** (Detroit Country Day) and **Joseph Renzi** (University Liggett School), and the third-level Silver Award was shared by **Khetpakorn Chakarawet** (Cranbrook Kingswood), **Randy Jia** (Detroit Country Day), and **Sachin Padmanabhan** (Novi High School). There were 40 Bronze Award winners, and 50 students received an Honorable Mention. The top female winner was Heemyung Hwang.

The top 50 students, from 21 different schools, received \$20,000 in scholarships ranging from \$250 to \$2,500. The Honorable Mention winners this year received \$25 gift cards. Part I of the competition, a 40-question multiple choice test, was administered on October 6. The top 1136 participants in Part I were invited to participate in Part II on December 1. There were 1079 participants in Part II.

Grading day was on January 15. A total of 50 faculty members from universities and colleges throughout Michigan donated their time to carry out the grading process. The official Web site of the MMPC, www.svsu.edu/mmpc, contains information about the competition including scheduling, registration materials, and previous exams and their solutions.

WMU in May

MMPC Top 100 Statistics

- The top Gold Award winner, **Allen Yuan**, a senior, was the top Gold Award winner the past two years. The second-place Gold Award Winner, **Zhuo Song**, is an 8th grader, and was a second-level Silver Award winner last year. The third-place Gold Winner, **Peter Su**, is a junior, and was a first-level Silver Award winner last year.
- Of the seven Silver Award winners, four are seniors, one is a junior, and two are sophomores.
- **Heemyung Hwang**, the top female winner, was also the top female winner last year.

Top MMPC Results for Each Grade

<u>Grade</u>	<u>Place</u>	<u>Score</u>	<u>Grade</u>	<u>Place</u>	<u>Score</u>
12	1	95.4	8	2	94.2
11	3	89.8	7	54	54.0
10	6	84.0	6	42	58.4
9	12	77.8			

Top 100 Results by Grade

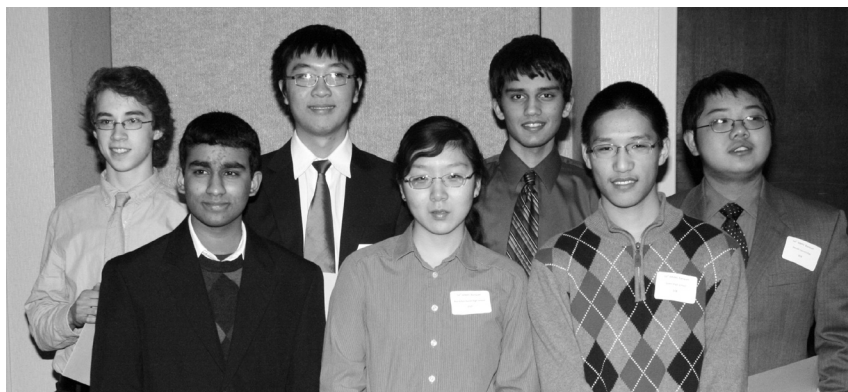
<u>Grade</u>	<u>Total</u>	<u>12</u>	<u>11</u>	<u>10</u>	<u>9</u>	<u>8</u>	<u>7</u>	<u>6</u>
# in Top 100	100	35	24	25	12	2	1	1

Top 100 Results by Gender

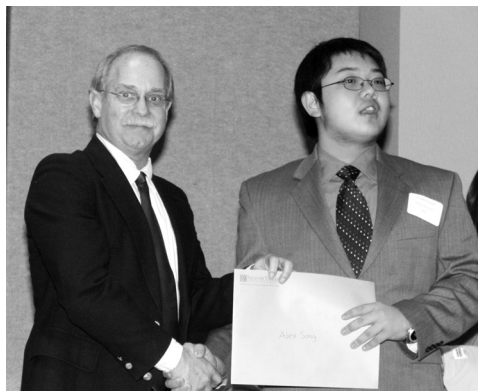
<u>Grade</u>	<u>Total</u>	<u>M</u>	<u>F</u>
Scholarships	50	44	6
Honorable Mention	50	41	9
Total	100	85	15

- A student's score is the sum of the Part I score (out of 40) plus 1.2 times the Part II score (out of 50).
- The cutoff score to qualify for Part II this year was 20 (out of 40).
- The cutoff score to make the top 50 of the competition this year was 55.8.
- 27% of those who qualified for Part II were females.

MMPC Awards Day, Saginaw Valley State University, February 26, 2011



Gold and Silver Award Winners (l to r): Joseph Renzi, Sachin Padmanabhan, Khetpakorn Chakarawet, Heemyung Hwang, Siddhant Dogra, Peter Su, and Zhou Song.



Section Chair Tim Husband recognized Second Place Gold Winner Zhou Song.



Outgoing MMPC Director Hasan Al-Halees welcomed incoming Director Stephanie Edwards (Hope C). Former Director Eddie Cheng (OU) joined the welcoming.



The schools of the Top 100 were recognized, and the supervisors in attendance received certificates.



Lizhen Ji spoke on "Mathematics: what, why, and how?" in the afternoon.



Ruth Favro recognized the top female winner, Heemyung Hwang.



Curtis Hall was the setting for the banquet.

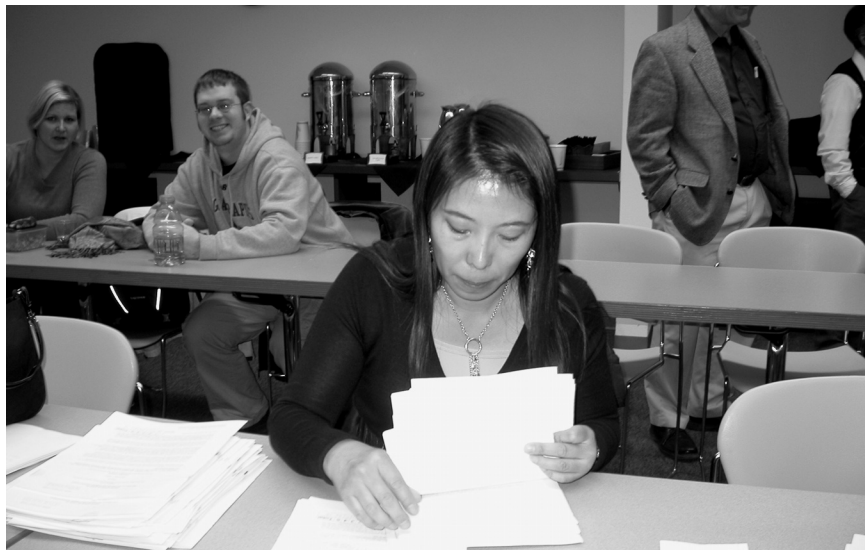


Andrea Kriz of Ann Pioneer H.S. described her experiences at the ARML competition and encouraged others among the Top 100 to take part.

54th MMPC Part II Problems

The top 1000 students had 100 minutes to solve these five problems.

1. Let $x_1=0$, $x_2=1/2$ and for $n \geq 3$, let x_n be the average of x_{n-1} and x_{n-2} . Find a formula for $a_n = x_{n+1} - x_n$, $n=1, 2, 3, \dots$. Justify your answer.
2. Given a triangle ABC . Let h_a , h_b , h_c be the altitudes to its sides a , b , c , respectively. Prove: $1/h_a + 1/h_b > 1/h_c$. Is it possible to construct a triangle with altitudes 7, 11, and 20? Justify your answer.
3. Does there exist a polynomial $P(x)$ with integer coefficients such that $P(0)=1$, $P(2)=3$, and $P(4)=9$? Justify your answer.
4. Prove that if $\cos \alpha$ is rational and n is an integer, then $\cos n$ is rational. Let $\beta=\pi/2010$. Is $\cos \beta$ rational? Justify your answer.
5. Let function $f(x)$ be defined as $f(x)=x^2+bx+c$, where b, c are real numbers.
 - (A) Evaluate $f(1) - 2f(5) + f(9)$.
 - (B) Determine all pairs (b, c) such that $|f(x)| \leq 8$ for all x in the interval $[1, 9]$.



Jennifer Zhao (UM-Dearborn) on Grading Day at SVSU.

Thanks from the MMPC Director

I would like to formally thank many of the people who worked behind the scenes to make this competition and awards ceremony possible.

I would like to begin by thanking the examination committee for their hard work throughout Part I and Part II of the MMPC. This includes **Jennifer Zhao** (UMD), **Eddie Cheng** (OU), **Sid Graham** (CMU), and **Hugh Montgomery** (UM-Ann Arbor). I would also like to extend my gratitude to the reviewers who donated time and effort to make sure this year's MMPC was a success. My thanks go to the graders, who volunteered from many universities and colleges throughout Michigan and donated their time even through severe weather to carry out the grading process. I would also like to thank the MMPC supervisors throughout Michigan high schools who served as contacts and were invaluable participants in this process. I would like to thank **Keith S. Promislow** (MSU) and **Lizhen Ji** (UM-Ann Arbor), who gave talks to the MMPC winners on Awards Day. I would like to thank the companies and foundations that donated to this event during the last three years: the MEEMIC Foundation, DTE Energy, Weinlander Fitzhugh, Glass Tender, The World's Best Roof. I would like to thank **Deborah Huntley**, Dean, College of Science, Engineering & Technology, SVSU, for taking time out of her busy schedule to speak to these young mathematicians at the beginning of the banquet. I would like to thank **Lori Williams**, Science West secretary at SVSU, for her valuable help during the last three years of the competition.

Hasan Al-Halees, SVSU

Distinguished Service Award

Past Chair **Darin Stephenson** is delighted to report that **Sid Graham** of Central Michigan University has been selected to receive the Section's 2010–2011 Distinguished Service Award. Details will appear in the Fall 2011 *Newsletter*, and Sid will be recognized at the awards banquet at WMU on Friday, May 6, 2011.

WMU in May

MichiganTech

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Detailed information is available on our Web site:
www.math.mtu.edu/graduate

For more information contact:

Dr. Tom Drummer
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MAA Associate Executive Director Michael Pearson (l.), with a contingent from UM-AA at JMM 2011 in New Orleans: Karen Rhea, Bob Megginson, and Pat Shure.
(Photo by Ruth Favro)

News from the Campuses

Adrian College [reported by Cynthia Grantz]

As part of the Faculty Brown Bag Scholarship Series, two Department faculty members gave lectures at the College this Spring. In February, **Alia Khurram** presented “Mathematics around us”; her talk was based on a course she taught last year, Mathematics in Nature. The topics she presented included: Fermi problems, mathematical models, crepuscular rays, the Fibonacci sequence and the Golden Ratio, bees and honeycombs. **Alan Von Herrmann**’s talk, Physical Attacks in a Physical World, was the Faculty Brown Bag lecture for March. • This Spring the Department has six students working on capstone projects; the students will present their projects in April. **Anthony Aukskalnis**’s project, “Some mathematics behind medical imaging”, studies how Fourier, Radon, and Hilbert transforms play major roles in CAT/MRI scans. **Nathan Cassidy** is utilizing complexity theory, Godel’s Incompleteness Theorems, finite fields, and cryptography in his project, “Applications of complexity theory in public key cryptography”. **Michael Fisher**’s project is “Classical vector analysis”, and his research studies gradient, curl, and Laplacian operators in modern vector analysis. **Anne Hersman** is using ODEs and linear algebra in her project, “Introductory population dynamics of species”. **Perry Kuiper**’s project, “Adaptive dynamics of the prisoner’s dilemma”, is a continuation of his REU research from Summer 2010 at the U of Illinois. **Jason Ransom**’s project, “Some mathematics and music”, uses Fourier’s theory of harmonic analysis to study how a string can vibrate with a number of different frequencies at the same time. [cgrantz@adrian.edu]

Albion College [reported by Mark Bollman]

Paul Anderson has succeeded **Mark Bollman** as department chair. **David Reimann** is on sabbatical this semester, and **Guy Cox**, of Albion’s Ferguson Center for Technology-Assisted Teaching and Learning, is teaching part-time in the department. Once again, the Math/CS Department at Albion encourages people from around the world to show their support of mathematics by wearing plaid on International Plaid Day: April 29, the last Friday of Mathematics Awareness Month. [Mbollman@albion.edu]

Alma College [reported by Mel Nyman]

Students are busy applying for REUs and summer internships. • Mid-term finds faculty busy with mid-term grades, catching up on scholarship and organizing their teaching for the second half of the Winter term. **Andrew Thall** gave a well-received departmental colloquium on “Irrational base discrete weighted transforms for fast integer multiplication”. • **Tim Sipka** once again carried out a successful collegiate MATH Challenge. The competition has grown to include many out-of-state colleges. The monthly High School MATH Challenge keeps him and **Robert Molina** busy as well. Once again, Robert will represent us at the Forty-Second Southeastern International Conference on Combinatorics, Graph Theory, and

Computing in March. • During the Fall term the department hosted six colloquia by departmental alums who work in non-academic settings. [nyman@alma.edu]

Alpena Community College [reported by Dan Rothe]

Our enrollment is down slightly from last spring but still at high levels compared to the five-year average. Our faculty remains stable with no full-time staffing changes except the addition of **Ruth Carol Laugal** on the Huron Shores campus (Oscoda). She is teaching chemistry and math at the Oscoda campus and satellite locations and Hale and Whittemore High Schools. We will be hosting the Regional Science Olympiad on Saturday, March 12. [rothed@alpenacc.edu]

Central Michigan University [reported by Sid Graham]

CMU alumnus **Lon Mitchell**, currently a faculty member at Virginia Commonwealth University, spoke in the departmental colloquium in February. His topic was “Operators on Spaces of Bourgain and Delbaen”. **Tarah Johnson Ross**, **Sunghoon Chung**, **Dave McDowell**, and **Tom Miles** are new instructors for the Spring semester. [sidney.w.graham@cmich.edu]

Eastern Michigan University [reported by Tim Carroll]

John Curran was promoted to Assoc. Prof. • The following gave talks internationally: **Tanweer Shapla** in Bangladesh, **Xiaoxu Han** in South Korea, **Ovidiu Calin** in Hong Kong, and **Juiqiang Liu** in China. [tcarroll@emich.edu]

Grand Valley State University [reported by Paul Fishback]

David Austin, **Shelly Smith**, **Rebecca Walker**, and **Paul Yu** are currently on sabbatical. • GVSU will sponsor its REU program from June 12 to August 7. Faculty participants are **Edward Aboufadel**, **Filiz Dogru**, **Jonathan Hodge**, and **Will Dickinson**. • The 2010 Michigan Undergraduate Conference took place at the Grand Rapids Campus of GVSU on October 9. **Dan Kalman**, American University, gave a wonderful talk entitled “The most wonderful theorem in mathematics”. [fishbacp@mail.gvsu.edu]

Hope College [reported by Todd Swanson]

Aaron Cinzori has assumed the duty of department chair. • **Darin Stephenson** is on sabbatical for the Spring semester, and **Mark Pearson** has returned from a year-long sabbatical. • **Stephanie Edwards** has agreed to become the new director of the MMPC. • **Nathan Tintle** received the “Dean’s Science Division Mentoring/ Advising/ Teaching Award.” This award, selected by a panel of students, recognizes a faculty member who has gone beyond the call of duty in being an exceptional mentor, advisor, and teacher to students. [swansont@hope.edu]

Michigan Technological University [reported by Jeanne Meyers]

Andreas Artemiou (Ph.D. 2010, Statistics from Pennsylvania State U) joined the Department as a tenure-track Assist. Prof. **Cafer Caliskan** joined the Department has a Visit. Assist. Prof. He earned his Ph.D. from Florida Atlantic U in 2010.

Vladimir Tonchev is on sabbatical leave for the 2011 Spring Semester. The following faculty members are on professional leave this academic year: **Huann-Sheng Chen** continues his professional leave at the National Cancer Institute (part of NIH). **Ethan Smith** is a postdoctoral fellow at the Centre de Recherches Mathématiques (CRM) at the U of Montreal. **Yolanda Muñoz Maldonado** has a SAMSI New Research Fellowship at the Statistical and Applied Mathematical Sciences Institute (SAMSI), which is located in North Carolina's research triangle. **Fabrizio Zanella** is spending the calendar year at MIT as a Visit. Scholar/Visit. Prof. conducting research with **Richard Stanley**. [jemeyers@mtu.edu]

Saginaw Valley State University [reported by Anthony Crachiola]

Tyler Haynes will retire this year after 27 years with the department. The department is in the process of filling a tenure-track position at the rank of Assist. Prof. • SVSU hosted the MMPC Awards Day on February 26 (see www.svsu.edu/mmpc/ for details). The annual SVSU high school Math Olympics Competition will be held on March 25. [acrachio@svsu.edu]

Schoolcraft College [reported by Randy Schwartz]

Bradley Stetson's work in e-learning and instructional technology was recently recognized by two national organizations. The Instructional Technology Council (Washington, DC) named Brad as one of its 15 Distinguished Educators for 2011, and the National Institute for Staff & Organizational Development (Austin, TX) has named Brad to receive a 2011 NISOD Excellence Award. [rschwartz@schoolcraft.edu]

University of Michigan-Flint [reported by Ken Schilling]

The Mathematics Department Research Seminar featured a talk by **Divakar Viswanath** of UM-Ann Arbor on "Lorenz equations: from computation towards analysis", and by our faculty members **Cam McLeman** on "Stacking oranges a la Lucas", **Daniel Coffield** on "A model for Chagas disease", and **Kenneth Schilling** on "Derivative arrays". **Laura McLeman** will speak at an NCTM Research Pre-session on "Understanding perceptions using children's thinking activities", and will also speak at the 2011 annual AERA meeting, with the same title. **Daniel Coffield** will speak in a mini-symposium on Vector-borne Diseases at the Annual Meeting of the Society for Mathematical Biology in Krakow on "A model for Chagas disease with vector consumption and transplacental transmission". The department has been conducting a Teaching Circle on the preparation of our secondary mathematics preservice teachers. [ksch@umflint.edu]

MathFest 2011



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Contest News

AMC 8. The MAA Committee on the American Mathematics Competitions (CAMC) is dedicated to the goal of strengthening the mathematical capabilities of our nation's youth. The CAMC believes that one way to meet this goal is to identify, recognize, and reward excellence in mathematics through a series of national contests called the American Mathematics Competitions. What happens before and after the AMC Contests can have lasting educational value. Talents will be enhanced if one practices beforehand: by working through previous examinations, by participating in math leagues, and, most importantly, by studying mathematics more intensely than one normally does in school.

The American Mathematics Contest 8 (AMC 8) for students in grades 8 and below is a 25-question, 40-minute multiple-choice examination in middle school mathematics designed to promote the development and enhancement of problem-solving skills; to demonstrate the broad range of topics available for the junior high school mathematics curriculum; and to promote excitement, enthusiasm, and positive attitudes towards mathematics.

The 2010 AMC 8 Exam was taken by 4323 students (down from 5072 in 2009) from 55 schools in Michigan on November 16, 2010. The overall Michigan average score was 8.78, a half point lower than last year.

Twelve students in Michigan got a perfect score. Among them are one 6th grader and four 7th graders. The 6th grade winner was **Mitchel Huang** from Teams Inc (Novi). The 7th grade winners were **Anil Palepu** from Novi Middle School (Novi) and **Safal Bora, Dhruv Medarametla**, and **Justin Xu** from Boulan Park Middle School (Troy). The 8th grader winners were **Alex (Zhuo Qun) Song** and **Andrew Xu** from Detroit Country Day Middle School (Beverly Hills), **Daniel Gershenson** from Houghton Schools (Houghton), **Raghu Arghal** from Novi Middle School (Novi), **Steven Cheng** from Boulan Park Middle School (Troy), and **Evan Bao** and **Michelle Liu** from Smith Middle School (Troy).

HMMT 2011. The Harvard-MIT Mathematics Tournament (HMMT) is an annual mathematics tournament for high school students, held at MIT and at Harvard in alternate years. With 900 participants, HMMT is one of the largest math contests in the United States. It is run exclusively by MIT and Harvard students. Most of them participated in math contests in high school, and they try to incorporate what they liked best about those competitions into HMMT to make the contest both challenging and entertaining for all the participants. The February 2011 competition was held at MIT on Saturday, February 12. The Michigan HMMT team, Michigan All-Stars, is coached by Detroit Country Day School (DCDS, Beverly

Hills) mathematics teacher and Department Head, **Ross Arseneau**. The team is sponsored by the DCDS Mathematics Competition Club. The team members are **Siddhant Dogra** (DCDS Sophomore), **Rolland He** (Troy Senior), **Heemyung Hwang** (Ann Arbor Huron Senior), **Randy Jia** (DCDS Senior), **Soo-Min Kim** (Troy High School Senior), **Mason Liang** (Troy High School Senior), **David Lu** (DCDS Junior), and **Allen Yuan** (DCDS Senior). Individually the participants chose two of four subjects (Algebra, Geometry, Combinatorics, and Calculus) for their subject test; among them, Allen Yuan and David Lu ranked 4th and 9th respectively for the Algebra/Combinatorics Subject Test, Mason Liang and Randy Jia ranked 15th and 17th respectively for the Algebra/Geometry Subject Test, and Soo-Min Kim ranked 15th for the Geometry/Combinatorics Subject Test. The DCDS and Friends team finished 13th overall in the combined Sweepstakes, with a team ranking of 5th on the subject test team aggregate, 19th in Guts, and 19th on the Team Test.

Ada Dong, OU

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Sustaining Members Listed

The Michigan Section dues structure includes a sustaining individual member category for those who make a \$15 contribution beyond the basic dues rate of \$15. For 2010–2011, as of February 15, the 51 members of the Section listed below are sustaining members. The Section is grateful to those several individuals who generously exceeded the suggested sustaining member contribution. If you have not already sent in your dues, please do so, using the form on page 29, and please be generous!

Edward Aboufadel
Yousef Alavi
Steven Althoen
Curt Baragar
Steve Blair
Mary L. Bragg
Robert Bruner
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Lisa DeMeyer
Peter Duren
John M. Dwyer
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Elliot Tanis
Richard Vandervelde
Gerard Venema
Bette Warren
Robert Wasserman
Deborah Welsh
Clinton Williams
Matt Wyneken
Robert Xeras

Institutional Members

As of February 18, the 23 colleges and universities listed below have begun or renewed their institutional memberships in the Michigan Section for 2010–2011. Tardy institutions and others who wish to join are encouraged to send in their dues, using the form below.

Albion College	Lawrence Technological University
Andrews University	Northern Michigan University
Aquinas College	Oakland University
Calvin College	Olivet College
Central Michigan University	Siena Heights University
Grand Valley State University	Spring Arbor University
Henry Ford Community College	University of Michigan-Dearborn
Hillsdale College	University of Michigan-Flint
Hope College	Wayne State University
Kellogg Community College	West Shore Community College
Lake Michigan College	Western Michigan University
Lansing Community College	

Section Dues: Individual • Institutional

The 2010–2011 individual and institutional membership dues for the Michigan Section are now being accepted. The \$15 individual dues payment (or \$30 contributing member payment) and the \$40 (small school) or \$70 (large school) institutional dues help support the activities of the Section such as its annual meeting and *Newsletter*. This coupon may be used to submit dues payments.

Enclosed is a check for:	Regular Dues	@ \$15	<input type="checkbox"/>
	Contributing Membership	@ \$30	<input type="checkbox"/>
	Small Institutional Dues	@ \$40	<input type="checkbox"/>
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Name: _____

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Mailing Address _____

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Make checks payable to the Michigan Section–MAA, and mail them to: **Mark Bollman, Secretary/Treasurer, Michigan Section–MAA, Department of Mathematics and Computer Science, Albion College, Albion, Michigan 49224-5013.**

COMMITTEES AND APPOINTMENTS

Michigan Section

Mathematical Association of America

Contact Information

Executive Committee

<i>Chair</i>	Timothy Husband (11)	SHU	thusband@sienaheights.edu	517-264-7647
<i>Vice Chair</i>	Kris Chatas (11)	Washtenaw CC	kchatas@wccnet.edu	734-477-8566
<i>Vice Chair</i>	Michael Bolt (11)	Calvin C	mbolt@calvin.edu	616-526-6719
<i>Sec/Treas</i>	Mark Bollman (13)	Albion C	Mbollman@albion.edu	517-629-0261
<i>Past Chair</i>	Darin Stephenson (11)	Hope C	stephenson@hope.edu	616-395-7524
<i>Governor</i>	John Fink (13)	Kalamazoo C	John.Fink@kzoo.edu	269-337-7062

Michigan Mathematics Prize Competition (MMPC)

<i>Director</i>	Hasan Al-Halees (11)	SVSU	hhalees@svsu.edu	989-964-7108
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Exam Committee:

<i>Chair</i>	Jennifer Zhao (11)	UMD	xich@umd.umich.edu	313-593-4985
<i>Member</i>	Eddie Cheng (12)	OU	echeng@oakland.edu	248-370-4024
<i>Member</i>	Sid Graham (13)	CMU	grahalsw@cmich.edu	989-774-3813
<i>Member</i>	Hugh Montgomery (14)	UM-AA	hlm@umich.edu	734-763-3269

Program Committee: 2011 Annual Meeting

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<i>Co-Chair</i>	Kris Chatas	Washtenaw CC	kchatas@wccnet.edu	734-477-8566
<i>Member</i>	Dennis Pence	WMU	dennis.pence@wmich.edu	269-387-4538
<i>Member</i>	Dan Isaksen	WSU	isaksen@math.wayne.edu	313-577-2491

Local Arrangements Committee: 2011 Annual Meeting

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<i>Member</i>	Steven Mackey	WMU	steve.mackey@wmich.edu	269-387-4539
<i>Member</i>	Laura Van Zoest	WMU	laura.vanzoest@wmich.edu	269-387-4533
<i>Member</i>	Annegret Paul	WMU	annegret.paul@wmich.edu	269-387-3614

Michigan Section Newsletter

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Distinguished Service Award Committee

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<i>Member</i>	Matt Boelkins (11)	GVSU	boelkinm@gvsu.edu	616-331-3384
<i>Member</i>	Timothy Husband (13)	SHU	thusband@sienaheights.edu	517-264-7647

Distinguished Teaching Award Committee

<i>Chair</i>	Eddie Cheng (11)	OU	echeng@oakland.edu	248-370-4024
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<i>Member</i>	Michael Merscher (13)	LTU	merscher@ltu.edu	248-204-3513

Nominating Committee

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<i>Member</i>	Kris Chatas (11)	Washtenaw CC	kchatas@wccnet.edu	734-477-8566

Audit Committee

<i>Member</i>	Chris Gardiner	EMU	cgardiner@emich.edu	734-487-3386
<i>Member</i>	Gerald D. Ludden	MSU	ludden@math.msu.edu	517-353-6335

MMPC Audit Committee

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<i>Member</i>	John Mooningham	SVSU	jwm@svsu.edu	989-964-4183

Organizing Committee: Upper Peninsula Regional Meeting

<i>Chair</i>	John Kiltinen	NMU	kiltinen@nmu.edu	
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Other Appointments and Contacts

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