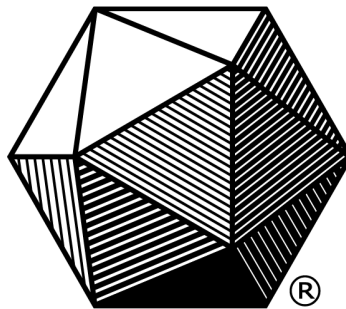


# **The Mathematical Association of America**



## **Wisconsin Section Newsletter Spring 2010**

## Governor's Report

After 14 years of dedicated service as secretary of the MAA, Martha Siegel has stepped down and has been succeeded by Barbara Faires. There was a nice reception at the Joint Mathematics Meetings in San Francisco honoring the many years of Martha Siegel's service.

Many MAA members are taking advantage of the new on-line membership option which gives regular members access to all MAA journals on-line for the same price as a regular membership that receives the *American Mathematical Monthly* in print form. Over 1600 members have opted for this new membership type. Beginning in the fall of 2010, all student memberships, both undergraduate and graduate, will be on-line memberships. Also beginning this year are anniversary date memberships. Up until now, regular members joining the MAA had memberships that began January 1 of the year following their application expiring at the end of that year. In the future new regular memberships will begin on the date the membership application is processed and will last for one year from that date. The MAA is also investigating joint memberships which would allow mathematicians to join the MAA, the AMS, and SIAM for one reduced rate.

There are plans to improve the MAA web site by reorganizing the pages and making the operation more uniform. Plan to visit the site at <http://maa.org> to see the useful content there including information about MAA publications, professional development projects, mathematics community news, meetings, mathematics competitions, the MAA committee structure, and membership information. Living in Wisconsin, most of us are unable to take advantage of the successful Distinguished Lecture Series that takes place at the Carriage House at MAA headquarters in Washington, DC. However, you can see videos of these lectures at <http://youtube.com/maavideo>.

For several years the MAA has been involved with a program of strategic planning. Originally, three cycles of planning were undertaken. The third cycle is being completed this year with the recent submission of the final report of the Strategic Planning Work Group on Meetings and the final report of the Strategic Planning Work Group on Publications due this summer. The MAA has found these three rounds of planning so helpful that a fourth round has been approved to investigate the topics of Special Interest Groups (SIGMAA's) and MAA Books. The report from the Strategic Planning Group on Meetings gave an analysis of who attends the national meetings, discussed trends in scheduling of talks, and what parts of the meetings are profitable (short courses lose money; minicourses make money). Recommendations include reorganizing the contributed paper sessions at meetings, planning activities directed more to graduate students, and trying to serve the needs of two-year college teachers. The strategic planning group reports are posted on the MAA web site.

During last year's financial crisis that saw the endowments of major institutions drop by as much as 33%, the MAA has weathered the storm much better than most with a drop of only 19%, some of which has been gained back as the stock market recovers.

The Board of Governors spent a great deal of time discussing a draft of new MAA By-Laws. The old By-Laws were written almost a century ago long before there were MAA book publications, the Internet, study tours, and a host of member services. The current By-Laws are a messy patchwork of amendments, and it was decided that they needed to be completely rewritten from scratch. Elsewhere in this newsletter, you will find information about plans for change in the Section Bylaws.

Note that this year's planned study tour to Spain and Portugal has been canceled due to difficulties in finding a tour company that could provide the desired tour at an affordable price.

Jonathan Kane, Section Governor

## Chair's Report

The 78<sup>th</sup> Annual Spring Wisconsin Section MAA Meeting will be Friday and Saturday, April 16 and 17, 2010, at UW-Oshkosh. Kristen Lampe, our new chair elect, is organizing this meeting. Kristen has arranged for invited addresses by three outstanding speakers. Kristen is putting together a program that can include your talk also. A Speaker Response Form is included in this newsletter, or you may find it on-line at <http://www.uwplatt.edu/maawisc/speaker.html>. The original deadline for submitting a talk has been extended to March 12. We don't guarantee that we will be able to squeeze you in after that date. We enjoy talks on teaching mathematics as well as mathematics itself, so tell us about what you are doing in the classroom. Remember that we welcome talks by students also!

As many of you probably know, the Paul Halmos Commemorative Walk at MAA headquarters presents the opportunity to “buy a brick” with a name or phrase engraved on it. (See <http://www.maa.org/development/riverofbricks.html>.) Most of the sections of MAA have bought a brick for the section, such as the Michigan brick you can see at <http://www.maa.org/news/111708bricks.html>. I have “walked the walk” and it is indeed impressive. Our Wisconsin section has not bought a brick for the section, which makes us one of just four (as of last count) who have not. A brick is not enormously expensive, at \$303, but your executive committee has been wary of spending any more money than we can avoid in these economic times. We will be inviting contributions toward a brick for MAA-Wisconsin at the meeting in Oshkosh.

Our section bylaws are in many ways out-of-date. Your executive committee had already begun to think about how they need revision when we received word from the national MAA that our bylaws were due for examination and revision. Some of the matters that need to be changed are committees that no longer have a function, or evolving responsibilities of officers or committees, as the world has changed. For this spring, we are recommending only one change. The bylaws tell how to revise the bylaws, and assume that everything takes place through snail mail which costs the section a lot of money. One thing we can do is to allow some of that process to be done electronically, while insuring that every member of the section has the ability to participate. A proposed amendment to this effect is elsewhere in this newsletter. I mention this now so that you can look at the present bylaws (online at <http://www.uwplatt.edu/maawisc/const.html>) and start thinking about needed changes. (Any changes our section may choose to make also need to be approved at a couple of levels by the national MAA, which will take time, so it makes sense for us to get going on it.)

I have several times mentioned “your executive committee”, but what does that mean? If you have not been deeply involved in section governance you might like to know who does what. The section has a number of officers and committee chairs who meet regularly (in addition to our annual section meeting in April). The committee is made up of the chair-elect (Kristen Lampe, Carroll University), chair (me, retired from UW-Madison), and most recent past chair (Andy Matchett, UW-Lacrosse), the Secretary/Treasurer (Mark Snavely, Carthage College), the section Governor (Jon Kane, UW-Whitewater), the chair of the committee on student contests (Laura Schmidt, UW-Stout), the Public Information Officer (Ben Collins, UW-Platteville), the Student Activities coordinators (Ken Price and Steve Szydluk, UW-Oshkosh), the director of Project NExT – Wisconsin (Irfan Ul-Haq, UW-Platteville), and Liaison with the Wisconsin Math Council (Jennifer Kosiak, UW-Lacrosse, see below). I have included this list here in part to show the diversity of people and institutions involved. Think about being part of the governance of our section yourself! Some of the officers are elected, some appointed, so I won’t try to give all the details here, but any of us on the executive committee would be delighted to hear from members who might just possibly consider becoming part of the section’s structure.

Most of our section members teach at the college/university level, but all of us are deeply connected to what happens at the K-12 level in Wisconsin also. The students we teach come predominantly from Wisconsin schools, and at the college level we also prepare a lot of the teachers who teach those same students. And even if you are not teaching, our state depends on having well educated citizens and we all know that mathematics is a crucial part of that education. Jim Marty was for many years our liaison with the Wisconsin Math Council (<http://www.wismath.org>), which is primarily focused on K-12 math teaching. We thank him for his service in that position, and welcome as his replacement Jennifer Kosiak (UW-Lacrosse) who took part in our most recent executive committee meeting. Already at that meeting several opportunities for cooperation between WI-MAA and WMC opened up.

I hope to see you in Oshkosh in just a few weeks!

Bob Wilson, Chair

## Contest Report

### American Mathematics Competitions

The AMC 8 competition was held on November 17, 2009. A total of 1,477 Wisconsin students participated in the competition (down from 1,571 in 2008 and 1,976 in 2007). There were no perfect scores from Wisconsin. The average score for Wisconsin students was 9.43, compared with the national average score of 10.28. Although the gap has been narrowing for several years, this year it increased to .85 (.49 in 2008).

The AMC 10 and 12 contests will be held on February 9 and 24, 2010. Data will be reported at the Spring Meeting.

### MAA-Wisconsin Section High School Contest Examination

The Section contest examination was given on Thursday, December 3, 2009. There were 81 schools reporting scores this year for a total of 3,079 students. This is an increase from 71 schools in 2008. We had participation from 11 new schools this year. The difficulty level of the exam was suitable this year, and there were 12 perfect scores from 7 different schools. The cutoff for the top 1% was a score of 107 out of 120 this year. Congratulations to the students who received perfect scores (listed in the table below).

Alex Loiben	Homestead High School
Charles Z. He	Madison Memorial High School
Iris Xu	Madison Memorial High School
Valerie Shen	Madison Memorial High School
Suhas Kodali	Madison West High School
Tim Broman	Madison West High School
Connie Wang	Madison West High School
Justin Chan	Marquette University High School
Thomas Fehring	Marquette University High School
David Yarmulnik	Nicolet High School
Andy Alt	Port Washington High School
Minh-Tam Trinh	Whitefish Bay High School

We give thanks to the UW-Stout faculty for coordinating these efforts. UW-Stout's fifth and final year is 2010, therefore we will be looking for a new host university for 2011-2016. Any interested universities should contact Laura Schmidt at [schmidtlaur@uwstout.edu](mailto:schmidtlaur@uwstout.edu).

Laura Schmidt, Chair, Committee on Math Contests

## Volunteer to Help the Section

The Wisconsin Section invites nominations for the position of Chair-Elect. This is a three-year position. The Chair-Elect organizes the spring meeting. The following year, the Chair-Elect becomes chair, and presides at each meeting of the Section and of the Executive Committee of the Section, as well as appointing committees and Executive Committee members as needed. The final year, the Immediate Past Chair continues to sit on the Executive Committee, and oversees the selection of the Distinguished Teaching award.

Send nominations to Section Chair Bob Wilson at [wilson@math.wisc.edu](mailto:wilson@math.wisc.edu). Self nominations are encouraged. Section officers must be members of the MAA.

## Project NExT-Wisconsin

During the spring meeting of MAA Wisconsin section at UW-Oshkosh, Project NExT-WI will have lunch followed by a panel discussion on Saturday. The topic will be "Professional Development: Promotion and Tenure." This topic is always of interest to Project NExT fellows. The discussion of this topic was last held in 2005. Since then we have a lot of new members, so it is the time to talk about these things again. This will give the participants a chance to learn from the experiences of the panel members and help answer some of their questions related to this issue.

Project NExT-WI also holds an annual Fall Workshop (during the last week of September or the first week of October) in Menomonie, which is open to all current NExT-WI members. Further details are posted in time on the Project NExT-WI website (<http://www.uwplatt.edu/nextwi/>) along with updates to all the NExT-WI members.

Currently we have 27 active members in NExT-WI and we are always looking for new members. There is no deadline to apply for the membership. One can apply any time during the academic year.

Project NExT-Wisconsin is open to all full-time faculty members in mathematics departments in the Wisconsin Section who are within their first four years of undergraduate teaching. You may also be eligible if you have more teaching experience, but are new to the Wisconsin Section. To apply, contact me at [ulhaqi@uwplatt.edu](mailto:ulhaqi@uwplatt.edu).

Irfan Ul-Haq Director, Project NExT-Wisconsin

## Student Activities

The Student Activities Co-Coordinator, Ken Price and Steve Szydluk, are pleased to report on opportunities for Wisconsin's undergraduate math students. We especially look forward to hosting this year's section meeting at UW Oshkosh on April 16-17. Faculty, please continue to encourage your students to attend. There will be numerous talks for and by students, and as in past years, there will be a student retreat room available for undergraduates. The student cost for the banquet on April 16 will continue to be discounted. Finally, the Gruenhagen Conference Center on the UWO campus offers a terrific low-cost housing options for students (and others) who plan to stay overnight during the conference. For more information, see [http://www.uwosh.edu/faculty\\_staff/szydluk/maa2010/lodging.htm](http://www.uwosh.edu/faculty_staff/szydluk/maa2010/lodging.htm).

The fast-paced math game show "Face Off!" was once again a part of the spring 2009 MAA Wisconsin section meeting in LaCrosse and at the Fall 2009 Pi Mu Epsilon Regional Undergraduate Math Conference in De Pere. "Face Off!" will return to the MAA section meeting again this year. The new "Slammer" buzzer system allows us to include as many as ten teams. Students who have taken Calc I or above are eligible to compete for their department in teams of 2-4 players. Contact Ken ([pricek@uwosh.edu](mailto:pricek@uwosh.edu)) or Steve ([szydluk@uwosh.edu](mailto:szydluk@uwosh.edu)) for details on the event or to register your team. You can also check the web site at [http://www.uwosh.edu/faculty\\_staff/szydluk/faceoff.htm](http://www.uwosh.edu/faculty_staff/szydluk/faceoff.htm).

The Wisconsin Mathematics Council's Annual Green Lake Conference is scheduled for May 6-7, 2009. Anyone interested in any level of mathematics education in Wisconsin is encouraged to attend.

We look forward to student participation in state events and hope you encourage some of your students to attend conferences and to give presentations. Please let us know if you have ideas of ways to make the section more student-friendly. We're always looking for suggestions!

Ken Price and Steve Szydluk, Student Activities Coordinators

## Call for Nominations

The Wisconsin Section Distinguished Teaching Award was established in 1991. It stands as a concrete statement that mathematicians at the college and universities in Wisconsin place high importance on teaching. The Wisconsin Section is proud of its growing list of award recipients. These men and women of mathematics who have been recognized for their excellent work as teachers represent the commitment to teaching that exists among mathematicians throughout the state.

Nominations for the 2011 Wisconsin Section Distinguished Teaching Award are now being accepted. The nomination form and instructions are available for downloading as a pdf file on the MAA web site at <http://www.maa.org/awards/teachingawards.htm> or contact Mark R. Snively Mathematics Department, Carthage College, Kenosha, WI 53140. Nominations should be submitted so as to arrive by November 1, 2010.

## Nominee for Chair-Elect

**Clare Hemenway** is an Associate Professor of Mathematics at UW-Marathon County in Wausau, WI. Prior to coming to Wisconsin, she taught at Carleton College in Minnesota and Bates College in Maine. Clare did her graduate work in combinatorics and representation theory of algebraic groups at the University of Virginia. However, all of her professional presentations and papers have been in the area of mathematics education. She has given talks at state, national, and international conferences and she has participated in numerous workshops focusing on mathematical learning and pedagogy. She was also a member of the former Research on Undergraduate Mathematics Education Community (RUMEC).

Clare was just recently elected to serve as Vice Chair of the UW Colleges Mathematics Department and she is also a member of the UW System Mathematics Placement Test Committee. For several years she served as Secretary of the Wisconsin Association of Two Year Colleges and she was the site coordinator for the 2003 MAA Wisconsin sectional meeting at UW-Marathon. She is looking forward to this opportunity to serve the mathematics community in Wisconsin.

## Proposed Change to Bylaws

The bylaws of the Wisconsin Section of the Mathematical Association of America, Inc., are available online at: <http://www.uwplatt.edu/maawisc/const.html>. At the business meeting on April 17, 2010, the Executive Committee will propose the following change to Article VII, Section 2, which currently reads:

Article VII, Section 2: A proposed amendment shall be submitted in writing to every member of the Section at least fifteen days prior to the meeting at which the voting on the amendment will take place.

We propose to amend the wording to the following:

Article VII, Section 2: A proposed amendment shall be posted to the section web page, and notification of such posting shall be submitted in writing to every member of the Section at least fifteen days prior to the meeting at which the voting on the amendment will take place.

## Spring Meeting

The 78th annual meeting of the Wisconsin Section of the Mathematical Association of America will take place on Friday and Saturday, April 16 and 17 at the University of Wisconsin Oshkosh. The conference will include invited addresses by three prominent mathematicians:

**Betty Mayfield** (MAA): *Women and Mathematics in the Time of Euler*

In the past couple of years, we have celebrated Everything Euler – his life, his work, his legacy. This talk, which grew out of a summer research project with undergraduate students, examines some female contemporaries of Euler, some famous, some not so famous. We will also look at mathematics that was written both by and for women in the time of Euler.

Betty Mayfield holds degrees from the University of North Carolina at Greensboro and the University of Rhode Island. She has taught mathematics at Hood College since 1979, where she is now professor and chair. She holds the Sections of the MAA dear to her heart and has served the MD-DC-VA Section as newsletter editor, chair, and governor, and has won its teaching award. She recently completed a term as first vice president of the MAA.

**Jennifer Szydluk** (UW-Oshkosh): *Teaching to Inspire Mathematical Thinking*

Our community, the *mathematical* community, holds a set of values, mathematical tools, and distinctions about language that support us in learning new mathematics and in solving problems. We value precise definitions of objects, elegant arguments, and shared notations. We use logic, create examples, non examples, and counterexamples, consider extreme or trivial cases, and make models for problems. We distinguish necessary from sufficient conditions, pay close attention to quantifiers, and are sticklers for language. This is our culture. I advocate for making this culture transparent to our students both in the ways we speak about mathematics and in the ways we do mathematics with them in class. In this presentation I will talk about how we might do both, and I will provide samples of problems and activities that inspire mathematical thinking.

Jennifer Szydluk earned her Ph.D. in Mathematics from the University of Wisconsin-Madison in 1995. She then joined the faculty at the University of Wisconsin Oshkosh where she primarily teaches mathematics courses for prospective elementary and middle grades teachers. Her current research focuses on how students understand and use the tools and values of the mathematical community. She is the 2009 recipient of the Wisconsin Section MAA's *Award for Distinguished College or University Teaching of Mathematics*.

**Leah Welty** (Northwestern University Medical School): *Bayesian Distributed Lag Models: Estimating the Effects of Particulate Matter Air Pollution on Daily Mortality*

A distributed lag model (DLM) is a regression model that includes lagged exposure variables as covariates; its corresponding distributed lag (DL) function describes the relationship between the lag and the coefficient of the lagged exposure variable. DLMs have recently been used in environmental epidemiology for quantifying the cumulative effects of weather and air pollution on mortality and morbidity. Standard methods for formulating DLMs include unconstrained, polynomial, and penalized spline DLMs. These methods may fail to take full advantage of prior information about the shape of the DL function for environmental exposures, or for any other exposure with effects that are believed to smoothly approach zero as lag increases, and are therefore at risk of producing sub-optimal estimates.

We propose a Bayesian DLM (BDLM) that incorporates prior knowledge about the shape of the DL function and also allows the degree of smoothness of the DL function to be estimated from the data. In a simulation study, we compare our Bayesian approach with alternative methods that use unconstrained, polynomial and penalized spline DLMs. We also show that BDLMs encompass penalized spline DLMs: under certain assumptions, imposing a prior on the DL coefficients is analogous to smoothing the DL coefficients with a penalty specified by the prior. We apply our BDLM to data from the National Morbidity, Mortality, and Air Pollution Study (NMMAPS) to estimate the short term health effects of particulate matter air pollution on mortality from 1987–2000 for Chicago, Illinois.

Dr. Welty earned a BS in mathematics from the University of Chicago in 1995, an MA in mathematics from Washington University in St. Louis in 1998, and a PhD in statistics from the University of Chicago in 2003. Following a postdoctoral fellowship from 2003 to 2005 in the Department of Biostatistics at Johns Hopkins University, she joined the Department of Preventive Medicine at Northwestern University as an Assistant Professor. She is also a biostatistician for the Biostatistical Consulting Center.

Dr. Welty's research interests include applications of statistics to psycho-social, medical and environmental sciences, and in particular the formulation of statistical models for outcomes correlated over time and space.

As always, there will be numerous contributed papers by members of the section. Speaker proposal forms are still arriving, and a schedule will be posted when it becomes available. Up-to-date information on the meeting may be found at <http://www.uwosh.edu/departments/mathematics/MAA2010>.

The conference will begin at noon on Friday, April 16. All activities on Friday will take place in Reeve Memorial Union on the UW Oshkosh campus. Registration and exhibits including MAA book sales will continue until 5:00 that day, and will open again at 8:00 on Saturday. Saturday meetings and presentations, except for the invited address, will take place in Swart Hall.

"Face-Off!", our game show for teams of undergraduates, will start at 5:30 on Friday. Please see the "Face Off" link for more information. The banquet will follow Face-Off.

Many of the speakers who have already submitted proposals have indicated that their talks will be appropriate for undergraduate students, and we also will have talks by students. Please make sure your students know they will be welcome and will find much of interest, and also encourage them to submit talks!

## Directions to UW-Oshkosh

On Friday, April 16, conference activities will take place at Reeve Memorial Union on the UW Oshkosh campus. On Saturday, most conference presentations and meetings will be in Swart Hall on campus.

**From the West on US-21:** After crossing under US-41, Highway 21 becomes Oshkosh Avenue. Continue for approximately 1 mile. After crossing the Fox River, Oshkosh Avenue becomes Congress Avenue. Make sure that you are in the right lane, and turn right onto High Avenue. Follow High Avenue approximately 1 mile to campus.

**From the North:** If you are coming south on US-41, take Exit 120 and turn left onto Algoma Blvd. If you are coming south on US-45, then US-45 becomes Algoma Blvd. after passing under US-41. In either case, continue on Algoma Blvd. for approximately 2 miles. Algoma Blvd. will curve to the right and become High Avenue at the intersection with Congress Avenue. It's simplest to be in the left lane of Algoma Blvd. when this curve occurs, then at the traffic light choose the lane that is second from the left in order to proceed straight onto High Avenue. Follow High Avenue approximately 1 mile to campus.

**From the South on US-41:** Take Exit 119 and turn right onto Oshkosh Avenue. Continue for approximately 1 mile. After crossing the Fox River, Oshkosh Avenue becomes Congress Avenue. Make sure that you are in the right lane, and turn right onto High Avenue. Follow High Avenue approximately 1 mile to campus.

**Local Map:** See <http://snipr.com/u8uh0>

## Parking

Permits are generally required in university lots. However, conference visitors may park without permits after 11:00 am on Friday, provided that they park in commuter/student/visitor lots 13, 15, 32, or 34, or in the lower level of the parking ramp on the corner of High Avenue and Osceola Avenue. These lots allow for easy access to the meetings on Friday at Reeve Memorial Union. You may be ticketed if you park in another lot; do not park in any Resident Lot.

On Saturday, parking regulations are not enforced, and visitors can park in any yellow lot (see the parking map). Most presentations will be in Swart Hall, with optimal parking in lots 4, 27, 25, and 29. Do not park in any Resident Lot.

Overnight parking is not allowed except in the parking ramp on the corner of High Avenue and Osceola Avenue. Overnight parking in the ramp does require an overnight parking pass, available from either the information booth in Lot #15 between High Avenue and Algoma Blvd (across from Reeve Union), or from the Gruenhagen Conference Center front desk.

**Printable Campus Parking Map:** See <http://snipr.com/u8uid>



## Lodging Information

Oshkosh offers many options for meeting attendees who will be staying overnight on the evening of April 16. The conference organizers have reserved blocks of rooms at three locations and other options are listed on this page as well. Please note the low-cost options at the Gruenhagen Conference Center.

- **Hilton Garden Inn** (<http://www.oshkosh.gardeninn.com>), 1355 W 20th Ave., Oshkosh, WI 54902; 920-966-1300. Approximately 3 miles from UW Oshkosh. Each room has a microwave, minifridge, and coffeemaker. The hotel has a swimming pool, fitness center and free high-speed internet access. There are 50 rooms held under the Math Department at State rate of \$70 for up to two adults (\$10 for each additional adult). To book, either
  - Go to the website, enter the dates of your stay, then enter MATH in the Group/Convention Code on the next screen, or
  - Call 1-877-782-944 and ask for the MATH code or UW Oshkosh Mathematics Conference.
- **La Quinta Inn** (<http://www.lq.com/lq/>), 1950 Omro Road, Oshkosh, WI 54901; 920-233-4190. Approximately 2 miles from UW Oshkosh. The hotel offers a free breakfast and complimentary wireless internet access. There are 5 double rooms available at \$59 and 5 king rooms available for \$64. For the special rate, please contact the Inn directly by phone and request the rate for the "MAA Wisconsin Section Conference."
- **Gruenhagen Conference Center** (<http://gcc.housing.uwosh.edu/>), on the UW Oshkosh campus; 920-424-1106. A five-minute walk from the conference site. Gruenhagen offers convenient and affordable dormitory-style housing (shared bathrooms). Rooms are clean and comfortable with a micro-fridge and wired internet access. Floor lounges have wireless internet access available, and there is a computer lab on the first floor. We have blocked a floor of Gruenhagen (approximately 33 rooms) for the evening of April 16. There are three types of rooms available. To reserve a room, please call Gruenhagen directly and reference the "MAA Wisconsin Math Conference":
  - **Student service room:** \$25.50/night. In the room are two twin beds, desk, dresser, two closets and micro-fridge unit. Linen is on the bed, guests put the linen on the bed when they arrive. Guests will need to bring their own towels. Bathrooms are down the hallway. Please note that this service is available to all guests, not only students.
  - **Full service room:** \$35.00/night. In the room are two twin beds, desk, dresser, two closets and micro-fridge unit. Beds are made and towels, cup and soap are provided in room as well. Bathrooms are down the hallway.
  - **Plus service room:** \$43.00/night. In the room is one double bed. Room includes small TV, micro-fridge unit, coffee pot and ironing board. Bathrooms are down the hallway. There is limited availability of this room type.

### Other Lodging Options

- **Holiday Inn Express**, 2251 Westowne Avenue, Oshkosh, WI 54904; 920-303-1300. Approximately 2.5 miles from the conference site.
- **Comfort Inn and Suites**, 400 South Koeller Street, Oshkosh, WI 54902; 920-230-7378. Approximately 3 miles from the conference site.
- **Fairfield Inn**, 1800 South Koeller Road, Oshkosh, Wisconsin 54902; 920-233-8504. Approximately 3.5 miles from the conference site.
- **Hawthorne Inn and Suites**, 3105 South Washburn Street, Oshkosh, WI 54904; 920-303-1133. Approximately 5 miles from the conference site.

# REGISTRATION FORM

MAA Wisconsin Section Spring Meeting

April 16-17, 2010

University of Wisconsin-Oshkosh

Preregistration Deadline: **April 2, 2010**

NAME(S) \_\_\_\_\_

Address \_\_\_\_\_

Institution (for your name badge) \_\_\_\_\_

Registration				Banquet			
No.	Type	Price*	Total \$	No.	Type	Price**	Total \$
	MAA Member	\$20			Regular	\$20	
	Retired MAA Member	\$10			Student	\$5	
	K-12 Teacher	\$10		Banquet Total:			
	Student	FREE		Please indicate any dietary restrictions (vegetarian, kosher, etc) and the number of each.			
	Other	\$22					
Registration Total:							

\*Registration at the meeting will be \$25 for all except students, who will still be free.

\*\*Regular banquet tickets will be \$25 after the pre-registration deadline of April 9. Student banquet tickets remain \$5.

Total Enclosed:

For MAA Records, please indicate the number of the above registrants in each of the following categories:

\_\_\_\_\_ College or university faculty  
\_\_\_\_\_ Business, industry, government  
\_\_\_\_\_ High school teacher  
\_\_\_\_\_ Undergraduate student  
\_\_\_\_\_ Graduate student

Finally, please indicate the highest degree awarded by your *department*:

☐ Ph.D.      ☐ Master's      ☐ Bachelor's      ☐ Associate      ☐ Not Applicable

**MAKE CHECKS PAYABLE TO: MAA - WISCONSIN SECTION**

PLEASE SUBMIT TO:

Mark Snavey, Treasurer  
Mathematics Department  
Carthage College  
Kenosha, WI 53140

(262) 551-5714  
snavey@carthage.edu

# CALL FOR SPEAKERS

78<sup>th</sup> Annual Meeting of MAA Wisconsin Section, April 16 – 17, 2010

University of Wisconsin-Oshkosh

The Spring 2010 meeting of the Wisconsin Section of the MAA will be held at UW-Oshkosh on April 16 and 17. Talks of all kinds are welcome, particularly ones that are accessible to students, and we encourage talks by students.

If you wish to present a talk at the Spring Meeting, please send the information below to:

Kristen Lampe, Department of Mathematics, 100 N. East Avenue, Waukesha, WI 53186  
or (preferred) by email to [klampe@carrollu.edu](mailto:klampe@carrollu.edu)

An on-line version of this form is available at: <http://www.uwplatt.edu/maawisc/speaker.html>

Electronic submission of the information and abstract is preferred.

(There is a separate form below for student speakers.)

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SPEAKER RESPONSE FORM – DUE: March 12, 2010

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Institution: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Title of talk: \_\_\_\_\_

Length of talk: 25 minutes \_\_\_\_\_ or 50 minutes \_\_\_\_\_

Abstract: \_\_\_\_\_

\_\_\_\_\_

Check here if your talk is appropriate for students: \_\_\_\_\_

Equipment needed:      Power Point \_\_\_\_\_      Opaque Projector \_\_\_\_\_      Easel \_\_\_\_\_  
   Whiteboard \_\_\_\_\_      Other (Please describe in detail) \_\_\_\_\_

Time preference:      Friday afternoon is      Imperative \_\_\_\_\_      Preferred \_\_\_\_\_  
   Saturday morning is      Imperative \_\_\_\_\_      Preferred \_\_\_\_\_  
   Either time is acceptable \_\_\_\_\_

# CALL FOR STUDENT SPEAKERS

Student Mathematics Conference

University of Wisconsin-Oshkosh, April 16 – 17, 2010

The Wisconsin Section of the MAA encourages undergraduate students who have done research in mathematics to give a 25-minute presentation about their work at the Spring Meeting. Each presenting student receives free meeting registration. If you wish to present a talk, please complete the form below and send by March 12, 2010, to:

Kristen Lampe, Department of Mathematics, 100 N. East Avenue, Waukesha, WI 53186  
or (preferred) by email to [klampe@carrollu.edu](mailto:klampe@carrollu.edu)

An on-line version of this form is available at: <http://www.uwplatt.edu/maawisc/student.html>

Electronic submission of the information and abstract is preferred.

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STUDENT SPEAKER RESPONSE FORM – DUE: MARCH 12, 2009

Name: \_\_\_\_\_ Year in School \_\_\_\_\_

Institution: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

\_\_\_\_\_ Email: \_\_\_\_\_

Faculty Sponsor: \_\_\_\_\_

Title of presentation: \_\_\_\_\_

Brief description of presentation \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Equipment needed:      Power Point \_\_\_\_\_      Opaque Projector \_\_\_\_\_      Easel \_\_\_\_\_

Whiteboard \_\_\_\_\_      Other (Please describe in detail) \_\_\_\_\_

Time preference:      Friday afternoon is      Imperative \_\_\_\_\_      Preferred \_\_\_\_\_

Saturday morning is      Imperative \_\_\_\_\_      Preferred \_\_\_\_\_

Either time is acceptable \_\_\_\_\_

## Face Off, The Mathematics Game Show

**What is it?** Face Off is a mathematics quiz show with questions from the broad realm of mathematics. And we mean broad! Teams of 2-4 students representing their schools compete to answer these questions. Each team gets a sign with the face of a mathematician (For example, your team could play as Descartes, Gauss, Hilbert, Noether, or Newton.) A team “buzzes in” to answer a question and earns points if its answer is correct. Teams can use a calculator, paper, and pencil. For more information, visit the Face Off website: [http://www.uwosh.edu/faculty\\_staff/szydliks/faceoff.htm](http://www.uwosh.edu/faculty_staff/szydliks/faceoff.htm)

**When is it?** Friday, April 16, 5:30-6:30 pm., as part of the MAA-Wisconsin Section meeting

### Sample Questions:

The *Off Limits* category contained the following questions:

- 20 pts. What is  $\lim_{x \rightarrow \pi/2} (\sin x) / x$  ?
- 40 pts. What is  $\lim_{x \rightarrow 2} (x - 3) / (x - 2)$  ?
- 60 pts. What is  $\lim_{x \rightarrow 0} |x| / x$  ?
- 80 pts. What is  $\lim_{x \rightarrow 1} (2^x - 2) / (x - 1)$  ?

The *Take a Number* category contained the following questions:

- 20 pts. How many pips are on a standard die?
- 40 pts. What prime number is both the sum of two primes and the difference of two primes?
- 60 pts. What two-digit number has a cube root equal to the square root of the sum of its digits?
- 80 pts. What is the smallest non-palindromic number whose square is a palindrome?

**How do we enter?** Please contact one of the Face Off organizers if you would like to enter a team. Any student who has taken or is enrolled in Calculus I is eligible to join a Face Off team representing their school. If a school doesn't have enough interested students, contact the organizers anyway – we can combine interested students to form hybrid teams. Space will be limited, so form a team soon and let us know of your interest!

### Face Off Organizers:

Dr. Ken Price ([pricek@uwosh.edu](mailto:pricek@uwosh.edu), (920)424-1057),  
Dr. Steve Szydlik ([szydliks@uwosh.edu](mailto:szydliks@uwosh.edu), (920)424-7346),  
[http://www.uwosh.edu/faculty\\_staff/szydliks/faceoff.htm](http://www.uwosh.edu/faculty_staff/szydliks/faceoff.htm)

# Know Your Wisconsin Mathematician

Interview with Sr. Barbara Reynolds, Cardinal Stritch University, by Benjamin V.C. Collins

*Where did you grow up?*

Actually, my dad worked for the federal government (for the Army, then for the Veterans Administration), so we moved around a lot. On my 14<sup>th</sup> birthday, we moved into my 15<sup>th</sup> house. We were in Germany for a while when I was a small child; we also spend time in Texas, Arkansas, Indiana, and Maryland. I went to high school in Maryland, and college at Saint Louis University in St. Louis, Missouri. After college, I spent a year with the Teacher Corps working in Tampa, Florida, and two years with the Peace Corps in Ghana, West Africa. I moved to Milwaukee following graduate school to enter the Sisters of the Divine Savior (Salvatorians) in 1979, and have been here ever since. I think of Milwaukee as home now.

*Was there a time in your life when you discovered that mathematics was what you wanted to do?*

When I was in 8<sup>th</sup> grade, we moved and I started in a new school in mid-October. My mathematics teacher, Mr. Meyers at Perryville High School in Perryville Maryland, entertained all of my questions, and encouraged me to keep asking questions. That was the year that I decided that I would study mathematics. I had no idea then exactly what studying mathematics would entail or where it would lead me, but I knew that mathematics allowed me to ask questions and to pursue answers that made sense.

*Where did you go to undergraduate school?*

I went to Saint Louis University. I applied to SLU partly because my parents had both studied there, and I had relatives in St. Louis. The deciding factor was that SLU offered me a combination of scholarship and student loan that made it affordable. The mathematics faculty at SLU encouraged my interests in mathematics, and I was able to work part-time as a student in the academic computing center on campus. I completed my AB in Mathematics in 1971.

Working as a computer operator and scientific programmer in the late 1960s allowed me to use what I was learning in mathematics classes in practical ways. When we were working on a program to draw maps using data from the 1970 census, we used the “winding number theorem” from topology to find the interiors of particular regions on the maps. Eventually, I realized that I wanted to work more with people and less with machines. So a year after I graduated, I applied to a Teacher Corps program that was based in Tampa Florida. As a Teacher Corps Intern, I was taking courses for an MA in Mathematics and Education at the University of South Florida, while I was teaching 7<sup>th</sup> grade mathematics about three-quarter time at Dowdell Junior High School. By the end of that school year, I realized that I really wanted to teach mathematics. Then I served in the Peace Corps for two years as a Secondary School Mathematics Teacher in Ghana, West Africa.

*And what about graduate school?*

When I was finishing my second year in Ghana, I realized that it was time for me to return home to the United States, but did not know how to begin to look for a teaching job from so far away. (It was 1975, and email and the internet were not yet widely available.) So I wrote to Dr. Raymond Freese, my undergraduate advisor at Saint Louis University asking for advice. My letter must have arrived on his desk at the right time, because he immediately responded with an offer of a Teaching Fellowship and invited me to consider graduate studies in mathematics at SLU. Being a practical person, I reasoned that a Teaching Fellowship was a job, and I could decide later about applying to graduate school. So I accepted the Fellowship, and applied to the graduate program during my first year of graduate course work. Four years later in 1979, I completed my Ph.D. in Mathematics. My thesis explored the idea of conic sections in the taxicab metric.

*What was the influence of your family on your education?*

Well, both of my parents have college degrees, and it was pretty much assumed that I too would go to college. We had an extensive library at home. Dad was a physician, and had a large medical library. My parents gave us books for Christmas and birthdays, selecting books in areas to entice us to read. I come from a large family, and my siblings have diverse interests, so we

had a rather eclectic library with books on many topics, and I read a lot. We were always encouraged to pursue our interests, and to learn as much as we could in different situations.

I was sick a lot in 6<sup>th</sup> grade, and that was probably a pivotal year in my education. I missed more days of school that year than I attended – but my parents arranged for me to keep up with my class work by having my teacher send work home with one of my brothers. I guess you could say that I was home-schooled that year, or that I did 6<sup>th</sup> grade as an independent study. Either way, I learned that learning was my responsibility – whether I was able to be in class or not, and this has shaped my approach to my studies ever since.

*You come from an era when there were far fewer opportunities for women in mathematics. Were there any obstacles you had to overcome? Were there people who were particularly encouraging to you as a woman?*

I am frequently asked this question, but I have to say that I was largely unaware of any obstacles. I just followed my interests. As an undergraduate, I resisted that suggestion that I would be a teacher because I was a woman doing mathematics. I was working as a scientific programmer and statistical consultant at the academic computing center on campus, so I knew that there were many opportunities for mathematics majors beyond teaching high school. I guess I experienced more opportunities than obstacles.

*Are there any teachers who had influenced you to become a mathematician?*

My dad frequently presented us with puzzles and problems that involved mathematical and scientific reasoning. Mr. Meyer, my 8<sup>th</sup> grade mathematics teacher, is the first teacher who aroused my interest in mathematics. Dr. Freese, my undergraduate advisor, affirmed that I could major in mathematics without committing myself to being a high school teacher.

*How did you end up at Cardinal Stritch?*

While I was in graduate school in St. Louis, I met several Sisters of the Divine Savior (Salvatorian Sisters), and became friends with them. The Salvatorians are an international congregation, with our General Motherhouse in Rome, and our Provincial Offices in the United States are in Milwaukee. Gradually I realized that I wanted to be a Salvatorian Sister myself. So as I was nearing the end of my studies at Saint Louis University, I began applying to colleges and universities in the Milwaukee area. It happened that there was an opening in the Mathematics Department at Cardinal Stritch College (now Cardinal Stritch University) at that time, and I was a good fit.

The year I came to Cardinal Stritch, we were starting some new courses in Computer Science and the department was being renamed as the Department of Mathematics & Computer Science. My work as a computer operator and scientific programmer along with my masters-level course work in Education, and my Ph.D. in mathematics with a dissertation in Geometry was a unique combination that made me a particularly good fit at Cardinal Stritch.

Perhaps the more relevant question is why have I stayed at Cardinal Stritch University for over 30 years. Basically, Stritch has encouraged and supported my development as a person, as a mathematician, and as a teacher of mathematics. Professionally, Stritch has been the right place for me to grow and develop professionally.

*You have spent a lot of time on cooperative learning in the mathematics classroom. Why, and what do you hope to accomplish?*

As I prepare to teach, I spend a lot of time thinking about how I actually learned each particular topic. I can't really think of very many things that I learned directly from a lecture – even a good lecture. However, a good lecture sometimes did pique my curiosity, and that would direct me to further reading and study. Most of the time, I attribute my own learning to reading and thinking about a topic, and then discussing ideas with peers. So I try to engage students in conversations about mathematical topics. For several years I taught computer programming, and I observed that students in the computer lab often engaged in discussions about hard programming tasks. When computer algebra systems (such as Maple) and graphing tools (such as the TI graphing calculators and computer graphics packages) became available, I looked for ways to engage students in activities that used these tools to help them think about challenging mathematical ideas. In the early 1990s, I got involved in one of the so-called calculus reform projects. This

gave me a network of other mathematics faculty who were using technology and cooperative learning in their teaching, and we exchanged lots of ideas about what worked and what didn't. I am always looking for ways to better engage students in thinking about hard ideas, and keeping them engaged in working on challenging problems. Technology and cooperative learning help to do this.

*What courses do you like to teach?*

I've enjoyed teaching calculus, geometry, discrete mathematics, abstract algebra, mathematical modeling. I've also had a lot of fun teaching computer programming and data structures. Perhaps the common theme here is that I like engaging students in problem situations, and teaching them strategies for thinking about how to work on problems that they haven't yet solved. Once we've solved a problem, we tend to say that it is an "easy" problem, but a problem that we haven't yet solved is hard or challenging. So I enjoy helping students learn strategies for working on challenging problems until we develop enough insight into the problem situation to make the problems seem easy.

*Over the years, did you find that teaching of mathematics changed?*

Well, these days I find myself teaching things that I didn't learn in graduate school. We have different tools – computers, graphing calculators, and the internet, among others – and so the things we need to know have evolved over time. So it is important to think about what today's student need to know as they go into the world beyond our classrooms. When I first started teaching, we used slide rules; even then I needed to caution students against reaching for a tool without thinking about why they were using it. I recall one student telling me that " $2 \times 3 = 5.99$ , SRA" (that is, to slide rule accuracy). Today we don't use slide rules, but there are new questions. For example, what does a computer or calculator graph of a function tell me about a function and do I need to zoom-in or zoom-out to answer a particular question.

*How were you involved with the MAA over the years?*

I guess it all starts with professional networking. In 1985 I spent a summer at the University of Notre Dame studying with the Clavius Group, an international group of mathematicians who meet every summer to share their work in mathematics. Then, in the mid-1980s I got involved in the Institute for Retraining in Computer Science (IFRICS), a faculty development program to help faculty like myself who had strong backgrounds in mathematics prepare to teach courses in computer science. The network of people I met through IFRICS led to my involvement about five years later in one of the calculus reform projects (C<sup>4</sup>L, which stands for Calculus, Concepts, Computers, and Cooperative Learning), and Project CLUME (Cooperative Learning in Undergraduate Mathematics Education). Involvement with C<sup>4</sup>L, and CLUME in particular led to my being involved with others who were looking for effective ways of integrating technology and cooperative learning into their teaching of mathematics. All of these groups gave me a strong network of colleagues, so that attending the Joint Mathematics Meetings is just a lot of fun! I didn't have Project Next, but I did have Clavius, IFRICS, C<sup>4</sup>L, and CLUME, and I knew a lot of people at the Joint Mathematics Meetings.

In the mid-1990s, several of us (a group of seven) co-authored a book, *Cooperative Learning in Collegiate Mathematics: A Practical Guide*; then a few years later a somewhat larger group (almost 20) from CLUME co-authored *Cooperative Learning in Collegiate Mathematics: Issues that Matter & Strategies that Work*. Both of these books sold well, and someone invited me to serve as a member of the MAA Notes Editorial Board; after two terms on the Notes Editorial Board, I became Editor of Notes.

As you see, one thing simply led to another: My interests in teaching effectively led to my work with various groups, which led to being involved in several networks of colleagues with similar interests, all of which is well served by the MAA.

*What do you think is the best part of being a mathematician and a teacher?*

Seriously, I get to spend a lot of time thinking about interesting problems, and engaging students in thinking about some interesting problems.

*What was the worst part of teaching mathematics?*



I'm not sure that there is a worst part. Like everyone else, I do have occasional bad days, but on the whole, I like what I do, the people I get to work with, and the places that teaching mathematics has taken me.

*How would you describe what you do when you were talking to somebody outside of mathematics?*

Like all of us in the mathematics profession, I can be a little cautious about admitting that I'm a mathematician as that can be such a conversation stopper. Before I get too deep into a conversation, I try to find out something about the person or persons I'm talking to so that I can connect what I say to their worlds. It is easier for others to be interested in our world if they sense that we are also genuinely interested in their worlds.

*What are you most proud of?*

In April 2008 the students of Cardinal Stritch University surprised me by naming me the Educator of the Year. I deeply appreciate their recognition of my commitment to excellence in teaching and concern for them as students. A little more than a year later in November 2009, my colleagues recognized me a Distinguished Scholar. So in two consecutive years, I was recognized for both sides of my work – the teaching and the scholarship which supports that teaching.

Who is a Wisconsin Mathematician that you would like to know? Send suggestions for the next KYWM to Ben Collins, [collinbe@uwplatt.edu](mailto:collinbe@uwplatt.edu).

## In Memoriam

UW-Fox Valley Professor Emeritus Jerry Keepers' long struggle with cancer ended earlier this year at his home in Neenah. Jerry's family was with him as he left our realm. Jerry was persistent in the face of adversity. Those who knew him as an active faculty member are not at all surprised that he defied the medical predictions of his prognosis for so long. He was present at the Grand Opening of the Communication Arts Center in September.

## Campus News

Alverno College

*submitted by Susan Pustejovsky*

**Susan Pustejovsky** is PI for a four-year, \$594 K NSF S-STEM grant providing scholarships at Alverno to talented, needy students with majors in mathematics or the sciences. The grant began May 1, 2009.

**Lois Kailhofer** is on sabbatical this academic year, working to incorporate lessons from *Everyday Mathematics* into mathematics courses for elementary education majors.

Beloit College

*submitted by Paul J. Campbell*

**Amy Shell-Gellasch**, formerly of Pacific Lutheran University, has joined the department.

Carroll University

*submitted by Kristen Lampe*

**Chris Kuster** served as PI on the following grant: **CPATH: Developing Computational Thinking Skills Across the Undergraduate Curriculum**. This grant enables Carroll University to enhance undergraduate critical thinking (CT) skills and competencies by developing two new courses, a new minor in computational science, an interdisciplinary major in computational science, and by training faculty to teach these new courses integrating CT throughout the curriculum.

**Chris Kuster** gave the talk *An optimization-based approach to discretizing the eikonal equation* at the Joint Meetings this January.

**Heather Evans** presented a workshop on *Developing Hybrid Mathematics Courses to Meet Diverse Student Needs* at the National Association of Development Education (NADE) National Conference in Greensboro, NC in March of 2009. In April, she served as a facilitator for an ALEKS regional workshop in Dubuque, Iowa.

Madison College (formerly Madison Area Technical College)

submitted by J. Sriskandarajah

The department congratulates James Moore on his retirement after 37 years of teaching.

Math Club's Spring 2010 events

Lecture # 92, Friday, February 5, 2010, 3:30 PM, Room 209 Professor James Hamilton, UW-Platteville  
*"Diamonds, Volcanic Dust and Dark Matter..."*

Lecture # 93, Friday, February 26, 2010, 3:30 PM, Room 209 Professor Alex Smith, UW-Eau Claire  
*"From Perspective Art to Projective Geometry"*

Lecture # 94, Friday, March 12, **2010**, 3:30 PM, Room 209 Professors, Stephen and Jennifer Szydlak, UW-Oshkosh  
*"The Problem with the Junk Food Problem"*

Lecture # 95, Thursday, April 15, 2010, 3:30 PM, Room 313 Professor Elgin Johnston, Iowa State U  
*"Repeating Repeating Decimals"*

Lecture # 96, Friday, May 7, 2010, 3:30 PM, Room 209 Professor Bruce Riley, UW-La Crosse  
*"An Intriguing Family of Polynomials"*

Further information is available at <http://clubs.matcmadison.edu/mathclub/>.

Milwaukee School of Engineering

submitted by Karl H. David

Dr. Peter Kuhfittig's latest paper, entitled "Theoretical construction of stable traversable wormholes," was accepted by the *Central European Journal of Physics*. This appears to be the first successful formulation of a general stability criterion. [<http://arxiv.org/abs/0903.3423>]

UW-Eau Claire

submitted by Simei Tong

Four students from UW-Eau Claire received travel grants from MAA to present research results at the National Joint Mathematics Meetings in San Francisco in January, 2010.

Senior **Daniel Wackwitz** (faculty mentor **Michael Penkava**) presented his poster, "*Classification of Real  $Z_2$ -Graded Associative Algebras*" and his poster received outstanding poster award. This is the third year in a row that **Penkava**'s student received an poster award there. **Wackwitz** also gave a presentation titled "*Moduli Spaces of Low Dimensional Associative Algebras and Their Deformations*" at an AMS special session. Senior **Kaitlyn Hellenbrand** (faculty mentor **Colleen Duffy**) presented her poster, "*Polynomial Equations over Matrices*." Junior **Mark Bauer** and sophomore **Hong Yang** (faculty mentor **Simei Tong**) presented a joint poster, "*Optimizing the Evacuation of Hospitals Phase I*" at the same conference.

The UW-Eau Claire team consisting of **Kathy Du, Mei Pak, Mark Bauer, Matt Fjerstad, Kevin Kropp, and James Hollman** (Faculty mentor **Kris Presler**) took second place at Actuarial Case Competition sponsored by Travelers in the fall of 2009. Six teams participated in this event (University of Minnesota, University of St. Thomas, Bentley College, Bryant University, University of Connecticut, and UW-Eau Claire). The team from the University of Minnesota was first, UW-Eau Claire was second, and Bryant University was third.

**James S. Walker** with **Gary Don** (UWEC Music and Theatre Arts), **Gordon Volk** (UWEC math major), and **Karyn Muir** (SUNY-Geneseo math major) published an article "[\*Music: Broken Symmetry, Geometry, and Complexity\*](#)." in the January 2010 issue of the AMS Notices.

**James S. Walker** was a co-editor for the September/October issue (Vol. 28, No. 5) of the IEEE Engineering in Medicine and Biology Magazine — a special issue devoted to the topic of wavelets and time-frequency analysis in biomedical signal processing. He also co-authored the lead paper for the issue, "*Time-Frequency Analysis of Biosignals*," with **Rodrigo Guido** of the University of Sao Paulo, Brazil, and **Paul Addison** of Coldiven, a biomedical company based in the U.K. Guido and Addison were also co-editors of the special issue.

**Michael Howe** with **Chal Benson** of East Carolina University and **Gail Ratcliff** of East Carolina University published an article "*Invariant Polynomials for Multiplicity Free Actions*" at Journal of Lie Theory 19 (2009), No. 4, 771—795.

**Michael Howe** with **Kyle Czarnecki** (UWEC SUREPAM student from UW Parkside) and **Aaron McTavish** (UWEC SUREPAM student from UW Stevens Point) published an article “*On the orbits of an orthogonal group action*” at *Involve - A Journal of Mathematics*, 2009 Vol. 2, No. 5.

UWEC students in Elementary/Middle Education, **Holly Bistodeau, Andy Dickensen, Danielle Freagon, Haley Gilbertson, C. Hunt, Brittany Karcz, Jamie Lambrecht, Mari Orendorff, Jenna Peeters, Wendy Sampson, Stephanie Schommer, Emily Theisen, Megan Toniazzo**, (faculty mentor **Sherrie Serros**), published a letter to the editor “*A Star is Born*” at *Mathematics Teaching in the Middle School* 15.3 (2009): 124-125.

**Colleen Duffy** presented her paper titled “*Action of the symmetry group of the  $n$ -dimensional hypercube on the algebra associated to the Hasse graph of the  $n$ -cube*” in the AMS Special Session on Algebra at the Joint Mathematics Meetings 2010.

Our NSF Funded REU program “Summer Undergraduate Research Experience in Pure and Applied Mathematics” is taking a sabbatical this summer and will resume in the summer of 2011.

UW-Milwaukee

*submitted by Jay H. Beder*

The UWM and NSF supported program, Integrated Undergraduate Research in Aquatic Biology and Mathematical Sciences (UBM), started in September with a cohort of six students. After two semesters of a mathematical modeling course and research seminars, the students will have a six week hands-on program in biology labs in the summer. The students are enthusiastically working towards investigating their original research problem in aquatic biology. The cohort is mentored by faculty from Mathematical Sciences, Biological Sciences and researchers from the Great Lakes WATER Institute, as well as two graduate students. Recruitment has started for our second cohort entering the program in fall 2010. More information can be found at <http://www.uwm.edu/~iglauko/UBM>.

Two long-time members of our staff, **Gail Boviall** and **Dick Toth**, retired in December. Their stories reflect the history of computing as it evolved over the last 30 years.

Gail joined the department as a technical typist in 1981, although she had worked in other departments at UWM since 1968. As faculty began doing their own wordprocessing, her position evolved into development and production of the Schedule of Classes using online programs, a large and very time-consuming (but essential!) task involving UWM time scheduling guidelines, room assignments, solving registration problems, working within College of L&S budgetary constrictions, and countless other issues. She was also responsible for publicizing departmental colloquia, among other things. Along the way she has taken classes at UWM, and intends to complete her degree (political science) this year.

Dick joined the department as part of the Atmospheric Sciences group in 1999, when that group left the Geosciences Department to join Mathematical Sciences. He had started in 1976 as a chemical technician in Geosciences, and left in the early 1980s to work for what was then WEPCO (now We Energies) where circumstances required him to become directly involved with computing. He rejoined Geosciences in 1994 and eventually took charge of the Unix laboratory for Atmospheric Sciences. The computing demands have grown with the job, where he has run Atmo's SGI Origins 2000 and 3000 series research systems as well as that of numerical analyst **Dexuan Xie**. His experience has followed a path from early PCs to Unix machines to Apple computers.

UW-Platteville

*submitted by Benjamin V.C. Collins*

**Miyeon Kwon** and **Irfan Ul-Haq** were awarded a \$25,000 grant from Wisconsin Alliance For Minority Participation (WiscAMP) for the second year to hold a four week long summer bridge program for underrepresented minority students in STEM disciplines who lack Algebra and Trigonometry skills. This program also offers sessions on college life and success skills. It is hoped that the students from this program will stay in their STEM majors and graduate. In turn, it will help UWP in its efforts to increase the retention and graduation of underrepresented minorities.

UW-Stout

*submitted by Steve Deckelman*

**Chris Bendel, Nelu Ghenciu** and **Steve Deckelman** attended the Joint Meetings in San Francisco. Chris gave a talk on an old problem of finding the least positive degree in which the cohomology of a finite group of Lie type is non-zero. Chris is also a co-organizer of an upcoming AMS special session at Macalester, Cohomology and Representation Theory of Algebraic Groups and Related Structures.

The department has hired two new academic staff for the spring semester. **Ramona Gunter** will be teaching mathematics and **Mohamed Almekkawy** will be teaching computer science.

UW-Whitewater

*submitted by Mohammad Ahmadi*

**Jonathan Kane** attended the Joint Meetings in San Francisco. He was appointed Coordinator of Computer Science, a position within the Department of Mathematical and Computer Sciences.

**Thomas Drucker** gave two talks at the meetings in San Francisco. One was in the MAA Session on Mathematical Texts--Famous, Infamous, and Influential. His talk was on "The Reception of the Biography by Michael Sean Mahoney of Pierre de Fermat". The other talk was the POMSIGMAA (Philosophy of Math)-sponsored session on philosophy of mathematics for the working mathematician. The talk was entitled "Dummett Down: The Influence of Brouwer on Michael Dummett."

**Ki-Bong Nam** and **Xueqing Chen** published the following joint papers:

- Xueqing Chen, Jeong-Sig Lee, and Ki-Bong Nam, "Notes on a semi-integral domain", Southeast Asian Bull. Math., (2010) 34(2), 59-68.
- Xueqing Chen and Ki-Bong Nam, "Root Vectors and an Integral PBW Basis of Composition Algebra of the Valued Graph A2", Contemporary Mathematics, Volume 506, 2010.

Ki-Bong also published the following joint paper with **Joen** and **Jeong**

- Woo Jeon, Jeong-Sig Lee, and Ki-Bong Nam "W and H type Algebras Using Additive Groups", Southeast Asian Bull. Math., (2010) 34(2), 271-279.

Nam's paper, "Notes on new (anti-symmetrized) algebras" was accepted for publication in Rocky Mountain Journal of Mathematics. Ki-Bong will present his paper "Automorphism group of a Witt type Lie algebra and Jacobian Conjecture" at the ICM in India, Aug, 2010.

**Zhengnan(Charles) Shi's** paper "A New Self-stabilizing Algorithm for Maximal 2-packing" has been accepted for presentation at the International Conference on Computer, Electrical, and Systems Science, and Engineering to be held in Rio de Janeiro, Brazil during March 29-31, 2010.

**Angela Harris** published the following joint paper: M. Ferrara, A. Harris and M. Jacobson, "The Game of  $F$ -saturator", Discrete Applied Math. **158** (2010), 189-197, 2009

## **Executive Committee 2009 – 2010**

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Student Activities	Ken Price UW-Oshkosh	(920) 424-1057	pricek@uwosh.edu
	Steve Szydluk UW-Oshkosh	(920) 424-7346	szydluks@uwosh.edu
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