

Spring 2017, Volume 20, Number 1

Upcoming Meeting

Hope to see you at Anoka-Ramsey Community College!

Anoka-Ramsey Community College will host the MAA-NCS Spring meeting, April 21-22, 2017. Our two invited speakers for the spring meeting are Matthew Haines (Augsburg College), and April Strom (Scottsdale Community College).

A program for the Spring 2017 meeting will be posted approximately one to two weeks on the MAA-NCS website prior to the meeting.

Invited Speakers

Matthew Haines, Augsburg College, St. Paul, MN

Talk Title: Traveling through History with Story Problems

Abstract: Two trains leave different stations heading towards each other at different speeds." "The length of a rectangle is twice its width and its area is 50 square units." Sound familiar? These scenarios begin two of several algebra problems that are part of the common experience of many students. Whether on a train, plane, or spaceship, we will travel through various eras of history to sneak a look at some of these common mathematical problems (and maybe a few less common) and their solutions in what one might call the Algebra Experience in education.

April Strom, Scottsdale Community College, Scottsdale, AZ

Talk Title: Covariation: A Way of Thinking About Functions

Abstract: Several researchers, whose focus has been concentrated on the concept of function, have argued the powerfulness of covariational reasoning for developing robust conceptions of function (Carlson et al., 2002; Confrey & Smith, 1995; Thompson, 1994a, 1994b). Confrey and Smith (1995) argue that covariation, as an alternative way of thinking about the concept of function, offers a more qualitative approach to describing in general the changes of one quantity in relation to another quantity. Carlson et al. (2002) defined covariational reasoning as the "cognitive activities involved in coordinating two varying quantities while attending to the ways in which they change in relation to each other" (p. 354). This talk will focus on making sense of changing quantities by exploring how they change in relation to each other as a way for helping students develop an understanding of rate of change.

Project ACCESS/Section NExT Workshop

Fenecia Foster, Southeast Technical Institute

Topic: Emphasizing Authentic Applications

Abstract: What is your response when a student asks, "Why do we have to learn this?" What outcomes do you want students to demonstrate, as a result of taking your class? In this workshop, you will test out authentic applications that have positively impacted student

engagement and student learning, and you will learn strategies for developing your own applications that are relevant to your lessons and students. This Project ACCESS/Section NExT workshop is open to anyone interested in thinking about new ideas for the classroom.

Officer Reports

Governor's Report

Suzanne Dorée, Augsburg College

Jan 2017 brought big changes to how the MAA conducts business, thanks to approved changes to the MAA ByLaws. Changes include having one Vice President (not two), and a new role for the former Board of Governors, now the MAA Congress. The new Congress will do more to represent the sections so be sure to share your ideas, concerns, and questions with our new Section Representative, Jason Douma. My one-year term as Governor was cut short by my election to chair the Council on Program and Students. In that role I will also serve on the Congress, as will Jennifer Galovich who now chairs the Council on Members and Communities. There will be shortage of representation of the NCS as our own Deanna Haunsperger is now MAA President.

There are significant restructuring of development, marketing, and publications at the MAA which should have a long-term positive impact on the budget. New efforts are also underway to increase membership. Be sure to consider buying a departmental membership which includes one faculty member and an unlimited number of students -- a great deal!

In other national MAA news, editor searches for CMJ and Math Horizons are underway and James Sellers was newly hired as MAA Secretary starting 2018 following Barbara Faires amazing service.

Check out these new math links. First, MAA Past-President Francis Su's MathFeed App scrapes math related news from the web and provides easy links to read articles in MAA journals. For more information see: <https://mathyawp.wordpress.com/mathfeed/> James Tanton has a new set of curriculum inspirations for teachers, children, and anyone who loves math here: www.maa.org/math-competitions/teachers/curriculum-inspirations.

President's Report

Colleen Livingston, Bemidji State University

This past fall we celebrated the 100th birthday of the North Central Section! Our gratitude goes to the University of Minnesota Mathematics Department for hosting that meeting and to the three former and current national MAA presidents from our section who were able to join us for the meeting- Drs. Joe Gallian, Paul Zorn, and Deanna Haunsperger. In addition Dr. Wally Sizer presented a history of the North Central Section.

The Board is beginning discussions about the next summer seminar. Please let me or another board member know if you have a recommendation for a topic or speaker or if your campus would like to host the seminar.

Members of the board serve in one to three year roles so there is ample opportunity for involvement as a board member. If this interests you, let me know.

We hope to see you at the April 21, 22 meeting at Anoka-Ramsey Community College. It's been about 30 years since we've met at a community college and we are working to draw talks of interest to community college, 4-year, and university math faculty. I am particularly looking forward to April Strom's talk framing our thinking about functions and to Matt Haines' talk about story problems.

Secretary's Report

Shawn Chiappetta, University of Sioux Falls

Nothing to report.

Information Officer's Report

Kris Nairn, College of St. Benedict/St. John's University

First, I wanted to thank Donna Flint for her excellent work during her term as President for the NCS. Secondly, please welcome Co Livingston as the new President. Since Jody Sorensen is on sabbatical this fall, Section NExT will be run by Su **Dorée** from Augsburg College. If you know any "local" (Twin Cities) junior faculty who would be willing to work with Su in organizing and attending NExT events, please contact Su directly.

This year's Distinguished Teaching Award (2017) went to Cindy Kaus, from Metropolitan State University. Congratulations Cindy!

The spring 2018 meeting for the Wisconsin Section of the MAA is tentatively scheduled for University of Wisconsin – Eau Claire.

The spring 2018 Pi Mu Epsilon meeting at CSBSJU will be on April 13-14, 2018. The invited speaker is Tim Chartier, Davidson College. See the College of St. Benedict/St. John's University website for further details: <http://www.csbsju.edu/mathematics/pi-conference>

Jill Fisher, Academic Administrative Assistant – Physics Department, and Program Administrator for Budapest Semesters in Mathematics Education (BSME), has asked me to share information on the program. BSME is a semester-long program in Budapest, Hungary, designed for undergraduates and recent graduates interested in teaching secondary mathematics. Participants will study the Hungarian approach to learning and teaching, in which a strong and explicit emphasis is placed on problem solving, mathematics creativity, and communication. BSME is specifically intended for students who are not only passionate about mathematics, but also the teaching of mathematics. Applications are currently being

accepted for Fall 2017 and Spring 2018 semesters. You can find the online application at : <http://www.bsmeducation.com>

Campus News

Augsburg College

The Augsburg College Department of Mathematics and Statistics has been busy this past year, with several transitions in progress! Construction of the new academic building for Science, Business, and Religion is well underway - we expect to be teaching classes in the new building January 2018. Congratulations to Matt Haines who was approved for promotion to full professor. We wish our colleague Miles Ott well, who accepted a tenure track position at Smith College. John Zobitz is wrapping up his term as Department chair, and Suzanne Dorée will be starting as the new chair this summer - thank you Su! Jody Sorensen will be on sabbatical Fall 2017. Finally, we will have a new name - Augsburg University - starting Fall 2017. The good news with the name change is that there will be plenty of new scratch paper for solving mathematics and statistics problems! (submitted by John Zobitz)

Bemidji State University

Glen Richgels, a Mathematics Education faculty member here since 1993, has announced his retirement to occur this summer. In preparation, he is currently teaching 17 credits! Heidi Hansen, on sabbatical in Norway this fall, is now teaching at another school in Milwaukee. In both locations she's had the opportunity to see how other colleges educate future teachers. We look forward to her return next fall and to seeing the amazing fish house that she won at a local fishing tournament! Our chair, Derek Webb has recently recently taken on the interesting job of being our local faculty union president. I have been allowed an academic year sabbatical next year and am looking forward to doing more thinking and less paper grading.

We have completed searches for a tenure-track mathematics education faculty member and a fixed-term mathematics faculty member and will soon start reading applications for another fixed-term mathematics faculty member. (Submitted by Co Livingston)

College of St. Benedict/St. John's University

Sunil Chetty was granted tenure and promotion. Our departmental Chair, Robert Hesse, successfully completed his term as Chair of the Joint Faculty Senate and Joint Faculty Assembly. Pi Mu Epsilon had strong attendance (approx 140 people) and students and faculty alike enjoyed the talks given by Francis Su. We were all thankful for the mild spring weather. (submitted by Kris Nairn)

Concordia College – Moorhead

Concordia College-Moorhead is hosting Dr. Mae Anderson (Class of 1920) Alumni Talks on March 17, 2017 as part of Concordia's 125th anniversary celebrations. The Concordia-Moorhead alums giving talks include Dr. Tara Steuber Wilson '06, Senior Decision Science Consultant, Revenue & Profit Management, The Walt Disney Company; Stephanie Schilz '13, Statistical Programmer Analyst at Mayo Clinic; Dr. John M. Gregoire '04, Thrust Coordinator

for Photoelectro-catalysis, Joint Center for Artificial Photosynthesis, Caltech; Mark J. Spangrud '86 MAAA FSA EA, Senior Consulting Actuary and Partner, Aon Hewitt; and Arday Ardayfio '02, President/CEO Blueprint IT Solutions in Fargo. (*submitted by Douglas R. Anderson*)

University of Minnesota – Duluth

The Securian Math Learning Lab had an official ribbon-cutting ceremony February 2, 2017. The Lab allows the instruction of developmental courses using a new combination of technology and supervised open lab activities.

Mathematics Prof. Joe Gallian will host his Research Experiences for Undergraduates (REU) this summer at UMD. This is the longest running REU (since 1987) in the country, and typically attracts the top 9-10 undergraduates in the nation.

Dr. Tracy Bibelnieks is recruiting high math ability junior high students to join UMTYMP (University of Minnesota Talented Youth Mathematics Program). This will be the third cohort since she revived the program in 2015. Students take mathematics courses in evening classes, and come close to satisfying a collegiate mathematics major by the time they graduate from high school.

In the last year, Mathematics Prof. Zhuangyi Liu was invited to universities in China, Italy, Tunisia, and Brazil to present the results of his research related to the stability of damped elastic beams. His novel theoretical techniques are being applied to a variety of applied models.

Prof. Dalibor Froncek recently avoided a crisis for the Institute of Combinatorics and Applications (ICA) by publishing their most recent Bulletin of ICA with the help of the Mathematics and Statistics Department at UMD. (*Submitted by Bruce Peckham*)

University of Sioux Falls

Dr. Joy Lind is currently on sabbatical at the University of Auckland (NZ), where she is working on current applications of mathematics, and also studying topics in management. When she returns to the University of Sioux Falls this summer, she will assume a new role as the university's Vice President of Academic Affairs. (*submitted by Jason Douma*)
