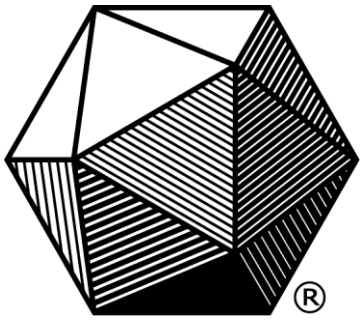
The Mathematical Association of America



Wisconsin Section

Newsletter

Spring 2015

Governor's Report

I had the privilege of attending the Board of Governor's (BOG) meeting at the Joint Meetings in San Antonio. Once again I was impressed with the excellent job done by the MAA staff and the Committees of the MAA. I encourage any of you who are interested in serving the MAA as a member of a committee to contact me, and I will send your name forward.

The Centennial Celebration at MathFest 2015, August 5-8 in Washington DC, will be an exciting event. All of the usual sessions will be there, including Invited Addresses, Contributed Paper Sessions, and Minicourses, and there will be special events to highlight and celebrate our 100-year history. You will not want to miss this conference! Registration will begin early for this outstanding meeting, probably in March.

The most important issue from the BOG meeting involved significant changes in the dues structure for institutional members. The institutional membership will change from focusing on providing a copy of the print journals to each school to focusing on reaching out to students at the institution. The changes approved by the BOG are outlined below.

- Schools will pay dues based on the total enrollment of the school. The MAA expects schools to self-report this number.
- Institutional members will no longer receive print copies of the journal.
- Institutional members will receive an *unlimited* number of student memberships to award as they see fit.

We hope that students who are awarded student memberships will remain members of the MAA after graduation from college or graduate school.

The Committee for Undergraduate Programs in Mathematics (CUPM) will issue the *2015 CUPM Curriculum Guide to Majors in the Mathematical Sciences* soon. The Guide will come in the form of a brief summary document, together with more detailed online information. Look for more information this spring.

Finally, the BOG continues to work on finding the best way to use the BOG's time and expertise. Finding a balance between fiscal responsibility and having enough information to make good decisions is a challenge, but it seems to me that we are making good progress toward a workable and productive system.

Mark Snavely, Carthage College

Opening on the Section Executive Committee

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 recipient.

Send nominations to Section Chair **Tom Drucker** at druckert@uww.edu . Self nominations are encouraged. Section officers must be members of the MAA.

Chair's Report

The centennial year of the Mathematical Association of America has finally arrived, and with it the chance to start your celebrations at the section meeting at Ripon College on Friday and Saturday the 24th and 25th of April. We shall have a couple of distinctive features for the occasion, in addition to the usual array of contributed talks, invited talks, and competition in the form of Face-Off! The after-dinner program will include celebrations of the MAA centennial as well as our 83 years of section activities. There will also be a poster competition, not aiming at mathematical content so much as ways of recognizing the 100th anniversary of the Association. The work of **Kavita Bhatia** as Program Chair and **David Scott** as Local Arrangements Coordinator will guarantee a rich reward for those making the trip to Ripon.

There was plenty of business covered at the meeting earlier this year of the Executive Committee, some of which will come up at the Business Meeting in Ripon. We are considering changes with regard to the state mathematics contest, since numbers have been on the decline for decades. The matter of balancing the cost of the contest with the benefits for the students is currently being evaluated by a committee. Please come to the Business Meeting in Ripon to hear what they are recommending. We are also nominating **Geetha Samaranayake** from UW-Whitewater for the national teaching award from the MAA, and **Jennifer Szydlik** has agreed to have her name put in nomination for the position of Chair-Elect. If you don't have anything else to do on an early Saturday in Ripon, the Business Meeting is the place to be.

As my term as Chair comes to an end, I should like to thank those who keep the task from being onerous. **Ken Jewell** as my predecessor and **Kavita Bhatia** as my successor have made sure that there is continuity in the office even beyond what is demanded by the Intermediate Value Theorem. **Jon Kane** has dealt with every issue that came to his attention as Secretary-Treasurer promptly and helpfully, and I'm glad that he is willing to continue in office. In the same way, **Benjamin Collins** has guaranteed that information gets distributed (as well as guaranteeing that there is something to distribute). The finances of the national Association are not in the best of shape, but our section has benefitted from good management. We look forward to continuing to support the study of mathematics in the state of Wisconsin through the next century.

Tom Drucker, UW-Whitewater

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 2016 Wisconsin Section Distinguished Teaching Award are now being accepted. The nomination form and instructions are available on the MAA-Wisconsin web site at http://sections.maa.org/wisconsin/award.shtml

Contest Report

American Mathematics Competitions

The AMC 8 competition was held on November 18, 2014. A total of 1,374 Wisconsin students participated in the competition (close to 1,373 in 2013 and 1,390 in 2012, down from 1,465 in 2011, 1,599 in 2010 and 1,477 in 2009). One student received a perfect score from Wisconsin. Congratulations to **Z. Rossman**, an 8th grader from Velma Hamilton Middle School in Madison. The average score for Wisconsin students was 10.55, compared with the national U.S. average score of 10.99. The gap has narrowed once again to .44 compared to .52, .79, 1.06 and 1.43 the four previous years. This is a great trend for our Wisconsin students.

The AMC 10 and 12 contests will be held on February 3 and 25, 2015. Data will be reported at the Spring Meeting.

MAA-Wisconsin Section High School Contest Examination

The Section contest examination was given on Thursday, December 4th, 2014. There were 42 schools reporting scores this year (2 unreported) for a total of 1,577 students. This is a drop from 1,755 in 2013, but still a significant increase from 29 schools in 2012, (47 schools in 2011, 69 schools in 2010 and 81 schools in 2009). The cutoff for the top 1% was a score of 100 out of 120 this year. There were two perfect scores this year. Congratulations to **Christopher Xu**, 10th grade, and **Peter Yang**, 10th grade, both from Madison Memorial High School.

Jay Beder, from University of Wisconsin - Milwaukee, directed the contest this year for their second year as hosts. Many thanks to him, University of Wisconsin - Milwaukee, and the test committee for all their hard work. If anyone would like to volunteer to help the test committee please send an email to beder@uwm.edu .

Laura Schmidt, UW-Stout

Project NExT-Wisconsin

Fall Conference

The Project NExT-Wisconsin fall conference was held on Oct. 4-5 at the University of Wisconsin-Baraboo/Sauk County. Our conference had three broad themes: Professional development, mathematical modeling and computation in the classroom, and flipped classrooms. Our two external presenters were **Joyati Debnath** (Winona State University) and **Bob Panoff** (Shodor and the National Computational Science Institute).

Eight mathematicians from around the state attended the conference, four of whom gave a presentation during our member presentation session. The discussions were very lively, and the external perspectives welcomed greatly. We ended the conference by discussing the future of Project NExT-Wisconsin, focusing mainly on continuing our connections with each other outside of our conferences and spring panels, as well as finding ways to attract new members.

Future Plans

Since the fall conference, I have developed a Google Group for Project NExT- Wisconsin, which has roughly a dozen members thus far. Through some discussions in this group, we have decided on our theme for the spring panel, which is assessment of student work. Many of us are currently reading "Specifications Grading" by **Linda Nilson**. We have also decided that, pending approval, we would like to continue to have our fall conference at UW-Baraboo/Sauk County, given its favorable facilities and central location.

If anyone has early-career faculty members in their department that have yet to join Project NExT and would like to, please have them contact me and I will add them to the group.

Spring Panel

The spring panel will immediately follow the MAA-Wisconsin Sectional Meeting in Ripon. The focus of the panel will be on assessment of student work. I will be soliciting faculty members that have used alternative forms of assessment (e.g. specifications grading, standards-based grading, etc.) in their courses to be panel members. If you fall into this category and would like to be a panel member, please contact me. If you know someone that would make a good panel member, please have them contact me. I would like to have 4-6 panel members. Due to member feedback, we will not be discussing professional development at the spring panel, as we have the past few years.

Eric Eager, UW-La Crosse

Student Activities

As Student Activities Coordinator, I am pleased to report on upcoming opportunities for students around the state and elsewhere. Most of the information here concerns the spring section meeting, but I will also mention a couple of other opportunities.

The Spring 2015 MAA Section Meeting, which will be held at Ripon College on April 24th and 25th, will be an excellent venue for student talks. Students working on research projects are strongly encouraged to submit abstracts. The Ripon College Math club has been enlisted to provide a welcoming environment for visiting students. In particular, a student retreat room with refreshments will be available. We also plan to organize a panel of faculty to answer student questions about graduate school, careers in mathematics, etc.

As noted in the fall newsletter, **Ken Price** and **Steve Szydlik** of UW-Oshkosh will host the mathematical quiz show Face Off!. Students who have taken Calc I or above are eligible to compete for their department in teams of 2 to 4 players. Up to ten teams can compete. Please contact Ken (pricek@uwosh.edu) or Steve (szydliks@uwosh.edu) to register a team. For more information, visit the Face Off webpage at http://www.uwosh.edu/faculty_staff/szydliks/faceoff.htm.

The Spring Section Meeting will also feature a student poster competition in honor of the 100th anniversary of the MAA. Details will be made available soon.

It is not too early to start thinking about Math Fest, which will take place August 5-8th in Washington D.C. Math Fest will also feature a number of special events in honor of the MAA's Centennial in addition to the usual opportunities. Students who attend may want to consider participating in the mathematical competition Math Wrangle. More details can be found on the MAA's website at www.maa.org.

Finally, the Wisconsin Mathematics Council's 47th Annual Green Lake Conference will be held May 6-8th, 2015. Anyone who is interested in mathematics education should consider attending.

McKenzie Lamb, Ripon College

The History of the Wisconsin Section

As part of the centennial of the MAA, the history page of the Wisconsin Section web site has undergone major revision. Check it out at http://sections.maa.org/wisconsin/history.shtml.

Please contact Public Information Officer **Benjamin V.C. Collins** (collinbe@uwplatt.edu) if you have suggestions for changes or additional information.

Section archives are missing paper copies of the newsletter for Spring 1994, Fall 1996, Spring 1997, Fall 1997, Spring 1998, Fall 1998, Fall 1999, and Spring 2000. We would also like paper copies of the program from the spring meeting from 2006, 2012, 2013, and 2014.

Finally, if you have copies of any photos relevant to the history of the section that you would be willing to share, please let us know.

Nominee for Chair-Elect

Jennifer Szydlik, UW-Oshkosh

Jennifer Szydlik earned her Ph.D. in Mathematics with a specialty in Mathematics Education from the University of Wisconsin-Madison in 1995. Since that time she has been a faculty member at the University of Wisconsin-Oshkosh. She was promoted to the rank of Professor in 2006.

She teaches a variety of courses for prospective math teachers. She loves to take students abroad to study educational systems and has led trips to both China and Peru in recent years. She earned the University of Wisconsin-Oshkosh Distinguished Teaching Award in 2004, the MAA Wisconsin Section's Award for Distinguished Teaching in 2009, and a Board of Regents Teaching Excellence Award in 2010.

Dr. Szydlik's research is in the field of undergraduate mathematics education. She is particularly interested in the mathematical learning of future elementary teachers. She has numerous publications and she is the coauthor of two textbook series: *Big Ideas in Mathematics for Future Elementary Teachers* and *Big Ideas in Mathematics for Future Middle Grades Teachers and Elementary Math Specialists.* She was awarded a John McNaughton Rosebush University Professorship in 2012.

Dr. Szydlik served for many years as the director of the UWO Mathematics Department Tutor Lab, and, since 2008, she has been the Graduate Program Coordinator for the MS in Mathematics Education degree. Her service to the community of practicing teachers and educators includes providing them a variety of workshops designed to strengthen their mathematics knowledge for teaching.

Nominee for Secretary-Treasurer

Jon Kane, UW-Whitewater

Jonathan Kane retired in May 2012 after teaching mathematics and computer science at UW-Whitewater for 32 years. He is now an honorary fellow at UW-Madison. He is very active in the math contest community as a member of the American Mathematics Competitions AMC 10/12 Committee, the American Invitational Mathematics Exam Committee (which he chairs), the USA Mathematical Olympiad Committee, and the Committee on the American Mathematics Competitions. He writes the majority of the problems and coordinates the Purple Comet! Math Meet, the free, annual, international, online, team mathematics competition designed for middle and high school students. Jon is also on the UW-Madison Math Talent Search Committee and often helps with the State MathCounts competition. Jon teaches at summer mathematics camps and is writing an undergraduate textbook on proof writing. Jon likes being active in the Wisconsin MAA and is glad to serve another term as Secretary/Treasurer. Jon also enjoys running, biking, swimming, hiking, bridge, chess, and photography.

Spring Meeting

Program Highlights:

Jim Daniel, Professor Emeritus of Mathematics, University of Texas at Austin
How much money do your parents (or you) need for retirement? An introduction to actuarial math and careers
This student-oriented talk uses that question to illustrate the kinds of analyses actuaries use, and then goes on to briefly describe actuarial careers and the road to getting an actuarial job. At most it uses college algebra, although it hints at basic ideas of probability.

David Bressoud, DeWitt Wallace Professor of Mathematics at Macalester College
Historical Reflections on the Fundamental Theorem of (Integral) Calculus
The statement of the Fundamental Theorem of (Integral) Calculus found in most calculus textbook is a product of 19th century analysis, created to answer difficult questions about Fourier series. Yet, as the name suggests, the underlying concept was known to Newton and Leibniz. In fact, it is implicit in the 14th century writings of Nicole Oresme. This talk will explore the history of this theorem, explain the different ways that people have understood it, and suggest how we should approach it today

The evening program will be a celebration of the MAA Centennial, featuring a screening of a centennial video from the Association and a talk on the history of the Wisconsin Section by Public Information Officer **Benjamin V.C. Collins** (UW-Platteville).

Map and Directions:

http://www.ripon.edu

Check under the About Ripon menu – Visitors – to find directions, maps, and other information.

Parking

All sessions will be in Todd Wehr Hall, with invited lectures in Farr Hall, and the banquet in Harwood Memorial Union. These buildings are essentially adjacent. Parking is available in the lot on the corner of Woodside and W. Seward St. (just across the street from Farr Hall) or on the street.

Lodging Information

Blocks of rooms have been set aside at Ripon hotels for Apr 24, and a special rate has been negotiated at the Heidel House in Green Lake.

Welcome Inn (three blocks from campus)
920-748-2821
http://www.riponwelcomeinn.com
240 E. Fond du Lac St.
Ripon, WI 54971
$52.00 (and 2 rooms at $59.00) – As long as rooms are available.

Boarders (5 minutes by car)
920-748-7578
http://www.staycobblestone.com/wi/ripon
1219 W. Fond du Lac St.
Ripon, WI 54971
$64.99 (Rooms blocked until Mar 8, although price should be good as long as rooms are available.)

Comfort Suites (5 minutes by car)
920-748-5500
http://comfortsuites.com/ripon
2 Westgate Dr.
Ripon, WI 54971
$74.90 (Rooms blocked until Mar 23, although price should be good as long as rooms are available.)

Heidel House Resort and Spa (13 minutes by car)
920-294-3344
http://www.heidelhouse.com
643 Illinois Ave.
Green Lake, WI 54941
$69.00 (The rate is a special MAA – Wisconsin Section rate. We can use up to 100 of their 190 rooms for sure, although they have not specifically blocked any off.)

Food

There are many fast food and other restaurants in Ripon. There are several on Watson St., 2 blocks from campus, with more on W. Fond du Lac St. on the way to two of the hotels. More information can be found at Ripon Chamber of Commerce under find a business.

http://www.ripon-wi.com/ripon-wi/chamber/find-a-business.html#restaurants

MAA Book Sales at the Spring Meeting

Support the section and also get a great deal on books by ordering your MAA books through the spring meeting.

As in the past few years, around the time of the meeting, MAA departmental liaisons will be provided with a code that provides a 35% discount below the list price to meeting attendees. The code will also be available at the meeting, or by contacting Public Information Officer Ben Collins (collinbe@uwplatt.edu).

The Wisconsin Section earns a small percentage of all sales made through the meeting. So if you are looking for an MAA book (and who isn't?), wait and order through the meeting. You get a discount, the section gets some money, and everyone is happy.

REGISTRATION FORM

MAA Wisconsin Section Spring Meeting — Ripon College

April 24-25, 2015 — Preregistration Deadline: **April 6, 2015**

You can also register on-line using
https://www.emailmeform.com/builder/form/Wcjdwfp3Eq9Qxdff5zaC4F

NAME(S)_____

Address_____

Main contact e-mail:_____

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	$30					
Registration Total:							

*Registration after pre-registration deadline of April 6 will be $30 for all except students, who will still be free.
**Regular banquet tickets will be $25 after the pre-registration deadline of April 6. 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

MAKE CHECKS PAYABLE TO: MAA - WISCONSIN SECTION

PLEASE SUBMIT TO:
Jonathan Kane, Treasurer — kanej@uww.edu
2814 Regent St.
Madison, WI 53705

CALL FOR SPEAKERS

83rd Annual Meeting of MAA Wisconsin Section, April 24 – 25, 2015

Ripon College

Talks of all kinds are welcome, particularly ones that are accessible to students, and we encourage talks by students. Talks connected to the Centennial Celebration of the Mathematical Association of America are particularly welcome.

If you wish to present a talk, please complete the form below and send by March 15, 2015, to Kavita Bhatia (kavita.bhatia@uwc.edu). Talks received after March 15 will be considered only as time and space permit.

An on-line version of this form is available at:
http://sections.maa.org/wisconsin/meetings.shtml

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

Due date: March 15, 2015

Name: _____

Institution: _____

Phone: _____
Email:_____

Title of talk: _____

Length of talk: 25 minutes _____ or 50 minutes _____

Abstract: (Suggested length, 250 words or less.)

_____

_____

_____

_____

Check here if your talk is appropriate for undergraduate students: _____

All rooms have a whiteboard and/or blackboard, an opaque projector, and projector with a connection for a laptop computer. If you have other equipment needs, please describe them, and we will try to accommodate you.

Time preference: Friday afternoon is Imperative ____ Preferred ____

Saturday morning is Imperative ____ Preferred ____

Either time is acceptable _____

CALL FOR STUDENT SPEAKERS

83rd Annual Meeting of MAA Wisconsin Section, April 24 – 25, 2015

Ripon College

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 15, 2015, to Kavita Bhatia (kavita.bhatia@uwc.edu). Talks received after March 15 will be considered only as time and space permit.

An on-line version of this form is available at:
http://sections.maa.org/wisconsin/meetings.shtml

Due date: March 15, 2015

Primary Speaker:

Name(s): _____

Institution: _____

Address: _____ Phone: _____

_____ Email: _____

Second Speaker: (If more than two speakers, please include the appropriate information.)

Name(s): _____

Institution: _____

Address: _____ Phone: _____

_____ Email: _____

Faculty Sponsor: _____

Title of presentation: _____

Brief description of presentation: (Suggested length, 250 words or less.)

_____

_____ _____

_____

All rooms have a whiteboard and/or blackboard, an opaque projector, and projector with a connection for a laptop computer. If you have other equipment needs, please describe them, and we will try to accommodate you.

Time preference: Friday afternoon is Imperative ____ Preferred ____

Saturday morning is Imperative ____ Preferred ____

Either time is acceptable _____

Know Your Wisconsin Mathematician

Interview with Robert Wilson, Jr. (UW-Madison), by Benjamin V.C. Collins

Where did you grow up?
Many people say I never really grew up.

We moved around a lot, but probably Knoxville, TN, ages 5-14, was the most formative.

Was there a time in your life when you discovered that mathematics was what you wanted to do?
I never really wanted to do anything else, but I probably only thought of it as a career sometime late in high school.

Where did you go to undergraduate school?
Ohio Wesleyan University. My family had just moved there, where my father was brought in as head of the math department, so we were freshmen together.

Where did you go to graduate school?
UW-Madison.

Your father was also a mathematician. Did you feel any pressure following him into the "family business"?
I never felt specific pressure. In fact, my father (as head of the math department) was astonished when he saw the paperwork declaring my math major. He thought I was going into physics. But at the same time, my grandfather and an uncle were also mathematicians and the whole family sort of "talked math" much of the time. So while there was not pressure, there was definitely an ambience. (One of my brothers was also a mathematician, as is one of my daughters. My sister and another brother are in CS. And my granddaughter is now a second-year grad student in math at another university. So that ambience has had extended influence.)

Are there any teachers who had influenced you to become a mathematician?
Most of all, of course, my father. He was an excellent teacher and he also won MAA teaching awards. In fact, he was a teacher I had as an undergraduate. At a small school that was a sure thing. He held me to a high standard and gave me my lowest grade in math. That was a B in ODE. He said I had been on the A-B borderline all semester and he would have given anybody else the benefit of the doubt and given them an A. In my case, he had seen me all semester not working so there was no doubt.

I have to say my memories of most of my math teachers before grad school are not very positive, though.

How did you end up at UW-Madison?
Again, my father was a big influence. His Ph.D. was also from Madison. (He was a student of C. C. MacDuffee, starting before WWII and finishing in 1947.) He remembered the place fondly. I only applied to Madison and Penn State. Penn State offered me one of the NSF fellowships of that time that could only be used at one school, but I also got a Woodrow Wilson fellowship which could be taken anywhere (although it paid a lot less and was only good for one year). I chose to come to Madison and use the Woodrow Wilson fellowship.

Over the years, your interests shifted from pure math research to mathematics education. What factors influenced that interest? What did you learn about the teaching and learning of mathematics?
I enjoyed working alongside John Harvey, who also was an algebraist who migrated into Math Ed. He established Ph.D. program in Math Ed within the math department, with the same prelims, etc. When he retired, I did not want to see the program die. So despite a lack of credentials, I tried to keep that going, and had two Ph.D. students of my own in Math Ed.

I eventually settled on one particular research interest, again something for which I had no credentials: What is the impact of "culture" on learning math? To clarify what I mean: In the Math Ed seminar I ran, one day a student was giving a talk about a particular paper. A faculty colleague broke in with the comment (approximately) "If the US would adopt the Singapore math materials, all our problems would be fixed." I did not want to extend the interruption of the speaker, but I had to say (again approximately) "Those are great books, but they would take some modification before they could be used in all of our schools." The colleague replied (exactly,

not an approximation) “Students are the same everywhere.” Now they may (or may not) be physiologically the same in all countries, but a student brings a lot of baggage to school that is *not* the same everywhere. Take, for example, the answer to the question “What does it take to succeed in math?” Survey data show that in Japan a typical answer is “Hard Work”, while in the U.S. it is “A Special Gift”. We could probably all agree that to win a Field medal takes both! But the question was asked about “ordinary” K-12 mathematics. I think a student might well learn differently if his/her parents said “get to work” rather than “doing badly in math is OK, Mommy and Daddy never learned that either.” I have lots of anecdotal evidence but I am not a sociologist and don’t really even know how to define culture.

What courses do you like to teach?
Almost any. In any course, from remedial math to advanced undergraduate major courses, there will be some students who are fun to teach, and some who are not. I remember teaching a “business calculus” large lecture, talking about the epsilon/delta definition of the limit, and having two students come up afterwards to ask me “How does that relate to Zeno’s paradox?” I suspect their interest was in a small minority, but it made it all worthwhile! I never got that neat a question in the science-oriented calculus sequence. (Even if my answer had to be that the careful definition seemed to me to make the paradox disappear.)

Over the years, did you find that teaching of mathematics changed?
Of course there are changes in details, like MOOCs and homework managing systems. I don’t think we yet know how all of that will turn out. But in a different area, sadly, I think more students these days have a feeling of “entitlement” that excuses their not working. My last semester teaching, and one of the reasons it was the last, I had a lot of them. One, for example, had gotten an F on each of three mid-term exams and a resounding F on the final, and could not believe that could result in a failing grade for the course!

Where do you think mathematics is going? Where do you think it should go?
Mathematics is certainly growing rapidly. Some of the areas that are booming are doing so because computing makes possible both different research strategies and different applications. For example, there is great emphasis these days on kinds of mathematics that can be used in data security. (When I worked for seven years in industry, I was involved in this both for commercial purposes and for the government.) In many cases, the mathematics derives from work done in the first decades of the twentieth century, but now using, in addition to lots of hard but traditional work, lots of computing power. It’s also true that it is enormous computing power that makes data security necessary in the first place.

While I enjoy that kind of mathematics and continue to follow it (mostly as a spectator) I hope that other areas don’t suffer. But I am sure that some will eventually disappear. The area of my grandfather’s Ph.D. thesis, Functional Equations, is entirely unheard of these days. I sometimes think I could use some of it in cryptography, so far with no success. Short of something like that, I don’t think it is likely to reappear. I expect some of the things I had to study (and pass prelims on) in grad school will do likewise.

How were you involved with the MAA over the years?
I grew up in an MAA household! But I was not very active myself, other than going to regional and national meetings, until maybe 15 years ago. My main organized involvement was being chair of the Wisconsin Section one year, with the expected duties also the years before and after. But I have also tried to be a “salesman” for the MAA among grad students. Although they are likely to be seeing themselves mostly as researchers, they are likely to spend most of their careers in situations that are principally concerned with teaching, where the MAA places most of its emphasis.

What do you think is the best part of being a mathematician?
I am not sure how to rank them. I certainly enjoy facing almost everything with a mathematician’s mode of thinking. Over the years I have been (as an amateur) a race car driver and mechanic, (as an amateur and professionally) an astronomer and a photographer. I have gotten back into ham radio. I can’t imagine thinking about either how to improve my race car engine or how to design a modern transmitter without both a mathematician’s logic and also specific tools. Others working with me on such a project have frequently pointed out my mode of thinking. (Current editions of what used to be called “The Radio Amateur’s Handbook” are filled with references to Hilbert transforms, Fourier series, etc.) I have always enjoyed talking with other mathematicians,

who are usually clear-spoken and talk about things they understand and generally don't try to give edicts on things they don't understand. And a little part of me is proud of a theorem or two that will still be "mine" when the sun no longer shines.

What was the worst part of teaching mathematics?
Probably the bureaucracy, but that applies to all subjects and not just math. Specifically about teaching *mathematics*, and this relates to the culture interest above, is fighting the prejudices students bring in as to what mathematics is and why they hate it.

How would you describe what you did when you were talking to somebody outside of mathematics?
Both trying to discover inescapable truths and encouraging students to look for truth also. When in industry, one thing I worked on was being able to prove (with a QED at the end) statements about computing systems. Both the limitations of that endeavor and the merits were things that lay people could understand.

What of your work do you like the best? What are you most proud of?
While I won several larger scale teaching awards, I think I maybe was most proud of the ones that came spontaneously from something like a wing of a dormitory. I like to think that my work in computer security made the world a very tiny bit safer. I was very happy a couple of years ago when someone named a (not terribly important!) mathematical construction after me.

What is your advice to college students and new teachers?
My strongest advice to students is to find something they enjoy doing. It must be terrible to spend your entire career doing something you hate, just because some counselor said it paid well or there were lots of jobs.

To teachers: You presumably love math, since you chose to go into it. Try to show students how great it is, and why you love it, and maybe they can learn to love it at least a little bit also.

Do you have any other comments?
One thing that I think is relevant both in our national worries about education and particularly in Wisconsin as we debate our college emphases: When I was a manager in industry, one of my biggest problems was convincing the personnel office that I wanted to hire people who could think, not people with particular skills. For example, I had to hire people to work on a computing project that involved a million lines of code, would execute distributed all over Europe, and was being programmed by a team of over a hundred people. A new CS major typically thought he knew how to program because he had written some "toy" program of at most a few thousand lines. He knew nothing about how to work with others, how to make big pieces fit together, etc. I'd far rather hire a bright English major who knew he/she had a lot to learn than one who thought he had all the tools ready to apply.

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

Campus News

Beloit College

submitted by Paul Campbell

Darrah Chavey and Emeritus Professor **Phil Straffin** spoke at the Joint Mathematics Meetings on analysis of Game Analysis of Mu Torere and related ethnographic games. Darrah is on sabbatical for the spring term of 2015.

Carroll University

submitted by Kristen Lampe

Darrell Johnson will be presenting a paper at the 26th annual International SITE (Society for Information Technology and Teacher Education) conference in Las Vegas, NV during the week of March 2 to March 6. The title is "Building a Computational Thinking Course from Scratch."

Madison College

submitted by J. Sriskandarajah

Madison College Math Club lectures in the spring semester:

- Lecture # 142, Monday, Febuary 9, 2015, 3:30 PM, Room A2021, Ranjan Roy
- Lecture # 143, Friday, March 13, 2015, 3:30 PM, Room A2021,PI day with Jim Ham
- Lecture # 144, Friday, April 10, 2015, 3:30 PM, Room A2021, Paul Martin
- Lecture # 145, Friday, May 1, 2015, 3:30 PM, Room A2021, John Frohliger

http://clubs.madisoncollege.edu/mathclub/

Ripon College

submitted by David Scott

Department members **McKenzie Lamb** and **Andrea Young** married last June. This positive event has now been balanced by the stroke **Karl Beres** suffered around Thanksgiving (Karl is recovering well) and the torn Achilles tendon **Chester Ismay** suffered at the beginning of February (Chester had to teach for one week via Google Hangout before returning to campus).

Andrea Young received a student research grant from the Center for Undergraduate Research in Mathematics (CURM). As part of that grant, she is working with four students on a research project in discrete differential geometry. They will present their results at a national conference in Utah in March.

In addition, students **Logan Soich** and **Mitchell Eithun** traveled with research mentors **McKenzie Lamb**, **Andrea Young**, and **Chester Ismay** to the Joint Meetings in San Antonio where they gave talks.

St. Norbert College

submitted by Anders O.F. Hendrickson

Kathy Muhs is off campus for spring semester on "phased retirement," but will return for two more semesters, in Fall 2015 and Fall 2016. By all accounts she is enjoying her time in Florida.

Anders Hendrickson was awarded tenure this year.

Anders Hendrickson, **Seth Meyer**, and **Kevin Murphy** gave presentations at the Joint Meetings in San Antonio.

UW Colleges

submitted by Kavita Bhatia

The UW Colleges was one of the four UW institutions to receive a UW System Transformation Gates Grant to do upward placement for students placed into developmental courses. The math team consisting of **Kavita Bhatia**, **Paul Martin**, **Janette Miller**, **Shubhangi Stalder** and **Ed Stredulinsky** is developing a Multiple Measures placement and a supplemental support course for students who place near the college-ready boundary. Some of the measures that the team is considering include the UW System placement test, the ALEKS placement test, ACT scores, high school GPA or other high school assessments, math classes taken in high school and a survey exploring the student profile.

Marc Corluy, UW-Marshfield, gave a talk titled "Elementary Statistics for Geneticists, Medical Doctors and Incoming Freshmen" at the WISMATYC-2014 conference at UW-Fond du Lac.

Stephanie Kernik, UW-Richland, received the prestigious Arthur M. Kaplan Award. The award recognizes outstanding contributions to education.

Karl Kosler, UW- Waukesha, published a paper "Link Closed Sets of Prime Ideals and Stability on Bimodules" in the International Electronic Journal of Algebra Volume 17 (2015).

Janette Miller, UW-Sheboygan, was invited to a symposium at the University of Texas Pan American in McAllen, Texas. She gave a presentation "Innovative Teaching through Transitions: A HS-IHE Symposium on Transitional Math and English".

Kirthi Premadasa, UW-Baraboo/Sauk County, published a paper titled "SoTL as Sherwood Forest: A Review of the SoTL Commons Conference 2014" Teaching & Learning Inquiry: The ISSOTL Journal Vol. 2, No. 2 (2014). He also gave the following talks:

- **Kirthi Premadasa** "D2L and math formulae; Making friends," Annual BrightSpace conference, Waukesha, November 2014
- **Kirthi Premadasa**, **Kavita Bhatia** & **Tharanga Wijetunge** "The dreaded word problem: What do students remember?" AMS/MAA Joint Sessions, San Antonio, January 2015
- **Kirthi Premadasa** "Calculus problem solving: can a flipped classroom help?" SOTL Commons Conference, Savannah, March 2015

Ibrahim Saleh, UW-Marathon County, gave two talks:

- "Representations of some generalized Weyl algebras arising from non-commutative cluster structure I: Cluster Strands," Central Fall Section Meeting, Eau Claire, Wisconsin.
- "Representations of generalized Weyl algebras arising from non-commutative cluster structures II: Strand modules," Joint Mathematics Meetings, San Antonio, Texas.

Yuriy Shlapak, UW-Marshfield, gave a talk "Convergence of series: beyond the most common tests." at the WISMATYC-2014 conference at UW-Fond du Lac. He also published a paper "On one property of inverses of nonlinear operators associated with M-matrices" in the Operators and Matrices (OAM) journal. OAM Volume 8, Number 2, June 2014.

Paul Sundheim, UW-Waukesha, published a paper, "Construction of Hyperdeterminants" *Journal of Linear and Multilinear Algebra*, Taylor & Francis, DOI: 10.1080/03081087.2014.977890, 2014

UW-Eau Claire

submitted by Chris Ahrendt

At the annual Joint Mathematics Meeting in San Antonio, TX this past January, UW-Eau Claire students presented posters on topics that stemmed from five different student/faculty research collaborations. The following are the posters that were presented at the MAA Undergraduate Poster Session:

- **Austin Riedl** and **Mitchell Lemons** presented "n-dimensional semi-hypercubes and the algebras associated with their Hasse graphs," which was completed with faculty advisor **Colleen Duffy**.
- **Thao Tran, Austin Riedl, Hengzhou Liu,** and **Zach Forster** presented "Deformations of 5-Dimensional Associative Non Nilpotent Complex Algebras," which completed with faculty advisor **Michael Penkava**.
- **Christopher Magyar** presented "Mirror Symmetry in Reflexive Polytopes," which was completed with faculty advisor **Ursula Whitcher**.
- **Peter Nugent, ML Tlachac,** and **Derek Levin** presented "Pattern Avoidance in Forests," which was completed with faculty advisor **Manda Riehl**.
- **Grant Roth** presented "Distinguishing Colored Links," which was completed with faculty advisor **Christopher Davis**.

Four faculty members also gave presentations in invited and contributed paper sessions at the JMM:

- **Abra Brisbin** presented "Statistical test for genetic associations in populations with three-way admixture."
- **Sherrie Serros** presented "Rich Mathematical Tasks Aligned with Common Core Math Standards."
- **aBa Mbirika** presented "Finding square patches of invisible lattice points using quasiprime matrices."
- **Harriet Yang** presented "Mean-Variance Type Controls Involving a Hidden Markov Chain: Models and Numerical Approximation."

aBa Mbirika and his collaborator, Medieval Italian literature expert Arielle Saiber of Bowdoin College, recently published their interdisciplinary collaboration "The Three Giri of Paradiso XXXIII" in the journal Dante Studies. This paper merges Medieval Italian literature and mathematics, exploring Dante's

description of the *tre giri* ("three rings") of the Holy Trinity in Paradiso 33 of the Divine Comedy. The mathematics in this paper uses tools from topology and combinatorics to analyze all possible configurations that have a specific layout of three intertwining circles, which the authors find particularly compelling, given Dante's description of the Trinity. The published version of this paper also appears on the arXiv at: http://arxiv.org/abs/1501.07214

Chris Hlas and **Ryan Harrison** are working on a grant entitled "A^3: Assess, Analyze and Address" which focuses on introducing teachers to formative assessment probes.

UW-Eau Claire hosted the Fall 2014 central section meeting of the American Mathematical Society on September 20-21.

Claudia Giamati retired at the end of the fall semester. She joined the UW-Eau Claire faculty in 1998 with a focus on mathematics education.

UW-Milwaukee

submitted by Jay H. Beder

The 2015 Marden Lecture in Mathematics will be given by **Steve Schreve** of Carnegie Mellon University. He will give his talk, "Lessons Learned from the Financial Crisis," at 4:00 pm on March 4 in Lapham 160. More information is at http://uwm.edu/math/graduate/resources/history-of-our-graduate-program/the-marden-lecture-series/.

In January, **Justin Jacobs** (MS 2005) was given the PECASE award. He received his PhD in Statistics from the University of Maryland, Baltimore County, in May 2014 and is currently employed by the National Security Agency.

In fall Northwestern Mutual–a corporate partner and long-time supporter of the department's Actuarial Science program–won a Corporate Partner Award from UWM.

In September, Actuarial Science adviser **Yang Ho** was appointed as a Clinical Professor and Co-Director of Actuarial Science. He is a Fellow of the Society of Actuaries and brings over 30 years of actuarial and executive experience in insurance industry.

The National Weather Service named UWM a StormReady University–the only one in Wisconsin–in November. This designation was earned because of the efforts of the department's Atmospheric Sciences group, and in particular its Innovative Weather program. More information can be found at http://uwm.edu/math/uwm-named-a-stormready-university-only-one-in-wisconsin/.

The paper "Case studies using credibility and corrected adaptively truncated likelihood methods" by **Harald Dornheim** (Ph.D. 2009) and Professor **Vytaras Barzauskas** was awarded the Variance Prize, given by the Casualty Actuarial Society (CAS), for the "best paper in 2013." The paper appeared in Variance, a premier research publication of the CAS, and was presented at the CAS Centennial Celebration and Annual Meeting in New York city. A fuller account is at http://www.casact.org/press/index.cfm?fa=viewArticle&articleID=2674.

UW-Oshkosh

submitted by John Beam

Ken Price has two recent publications: "An Alternative Construction to the Transitive Closure of a Directed Graph" in the most recent issue of the International Electronic Journal of Algebra, volume 17 (2015); and a jointly authored paper with colleague **Steve Szydlik**, "Good Gradings from Directed Graphs" in Contemporary Mathematics, volume 609, on Ring theory and its Applications (2014).

We were pleased to host talks by two recent visitors, one titled "Dancing with Mathematics" by **Karl Schaffer** of De Anza College on November 12, 2014, and one titled "Differentiability at Infinity via Stereographic Projection" by **McKenzie Lamb** of Ripon College on February 12, 2015. We look forward to a presentation that **Steve Szydlik** will be giving on April 2, titled "May the Best Team Win."

UW-Platteville

submitted by Ben Collins

The department welcomes **Edward Steltenpohl** as Teaching Academic Staff for the spring semester. Ed received his M.S. at UW-Milwaukee. His interests are differential geometry and mathematics education standards.

Tim Deis and **Jodean Grunow** have received a $327,000 University of Wisconsin System grant, under the Elementary and Secondary Education Act, Title IIA, Wisconsin Improving Teacher Quality program, for support of a three-year, professional development project for STEM teacher education. The title of the

project is "Intelligent Integration of STEM Components to Build Educator Effectiveness and Student Proficiency." It will begin on March 1, 2015, and run through July 2017.

Julie McDonald has been named the chair of the UW System Mathematics Placement Test Development Committee.

UW-Whitewater

submitted by Mohammad Ahmadi

Thomas Drucker gave two talks at MAA sessions of the Joint Mathematical Meeting in San Antonio. One was on "Humour in the mathematical classroom" and the other had the title "Explanatory and Justificatory Proofs." Congratulation to Thomas for becoming Chair of the Philosophy of Mathematics SIG of the MAA. He will also remain Chair of the Wisconsin Section until the annual meeting in April 2015.

Congratulations to **Rachel Chaphalker** for receiving her Ph.D. from University of Montana on the December of 2014. Her dissertation titled "A longitudinal study of students' reasoning about variation in distributions in an introductory college statistics course."

Rachel Chaphalkar presented a paper at the International Conference on Teaching Statistics (ICOTS – 9) with Cindy Leary on "Introductory Statistics students' conceptual understanding of variation and measures of variation in a distribution," July 2014.

Xueqing Chen's joint paper "Multiplicative properties of a quantum Caldero-Chapoton map associated to valued quivers," with Ming Ding and Jie Sheng, was accepted to appear in the Journal of Algebra. Xueqing also gave two talks on "Hall algebras and quantum groups arising from 2-periodic derived categories". One talk was at the Central Fall Sectional Meeting of the AMS, University of Wisconsin-Eau Claire, Eau Claire, WI September 20-21, 2014, and the other at Tsukuba Workshop on Infinite-dimensional Lie Theory and Related Topics -- History and Development. October 20-23, 2014. University of Tsukuba, Ibaraki, Japan.

Khyam Paneru has published his joint paper with **Hanfeng Chen** in *Far East Journal of Theoretical Statistics.* The paper titled "Asymptotic Distribution of Pseudo-Likelihood Ratio Statistic for Zero-Inflated Generalized Linear Models under Complex Sampling Designs," 49(1), 41-60, 2014. Khyam also did a research presentation at the Joint Mathematics Meetings in San Antonio. The title of his presentation was "Estimation of Expected Responses at Future Covariate Values/Vectors in Zero-Inflated Generalized Linear Model under Unequal Probability Sampling Designs."

Ki-Bong Nam gave several talks as follows:

- Central Fall Sectional Meeting of the AMS, UW-Eau Claire, Invited Speaker on Lie algebra session, Sep. 20, 2014.
- University of Science and Technology of China, June 19, 2014.
- Kyungpook National Univ., Korea, June 10 and July 4, 2014.
- Choongnam National Univ., Korea, June 11, 2014.
- Ewha Univ., June 6 and July 10, 2014.

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