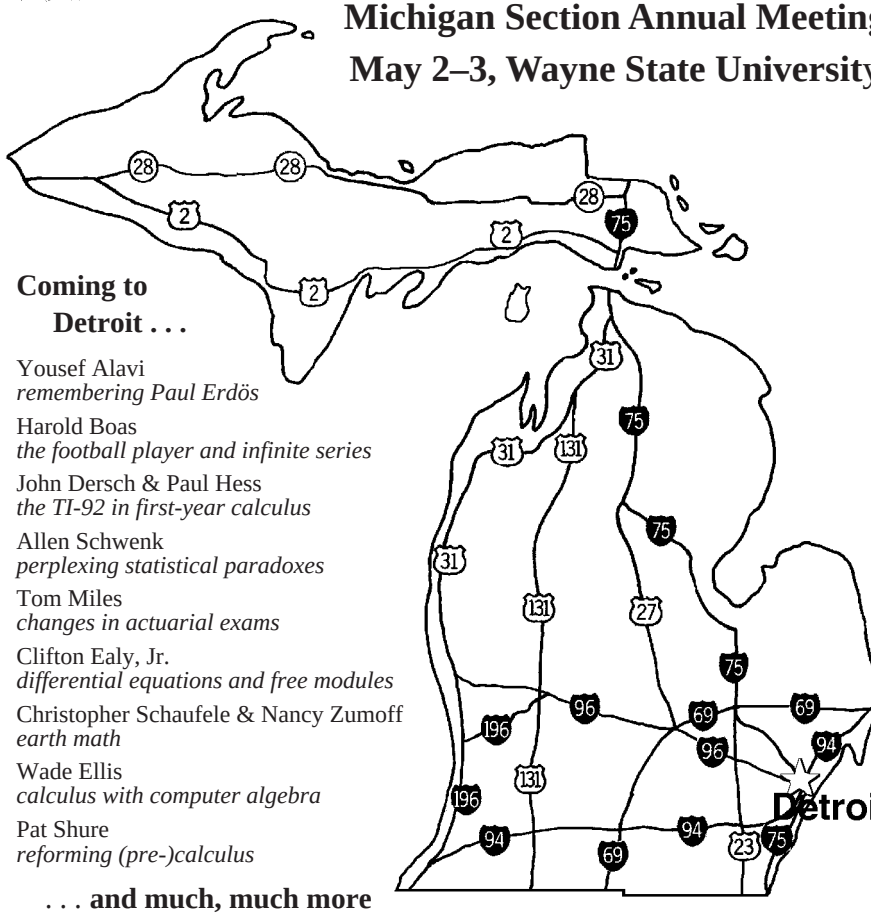
Michigan Section – MAA

NEWSLETTER

Volume 23, Number 2 **April 1997**

Michigan Section Annual Meeting
May 2–3, Wayne State University



Coming to Detroit . . .

Yousef Alavi
remembering Paul Erdös

Harold Boas
the football player and infinite series

John Dersch & Paul Hess
the TI-92 in first-year calculus

Allen Schwenk
perplexing statistical paradoxes

Tom Miles
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calculus with computer algebra

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. . . and much, much more

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Mathematical Association of America
Michigan Section Newsletter
Volume 23, Number 2

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Abbreviations

CC = Community College
CMU = Central Michigan U
EMU = Eastern Michigan U
FSU = Ferris State U
GVSU = Grand Valley State U
LSSU = Lake Superior State U
LTU = Lawrence Technological U
MSU = Michigan State U
MTU = Michigan Technological U
NMU = Northern Michigan U
SVSU = Saginaw Valley State U
U = University
UD = U of Detroit Mercy
UM = U of Michigan
WMU = Western Michigan U
WSU = Wayne State U

Annual Meeting Set for May 2–3

This year's annual meeting of the Michigan Section of the MAA and MichMATYC, being held jointly with the Central Section Meeting of the American Mathematical Society (AMS), will take place at Wayne State University in Detroit during the first weekend of May. Breaking slightly with tradition, the sessions this spring will be held on Friday afternoon and all day Saturday, May 2–3. As always there will be a full schedule of addresses, talks, panel discussions, and workshops.

Speakers from outside of Michigan include **Harold Boas** (Texas A&M), **Robert Calderbank** (AT&T), **Wade Ellis** (West Valley College), **Joseph Gallian** (University of Minnesota–Duluth), **Arnold Ostebee** (St. Olaf College), **Christopher Schaufele** and **Nancy Zumoff** (Kennesaw State University).

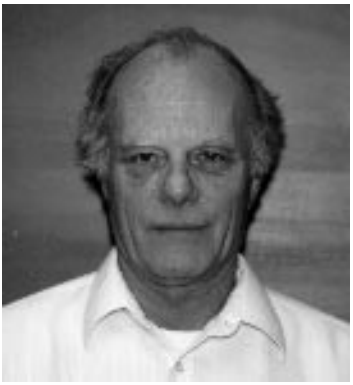
Complete details about the schedule, abstracts, registration, and accommodations are contained in the Program for the Annual Meeting which is included with this *Newsletter*. The program is also available on the Section's web site (`http://archives.math.utk.edu/~efife/MAA/`). The AMS program is available on the World Wide Web (`http://www.ams.org/amsmtgs/2011_program.html`), as is a page full of local information for the AMS portion of the meeting (`http://www.math.wayne.edu/~yang/amsdet.html`).

The program committee consists of **Matt Wyneken** (UM-Flint) and **Jim Chesla** (Grand Rapids CC).

Call for Volunteers

The Section will likely need some help for things such as registering participants, assisting vendors, providing directions, and so on. If you (or your students) are willing to help out, please contact **Dick Phillips** at MSU (517-353-4689; `rphillips@math.msu.edu`).

Chairperson's Report



I attended a recent departmental committee meeting (so what's new?) and was confronted by the astonishing fact that the last two years have witnessed a dramatic decline in the number of undergraduate mathematics majors. While this was of particular concern in my own department, I discovered shortly afterwards that this is a problem across the State of Michigan, and indeed, nationwide.

Why is this happening? We are constantly reminded that mathematics is a key player in the technologically based future, that the "worker" of the future must have at least some mathematics proficiency, and that as a nation we are in jeopardy because the performance of our K–12 students in mathematics and science lags far behind that of economically competing nations. This would seem to point to the need for an increase in the number of university students majoring in mathematics. As a mathematical community, we should seriously begin to analyze why increased demand for mathematics is not translating into more majors in mathematics. There are two broad areas where we can at least begin to ask some relevant questions.

(1) Is the mathematics we teach the mathematics the outside world wants and needs? Lots of tensions are centered around this point. Technology has definitely changed the way mathematics is used. In the face of this, what should be taught? Should we teach students to use the technology? Should we use the technology to bypass symbol manipulation in favor of concepts? I have no answers here, but these are points we should all actively consider.

(2) Are we doing an adequate job with career counseling? We are frequently asked (by good students) exactly what the career opportunities are for a bachelors (or masters) degree in mathematics. Are we able to answer? Do we know? I suspect we fare very poorly on this front. Given this, what's to be done about it? It would likely serve us well to take the issue of careers much more seriously. Initiation of data

bases indicating which careers are taken up by mathematics majors would be a good start (the AMS does a good job of this at the PhD level and organizations such as the Young Mathematicians Network have helped considerably). Forums on career opportunities at professional meetings should perhaps begin receiving much more attention.

The point here is not to exhaust all of the issues, but to highlight a serious professional concern. We should not be having these problems convincing students that mathematics is a vibrant and exciting subject that will serve them well throughout their lives.

Richard Phillips, Chair

Electronic Service Officer's Report

Math Awareness Week is April 20–26, and its topic is "Mathematics and the Internet". A link to the national Mathematics Awareness Week activities is on the Michigan Section home page (`http://archives.math.utk.edu/~efife/MAA/`). Read the theme essay, browse links related to Math Awareness Week, and view posters which depict world-wide Internet activity over a two-hour period.

When you receive this *Newsletter*, if your department has a web page, please check to see that it is included (and correct) in the Section's home page under the heading "Institutions in the Michigan Section". Also, if your department has set up a topical page which would be of interest to the Michigan Section, contact me so that I can establish a link to it.

By the time you receive this *Newsletter*, both the *Newsletter* and the spring meeting information and schedule should be up on the section page. Let me know of other items that you feel should be accessible online. I can be reached by email at `fife@calvin.edu`.

Earl D. Fife, Public Information Officer

Secretary and Treasurer's Report

The Michigan Section's current bank balance is $5,338.80. Although this balance is significantly lower than it was at the same time last year, it is not a cause for immediate concern (the Executive Committee will be asking for a dues increase—the first since 1989—at the annual meeting, however). Of greater concern is the low response to our annual request for membership dues. (Many thanks to those who have sent in their dues! The lists of institutional members and sustaining individual members are shown on pages 22 and 24.)

Here, for comparison, are the figures as of March 1 and a similar point last year:

	March 1997	March 1996
regular members	122	163
sustaining members	54	68
institutional members	26	30

This drop in membership is troubling because we depend on active members to keep the Section vibrant. We exist to serve the mathematics community in Michigan; we cannot succeed without that community's involvement and support.

If you have not sent your membership dues for 1996–97, you can still do so. Please fill out the membership form on page 28 of this *Newsletter* and send it and your check to me. If you cannot remember whether or not you have paid your 1996–97 dues, I will be happy to let you know by e-mail (mth_warren@online.emich.edu), phone (313-487-0121), or (slowly) mail.

Mathematics departments can send institutional dues to me as well, at the address on the dues form. Institutional dues are $30 for a small institution and $50 for a large institution.

This year we asked that you provide some demographic informa-

tion on your dues form. From the responses so far, among our members we have: 3 undergraduate students, 6 graduate students, 14 K–12 teaches and administrators, 123 faculty and administrators in higher education, 9 who work in industry, 18 who are retired, and 1 in the military. Thanks to all who responded.

On the institutional membership side, our members include 11 private colleges and universities, 9 state colleges and universities and 6 two-year colleges.

Bette L. Warren, Secretary/Treasurer

High School Visiting Lecture Program Report

Several years ago the Michigan Section of the MAA established the High School Visiting Lecture Program (HSVLP). This year 21 speakers have volunteered and over 20 talks have been given so far. In addition to sharing the speaker's interest in mathematics, these visits provide exposure for his or her institution and department.

Popular subjects include applications, extensions of high school topics such as non-Euclidean geometry, fractals or spherical trigonometry, and careers in mathematics. Recreational talks are often requested as well.

Teachers request speakers from the list of volunteers and their talks. When filling requests we try to limit trips to 50 miles one way (travel is reimbursed) and to assign only one or two talks per year per person. These guidelines necessitate having multiple speakers and repeated topics in each region of the state.

If you have a presentation appropriate for high school students, or would like more information, please contact me at Saginaw Valley State University (glj@tardis.svsu.edu; 571-790-5688).

As I complete my third year as the director, I want to thank the many volunteers for their willing participation. Next year **Mike Gilbert** (SVSU) will oversee the program.

Garry Johns, HSVLP Director

Governor's Report

I want to give a word of appreciation to **Tom Miles**, **Dick Phillips**, **Matthew Wyneken**, **Jim Chesla**, and **Bette Warren**, who have served faithfully as our officers on the Executive Committee of the Michigan Section this year. **Jerry Grossman** is doing a marvelous job as *Newsletter* Editor. Grand Valley State University has hosted the MMPC for the past three years, with first **Steve Schlicker** and then **Karen Novotny** serving as Director. **Earl Fife** continues to serve as our Webmaster and Public Information Officer.

This is just the beginning. The members of the MMPC Exam Committee and the various other committees in the Section continue to make invaluable contributions. The fact is, the success of the programs and activities of the Michigan Section is very dependent on the hard work of many loyal MAA members. I close this remark with a word of appreciation for another very special friend, **J. Sutherland Frame**, Professor Emeritus from Michigan State University, who died at age 89 on February 27. For many of us, he was Mr. Michigan Section and Mr. Pi Mu Epsilon. We are all saddened to learn of the death of this dear friend, colleague, and renowned scholar.

At the national level, MAA has recently undergone major reorganization, which has resulted in operating deficits over the past two years. The Board of Governors is in the process of approving a budget which should bring expenditures back in line with revenues. Dues will increase 3% next year. The MAA needs and deserves your support. Renew your MAA membership, both in the national MAA and in the Michigan Section (see forms on pages 32 and 28). Enlist colleagues and students in your department to do the same. Be sure that your department is an institutional member at both the national and the state level. Finally, don't forget to attend MathFest '97 in Atlanta on August 2–4.

John W. Petro, Governor, **Michigan Section–MAA**

Don Lick Honored

Professor **Don R. Lick** (EMU) was awarded one of five Certificates of Meritorious Service at the January 1997 national MAA meeting in San Diego. These awards, established in 1984, are given for service to the MAA at the national level or for service to a section of the Association; the recipients are selected by the sections on a rotating basis, once every five years per section.

The citation presented to Dr. Lick reads, in part, as follows:

The Michigan Section of the MAA is pleased to recognize Professor **Don R. Lick** as its 1997 recipient of the Certificate of Meritorious Service. We gratefully acknowledge, with many thanks, the substantial contributions that he has made to the Michigan Section, to the MAA, and to the greater mathematical community.

Professor Lick has served the Michigan Section as Editor of the Section Newsletter from 1982 to 1984, as Vice-Chair of the Section from 1983 to 1984, as Chair of the Section from 1984 to 1985, and as Governor of the Section from 1986 to 1989. In addition, he has served the MAA as Chair of the Committee on the Teaching of Undergraduate Mathematics from 1989 to 1992, as a member of the Committee on a National Center for Teaching of Undergraduate Mathematics from 1989 to 1992, and as a member of a Subcommittee on Service Courses from 1990 to 1992. He has assisted with the local arrangements, program, and direction of numerous conferences. He is the author of one book, co-editor of four others, and the author of many research articles in analysis and graph theory. Under his leadership, Eastern Michigan University hosted the Annual Section Meeting in 1988, and the Michigan Mathematics Prize Competition for three years.

Professor Lick was a member of the faculty of the Department of Mathematics at Western Michigan University from 1972 to 1985, and has been Professor and Head of the Department of Mathematics at Eastern Michigan University since 1985.

Business Meeting to Decide Officers, Dues

The Nominating Committee will offer the following slate of candidates for election as officers of the Section for 1997–98: **Matthew Wyneken** (UM–Flint), Chair; **Bette Warren** (EMU), Vice Chair for Four-Year Colleges; **Jim Chesla** (Grand Rapids CC), Vice Chair for Two-Year Colleges; and **Ruth Favro** (LTU), Secretary/Treasurer. The Nominating Committee this year consisted of **Tom Miles** (CMU), chair, **Barbara Jur** (Macomb CC), and **Hugh Montgomery** (UM–Ann Arbor).

The Executive Committee will also propose an increase in Section dues, from $10 to $15 for individuals (from $25 to $30 for Sustaining Members), from $30 to $40 for small institutions, and from $50 to $70 for large institutions. This is the first dues increase in eight years and is felt to be needed in order to keep the Section's financial position sound.

From the Origin: A Section for Opinion

My coordinates in the universe? ... The origin, of course!

From the Origin provides a forum for lively discussion of issues of importance to the mathematical community. The Michigan Section–MAA Newsletter solicits opinion pieces for publication in this column from anyone in the Michigan mathematical community. In addition, comments on pieces published in earlier issues are welcomed.

Items for *From the Origin* should be submitted to the editor by the beginning of October to be considered for inclusion in the December issue and by the beginning of February for the April issue. Main opinion pieces should be at most 1800 words long, and responses at most 400. The editors reserve the right to shorten responses, if necessary, in order to fit as many as possible within the available space.

Paul Erdös died—or as he would say, "left"—in September at the age of 83. He was a frequent visitor to our state and had many friends, colleagues, co-authors, and acquaintances here. In this issue's From the Origin *column, long-time friend and co-author* ***Allen Schwenk*** *(WMU) shares some of his favorite Erdös stories in an essay he calls* Remembering Uncle Paul.

For the first six or eight years of our acquaintanceship, Paul always greeted me the same way, "Hello, where are you now?" Since I remained at the Naval Academy for that entire time, I thought this question was strange, until I realized that while he recognized my face as a mathematician, he couldn't place my name. The question gave him the vital clue he needed to identify me. Later, when my identity was secure, the greeting changed to "Hello, how are your boss and epsilons?"

Paul had the quaint custom of calling wives, husbands, and children bosses, slaves, and epsilons. Unfortunately, in our PC world this became unacceptable. With some effort his close friends broke him of the habit. "Paul, you mustn't say 'boss' and 'slave'. Young professional women find it offensive, and others don't approve of treating slavery so lightly." "But don't they understand that this is just a harmless joke I make?" "Yes, they understand, but they don't think it is funny." Fortunately, epsilons remain socially acceptable.

Once at a conference in Hayward, California, Uncle Paul, Frank Harary, and Vera Pless were interviewed on the radio by a local disk jockey. I must credit the interviewer for struggling mightily to find good questions to try to convey just what it is that these famous people do. Finally, just a little sheepishly, he asked Paul, "This may be a silly question, but if I were to give you two four-digit numbers, would you be able to multiply them together in your head?" "Not any more," Paul responded without missing a beat, "but I could do it when I was four!"

Paul's knowledge of the literature is legendary. Once my student Hang Chen explained the obscure problem he was working on involving degree sequences that share a prescribed set of "common moments". Paul closed his eyes for a minute, and then seemed to be reading from a card catalog. "If you look in a certain [Paul was specific, but I can no longer remember] Hungarian journal from 1947 for an article by a Chinese mathematician named Hua, you

will find work related to your question." We went to the library together and went straight to the source. Paul was exactly right—it was the reference we needed.

On another occasion, at a Kent State conference, I saw Paul drifting off in the front row. "The old boy can't keep up any longer," I thought to myself. "He should go back to his hotel room and take a nap." Then the applause ending the talk awakened him. He stirred himself and told the speaker, "This is a very interesting problem you have. If you go to such and so journal in such and so year and look for an article by so and so, I think you will find something similar to your work." And no one doubted that it would be so.

Paul had unique views on life. Once he asked me to drive him to the home of Dr. Gellert, his surgeon. The Gellerts were good friends as well. As we entered, their small dog yapped and snapped at our ankles. "Do not eat me, little dog," Paul said. "I am old and my legs are skinny and tough. They will not taste very good." Later in the car he reflected on this experience. "Many people have these little animals living in their houses. This I do not understand."

In spite of years of continuous experience, Paul never mastered the mechanical features of using an overhead projector. He could never find the on-off switch himself. Once in Atlanta he was speaking and had positioned the transparency carelessly on the glass. As he wrote $n \log n$, the n appeared at the edge of the transparency and the $\log n$ was on the glass. He then slid the transparency up a bit. When he looked back at the screen, he noticed the $\log n$ was mysteriously missing, so he wrote it a second time on the glass. Again he moved the transparency. I could see it coming. He wrote $\log n$ for the third time on the glass, and complained that something was wrong with this machine.

Mechanical things were not his forte. Once I took him back to his hotel and asked how he liked the room. "It's fine. There is a nice desk, but I can't use it because I can't turn the lamp on." I walked over to the lamp. Feeling the neck, I found no switch, so I looked at the base, finding a small brass knob. I turned on the lamp. "That's remarkable," he admired. "Show me how you did that!" This may be the only time I ever impressed him with my ability.

Paul wanted to work so single-mindedly at math that his visits were exhausting for us. Once Ron Graham remarked "Paul visited for a month last week." Paul was often irritated when I had to excuse myself to teach a class. Even worse was when I claimed to need time alone to "prepare for class". "Why must you prepare?" he would ask. "Can't you just go in and talk about math?" At midnight I once begged off further discussion saying I had a class to teach in the morning. I wonder how long Paul would have continued.

We tend to think of him as having no hobbies or interests outside of mathematics. But I have seen him many times at a dinner seated near a spouse of someone. Upon learning what he or she does, Paul would converse on astronomy, archeology, art, music, paleontology, history, psychology, or world politics. In every case he knew specific sources and names, to the surprise of the guest. He always knew more than I did on every subject.

Paul last visited Kalamazoo to attend our international conference June

2–7, 1996. On Thursday morning at the conclusion of one of the principal talks, I noticed that in the second row, Paul didn't look well. Roger Entringer and Gary Bloom had already noticed his condition, and were holding him by the arms, when his head dropped to his chest and his body went limp. Only their support kept him from falling. They lowered him into a chair, and I ran to call for an ambulance.

In the emergency room at the hospital, I think Paul was the only one who wasn't worried. In between questions from the attending physician about his medical condition, Paul would ask various mathematical questions of the assembled professors (his co-authors Ralph Faudree, Ron Graham, John Selfridge, and me). "Ralph," he would say, "I was thinking about that problem we discussed earlier. Have you tried this approach?"

Yousef Alavi, who had been supervising Erdös's heart condition for several years, arrived, and the doctor asked Paul if he minded discussing his condition with so many visitors present. "Of course it's OK," Paul remarked. "These are my friends." It seemed Paul was in need of a pacemaker. He said, "Well, I have to go to Philadelphia next week, and then on to Israel. Maybe when I return to Hungary I can have it done." Alavi, Graham, and Dr. Gellert convinced him it needed to be done that day. But Paul refused to spend the night in the hospital. Finally they reached an agreement. The pacemaker was inserted that afternoon, and Paul was permitted to attend the conference banquet that same night with Gellert and Dr. Khaghany, another cardiologist friend of Alavi's, attending as well, seated on either side of Paul.

After dinner, Paul got up in his characteristic style and said, "I always make this joke. 'You can hold the next conference in my memory.' This time, you almost did." He went on to add, "I was wondering about a question raised by Ringel's talk this morning. Is the following a sensible question: . . . ." I recognized that he was raising a relevant question from the moment he had passed out.

That Friday he needed to have the new pacemaker assessed. Yousef and I accompanied him. The technician removed his bandages. She tried to be most gentle. You could see that his chest was bruised and swollen around the incision, as if he had been beaten badly. She apologized, "I am sorry if I hurt you." "It's no problem," Paul assured. "But this has to hurt you," she insisted. "I can see that I am pulling out your chest hair." Paul's reply: "Well yes, it does hurt, but it is trivial."

As Paul Erdös now becomes part of history, I feel fortunate to have had the opportunity to know him personally. I think he was the most gentle and generous person that I have ever met. As someone wrote, Paul considered personal property a nuisance. He had virtually no possessions beyond what he carried in his suitcase, and he often gave away to struggling graduate students what money he had access to.

Paul would always leave Kalamazoo saying, "If I live, I will return in October (or whenever)." At first this struck me as a macabre focus on death. But I came to appreciate it as using humor to overcome our fears. After a while I started answering, "And if I live, I will be here to greet you."

MMPC Honors Top High School Students

A total of 100 Michigan high school students, from 56 different schools, were honored for their achievements on the 40th Annual Michigan Mathematics Prize Competition at the Awards Day program held on March 1 at Grand Valley State University in Allendale. **Karen Novotny** (GVSU) is this year's director of the MMPC.

Charles Johnson of the College of William and Mary presented a stimulating talk in the afternoon entitled *The Centennial History of the Prime Number Theorem* to the award winners and their families and high school mathematics teachers. **Camillia Smith** (a student from East Lansing High School) spoke at the awards banquet about her experiences last year in the ARML competition, in which teams drawn from the Top 100 compete in mathematics problem solving against other top teams from around the country. The 1997 contest will take place on May 31 at the University of Iowa, and three spring practice sessions around the state will prepare team members. Michigan teams have consistently done well in this event (see page 21).

For a bit of fun, **Pam** and **Clark Wells** (GVSU) organized a scavenger hunt for teams of students. While the students were scavenging, the Section's Executive Committee met with their parents and teachers to discuss the MMPC and other issues.

This year's first, second, and third place Gold award recipients were **J. Benjamen Hough** (H. H. Dow High School), **Haiwen Chu** (Andover High School), and **David Houston** (Henry Ford II High School), respectively. The First Level Silver winners were **Michael Khoury, Jr.** (Brother Rice), **Goutam Reddy** (Detroit Country Day), and **Jonathan Salz** (Seaholm); Second Level Silver awards went to **Vijay Divi** (Troy) and **Aram Harrow** (East Lansing); and Third Level Silver awards were captured by **Noah Levitt** (Detroit Country Day), **Charles DeZiel** (Escanaba), **Christian Grostic** (Muskegon), and **Brian Richardson** (Greenhills). An additional 44 students received Bronze awards, and 44 received Honorable Mentions.

The top 56 students received over $30,000 in scholarships, in amounts ranging from $450 to $2500, thanks to generous funding of the MMPC by corporate and other donors. The Honorable Mention

winners received a copy of the book *Mathematical Gems, II*.

Part I of this year's MMPC (a 40-question multiple choice test) was administered to over 15,000 students in October. The top thousand students took Part II in December.

Next year the MMPC will move from Grand Valley to Michigan State. **Jerry Ludden** will serve as director, at least for the first year. Make sure to plan on helping with the grading next January in East Lansing!

MMPC Top 100 Statistics

- Top Gold winner Ben Hough and third place winner David Houston are seniors; second place winner Haiwen Chu is a junior.
- Among the Silver winners are six seniors, two juniors, and one sophomore.
- Among the Bronze winners are 24 seniors, 12 juniors, five sophomores, two freshmen, and one seventh-grader.
- Twenty-nine seniors, ten juniors and five sophomores took Honorable Mentions.
- There were 12 females among the Top 100 (six Bronze and six Honorable Mentions).
- The highest score was 92.2 out of 100. The cutoff score for scholarships was 62.8. It took a 58 to make it into the Top 100.
- Of the 15,749 students from about 500 schools who took Part I, 989 students from 222 schools qualified for Part II by scoring 22 or higher (out of 40).

40th MMPC Part II Problems

The top 1000 students had 100 minutes to solve these five problems and compete for scholarships and recognition.

1. An Egyptian fraction has the form $1/n$, where n is a positive integer. In ancient Egypt, these were the only fractions allowed. Other fractions between zero and one were always expressed as a sum of DISTINCT

Egyptian fractions. For example, 3/5 was seen as 1/2 + 1/10, or 1/3 + 1/4 + 1/60. The preferred method of representing a fraction in Egypt used the "greedy" algorithm, which, at each stage, uses that Egyptian fraction which eats up as much as possible of what is left of the original fraction. Thus the greedy fraction for 3/5 would be 1/2 + 1/10.
(a,b) Find the greedy Egyptian fraction representations for 2/13 and 9/10.
(c,d) Find the greedy Egyptian fraction representations for $2/(2k+1)$ and $3/(6k+1)$, where k is a positive integer.

2. (a) The smaller of two concentric circles has radius one unit. The area of the larger circle is twice the area of the smaller circle. Find the difference in their radii.
(b) The smaller of two identically oriented equilateral triangles has each side one unit long. The smaller triangle is centered within the larger triangle so that the perpendicular distance between parallel sides is always the same number d. The area of the larger triangle is twice the area of the smaller triangle. Find d.

3. Suppose that the domain of a function f is the set of real numbers and that f takes values in the set of real numbers. A real number x_0 is a fixed point of f if $f(x_0) = x_0$.
(a,b) Let $f(x) = mx + b$. For which m does f have a fixed point? Find the fixed point, in terms of m and b, when it exists.
(c) Consider the function $f(x) = x^2 - c$. For which values of c are there two different fixed points? For which values of c are there no fixed points? In terms of c, find the value(s) of the fixed point(s).
(d) Find an example of a function that has exactly three fixed points.

4. A square based pyramid is made out of rubber balls. There are 100 balls on the bottom level, 81 on the next level, etc., up to 1 ball on the top level.
(a) How many balls are there in the pyramid?
(b) If each ball has a radius of 1 meter, how tall is the pyramid?
(c) What is the volume of the solid that you create if you place a plane against each of the four sides and the base of the balls?

5. We wish to consider a general deck of cards which is specified by a number of suits, a sequence of denominations and a number (possibly 0) of jokers. The deck will consist of exactly one card of each denomination from each suit, plus the jokers, which are "wild" and can be counted as any possible card of any suit. For example, a standard deck of cards consists of 4 suits, 13 denominations, and 0 jokers.
(a) For a deck with 3 suits {a, b, c} and 7 denominations {1, 2, 3, 4, 5, 6, 7}, and 0 jokers, find the probability that a 3-card hand will be a straight. A straight consists of 3 cards in sequence (e.g., a-1, c-3, a-2, but not a-6, b-7, c-1).

(b) For a deck with 3 suits, 7 denominations, and 0 jokers, find the probability that a 3-card hand will consist of 3 cards of the same suit (i.e., a flush).
(c) For a deck with 3 suits, 7 denominations, and 1 joker, find the probability that a 3-card hand will be a straight and also the probability that a 3-card hand will be a flush if dealt at random from such a deck.
(d) Find a number of suits and the length of the denomination sequence that would be required if a deck is to contain 1 joker and is to have identical probabilities for a straight and a flush when a 3-card hand is dealt. The answer that you find must be an answer such that a flush and a straight are possible but not always certain to occur.

Out of the Mouths of Budding Mathematicians

This year's MMPC Part II produced the usual collection of humorous remarks which the graders dutifully recorded. Here is a selection from among them.

Problem 1
"In order to solve the problem, I first had to know if Egyptians were really this picky. So I made telepathic contact with Jo of the Sphinx. He said, 'The answer lies within the pyramid.' Then I realized that the trick is to look at the sequence of triangular numbers. Bet you didn't find it that easy!"

Problem 2
"Also, $-(\sqrt{5}) - 2$ does not work because it is positive!"
"For both parts I ended up with an unsolvable quadratic equation. I think if I knew how to handle the equations, I'd have the answers."

Problem 3
"A fixed point is a happy point."
"What are you talking about? Too much English; needs more math."

Problem 4
"Ten balls stacked on top of each other—20 meters, maybe a tad less if the balls aren't exactly on top of each other."
"h = the height of the period that I failed grievously to find in part (b)"
"My rubber balls do not stick."
"Rubber is not entirely solid, and the weight of the pyramid would compress the ball's height and expand the width."
"$V = (3/4)\, A_b\, h$. This is not the formula for V of a pyramid. It should be!"

Problem 5
"This shows that the number of suits is important in solving 5(d)."
"I refuse to answer this question. Gambling is bad unless I win."

MMPC Awards Day, Grand Vall

Section Chair Dick Phillips congratulates first place winner Ben Hough

Ryan Timmons, a seventh grader who took a Bronze Award, was the only middle school student among the Top 100.

Gold and Silver Award Winners

From left to right: Ben Hough, Vijay Divi, Brian Richardson, Christian Grostic, Jon Salz, Noah Levitt, Michael Khoury, Jr., Goutam Reddy, David Houston

ey State University, March 1, 1997

1996–97 Director
Karen Novotny

1996–97 Exam Chair
Chris Hee

1997–98 Director
Jerry Ludden

Faculty from throughout the state grade 1000 Part II exams in January

Charles Johnson tells winners about prime numbers

Camillia Smith tells winners about fun times at ARML

News from the Campuses

Albion College *[reported by Robert Messer]*

John Wenzel has begun a three-semester appointment as Associate Director of Academic Computing. **Robert Messer** will serve as chair of the Mathematics Department during this time. • **Joseph Buckley** of Western Michigan University spoke on symmetry groups at a Department Colloquium on February 13.

Calvin College *[reported by Michael Stob]*

Keith Vander Linden joined the department this year. His speciality is artificial intelligence. • Effective July 1, 1997, the Department of Mathematics and Computer Science will split into two: the Department of Computer Science and the Department of Mathematics and Statistics. • A team of Calvin students won the MATH (Michigan Autumn Take-Home) Challenge this fall. Our teams placed first, third, and fourth, out of forty teams. Calvin teams have won this competition in each of its three years of existence.

Central Michigan University *[reported by Tom Miles]*

Mike Morelli has been a visiting faculty member this year. He is teaching a course on "Euclid and His Successors". **Sing Ong** is on sabbatical during the spring semester. **Rich Fleming** is concluding 15 years as chair. A new chair will begin by the fall semester. **Arnie Hammel** is concluding a lengthy leadership role with the national Kappa Mu Epsilon organization—four years as chair-elect and four years as chair. • In connection with Mathematics Awareness Week (April 20–26), the department plans to host an annual recognition day on April 21 for outstanding area high school mathematics students.

Eastern Michigan University *[reported by Tim Carroll]*

Joanne Caniglia has been awarded two different grants: an Eisenhower Higher Professional Education Grant (*Integrating Science and Math with Technology*) and a Michigan Compact–SEAMS Grant (*Making Mathematics Meaningful*) • **Bob Bartle** is on leave this semester, working on his book. • Visit our web site at `http://www.emich.edu/public/math/math.html`.

Grand Rapids Community College *[reported by Jim Chesla]*

Michael Steinfort joined the full-time mathematics faculty; he taught previously at Cuyahoga CC in Ohio. • The department, in conjunction with MCTM, will host the Mathematics Challenge, an event for ninth and tenth grade teams from schools across Michigan.

Hope College *[reported by John R. Stoughton]*

Janet Anderson has been promoted to associate professor with tenure.

Lake Superior State University *[reported by Paul Wilson]*

On April 14 our department, in conjunction with LSSU's engineering departments, will be hosting a conference for high school students from nearby counties in

Michigan and Ontario. The entire department is participating with 30- to 60-minute presentations to encourage local students in the pursuit of mathematics and engineering at the college level (topics include Computer Animation, Robotics Applications, Fun with Tessellations, and Cryptography, among others). This is the second year for this conference, and we have been encouraged by the rave notices we received after last year's conference. This effort is the brain child of **Thomas Boger**, a member of the Mathematics Department. Tom is responsible for the coordination and program schedule—a very difficult task. • We were proud to have had **Paul Erdös** on our campus about five years ago stimulating our students with his conjectures. He was visiting in Sault (Ontario) and we were able to cooperate with Algoma University College to bring him to the U. S. side. Unfortunately, we were not forward-thinking enough to take any pictures of his presentation. He lit a spark in many young minds with his program, and he will be sadly missed by the mathematics community.

Lawrence Technological University *[reported by M. Merscher]*

Pamela Lowry was recently promoted to the rank of associate professor. • The 1997 Lower Michigan Mathematics Competition will be held at LTU on April 5. About 30 teams of three students from a dozen or more smaller colleges in lower Michigan are expected. **Ruth Favro** (favro@ltu.edu) has details.

Michigan State University *[reported by Dick Phillips]*

Each year the department honors excellence in teaching with awards for each of faculty, graduate teaching assistants, and undergraduate teaching assistants. The Spring 1996 winners of the faculty J. S. Frame teaching awards were **Sharon Griffin** and **T. Y. Li**. Winners of the senior graduate teaching awards were **Heesook Park** and **Mariusz Kepka**; **Dave Gebhard** was a runner-up for this award. The junior graduate assistant award went to **Laurie Miller**, with runner-up honors being shared by **Beth Delecki Earns**, **Tom Nelson Laird** and **Sarah Sword**. In the undergraduate assistant category, both **Thomas Nikundiwe** and **Steve Tuckey** were honored. • Congratulations to **Ron Fintushel** for being named a University Hannah Professor and also for winning a Distinguished Faculty Award. **Glenda Lappan** begins a year as President-Elect of the National Council of Teachers of Mathematics and has also won a college level Distinguished Faculty Award. **Elizabeth Phillips** has been promoted to the rank of Senior Academic Specialist. • New administrative positions are being held by **Pete Lappan** (Associate Chair) and **Jay Kurtz** (Director of Graduate Studies). Both **Tom McCoy** and **Carl Ganser** will soon be joining the ranks of Emeriti Professors. • Sadly, longtime faculty members **John Kinney** and **J. Sutherland Frame** passed away this winter. • Thanks in large part to **Patti Lamm**, new features continue to appear on the Department's World Wide Web site (http://www.math.msu.edu/). Check out the links *MSU Math Placement Exam* and *Prepare for MSU*. The latter page is an attempt to relate to high school students the nature of university level mathematics courses.

Northern Michigan University *[reported by Roxin Zhang]*

Two new faculty members have been hired to support the Computer Science major: **Randy R. Appleton**, who is completing his PhD at the University of Kentucky and **Jeffrey Horn**, who is completing his PhD at the University of Illinois. • NMU will be hosting the annual MAA Upper Peninsula regional meeting, October 3, 1997.

Oakland University *[reported by Jerry Grossman]*

The department moves into its new high-rise home in May. • **Rob Kushler** and **Steve Wright** are on sabbatical leave for the winter. • **Darrell Schmidt** has been appointed acting chairperson to complete the term of **Jim McKay**, who has stepped down in preparation for his retirement and the hiring of a new chair from the outside. • Recent outside colloquium speakers have included **David Blecher** (University of Houston) and **Ira Gessel** (Brandeis University).

Siena Heights College *[reported by Toni Carroll]*

In collaboration with the Adrian College mathematics department we sponsored a mathematics conference for high school students and their teachers and parents on March 15. • **Lana Taylor** would appreciate hearing from anyone who has ideas about an art and mathematics course. Lana is on sabbatical during the winter semester. Her goals are to integrate computing technology into the developmental mathematics courses—especially intermediate algebra—and to explore the possibility of offering a course which would integrate the disciplines of art and mathematics.

University of Michigan–Flint *[reported by Steve Althoen]*

Steve Althoen and **Ken Schilling** are on sabbatical. **Renate McLaughlin** has just begun a 3-year term as associate provost. • Thirty-four schools from across the state were expected to participate in the Math Field Day competition on March 4. • Family Math Night was held on February 25.

Wayne State University *[reported by Daniel Frohardt]*

The big news, of course, is the Department's hosting of the May joint meetings. A web page with local information is available off the department's home page (`http://www.math.wayne.edu`). The home page also has the complete winter colloquium schedule, noting speakers from near (e.g., **Karen Smith** from UM–Ann Arbor) and far (e.g., **L. A. Bokut** from Novosibirsk).

Western Michigan University *[reported by John Petro]*

Yousef Alavi retired at the end of the Fall Semester after 38 years in the department. **John Crowell** resigned to accept a position with First of America. • **Allen Schwenk** has received a sabbatical leave for the 1997–98 academic year. • The Department will host the Fourth Kalamazoo Symposium on Matrix Analysis and Applications on October 24–25. Tentative invited speakers are **G. W. Stewart**, **Nicholas J. Higman**, **Charles R. Johnson**, and **Roger Horn**. **Nil Mackey**, **John W. Petro**, and **Thomas M. Richardson** will be the Directors of the Symposium. For additional information contact **Nil Mackey** (`nil.mackey@wmich.edu`).

Michigan All-Star Mathematics Teams Score Well in National Contest

Michigan's team of all-star high school mathematics students placed thirteenth in Division A and tied for eleventh place in Division B of the American Regions Mathematics League (ARML) Competition in 1996. Eighty-nine teams of 15 students each represented various regions of the United States and Canada in the one-day contest held last June 1 on the campuses of the University of Iowa (to which the Michigan students traveled by bus), Penn State, and the University of Nevada, Las Vegas. Teams from San Francisco and New York City took the top prizes.

Professors **Robert Messer** (Albion College), **John Fink** (Kalamazoo College), and **Ruth Favro** (LTU), along with **William Harris** (Huron Valley High School in Ann Arbor), organized the Michigan teams, drawing from the Top 100 winners of the MMPC (see page 12). The students met for three practice sessions during the spring before heading off to Iowa. Funding was provided through the Michigan Section of the MAA using grants from the Matilda Wilson Foundation and the Charles M. Bauervic Foundation. This is the eighth consecutive year that Michigan has participated in ARML.

The competition takes place in four rounds, in group, individual, and relay formats. The latter involves teams of three students working within a six-minute time frame. The first contestant solves a given problem and passes the answer to the second. That student incorporates the answer into his or her solution to another problem and passes that answer on to the third student, who solves a final problem again using the previous answer. Extra points are given for teams able to finish in just three minutes.

The coaches were pleased with last year's performance and look forward to this year's contest with anticipation. Anyone desiring additional information should contact **Bob Messer** (517-629-0200; ram@albion.edu).

Here is one of the simpler problems from ARML: A cylindrical container 10" high and 4" in diamter, partially filled with water, is tilted so that the water reaches 9" up the side of the cylinder at the highest point but only 3" up at the lowest. How much water is in the cylinder?

A long-term co-author and friend of Paul Erdös, ***George Piranian*** *(UM–Ann Arbor) relates the following vignette.* The year is 1963, and as the curtain rises, you see Paul Erdös amidst the Piranian Family in the Wohnzimmer of an apartment in Freiburg. Wearing his recently acquired crown of semicentennarianship, Paul explores the room along a random path, picking up unattached objects and returning each after a bare token inspection. Elizabeth (aged 18 at the time) asks: "Paul, why are you so nervous?" Paul responds: "I am not nervous. I'm always this way." The curtain falls, but Paul's reply is immortal.

Institutional Members

As of March 6, the 26 colleges and universities listed below have renewed their institutional memberships in the Michigan Section for 1996–97. Tardy institutions and others who wish to join are encouraged to send in their dues, using the form on page 28.

Adrian College
Albion College
Alma College
Alpena Community College
Andrews University
Baker College–Flint
Calvin College
Central Michigan University
Delta College
Eastern Michigan University
Ferris State University
GMI Engin. & Manag. Institute
Grand Valley State University
Hillsdale College
Hope College
Kalamazoo College
Lawrence Technological University
Michigan State University
Northern Michigan University
Northwestern Michigan College
Oakland University
Schoolcraft College
St. Mary's College
University of Michigan–Ann Arbor
West Shore Community College
Western Michigan University

Contributing 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 $10. For 1996-97, as of March 6, the 54 members of the Section listed below are sustaining members. If you have not already sent in your dues, please do so using the form on page 28, and please be generous!

Gisela Ahlbrandt
Yousef Alavi
Steven C. Althoen
Sheldon Axler
Robert G. Bartle
Robert Bix
Edward Bosier
Ruth E. Briggs
Joseph T. Buckley
Arthur J. Daniel
Jim Dowling
Paul Eenigenburg
George Feeman
J. S. Frame
Dan Frohardt
Tony Gioia
Jerry Grossman
Jonathan I. Hall
Arnold Hammel
Peter Hinman
Yury Ionin
Phillip S. Jones
Lawrence D. Kugler
Gerald Lecrone
Don R. Lick
Charles McGibbon
Thomas Miles
Warren Keith Moore
Ronald G. Mosier
Robert Myers
Douglas W. Nance
Rose M. Nickodemus
George M. Nielson
James Northey
Richard Noteboom
Melvin A. Nyman
Jingyal Pak
Allen Perkins
John W. Petro
George Piranian
Jacob Plotkin
Katherine E. Price
Bruce Sagan
Frank Sherburne
Michael S. Skaff
Harold T. Slaby
Philip Stich
Ken Sullins
Elliot Tanis
Richard J. Vance
Richard Vandervelde
Gerard Venema
Bette Warren
Matthew Wyneken

Short Course Announcements

Several short courses, sponsored by nearby MAA sections, will be held this spring and summer.

The North Central Section's Summer 1997 Short Course, *An Introduction to Artificial Neural Networks*, to be held June 16–18 at Winona State University in Minnesota, was detailed on page 16 of the Fall *Newsletter*.

The Thirteenth Annual Allegheny Mountain Section Summer Short Course will be held June 16–20 at Allegheny College in Meadville, PA. Dr. **Peter R. Massopust** (Sandia National Laboratories, Albuquerque, NM) will lecture on the construction and properties of scaling vectors, the associated multiwavelets, and

their application to image compression, signal processing, and differential equations. Several different constructions of scaling vectors and multiwavelets are presented, including the Daubechies family which is based on a single scaling function and a single wavelet, spline wavelets, and the DGHM element which consists of piecewise fractal functions. Course registration is $150, and room and board costs an additional $130. For further information, contact **George Bradley**, Department of Mathematics and Computer Science, Duquesne University, Pittsburgh, PA 15282 (bradley@duq3.cc.edq.edu, 412-396-5115).

Joe Gallian (University of Minnesota–Duluth) will present a short course entitled *Topics in Discrete Mathematics,* June 5–7 at Wittenberg University in Springfield, OH. This short course will include lectures on check digits, coding theory, group theory, Cayley graphs of groups, and repeating Escher-type patterns. The goal of the course is to provide some interesting nonstandard material that can be incorporated into a course in discrete mathematics or abstract algebra. The course will be accessible to all college mathematics instructors. Registration fee is $100; and air conditioned dormitory rooms are available with a price per night of $20 (half a double), $25 (single). A Thursday evening banquet will be held at a cost of $16; other meals may be purchased at local restaurants. A $50 registration deposit is required. Registration is open until 38 deposits are received or May 5, whichever is earlier. For more information or to register, contact **Bill Higgins**, Department of Math and CS, Wittenberg University, P.O. Box 720, Springfield, OH 45501 (937-327-7859; fax: 937-327-6340; higgins@wittenberg.edu). Checks should be made payable to Wittenberg University, and they should be marked "Summer Short Course". This announcement and any updates will be posted on the MAA Ohio Section World Wide Web home page (http://www.bgsu.edu/departments/math/Ohio-section/short_course.html).

An article on page 32 of the Fall *Newsletter* described the Technology College Short Course Program, organized by **Bert Waits** and **Frank Demana** of Ohio State. One of numerous such courses around the country (see web site http://www.math.ohio-state.edu/Entities/Organizations/TCSC/index.html for a complete list) is being held June 9–13 at Baker College in Flint. Entitled *Calculus Enhanced With Computer Algebra (TI-92),* it is being run by **Doug Mace**, with **Dennis Pence** (WMU) as instructor. Registration runs $125, and special prices are available on many Texas Instruments products. For more information contact Doug at Baker College, 1050 Bristol Road, Flint, MI 48507 (810-766-4160; Mace_D@flint.baker.edu).

VISIT THE MICHIGAN SECTION'S WEB SITE
http://archives.math.utk.edu/~efife/MAA/

Hill and Montgomery to be Honored

Professors **Richard O. Hill** (MSU) and **Hugh L. Montgomery** (UM–Ann Arbor) will be honored at this spring's meeting as recipients, respectively, of the Section's Award for Distinguished College or University Teaching and its Distinguished Service Award.

Professor Hill has had a distinguished 33-year career as a teacher, author, scholar, and lecturer. He received the J. Sutherland Frame award from his home institution, and he has been the Director of the Emerging Scholars Program since its inception at MSU. He is also the author of a linear algebra textbook and a series of three textbooks on algebra and trigonometry.

Dr. Hill will be the official Michigan Section candidate for the MAA's Deborah and Franklin Tepper Haimo Awards for Distinguished College or University Teaching of Mathematics. There will be at most three national awardees, each of whom will be honored at the January 1998 MAA Meeting in Baltimore and receive a $1,000 check and a certificate.

Professor Montgomery has had a distinguished career as a scholar, author, and teacher. He has served the Michigan Section as Chair, Vice-Chair, and Governor. He provided the leadership for our drive to raise funds and name the Michigan Section Room at the MAA Headquarters building in Washington, D. C.

***Dan Frohardt** (WSU), whose Erdös number is 3, tells about his encounter with Paul Erdös some twenty years ago.* He asked what I did, and I told him finite groups. He said that he felt that it was interesting that every group of order n is cyclic if and only if n and phi(n) are relatively prime. I hadn't been aware of this observation before. I still find it amusing because it seems to be a coincidence: For n and phi(n) to have a common factor, the prime factorization of n must satisfy one of two conditions. These conditions correspond to the two types of minimal non-cyclic groups.

Positions Available

Albion College invites applications for a full-time sabbatical replacement position for the 1997–98 academic year. Applicants should have an advanced degree in the mathematical sciences; a PhD is preferred. An additional part-time position is also anticipated for the fall semester. Visit the Web site (`http://www.albion.edu/fac/math/sabrep.htm`) for further information.

Calvin College has a one-year position in computer science and may have a one-year position in mathematics.

Grand Rapids Community College is taking applications for a full-time mathematics instructor. Applicants should have at least an MA in mathematics or mathematics education. Experience teaching in a community college and with technologies is desirable.

Hope College is currently interviewing for an entry-level tenure-track position and for the chair position.

Northern Michigan University is inviting applications for two tenure-track positions, in Applied Statistics and Mathematics Education. Details are available on the web (`http://math.nmu.edu/web/positions.html`).

Olivet College is seeking a part-time director of its Mathematics Center. This 3/4-time position includes tutoring, direction of student tutors, and teaching one course per semester. Additional teaching for further compensation is possible. In addition, this individual will be responsible for administration of the new mathematics proficiency examination. A masters degree in mathematics or mathematics education is preferred, and previous teaching experience is desired.

Western Michigan University expects to have a new tenure-track opening in mathematics education at the assistant professor level beginning Fall 1997. In addition, one or two one-year instructorships will be available for students in a doctoral program in Mathematics Education. Western Michigan University is an AA/EO employer. For information, contact John W. Petro, Chair, Department of Mathematics and Statistics, Western Michigan University, Kalamazoo, MI 49008-4541 (616-387-4551; `john.petro@wmich.edu`).

Section Dues: Individual • Institutional

The 1996–97 individual and institutional membership dues for the Michigan Section are now being accepted. The $10 individual dues payment (or $25 contributing member payment) and the $30 (small school) or $50 (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. If you cannot remember whether or not you have paid your 1996–97 dues, Treasurer Bette Warren will be happy to let you know by e-mail (mth_warren@online.emich.edu) or phone (313-487-0121).

Enclosed is a check for:

Regular Dues @ $10 ❑
Sustaining Membership @ $25 ❑
Small Institutional Dues @ $30 ❑
Large Institutional Dues @ $50 ❑

Name _____

Institution _____

Mailing Address _____

_____

E-mail Address _____

Please check appropriate status box:

K-12 student ❑ Undergrad student ❑ grad student ❑
K-12 teacher/administrator ❑ college/university faculty ❑
industry ❑ other ❑ (specify: _____)

Make checks payable to the Michigan Section–MAA, and mail them to: **Bette L. Warren, Secretary/Treasurer, Michigan Section—MAA, Department of Mathematics, Eastern Michigan University, Ypsilanti, MI 48197.**

Committee Seeking Distinguished Teaching Award Nominations

This is a preliminary announcement that the Distinguished Teaching Award Committee will be seeking nominations for the seventh annual (1998) MAA Award for Distinguished College or University Teaching of Mathematics. The committee will choose one of the nominees for the Michigan Section Award, and he or she will be honored at the Spring 1998 meeting of the Section. The awardee will also become the Section's candidate for the national award. (See related story on the 1997 winner on page 26.)

The chair of the 1998 Distinguished Teaching Award Committee will be **Arthur T. White** (WMU). Other members will be **Jerry Grossman** (Oakland U) and **Sidney Graham** (MTU). Normally, the 1997 awardee, **Richard O. Hill** (MSU), would be serving, but he will be on sabbatical next year, and Jerry Grossman will serve an extra year in his place.

Anyone, other than the candidate him/herself, is entitled to make a nomination. To be eligible, a candidate must (1) be a college or university teacher teaching a mathematical science at least halftime during the academic year in a 2- or 4-year college or university, (2) have at least five years teaching experience, and (3) be a member of the MAA.

Nominations are due by December 31, 1997. More information will be available in the Fall *Newsletter*. Please start thinking now about nominating your department's best teacher.

COMMITTEES AND APPOINTMENTS

Michigan Section
Mathematical Association of America
Contact Information

Executive Committee

Chair	Richard E. Phillips (97)	Michigan State U	rphillips@math.msu.edu	517-353-4689
Vice-Chair	Matthew F. Wyneken (97)	U of Mich-Flint	mwyneken@umich.edu	810-762-3313
Vice-Chair	Jim Chesla (97)	Gr. Rapids C C	jchesla@post.grcc.cc.mi.us	616-771-4273
Sec/Treas	Bette L. Warren (97)	Eastern Mich U	mth_warren@online.emich.edu	313-487-0121
Past Chair	Thomas J. Miles (97)	Central Mich U	t.miles@cmich.edu	517-774-6518
Governor	John W. Petro (98)	Western Mich U	john.petro@wmich.edu	616-387-4551

High School Visiting Lecture Program (HSVLP)

Director	Garry L. Johns (97)	Sag Valley St U	glj@tardis.svsu.edu	517-790-5688

Michigan Mathematics Prize Competition (MMPC)

Director	Karen Novotny (97)	Gr. Valley St U	novotnyk@gvsu.edu	616-895-2062
Exam Committee				
Chair	Christopher E. Hee (97)	Eastern Mich U	mth_hee@emuvax.emich.edu	313-487-1294
Member	Michael J. Merscher (98)	Lawrence Tech U	merscher@ltu.edu	810-356-0200
Member	Allan Struthers (99)	Mich Tech U	struther@math.mtu.edu	906-487-2068
Member	Renate McLaughlin (00)	U of Mich-Flint	rmcl@umich.edu	810-762-3273

Program Committee: 1997 Annual Meeting

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Member	Jim Chesla (97)	Gr. Rapids C C	jchesla@post.grcc.cc.mi.us	616-771-4273

Local Arrangements Committee: 1997 Annual Meeting

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Member	Richard E. Phillips (97)	Michigan State U	rphillips@math.msu.edu	517-353-4689

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Distinguished Service Award Committee

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Member	Richard J. Fleming (97)	Central Mich U	richard.fleming@cmich.edu	517-774-3596

Distinguished Teaching Award Committee

Chair	Sidney W. Graham (98)	NSF (& MTU)	swgraham@mtu.edu	703-306-1876
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Member	Arthur T. White (99)	Western Mich U	white@wmich.edu	616-387-4535

Nominating Committee

Chair	Thomas J. Miles (97)	Central Mich U	t.miles@cmich.edu	517-774-6518
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Member	Hugh Montgomery	U of Mich-AA	hlm@math.lsa.umich.edu	313-763-3269

Ad Hoc Committee to Study Calculator Usage at MMPC Exam

Chair	Paul J. Eenigenburg	Western Mich U	paul.eenigenburg@wmich.edu	616-387-4522
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Member	Robert A. Messer	Albion College	ram@albion.edu	517-629-1000
Member	Marcia L. Weinhold	Kalamazoo Area Math-Sci Ctr	mweinhold@kamsc.k12.mi.us	616-337-0004
Member	John B. Fink	Kalamazoo C	fink@hobbes.kzoo.edu	616-337-7067

Audit Committee

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Member	Cecil J. Nesbitt	U of Mich-AA	cecil.nesbitt@ub.cc.umich.edu	313-764-7227

Organizing Committee: Upper Peninsula Regional Meeting

Co-Chair	Harold W. Martin	Northern Mich U	hmartin@nmu.edu	906-227-1591
Co-Chair	Roxin Zhang	Northern Mich U	rzhang@nmu.edu	906-227-1596

Women's Study Committee

Chair	Bette L. Warren	Eastern Mich U	mth_warren@online.emich.edu	313-487-0121
Member	Madeline Masterson	Lansing C C		517-483-1087
Member	Jeanne Wald	Michigan State U	wald@math.msu.edu	517-355-9695
Member	Jo E. Smith	GMI	jsmith@nova.gmi.edu	810-762-7932

Other Appointments and Contacts

PIO	Earl D. Fife	Calvin College	fife@calvin.edu	616-957-6403
AHSME Dir.	David W. Laverell	Calvin College	lave@calvin.edu	616-957-7102
AJHSME Dir.	Matthew F. Wyneken	U of Mich-Flint	mwyneken@umich.edu	810-762-3313
AJHSME Dir.	Kristina D. Hansen	U of Mich-Flint	khansen@umich.edu	810-762-3304
WAM	Virginia Kasten	GM Truck & Bus	vgkasten@horatio.mystery.com	810-753-3222
WAM	Ruth Favro	Lawrence Tech U	favro@ltu.edu	810-356-0200
Archivist	John W. Petro (98)	Western Mich U	john.petro@wmich.edu	616-387-4551
MCTM Rep.	Renate McLaughlin (96)	U of Mich-Flint	rmcl@umich.edu	810-762-3273

Calendar of Events

April 17–20, 1997	NCTM 75th Annual Meeting, Minneapolis, MN
May 2–4, 1997	Michigan Section Meeting and AMS regional meeting, Wayne State University, Detroit
August 2–4, 1997	MAA MathFest '97, Atlanta, GA
October 3, 1997	Upper Peninsula MAA Meeting, Marquette, MI
October 3–4, 1997	MCTM Annual Meeting, Lansing, MI
October 11, 1997	DACTM Annual Fall Conference, Canton, MI
January 7–10, 1998	Joint Math Meetings (81st), Baltimore, MD
January 17, 1998	Grading of MMPC, MSU, East Lansing
February 28, 1998	MMPC Awards Banquet, MSU, East Lansing
April 2–5, 1998	NCTM 76th Annual Meeting, Washington, DC
May 1–2, 1998	Michigan Section Meeting, WMU, Kalamazoo
October, 1998	MCTM Annual Meeting, Lansing, MI
January 13–16, 1999	Joint Math Meetings (82nd), San Antonio, TX
April 22–25, 1999	NCTM 77th Annual Meeting, San Francisco, CA
May, 1999	Michigan Section Meeting, EMU, Ypsilanti
January 19–22, 2000	Joint Math Meetings (83rd), Washington, DC
April 13–16, 2000	NCTM 78th Annual Meeting, Chicago, IL
January 10–13, 2001	Joint Math Meetings (84th), New Orleans, LA

"You don't have to believe in God, but you have to believe that the book exists."

According to Paul Erdös, God has created a transfinite book that contains all theorems with their best proofs. Occasionally one is allowed a glimpse of this book, and fashions a wonderfully clever and cut-to-the-heart-of-the-matter proof. Paul had more than his share of book proofs over a lifetime of mathematics in which he made fundamental contributions in number theory (e.g., giving an elementary proof of the prime number theorem), combinatorics (e.g., inventing the probabilistic method and random graph theory), and many other fields.

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