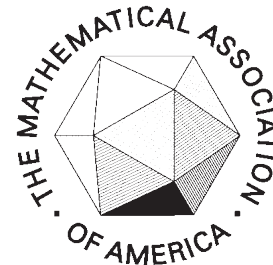


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Michigan Section – MAA NEWSLETTER

Volume 36, Number 2

April 2010

**Michigan Section Annual Meeting
Eastern Michigan University
May 7–8, 2010**

**Coming to
Ypsilanti ...**

David Bresoud
*Issues of the Transition to College
Mathematics*

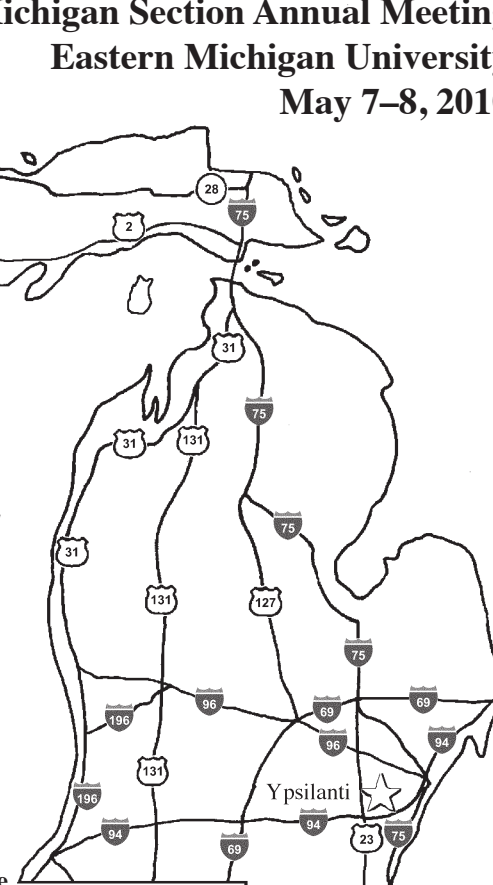
Sheldon Gordon
*Mathematics the Partner Disci-
plines Want and our Students Need*

Tim Chartier
*Mathematical Morsels from
The Simpsons*

Maria Andersen
Math Technology

Annalisa Crannell
*Math and Art: The Good, the Bad,
and the Pretty*

... and much more



ALSO IN THIS ISSUE:

**53rd Annual Michigan Mathematics Prize Competition
Reviewing for Mathematical Reviews**

Mathematical Association of America
Michigan Section Newsletter
Volume 36, 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 21–24, 2010	NCTM Annual Meeting, San Diego, CA
May 7–8, 2010	Michigan Section Meeting, EMU
August 5–7, 2010	MAA MathFest, Pittsburgh, PA
November 11–14, 2010	AMATYC Annual Meeting, Boston, MA
January 5–8, 2011	MAA/AMS Annual Meeting, New Orleans, LA
April 13–16, 2011	NCTM Annual Meeting, Indianapolis, IN
April or May, 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
Oct. 31–Nov. 3, 2013	AMATYC Annual Meeting, Anaheim, CA
January 15–18, 2014	MAA/AMS Annual Meeting, Baltimore, MD
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/mmmpc
MiNExT	www.math.hope.edu/pearson/minext.html

Annual Meeting, May 7–8

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 7–8, 2010, at Eastern Michigan University in Ypsilanti. The Program Committee is delighted to announce an exciting collection of plenary, local-invited, and contributed talks collectively devoted to interesting results in mathematics as well as teaching and learning mathematics.

Details about the schedule, program, and abstracts are available on the meeting Web site, maamichigan.weebly.com, or at www.math.emich.edu/2010-Joint-Meetings/michMAA-MichMATYC-front-page. A printed version of the program and abstracts will be available at the meeting.



We are very fortunate to have the meeting open with an address by **David Bressoud** (Macalester C), MAA President. The title of his presentation is “Issues of the Transition to College Mathematics”. David has received the Distinguished Teaching Award for the Allegheny Mountain Section and the Beckenbach Book Prize, and he was the George Pólya Lecturer from 2002 to 2004. You may also recognize him as the author of the monthly online column for MAA titled “Launchings”.

Complementing David’s opening address, at the Friday luncheon, **Sheldon Gordon** (Farmingdale State C), will speak on “The Mathematics the Partner Disciplines Want and our Students Need”. Sheldon is a Distinguished Teaching Professor at his institution. He is a member of a number of national committees involved in undergraduate mathematics education and is leading a national initiative to refocus the courses below calculus. He is the principal author of *Functioning in the Real World* and a co-author of the texts developed under the Harvard Calculus Consortium. He received the MAA Award for Outstanding Teaching Contributions to Mathematics Education.

This year will have a very special presentation by **Tim Chartier** (Davidson C) for the Friday afternoon plenary session: “Mime-matics”. A recent observer to this presentation claimed, “Never has anyone mixed

math with mime, much less bring it to the mainstream with his use of juggling, magic and comedy.” It should be noted that Tim is also a student of Marcel Marceau, the man who brought pantomime to the masses. Tim received both a B.S. degree in applied mathematics and a M.S. degree in computational mathematics from Western Michigan University. Tim is also a 2007 recipient of the Henry L. Alder Award for Distinguished Teaching by a Beginning College or University Mathematics Faculty Member from the MAA. Following the Friday evening awards banquet, he will also present the banquet address “March Mathness”.

The Saturday morning program will begin with an opening plenary address by **Maria Andersen** (Muskegon CC): “Math Technology to Engage, Delight, and Excite”. Maria is the President of MichMATYC and the AMATYC Technology Strand Traveling Workshop Director. She has a passion for helping other faculty learn how to “be dangerous” with technology and relate to the Internet generation.

Following Saturday’s luncheon, the meeting will conclude with the talk “Math and Art: The Good, the Bad, and the Pretty” by **Annalisa Crannell** (Franklin and Marshall C), a past Governor of the MAA-EPADEL section. Among her accomplishments, she has been awarded the MAA’s Deborah and Franklin Tepper Haimo Distinguished Teaching Award and is Associate Editor of *Mathematics Magazine*.

In addition to the plenary talks, we are pleased to have local-invited addresses by **Steve Blair** (EMU), **Andrew Ross** (EMU), **David Redman** (Delta C), **Paul Yu** (GVSU), **Brian Yurk** (Hope C), and **Pat Shure** (UM-Ann Arbor).

There will also be many 20-minute contributed talks that cover a variety of topics in mathematics and pedagogical issues. This year, we have also made a special effort to solicit presentations on the use of technology in mathematics teaching and learning. In addition, there will be sessions devoted to talks by undergraduate and graduate students, and book exhibits from the MAA and other publishers. There remains space in the program for some additional contributed talks, and contributions will continue to be accepted if space is available. Please note that advance reservations for all meals must be received by May 1, and hotel reservations must be made by April 8 in order to receive conference rates.

Special thanks are due to the local arrangements committee from EMU consisting of **Steve Blair**, **Ron Carlson**, and **Barb Leopard**. They have done a great job getting many important conference details in order. The program committee for this year consists of chair **Tim Husband**, **Jim Ham**, **Paul Howard**, and **Tom Kelley**.

Tim Husband, Four-Year College Vice Chair

Chairperson’s Report

Signs of spring are in the air, and it is the time of year to think ahead to our Annual Spring Meeting. This year’s Spring Meeting will be held on the campus of Eastern Michigan University on Friday and Saturday, May 7–8. Co-chairs **Tim Husband** (SHU) and **Tom Kelley** (Henry Ford CC), along with the rest of the program committee, have put together an exciting program including a wide array of invited speakers and contributed talks. Additionally, we are thankful for the work of the local arrangements committee, headed by **Steve Blair** (EMU), in planning for the meeting logistics. The meeting also includes a MiNEXt Symposium Saturday afternoon organized by **David Murphy** (Hillsdale C), and we are thankful to him for his work in planning this. Full details for the meeting, including how to register, are available at maamichigan.weebly.com. There is also a paper registration form inserted in this *Newsletter*.



In an effort to save costs, the Executive Committee has discontinued the process of mailing a printed advance program for the Annual Meeting; the advance program will be posted online at the Web address given above. Printed copies of the conference schedule and abstract booklet will be available at the meeting. Since all of this information will be available online, you need not print your own copies prior to the conference.

As with last year, the Executive Committee has instituted a \$25 conference registration fee for the Annual Meeting to help the host institution cover the many costs it incurs. This \$25 fee is distinct from voluntary dues, which remain unchanged at an annual rate of \$15. While dues are voluntary, we thank you in advance for your willingness to contribute this \$15, as it helps us fund a variety of important events, including other conferences in the state.

The Section was pleased to help sponsor the 12th Annual Michigan Undergraduate Mathematics Conference (MUMC). This annual conference was held October 17, 2009 at WSU. We are thankful to the organizing committee, chaired by **Dan Isaksen** (Wayne State), for continuing the long

Chair’s Report continued on page 6

Two-Year College Vice Chair's Report

This past Fall semester of 2009 I was lucky enough to be on sabbatical as a guest of the College of Engineering, Architecture and Technology at Oklahoma State University in Stillwater, Oklahoma. Besides seeking a respite from 30 plus years of having another pile of papers to correct, the goal of my visit was to see mathematics in action in engineering. To this end I participated both as a student and faculty consultant in two engineering courses. The first was an Introduction to Engineering course that was specifically designed to emphasize the math that engineers can expect to use. The second was an upper division course in Optics. I also volunteered to tutor in the calculus section of the learning lab—in this way I had contact with many engineering students and could ask them about the math they were actually using in their engineering courses. I'd like to use some of this space to talk about the Intro to Engineering course.



The Intro course was team taught by a chemical engineer, an electrical engineer, and a computer person. Its official title was Introduction to Engineering Mathematics and the people running the course did have to obtain special permission to run it—it was clearly not perceived by the College of Engineering as your “standard” introduction to engineering course.

Broadly speaking the course had a mathematical and computing (they used MATLAB) component, an engineering laboratory and analysis component, and a report writing and presentation component. They had support from a graduate teaching assistant and “teaching fellows” (junior year engineering students) in running the lab and computer portions, and meetings with “writing fellows” were required for certain writing portions. The course met formally three times a week. The idea was to introduce a mathematical topic and then work through some labs and computing assignments associated with the topic. The time spent on each topic amounted to about two weeks of course time. The topics and their associated labs were:

- Algebra with a lab involving electric circuits.
- Linear Algebra with the lab involving mixtures.
- Trigonometry with the lab involving the use of Snell's Law.

- Sinusoids with the lab doing work with oscilloscopes and circuits.
- Derivatives with the lab dealing with motion using the “Calculus” car.
- Integrals with a lab using acceleration data from the “Calculus” car.

During the first week of classes the students were placed in teams of three and stayed together as a team throughout the semester. There was a custom published textbook, but a significant part of the class required the students to obtain material and to do quizzes on-line. All lab reports and analysis could be submitted only on-line.

The faculty involved with the course met once a week to see how things were going and to make any necessary adjustments. The students generally liked the course set-up, and from what I could tell, the teams seemed to work well together. One drawback to the team scenario was that once a “MATLAB expert” emerged on the team, that person learned to use MATLAB, but the others, not so well if at all. It was suggested that, in the future, perhaps each team member gets assigned as the computer person on at least one project during the semester.

It was refreshing to see the attempt made to give math its due. I hope the students will remember seeing the math “previews” in their engineering course as they come across the same math in more depth in their math courses. For my part, I plan to give the pre-engineering majors in my courses a better preview of where they can expect to use their mathematical knowledge in engineering.

Thomas Kelley, Two-Year College Vice Chair



Chair's Report continued from page 3

tradition of excellent student meetings. Please encourage undergraduates at your institution to participate in the 13th Annual MUMC, which will take place October 9, 2010 at Grand Valley State University.

This past October 2–3, the annual Upper Peninsula Regional Meeting was held at Michigan Technological University. Thanks to **Allan Struthers** (MTU) and his colleagues for planning and hosting this event and for extending the annual invitation to the Section chair to make the trip as one of the invited speakers. Please consider joining our UP colleagues for the UP Regional Meeting in 2010, which will be held at Northern Michigan University.

For those of you planning far in advance, Western Michigan University will be the site of the 2011 Annual Meeting. We are seeking a location for the 2012 meeting at an institution located in the central part of the state in order to stay with our desired cycle of west-central-east every three years. Recent central hosts include Central Michigan University (2009) and Alma College (2005). Please consider volunteering your institution for 2012.

As many of you know, the term of **Bette Warren** (EMU) as Governor of the Section expires this year. I am thankful for Bette's excellent service to the Section these past three years. I also wish to thank the Governor nominating committee of **Matt Boelkins** (GVSU) and **Randy Pruim** (Calvin C) for securing two excellent candidates currently up for election as Bette's successor: **Steve Schlicker** (GVSU) and **John Fink** (Kalamazoo C).

On behalf of the Executive Committee, let me say that we are thankful for all of you who volunteer your time and energy for Section activities, and to everyone who participates in a wide range of endeavors and events. Your energy, scholarly achievements, and commitment to serve help keep our Section going strong.

Darin Stephenson, Chair

EMU in May

Governor's Report

Brian McCartin of KU is the recipient of the 2010 Chauvenet Prize. This annual prize is awarded by the MAA for an outstanding expository article. Brian was honored for his 2006 article "e: The Master of All," published in *The Mathematical Intelligencer*. The Michigan Section will recognize him for this accomplishment at the Annual Meeting banquet on May 7.

As you plan your courses for next year, consider textbooks published by the MAA. MAA Textbooks and Classroom Resources provide an exceptional value, combining MAA's quality assurance with very competitive pricing; in contrast to traditional publishing houses, no MAA textbook costs more than \$100. In addition to growth in traditional books, the MAA is expanding its e-textbook offerings: the e-text Mathematics for Business Decisions will be joined by Calculus: Modeling and Applications by Moore and Smith to its e-offerings in Fall 2010, and a third e-text is not far behind.

The Board of Governors received Strategic Planning Cycle III reports from the working groups on Meetings, and Periodicals and Communications at its January meeting. Two new working groups were approved: one on SIGMAA's and the other on MAA Books; these working groups will be formed this year and will submit final reports to the Board of Governors in January 2012.

The option for electronic-only membership was offered to renewing members this year; about 10% of renewing members have selected this option. Effective with the next renewal cycle, all student memberships will be electronic-only; the price of student membership will remain at \$30, and students will have electronic access to more MAA publications than under the current system. Institutional Membership has been renamed Department Membership; there is continuing study and discussion of the benefits package to be offered with the membership.

I hope to see you at the Michigan Section Annual Meeting at EMU May 7–8, at MathFest in Pittsburgh August 5–7, and at the Joint Mathematics Meetings in New Orleans January 5–8, 2011.

Bette Warren, Governor



Secretary/Treasurer's Report

I would like to thank everyone who has sent in a voluntary Section dues payment for 2009–2010. At this time there are 136 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 32. In these challenging financial times, your willingness to support the activities of the Section is especially appreciated.

In addition, we now have 17 institutional members. This list can be found on page 33. If your school is not listed, you might want to remind your department chair to attend to this matter. Last year at this time there were 134 dues-paying individual members, including 44 sustaining members, and 24 institutional members.



	3/'05	3/'06	3/'07	3/'08	3/'09	3/'10
<i>dues-paying members</i>	90	93	92	90	90	85
<i>sustaining members</i>	51	52	50	50	44	51
<i>institutional members</i>	25	18	26	28	24	17

If you have not yet sent in a dues payment and wish to do so, the membership form can be found on page 33.

The Michigan Section's current bank balance is \$4878.93. This year's balance is ahead of last year's balance at this time, which was \$3828.25, due to your support of the 2009 Annual Meeting. With that noted, we have a good balance of income and expenses, and the Section is in good shape financially.

Mark Bollman, Secretary/Treasurer

EMU in May

Michigan NExT

The 2010 Michigan NExT Symposium will be held on the afternoon of Saturday, May 8, on the campus of Eastern Michigan University. This year's symposium will address the issues of organizing and running an effective mathematics capstone course/experience for math majors. What makes a meaningful capstone experience? Is one necessary? Should it involve research? Is it right for all of our students? We will be interested in hearing about what schools are doing and what is working.

While we extend a special invitation to pre-tenure faculty members at Michigan colleges and universities to participate, we encourage a broad participation from any faculty members who are interested in a mathematics capstone experience.

To register for the symposium or to volunteer to give a short (15 to 30 minutes) talk about this year's topic, the capstone experience, please email David Murphy (dmurphy@hillsdale.edu) by Friday, April 30.

David Murphy, Hillsdale C

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Teaching Award Nominations Sought

The Distinguished Teaching Award Committee—**Tim Carroll** (EMU), **Eddie Cheng** (OU), and **Lisa DeMeyer** (CMU)—is pleased to announce that the 2010 recipient of this award is **Mike Merscher** from LTU.

Mike will join the continuing members of the Distinguished Teaching Award Committee (Eddie and Lisa) to select next year's recipient of the award. Nominations for the 2011 award will be accepted beginning in the Fall. Please be aware that the nomination process has changed significantly from that of previous years. Completed nominations must be received by November 1, 2010 to be considered for the 2011 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 Spring 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.

Tim Carroll, EMU

Student Chapter News

Andrews University

On January 22 faculty member **Keith Calkins** gave a talk on the game of Set for the meeting of our Pi Mu Epsilon Chapter (meeting jointly with Eigen, the Math/Physics club)—with the conclusion that 20 is the maximum number of cards that can be held without having a “set”.

Eastern Michigan University

The math department has an active math club for the first time in years.

Lawrence Technological University

The student chapter is busy constructing a Menger sponge. Officers this semester are **Rich Geyer**, President, **Alex Lane**, VP, **Stephanie Shevanock** and **Megan Hollowell**, Secretary/Treasurer, **Matt Lanting**, Webmaster. Stephanie and Megan replace **Ze Cheng** and **Weiyi Jiao**, who returned to Sichuan University.

Webmaster's Report

During the period from February 16, 2009 to February 16, 2010, the Section's Web site had 5,360 visits and 9,054 page views. The Section's top eight sources for this time period were as follows.

Google	2051 hits	38% of all visits
Direct Traffic	1163	22%
Google-Images	530	10%
Link from maa.org	240	4%
Link from vsu.edu	196	4%
Yahoo	174	3%
Link from math.hope.edu	172	3%

The page viewed most often was of course the index page, which accounted for 32.4% of all page views. Various issues of the *Newsletter* accounted for 13.7% of page views, and the history of the MMPC accounted for 7.4%.

Our Section Web site was established in 1995 with **Earl Fife** (Calvin C) as the first Webmaster. Earl stepped down as Webmaster in 2005, but he has continued to provide technical support and computer space. However, the MAA has recently begun to offer Web site hosting for Sections, and we will soon move our site to their server. It is my pleasure to thank Earl for his generous help over the years.

The MAA Web hosting service will give us a permanent site for online registration for Section meetings and a secure site for online payments. It will also enable us to set up wiki sites for Section members and restricted wikis for the Executive Committee and other committees. I will move our Web site to the MAA host some time later this year.

Sid Graham, CMU

MAA Campus Liaisons

Your MAA liaison wants to help you stay connected by keeping you posted on the latest happenings and opportunities offered by the Michigan Section. If you're not sure who your liaison is, check the list online at www.michmaa.org/liaisons.html.

If your institution does not have a liaison, please consider taking on this job. It's not a burdensome task, and you'll earn the appreciation of your departmental colleagues.

Please send any updates to the liaison list to David Austin (austind@gvsu.edu). Thanks!

David Austin, GVSU

Service Opportunity: Reviewing for Mathematical Reviews/MathSciNet

Michael A. Jones
Mathematical Reviews

Mathematical Reviews and its online version *MathSciNet* are published by the Mathematical Reviews Division of the American Mathematical Society (AMS) and provide timely reviews and abstracts of articles and books that contribute to research in the mathematical sciences. The first issue of *Mathematical Reviews* was published in 1940; *MathSciNet* (www.ams.org/mathscinet) went online in 1996. *MathSciNet* includes the latest reviews, but also serves as a compendium of all earlier reviews and provides tools to search the database, track citations, create bibliographic references, and find collaboration distances between authors. To date there are over 2 million reviews and over 15,000 reviewers worldwide, including mathematicians as well as researchers in partner disciplines such as computer science, statistics, physics, biology, and economics. Over 2,300 institutions subscribe to *MathSciNet*.

Mathematical Reviews moved to Ann Arbor in 1965 after 25 years on the Brown University campus in Providence, RI. Historically, MR has had close ties to the University of Michigan. Mathematical Reviews employs over 70 people, 16 of whom are mathematical content editors, and is located at 416 Fourth Street in a 1902 brick building that was the former home of a brewery.

Besides refereeing and organizing sessions at conferences, there are not many service opportunities that enhance a faculty member's research knowledge. In this article, I describe the reviewing process and its benefits, including some anecdotes and details about how reviewing connects one to the history of mathematics. I have been an Associate Editor at Mathematical Reviews since August 2008, after 14 years as a faculty member at various institutions.

The Reviewing Process

All content sent out for review has been published, which means that reviewing is quite different from refereeing. While a referee's task is

to determine whether an article is correct, interesting, and suitable to a journal, a reviewer's task is to summarize mathematical content in an effort to help other researchers determine if they should spend their time reading the item. The most helpful reviewers also place the mathematics into context and provide links to other reviews in the *MathSciNet* database. The styles of reviews, as well as length, have evolved over time, so that different fields of mathematics have their own styles. Typically, a review is less than a page in length. Reviewers are encouraged to return a review within 6 weeks and are given the option to transfer the item to another reviewer if unable to complete the review.

Advantages to Reviewing

At its core, reviewing is a service to the mathematical community. However, there are benefits to the reviewer as well. Reviewers use *MathSciNet* to stay up-to-date on the latest research in areas that they specify. This also allows reviewers to target areas about which they would like to learn more, in an effort to adjust their research interests. There is also a benefit in reading work that is adjacent to one's primary research. In the best case scenario, the reviewed paper will impact one's own research immediately. It is not uncommon for reviewers to write follow-up papers after finishing writing a review.

Reviewing can also positively impact your teaching. After reviewing a paper on the relationship between an enumeration of the positive rational numbers and optimal play in the combinatorial game Euclid, I introduced this to high school students in the 2009 Michigan Math and Science Scholars summer program.

Reviewing helps one focus on the main results of an article and to summarize succinctly these results. These skill sets transcend reviewing. Reviewing also promotes the reviewer—getting one's name out—and indirectly the reviewer's institution. A well-written review may be read more times than the corresponding paper.

Mathematical Reviews gives a token payment for reviews. Reviewers earn 8 AMS points for each published review. Each AMS point gives a \$1 discount on individual membership to the AMS (for which a maximum of 16 points can be used for each year membership) and/or on the purchase of AMS publications.

Take Control of the Reviewing Process

Reviewers can specify the number and subject area of the items that they wish to review. Most reviewers agree to have up to 3-6 articles to review at one time. However, beginning reviewers often decide to receive only 1-2 items at a time. Reviewers designate Mathematics Subject Classification (MSC 2010) numbers and provide a short written description of the types of items that they wish to review (e.g., graphs and their spectra). Hence, reviewers have control of both the breadth and the volume of the items that they review. Being as detailed and specific as possible helps editors assign articles that are germane to reviewers' interests. Because I knew the interests of a colleague/co-author/reviewer, I sent him a paper to review that was tangential to his primary research interests. However, because of a toolkit that he possessed, I fully expected him to be able to expand the work; he did so, writing a follow-up paper.

Brush with Fame

Of the 48 Fields Medal winners, 29 of them have been reviewers for MR at one time in their careers; Sir **Michael Atiyah** wrote 229 reviews, while **Simon Donaldson** wrote 1 review. *Mathematical Reviews/MathSciNet* connects all mathematicians to the mathematical enterprise and the history of mathematics. For example, the first issue of *Mathematical Reviews* is a snapshot of well-known mathematicians, including reviews by **George Pólya**, **Paul Erdős**, and **H.S.M. Coxeter**, to **Norman Steenrod**, **John von Neumann**, and **Dirk Struik**. Being a reviewer may also connect you to a well-known mathematician in a more direct way. I recently sent out a paper written by Nobel Prize winning mathematician **John Nash** (on which the movie "A Beautiful Mind" was based); besides compendia of previously published works, this was the first research article (covered by MR) published by Nash in over 40 years. The reviewer appreciated having the opportunity to review Nash's work on the agencies method for modeling coalition formation and cooperation in games.

Local Reviewers

The Michigan section has fielded many reviewers, including but not limited to **Sandra Arlinghaus** and **Alexander Barvinok** (UM-Ann Arbor), **Mark Bollman** (Albion C), **David Burns** (FSU), **Eddie Cheng** and **Jerry Grossman** (OU), **Richard Fleming**, **Leszek Gawarecki**

(KU), **Sid Graham** and **George Grossman** (CMU), **Jonathan Hall** (MSU), **Shandelle Henson** (Andrews U), **Harmut Höft** (EMU), **Margret Höft** (UM-Dearborn), **Daniel Isaksen** (WSU), **Robert Molina** (Alma C), **Darin Stephenson** (Hope C), **Jeffrey Strom** (WMU), **Vladimir Tonchev** (MTU), **Gerard Venema** (Calvin C), and **Roxin Zhang** (NMU).

Becoming a Reviewer

If you are interested in becoming a reviewer, please contact Reviewer Services at mathrev@ams.org. Please provide a list of publications and the areas in which you would be interested in reviewing (include the MSC 2010 numbers).



Volunteers at Grading Day for the 53rd MMPC, held January 16 at SVSU.

MMPC Honors Top High School Students

The top 100 high school students in mathematics, from 32 different schools, were honored for their achievement in the 53rd Annual Michigan Mathematics Prize Competition at the MMPC Awards Day, held on Saturday, February 27, 2010 at Saginaw Valley State University. This is the second year of the three-year term of the MMPC Director, **Hasan Al-Halees** (SVSU).

Garry Johns (SVSU) spoke on “The Mathematician’s Secret: Seeing the Invisible”, and **Jerrold Grossman** (OU) spoke on “The Joy of Recursion”.

The first-place Gold Award winner was **Allen Yuan** (Detroit Country Day). The second-place Gold Award winner was **Robin He** (Ann Arbor Huron High School). The third-place Gold Award winner was **Neil Gurram** (Detroit Country Day). The first-level Silver Award went to **Siddhant Dogra** (Detroit Country Day) and **Peter Su** (Salem High School), the second-level Silver Award went to **Zhuo Song** (Detroit Country Day) and **Daniel Kriz** (Ann Arbor Pioneer High School), and the third-level Silver Award went to **Ram Bhaskar** (International Academy), **Mason Liang** (Troy High School), and **Heemyung Hwang** (Ann Arbor Huron High School). There were 40 Bronze Award winners, and 50 students received an Honorable Mention. The top female was Heemyung Hwang.

The top 50 students of the competition received scholarships ranging from \$250 to \$2600. The honorable mention winners this year were given an MAA bookstore gift certificate.

Part I of the competition, administered on October 7, 2009, consisted of 40 multiple-choice questions. About 1240 participants in Part I were invited to participate in Part II, administered on December 2, 2009. Grading Day was on January 23, 2010. The official Web site of the MMPC, www.svsu.edu/mmpc, contains much additional information about the competition. Part I and Part II of the competition are given in October and December, respectively, of each year.

EMU in May

MMPC Top 100 Statistics

- The top Gold Award winner, **Allen Yuan**, is a junior. The second-place Gold Award Winner, **Robin He**, is a senior. The third-place Gold Winner, **Neil Gurram**, is a senior. He was the second-place Gold Award winner last year.
- Of the seven Silver Award winners, two are seniors, two are juniors, one is a sophomore, one is a freshman, and one is a seventh-grader.

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	2	90.4	9	4	83.8
11	1	96.8	8	46	44.6
10	5	79.2	7	6	78.8

Top 100 Results by Grade

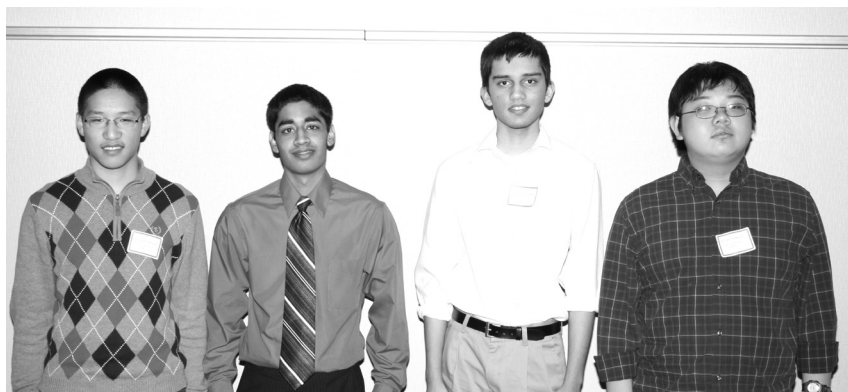
<u>Grade</u>	<u>Total</u>	<u>12</u>	<u>11</u>	<u>10</u>	<u>9</u>	<u>8</u>	<u>7</u>
# in Top 100	100	39	30	16	9	5	1

Top 100 Results by Gender

<u>Grade</u>	<u>Total</u>	<u>M</u>	<u>F</u>
Scholarships	50	40	10
Honorable Mention	50	42	8
Total	100	82	18

- 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 16 (out of 40).
- The cutoff score to make the top 50 of the competition this year was 43.8.
- 43% of the original contestants were females, as were 34% of those who qualified for part II.

MMPC Awards Day, Saginaw Valley State University, February 27, 2010



Silver Award Winners (l to r): Peter Su, Ram Bhaskar, Siddhant Dogra, and Zhou Song.



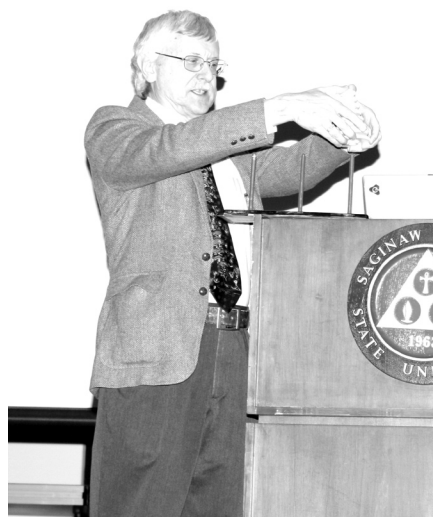
Section Chair Darin Stephenson recognizes First Level Silver Winner Siddhant Dogra.



Following the two afternoon talks, a banquet for the Top 100 students, their parents, and their teachers was served.



In a new tradition, the schools of the Top 100 were recognized. Here Darin Stephenson recognizes H. H. Dow H.S., represented by Johnny Chatman.



In the afternoon Jerry Grossman spoke on "The Joy of Recursion".



Above: Curtis Hall was the setting for the talks and banquet. Below: Garry Johns spoke in the afternoon on "The Mathematician's Secret: Seeing the Invisible".



Ram Bhaskar and Sherwin Wu spoke on their experiences at the ARML competition and encouraged others among the Top 100 to take part.

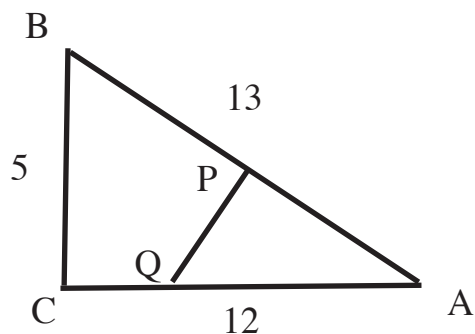


53rd MMPC Part II Problems

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

- Given a group of n people. An A-list celebrity is one that is known by everybody else (that is, $n-1$ of them) but does not know anybody. A B-list celebrity is one that is known by exactly $n-2$ people but knows at most one person.
 - What is the maximum number of A-list celebrities? You must prove that this number is attainable.
 - What is the maximum number of B-list celebrities? You must prove that this number is attainable.
- A polynomial $p(x)$ has a remainder of 2, -13 and 5 respectively when divided by $x+1$, $x-4$ and $x-2$. What is the remainder when $p(x)$ is divided by $(x+1)(x-4)(x-2)$?
- Let x and y be positive integers satisfying $x^2 + y = 4p$ and $y^2 + x = 2p$, where p is an odd prime number. Prove: $x + y = p + 1$.
 - Find all values of x , y and p that satisfy the conditions of part (a). You will need to prove that you have found all such solutions.
- Let function $f(x, y, z)$ be defined as following:

$$f(x, y, z) = \cos^2(x-y) + \cos^2(y-z) + \cos^2(z-x), \quad x, y, z \in \mathbb{R}.$$
 Find the minimum value and prove the result.
- In the diagram below, ABC is a triangle with side lengths $a=5$, $b=12$, $c=13$. Let P and Q be points on AB and AC, respectively, chosen so that the segment PQ bisects the area of $\triangle ABC$. Find the minimum possible value for the length PQ.



Thanks from the MMPC Director

I would like to formally thank many of the people that 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 **Ada Cheng** (KU), **Jennifer Zhao** (UMD), **Eddie Cheng** (OU), and **Sid Graham** (CMU). 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 sincerest 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 that served as contacts and were invaluable participants in this process. I would like to thank **Garry Johns** (SVSU) and **Jerrold Grossman** (OU) who gave talks in front of the MMPC winners on Awards Day. I would like to thank the companies and foundations that donated to this event this year and last year: The MEEMIC Foundation, DTE Energy, Weinlander Fitzhugh, Glass Tender, The World's Best Roof. My appreciation and thanks go to **Janet Rentsch**, Director Sponsored Programs at SVSU for her valuable help in contacting those Foundations and Companies. I would like to thank **Deborah Huntley**, Dean of SVSU College of Science, Engineering and Technology, for taking time out of her busy schedule to speak to these young mathematicians at the beginning of the Awards Day ceremony.

Hasan Al-Halees, SVSU

Distinguished Service Award

Past Chair **Matt Boelkins** is delighted to report that **Ruth Favro** of Lawrence Technological University has been selected to receive the Section's 2009–2010 Distinguished Service Award. Details will appear in the Fall 2010 *Newsletter* and Ruth will be recognized at the Awards Dinner at EMU on Friday, May 7, 2010.

EMU in May

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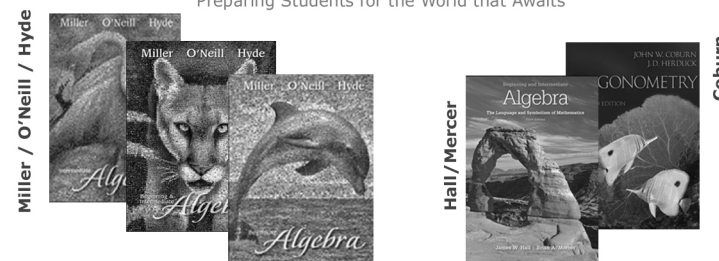
For more information contact:

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News from the Campuses

Andrews University [reported by Donald Rhoads]

Mathematics is becoming more prominent as a major at Andrews. This year we have a total of 45 mathematics majors (including two who graduated mid-year and three graduate students), up from 10–20 majors a decade ago. Ten of these are Mathematical Studies majors, a 30-hour “second” major for students with a first major in another field. We find it especially gratifying that 10 of our majors are Black and 4 are Hispanic, reflecting the diversity of the Andrews student population. Approximately 1/3 of the current majors are women. • **Shandelle Henson** gave an invited address at the Second International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems, University of Alabama, Huntsville, October 9, 2009. She also presented an invited talk at the Joint Mathematics Meetings in San Francisco, “Darwinian Dynamics of Avian Populations with Reproductive Synchrony”. [dhr@andrews.edu]

Calvin College [reported by John Ferdinands]

Marilyn Myers has returned to the department after a two-year leave at University College, Dublin, Ireland as a IRCSET postdoctoral fellow. [ferd@calvin.edu]

Eastern Michigan University [reported by Tim Carroll]

Andrew Ross have developed a new one-credit course that surveys a wide range of mathematical software, each package getting roughly two weeks. • [tcarroll@emich.edu]

Grand Valley State University [reported by Paul Fishback]

The Research Experiences for Undergraduates (REU) at GVSU has been funded for another 3 summers. The principle investigators on the grant are **William Dickinson** and **Jonathan Hodge**. **Ed Aboufadel** and **Steve Schlicker**, who led the program the past several years, will continue to be research mentors. Further program information may be found at gvsu.edu/mathreu. • GVSU will host the 13th Annual Michigan Undergraduate Mathematics Conference at its Pew (downtown) Campus on Saturday, October 10, 2010. See the report on p. 27. • The Michigan Council of Teachers of Mathematics Scholarship Endowment Fund Committee (MCTM-SEF) is engaged in writing 13 grade-level books intended for children to use throughout the summer to mitigate summer learning loss. The Michigan Mathematics Activity Book Series is publishing the first three books in February: *Adventures with Mathematics: Climbing from Grade 1 to Grade 2*, *Adventures with Mathematics: Climbing from Grade 4 to Grade 5*, and *Adventures with Mathematics: Climbing from Algebra 1 to Geometry*. By the end of May, *Adventures with Mathematics: Climbing from Geometry to Algebra 2*, and *Adventures with Mathematics: Probability and Statistics*, are expected to be ready for sale. Work is ongoing on the remaining grade level books. Check mictm.org for availability. Proceeds benefit the MCTM Scholarship Endowment

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Fund, which supports scholarships for prospective K–12 mathematics teachers. The MCTM-SEF is accepting activities and short problems for the upcoming books. Please contact **Charlene Beckmann** (beckmannc21@aol.com) if you are interested in submitting. Submissions are due June 1, 2010. Editing teams will be finalizing books over the summer. [fishbacp@mail.gvsu.edu]

Hope College [reported by Todd Swanson]

Stephanie Edwards was recently granted tenure. • **Mary DeYoung** received Hope's **Janet L. Andersen** Award for Excellence in Teaching. • **Mark Pearson** is on sabbatical for the calendar year. [swansont@hope.edu]

Lawrence Technological University [reported by Michael Merscher]

The eleventh annual Robofest World Championship will be held at LTU on May 8, with **Chris Cartwright** filling in for **CJ Chung** this year as head. Get well soon, CJ. The 40th annual LTU Mathematics Competition for high school students will be on May 2. As in previous years, the competition will be authored by **Mike Merscher**. **Ruth Favro** will lead six teams of LTU students as they tackle the Mathematical Contest in Modeling this Spring. [merscher@ltu.edu]

Schoolcraft College [reported by Randy K. Schwartz]

Lois Bearden is on leave this Winter for knee surgery. • Recent campus talks included: Jan. 8, "Math and Biology 2010: Are We There Yet?" (**Kathy Jankoviak Anderson**, Schoolcraft C); Feb. 5, "Pick a Real Number Between 1 and 10: A Look at Probability and the Infinite" (**Michael McCoy**, Schoolcraft C); and Mar. 19, "Some Mathematical Models in Biology and Medicine" (**Anna Maria Spagnuolo**, OU). [rschwartz@schoolcraft.edu]

Spring Arbor University [reported by Garnet S. Hauger]

Spring Arbor U welcomes a new full-time Assist. Prof., **Julie Miker**, who received her Ph.D. from U of Kentucky this past Fall. She arrived in January. **Tim Wegner**, who has a masters degree in mathematics from CMU, filled in for Julie this last fall until she could arrive in January. We were grateful to have Tim available to us for the fall semester and for a January interim class. He plans to return to graduate school to work on a Ph.D. Although **Garnet Hauger** has officially retired (a couple of years ago), she continues to teach and do some administrative work for the department. We instituted an Actuarial Science major a couple of years ago and the program is growing respectfully. The number of students and prospective students interested in the program is growing each year. • Julie Miker will give a Natural Science Seminar on campus on March 12. [Garnet.Hauger@arbor.edu]

University of Michigan-Dearborn [reported by Margret Höft]

The Department of Mathematics of UM-Dearborn will host the Spring Meeting of the Great Lakes Section of SIAM on April 17, 2010. The conference's focus is on Modeling and Numerical PDEs in Mathematical Biology. Plenary speakers

are **Avner Friedman** (MBI, Ohio State U), **Leonard Sander** (UM-Ann Arbor) and **Mark Alber** (U of Notre Dame). More information about the conference can be found at www.engin.umd.umich.edu/glsiam/spring10.htm. [mhofth@umd.umich.edu]

Wayne State University [reported by Daniel Drucker]

In honor of Prof. **Rafail Khasminskii**'s recent retirement, and in appreciation for his distinguished service to our department and the university for many years, we designated February 15, 2010 as Rafail Khasminskii Day. We held a luncheon in his honor at the McGregor Conference Center, followed by a coffee hour and a special colloquium lecture, "Qualitative behavior of solutions of SDEs and applications" by Prof. Khasminskii. • The Nineteenth Annual Owen Owens Memorial Lecturer will be **Stephen Robinson** of the U of Wisconsin-Madison. The lecture will be held at 3 p.m. on Wednesday, April 7, in 116 Kresge Library on the WSU campus. For further information, check the department's Web site at www.math.wayne.edu. [drucker@math.wayne.edu]

Michigan Undergraduate Mathematics Conference

Grand Valley State University will host the 13th Annual Michigan Undergraduate Mathematics Conference at its Pew (downtown) Campus on Saturday, October 10, 2010. This year's keynote speaker is **Dan Kalman**,



Professor of Mathematics at American University in Washington, D.C., who will speak on "The Most Marvelous Theorem in Mathematics." Dan has been an invited speaker at numerous national and regional mathematics conferences, and has spoken to student clubs and PME chapters many times. His mathematical writing has been recognized with multiple MAA awards: a Ford Award in 2009, Allendoerfer Awards in 1998 and 2002, Pólya Awards in 1994 and 2002, and an Evans Award in 1997. He is the author of

two books published by the MAA. Kalman has served on the Editorial Boards for several MAA publications and is currently on the board for *Math Horizons*. The organizing committee consists of **Paul Fishback** (fishbacp@mail.gvsu.edu), **Firas Hindeleh** (hindelef@gvsu.edu), and **Akalu Tefera** (teferaa@gvsu.edu). Up-to-date conference information, including registration, is posted at www.mumc2010.org.

Paul Fishback, GVSU

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 7, 2010 at Eastern Michigan University during the Annual Meeting. One of the major items of business is the election of officers. The Nominating Committee, chaired by **Matt Boelkins** (GVSU), will propose a slate of candidates. **Tim Husband** (Siena Heights U) will be nominated for Chair. Nominations for Four-Year College Vice Chair will be presented at the business meeting and will also be distributed through the Liaisons e-mail list as soon as they are available. 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 35.

Matt Boelkins, GVSU

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 2010 unless otherwise stated, and further information is available from the department.

Eastern Michigan University hopes to have a position for the Fall.

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/jobs) anticipates the hiring of one new full-time mathematics instructor.

EMU in May

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Contest News

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. The American Mathematics Contest 8 (AMC 8) for students in grades 8 and below is a 25-question, 40-minute multiple choice examination in junior high school (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 2009 AMC 8 Exam was taken by 5072 students from 68 schools in Michigan on November 17, 2009. The overall Michigan average score was 9.26, one point lower than last year. **Alex (Zhuo Qun) Song**, an seventh grader from Detroit Country Day Middle School (Beverly Hills), **Raj Raina** and **Apurva Shrivastava**, both eighth graders from Novi Middle School (Novi), and **Dhruv Medarametla**, a sixth grader from ICAE (Troy), got the perfect score of 25. Six students achieved a score of 24.

The Harvard-MIT Mathematics Tournament (HMMT) is an annual math tournament for high school students, held at MIT and at Harvard in alternate years. It is run exclusively by MIT and Harvard students. Most of these students participated in math contests in high school; they try to incorporate what they liked best about those competitions into the HMMT to make the contest both challenging and entertaining for all the participants. This year, the thirteenth annual HMMT will be held at Harvard on Saturday, March 20, with a total of approximately 900 students participating. 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 DCDS Alumni and Donors. The eight team members are **Neil Gurram** (DCDS Senior), **Robin He** (Ann Arbor Huron Senior), **Randy Jia** (DCDS Junior), **David Lu** (DCDS Sophomore), **Alex Song** (DCDS Seventh Grade), **Kevin Wu** (Cranbrook Senior), **Sherwin Wu** (DCDS Senior), and **Allen Yuan** (DCDS Junior). Among them, Neil Gurram was ranked 7th in the Algebra Subject Test and 9th in the Calculus Subject Test; Alex Song was ranked 5th on Geometry Subject Test; and Allen Yuan was ranked 6th overall for Individual total, placing 2nd in the Algebra Subject Test and 10th in the Combinatorics Subject Test. The team finished 6th overall in the Sweepstakes and 4th in Guts, also earned a ranking of 14th in the Team Test portion of the Tournament.

Allen Yuan was the only Michigan student invited to represent the United States at the 2010 Romanian Masters in Mathematics Olympiad, along with 3 other students (**Brian Hamrick** of Alexandria, VA, **Vlad Firoiu** of Westford, MA, and **Timothy Chu** of San Jose, CA). The Top 20 Nations from the 2009 International Mathematics Olympiad are invited to this competition. The Romanian Masters was held in Bucharest, Romania from February 24 through March 1. The contest consists of two sets of three problems, given over two four-and-half-hour periods. The USA team ranked third after Russia (first) and China (second), Allen was a silver winner.

Ada Dong, OU

EMU in May

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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 2009–2010, as of February 18, 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 33, and please be generous!

Edward Aboufadel	William Lewis
Yousef Alavi	Laszlo Liptak
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Mary Bragg	Vincent Maltese
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As of February 18, the 19 colleges and universities listed below have begun or renewed their institutional memberships in the Michigan Section for 2009–2010. Tardy institutions and others who wish to join are encouraged to send in their dues, using the form below.

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Central Michigan University	Olivet College
Grand Valley State University	Saginaw Valley State University
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The 2009–2010 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.

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COMMITTEES AND APPOINTMENTS

Michigan Section

Mathematical Association of America

Contact Information

Executive Committee

<i>Chair</i>	Darin Stephenson (10)	Hope C	stephenson@hope.edu	616-395-7524
<i>Vice Chair</i>	Thomas Kelley (10)	HFCC	tkelley@hfcc.edu	313-845-6492
<i>Vice Chair</i>	Timothy Husband (10)	SHU	thusband@sienaheights.edu	517-264-7647
<i>Sec/Treas</i>	Mark Bollman (10)	Albion C	mbollman@albion.edu	517-629-0261
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<i>Governor</i>	Bette Warren (10)	EMU	Bette.Warren@emich.edu	734-487-1444

High School Visiting Lecture Program (HSVLP)

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<i>Co-Dir.</i>	Andrew Ross (11)	EMU	aross15@emich.edu	734-487-1064

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:

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<i>Member</i>	Sid Graham (13)	CMU	grahalsw@cmich.edu	989-774-3813

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Organizing Committee: Upper Peninsula Regional Meeting

<i>Chair</i>	Brian Snyder	LSSU	bsnyder@gw.lssu.edu	906-635-2658
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Other Appointments and Contacts

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<i>WAM</i>	Toni Carroll	Siena Heights U	toni@alpha.sienahts.edu	517-264-7658
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<i>Archivist</i>	John W. Petro	WMU	john.petro@wmich.edu	616-387-4591
<i>Mich NExT</i>	David Murphy (11)	Hillsd.	dmurphy@hillsdale.edu	517-607-2384
<i>MCTM Lia.</i>	Bette Warren (10)	EMU	Bette.Warren@emich.edu	734-487-1444

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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
Employer		Position	

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