



North Central Mathematical Bulletin

The Newsletter of the North Central Section
of the Mathematical Association of America

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Fall 2011, Volume 14, Number 2

UPCOMING MEETING

**Hope to See You at Minnesota State University,
Moorhead for the MAA-NCS Fall Meeting, October
28-29!**

A program for the Fall 2011 meeting will be posted approximately one to two weeks on the MAA-NCS website prior to the meeting.

OFFICER REPORTS

President's Report

Michael Hvidsten, Gustavus Adolphus College

As we all start our semesters of teaching and service, I hope that you can keep the dates of October 28-29 open for our fall meeting. The meeting will take place at Minnesota State University - Moorhead and will feature great talks by members of our section, including a talk by our 2011 Distinguished Teaching Award winner, Tom Halverson, and by Rick Gilman of Valpraiso University and the national MAA.

The Spring 2012 section meeting will be hosted by Concordia University - St. Paul and the Fall 2012 meeting will be at the University of Minnesota - Duluth.

Many thanks go to our out-going President, Jason Douma, of the University of Sioux Falls. Jason served as the very model of a modern MAA section president. He has provided invaluable assistance to the section over the years in a wide variety of roles and is one of our section's "gems".

Jason will continue his work on the Executive Committee, in the role of Past President, for the coming year. I also wish to thank our out-going Treasurer, Randy Westhoff, for his many years of service, and say thanks as well to out-going officers John Holte as Past-President, Angela Hodge as Member-At-Large, Peh Ng as Student Activities Coordinator, Deanna Haunsperger as chair of the Meritorious Service Committee, and Karen Saxe as chair of the Teaching Award Committee.

We welcome incoming officers Dan Kemp as President Elect, Dale Buske as Treasurer, Jody Sorenson as Member-At-Large, and Aaron Wangberg as Student Activities Coordinator. Thank you in advance for your service.

I will end my report with a special plea to section members to make nominations for our section's awards -- the Distinguished Teaching Award and the Meritorious Service Award. Details may be found in the Awards section on the MAA-NCS website.

Treasurer's Report

Randy Westhoff, Bemidji State University

As outgoing treasurer I am happy to report that the North Central Section enters the new academic year in good financial shape. The only significant budget item since my last report is this year's summer seminar "Heavenly Mathematics" by Glen Van Brummelen. Despite an outstanding program the seminar was under attended and lost money. Even with this loss the section's reserves remain strong.

Our new treasurer Dale Buske will be sending out letters to the section's department chairs asking their institutions to become institutional members of the NCSMAA. Last year a total of twenty-four colleges and universities became institutional members raising a total of \$600 to support our section's Project NExT activities. Institutional memberships are again only \$25 a year.

As in previous years student speakers at this fall's meeting can request reimbursement for up to \$100 in travel, lodging and meal expenses. To receive funds they should fill out a reimbursement request form which can be downloaded ([here](#)) and give it to Dale at the meeting. I hope to see all of you at the fall meeting at Minnesota State University Moorhead.

CAMPUS NEWS

Augsburg College

Augsburg welcomes Prof. **Mike Weimerskirch** to the department! Mike earned his Ph.D. from the University of Minnesota in combinatorial games under **Bert Fristedt** .

Continuing in the Mathematics Department are professors **Tracy Bibelnieks** , **Su Dorée** , **Rich Flint** , **Matt Haines** , **Ken Kaminsky** , **Katy Micek** , **Jody Sorensen** , **John Zobitz** and our adjunct faculty Anna, Alyssa, Eleonore, Fran, Rebekah, Sue, Tami, Todd, and Troy.

Prof. **Pavel Bělík** is on sabbatical this year.

Jody Sorensen is the new chair of the Mathematics Department. Long live the chair! (*Submitted by Matt Haines*)

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

We are pleased to welcome **Sunil Chetty** and **Anne Sinko** to our faculty. Their research interests are number theory and graph theory, respectively. Two of our students, **Kelsey Larson** and **Hongying Zhao**, won prizes for the presentations at the national Pi Mu Epsilon conference at Mathfest this summer. Their advisors are **Tom Sibley** and **Bret Benesh**. **Kris Nairn** received an MAA grant to help student speakers from other schools defray their travel costs to our annual Pi Mu Epsilon conference.

Save the dates! April 13-14, 2012 for the 33rd Pi Mu Epsilon Conference at St. John's. The featured speaker is **Ken Millett** from the University of California, Santa Barbara, who is known for his work in knot theory. Encourage your students to start planning to come and to give talks. We have a grant to help student speakers from other schools defray their travel costs to our conference. For more information, contact Kris Nairn (knairn@csbsju.edu) or visit our web page <http://www.csbsju.edu/Mathematics/Pi-Conference.htm>. (*submitted by Tom Sibley*)

Concordia College, Moorhead

Concordia-Moorhead's T.C. Wollan Lecture Series in Fall 2011 will feature noted origami artist **Robert J. Lang**. People in the Red River Valley and this region that have not yet had a chance to hear Robert Lang are invited to join us in Moorhead on the following dates: October 19, 7-8 PM, Jones Conference Room A/B, Concordia College Centrum; October 20, 4-5 PM, Science 212 Concordia College. (*submitted by Doug Anderson*)

Concordia University, St. Paul

Sharon (Clarke) Mosgrove is the proud mother of new twin girls. She decided to stay home with them full-time and join her husband who worked out of state. Thus, she remorsefully resigned her position. We will have a search this year for her replacement.

Rob Krueger has been elected to Chair of the Faculty Senate, along with his duties as math department chair. He is enjoying his new responsibilities.

We are looking forward to hosting the spring NCS-MAA meeting at Concordia University, St. Paul. We hope you can join us. *(submitted by Rob Krueger)*

Dakota Wesleyan University

Dr. **Rocky VonEye**, Professor of Mathematics and Dean of the College of Healthcare, Fitness, and Sciences at DWU is on sabbatical during the fall semester. Her work is focused on instructional technology, including an investigation of current practices in university classrooms, what technology is being used, and how well it is being used (or not used). A wide range of technologies is under investigation, everything from course management systems, to smartboards, to classroom capture software, down to "lower tech" presentation methods. *(submitted by Mike Catalano)*

Gustavus Adolphus College

From June 23 through June 26 Gustavus Adolphus College hosted the "Differential Equations Across the College Curriculum" conference. The NSF-supported conference was attended by about 35 mathematicians from across the country. The talks covered a wide variety pedagogical ideas in differential equations and mathematical modeling, from the undergraduate research discussed by **Richard McGehee** in "A Dynamic Model of Ice-Albedo Feedback" to **Dan Look's** talk "Using the Undead to Teach SIR Models in Differential Equations."

Max Hailperin released a revised edition of his textbook on operating system principles. He is encouraging others to modify as well as use the text and therefore has released it through an open-source repository under a Creative Commons license. *(submitted by John Holte)*

Macalester College

Macalester welcomes two visitors this year. **Jim Walker**, UW-Eau Claire, will spend his sabbatical at Macalester visiting both the mathematics and the music departments. Jim studies digital signal processing and wavelets, with applications to images and music. He will teach a course this fall entitled, Math and Music. **Yu Zhang**, Trinity University, is also visiting for the year as a replacement for **Shilad Sen**, who is on sabbatical. Yu is a computer scientist who studies agent based modeling and simulation.

In other news, **Karen Saxe** is the new Chair of the Annli Lax New Mathematics Library Editorial Board, and **Tom Halverson** has joined the Editorial Board of the MAA Dolciani Mathematical Expositions series. *(submitted by Tom Halverson)*

Minnesota State University, Mankato

Dr. **Pavel Kitsul** retired by this summer 2011. The department also lost three fixed term faculty. However, we have additional positions for Graduate Teaching Assistants (now 25 in total) to assist our developmental math courses.

Three faculty, Drs. **In-Jae Kim**, **Deepak Sanjel**, and **Yea-ling Tsao** were awarded tenure. Dr. **Hongxia Yin** promoted to a full professor. Dr. **Ruijun Zhao**, from Purdue University, joined as a new tenure track position. His research area includes Mathematical Biology and Scientific Computing. **Jeff Ford**, **Mamfe Osafo** and **Jenna Greenwell** also joined as a fixed term faculty for this year.
(submitted by Namyong Lee)

Minnesota State University, Moorhead

Vernon Wolff retired this summer after 25 years in the mathematics department. He was part of our mathematics education program. He and his wife are retiring to an area lake home.

Receiving tenure this year and promoted to the rank of associate professor are **Justin James** and **Adam Goyt**. **Ellen Hill** was promoted to full professor.

With the disbanding of the Corrick Center for General Education on campus, two of the center's faculty members have joined the mathematics department. Associate Professor **Carol Okigbo**, who holds a Ph.D. from North Dakota State University, will be on sabbatical this year. Instructor **Mike Miller** has an M.S.Ed. from Chadron State College and is working on an Ed. D. at the University of South Dakota.

Also new to the department this fall is **Rosalinda Connelly**, a fixed term faculty member. Rosalinda has a master's degree in mathematics education from NDSU, where she is pursuing a Ph.D. She was an adjunct instructor in the Corrick Center and taught for two years at Fort Berthold Community College in ND. *(submitted by Wally Sizer)*

Normandale Community College

Starting this Fall the Mathematics-Computer Science Department has initiated our newly redesigned developmental mathematics program, using the ALEK's web-based assesment and learning system, delivered from an increased number of computer workstations (73 + many laptop plug-in stations) in our Math Center. **Tony Dunlop** is offering the first of our SENCER (Science Education for New Civic Engagement and Resposibilities) courses on Environmental Mathematics. Department chairperson **Mark Ahrens** is the PI on a grant from MNSCU to collaboratively develop learning materials with our Physics-Engineering program. **Peggy Rejto** has taken time off from her teaching duties to serve as acting Dean of the Division while a search is conducted for a new permanent Dean. **Jim Carr** has helped organize and is serving as faculty sponsor for our new student math club. *(submitted by Christopher Ennis)*

North Dakota State University

Josef Dorfmeister joined our department on a tenure-track position. He received his Ph.D. from the University of Minnesota in 2009 and was previously employed at the Leibniz University of Hannover in Germany. **Souvik Bhattacharya**, **Lindsay Erickson**, and **Thomas Robinson** are on visiting positions during this year. Dr Bhattacharya received his Ph.D. in 2011 from the University of Florida. Dr. Erickson graduated with a Ph.D. from NDSU in 2011. Dr. Robinson obtained his Ph.D. from Rutgers in 2009.

Besides Lindsay Erickson, graduate students **Bethany Kubik**, **Stacy Trentham** and **Travis Trentham** also received their Ph.D. in Mathematics at NDSU. Bethany Kubik is now on a three-year visiting position at the US Military Academy at West Point. Stacy Trentham and Travis Trentham have been hired by Armstrong Atlantic State University on a visiting and a tenure-track position, respectively.

The 2011 Sonia Kovalevsky High School day took place on September 24. 47 female students from several high schools from Minnesota and North Dakota participated. The event was organized by **Maria Alfonseca**, **Dogan Comez**, and **Bill Martin**. It was supported by a grant from the Association for

Women in Mathematics, National Security Agency (Department of Defense), Elizabeth City State University, NDSU Office of the Provost, NDSU FORWARD, College of Science and Mathematics, College of Engineering and Architecture, and Department of Mathematics. *(submitted by Friedrich Littmann)*

St. Catherine University

Our Department of Mathematics and Physics welcomed **Jenny Pavlovic** last January. Jenny holds a Ph.D. in biomedical engineering from the University of Minnesota. This fall she'll be teaching the STEM engineering course "Engineering in Your World" and a liberal arts math course. She is also the author of two award-winning books: 8 State Hurricane Kate: the Journey and Legacy of a Katrina Cattle Dog and the Not Without My Dog Resource & Record Book. We also welcome **Nina Bohrod** who is on sabbatical from Anoka Ramsey.

Yvonne Ng (engineering) is now full-time in the National Center for STEM Elementary Education here at SCU. Yvonne along with **Patricia Dunlop** (chemistry) and **John Pellegrini** (biology) secured the renewal award from NSF for the S-STEM program in the amount of \$600,000. This will provide over \$500,000 in scholarships for students majoring in STEM subjects over the next five years. As part of this grant, **Monica Brown** is developing a calculus class: Empowered Calculus, with a goal of engaging the foundational tools of mathematics that connect concepts to purpose within a STEM paradigm. **Ann Sweeney** is teaching a pilot section of The Reflective Woman: Reflections in the STEM Prism. This section will examine topics from a STEM point of view and do STEM activities, readings, interviews and a research paper. In August, Ann presented a session on "Algebraic Modeling for Grades 4 - 8" at the MN Independent School Forum's STEM Conference.

Erick Agrimson (physics) presented his research on the physics of Viking Chess (Kubb), a lawn game with Nordic roots, at the Physics of Sports category at the national conference of the American Association of Physics Teachers in August. Ann continues as the MN Council of Teachers of Mathematics (MCTM) Virtual Mentor, sending out emails with advice, tips, suggestions, activities, web sites, etc. to about 400 undergraduates in teacher preparation programs and beginning teachers.

We were all "officeless" for the entire summer as our former space on the west end of 4th floor Mendel Hall was renovated for a new anatomy/cadaver lab. Occupational Science/Occupational Therapy (OSOT) moved to renovated space in Fontbonne. We moved in to renovated space vacated by OSOT. We now have a suite of six offices surrounding a general space for tutors as well as computers and workspace for students. We have two new classrooms and use of a new computer classroom funded by the Henrietta Schmoll School of Health. We are teaching four statistics classes and a differential equations class in the computer classroom this fall. *(submitted by Adele Marie Rothan, CSJ)*

St. Cloud State University

St. Cloud State University is undergoing a program appraisal and reorganization. In the program appraisal, the M.S. in Math Education was suspended and we are in the process of a teach out. In the reorganization, the Mathematics department was merged with our Statistics programs (formerly part of a Department of Statistics and Computer Networking). At about \$15 million worth of budget cuts on top of all of this and we find ourselves in an interesting time.

Danrun Huang returns after having spent three months this summer teaching in Shanghai as part of the University of Michigan and Shanghai Jiao Tong University Joint Institute. Coming back from sabbatical this fall is Dan Scully. Dan spent a good portion of the year visting the University of North Carolina - Asheville. On sabbatical this fall are **Peiyi Zhao**, **Mohammed Bahauddin**, and **Bishnu Naraine**. Last spring, **Wayne Braith** retired from our Math Skills Center. *(submitted by Dale Buske)*

St. Olaf College

St. Olaf's Department of Mathematics, Statistics, and Computer Science (MSCS) has been busy as usual.

Peter Blanchard joined us this fall from the University of Iowa. He completed his PhD in algebra at the University of Virginia, and has recently shifted his research focus to combinatorics and Ramsey theory. Peter is married to a cultural anthropologist at the University of Iowa, and they have two daughters. Peter is a beginning tubist, a champion gymnast, a champion juggler, has Erdos number two, and makes a pretty good pizza.

Ian Pierce joined us this fall from the University of Nebraska, where he recently earned his PhD in analysis. In between deployments with the Army National Guard, Ian taught both middle school and high school before entering graduate school. He has two young children (ages 3 years and 3 months) who occupy most of his non-working hours.

Becky Vandiver joined us this fall from Bryn Mawr College, where she was a postdoc funded by the Howard Hughes Medical Institute. She completed a PhD at the University of Arizona in applied mathematics. Becky has two young daughters who keep her busy when she's not working, biking, golfing, playing tennis, or playing the piano.

Continuing faculty members **Dick Brown**, **Tina Garrett**, and **Arnie Ostebee** will be on sabbatical during part or all of this academic year, while **Olaf Hall-Holt**, **Bruce Hanson**, and **Kay Smith** are returning from sabbaticals in 2010-11.

St. Olaf MSCS students have been active, too, participating in REU's and other research projects here and elsewhere. To cite just two examples, **Nathan Bishop** '12 (working with our own **Adam McDougall**) won the Council on Undergraduate Research award at this summer's MathFest for his presentation on Rational Equidistribution, while **Amelia Stonesifer** '12 and her research partners from the Brigham Young University REU won an MAA Outstanding Presentation award at MathFest for their work titled *Word length in alternate presentations of Thompson's group F*. (submitted by Jill Dietz)

University of Minnesota, Morris

In Fall 2011, we welcome two new faculty members, Dr. **Laura Mercredi (Merc) Chasman**. Merc earned her Ph.D. from the University of Illinois, Urbana-Champaign, and her research interests include eigenvalue problems in partial differential equations and special functions. We also welcome Dr. **Saikat Mukherjee**. Saikat earned his Ph.D. from the University of Wyoming, and his research interests include functional analysis, operator theory, and holomorphic function spaces. (submitted by Peh Ng)

University of St. Thomas

Dr. **Patrick Van Fleet** has been appointed to serve as the next department chair in Mathematics. Professor Van Fleet brings much energy and enthusiasm to the position. Dr. **Melissa Loe** has been appointed to serve as associate chair in the Department of Mathematics. Pat Van Fleet will also continue in his position as the Center for Applied Mathematics Director. Dr. **Magdalena Stolarska** will serve as the associate director of the CAM. We are excited at the prospect of all that this administrative team will accomplish on the department's behalf.

Johnathan Nelson is the new MaRC Director. John received his Masters in Math. Ed. from Notre Dame.

Kurt Scholz has retired and a symposium is being held in his honor, Friday, Sept. 9th, 2011, speakers will be **Bob Brown** from UCLA and **Sam Stechmann** from U. Wisc. Madison.

We shot the ICIAM TV video on June 24, and it was shown at the ICIAM conference. St. Thomas was one of ten colleges and universities chosen to participate in the ICIAM TV video: four from Canada, five

from the U.S. and one from Great Britain. The ICIAM conference was held in Vancouver in August.
<http://www.iciam2011.com>

The Society of Actuaries (SOA) awarded the University of St. Thomas with the designation of Center of Actuarial Excellence. The SOA has recognized the schools listed below as Centers of Actuarial Excellence. Each school met specific requirements related to degree, curriculum, graduate count, faculty composition, graduate quality, appropriate integration, connection to industry, and research/scholarship. The designation is awarded for a five-year period subject to continued conformity to the CAE criteria.

The 2011 CSUMS Student Research Conference was held at the University of St. Thomas in St. Paul, MN July 31 - August 3, 2011. The conference is designed to provide an opportunity for students in CSUMS projects around the country to present results of their research, including work in progress. Students are encouraged to exchange ideas with one another, and to develop collaborations for future research.

NSF CSUMS continuation grant for 2011-2012 has been awarded.

Dr. **Eric Rawdon**'s proposal "RUI: Theory and Simulations of Knotting in Physical and Biological Systems Ranging from Proteins to Glueballs" to the National Science Foundation was funded. The continuing one-year grant is for \$71,187 and will support Eric and his students' research. *(submitted by Doug Dokken)*

University of Sioux Falls

The University of Sioux Falls is pleased to serve as a partnering institution for an NSF grant entitled *STEM Real World Applications of Mathematics*, administered by **Darren Narayan** of the Rochester Institute of Technology. **Joy Lind** is the principal investigator for USF's sub award, which will fund a Careers in Mathematics Speaker Series on campus as well as the development and dissemination of a series of real-world teaching modules.

Chad Birger continues to serve as research mentor under the NIH funded BRIN (Biomedical Research Infrastructure Network) program; his work applies statistical methods to biological model selection and genetic sequencing. This summer two undergraduate students, **Matthew Rieck** and **Naomi Tesar**, engaged in research under his supervision. They presented an overview of their work, titled "Next-Generation Sequencing," at this summer's BRIN Convocation. *(submitted by Jason Douma)*

Winona State University

Our department has seen a lot of change in the past year. **Dick Jarvinen** died after a struggle with cancer on July 6th, 2011. He was a great colleague and a friend of the MAA, and we miss him. On a more positive note, we added a new Bachelor of Science in Mathematics last spring, and opened a new Mathematics Achievement Center, a hybrid Scale-Up / Math Emporium model, for entry-level college mathematics courses this fall. We are currently hiring mathematics education faculty, and are please to have Dr. **David Kung** from St. Mary's College of Maryland presenting three lectures on October 12-15 involving mathematics and music as part of the WSU Distinguished Lecture Series. In 2012, the department will host Reconnect. For more information about either the Distinguished Lecture Series or Reconnect, contact **Joyati Debnath** (JDebnath@winona.edu). *(submitted by Aaron Wangberg)*

SECTION NEXT

Designed for new college and university faculty in the mathematical sciences, Section NEXt (New Experiences in Teaching) is a professional development program that addresses the full range of faculty responsibilities including teaching, scholarly activities, and service.

Each year, applications will be solicited for new MAA-NCS Section NExT fellows to serve for a two year term. We will accept applications from faculty who are within the first four years of beginning full-time employment with teaching responsibilities at the college or university level. The application consists of a short personal statement and a letter of support from the department chair, guaranteeing financial support for transportation, meals, and lodging at the fall and spring meetings of the North Central Section.

CONFERENCES AND ACTIVITIES

33rd Annual Pi Mu Epsilon Conference

Mark your calendars for our next Pi Mu Epsilon conference,

April 13 and 14, 2012 at St. John's University.

Featured Speaker: **Ken Millett** from University of California, Santa Barbara.

Encourage your students to prepare and present talks. For more information, contact Kris Nairn knairn@csbsju.edu.

FUTURE SECTION MEETINGS

Spring 2012	Concordia University, St. Paul	April 20-21
Fall 2012	University of Minnesota, Duluth	TBD
Spring 2013	Gustavus Adolphus College	TBD

INFORMATION FOR CONTRIBUTORS

Submissions should be sent electronically (preferred method) to the shawn.chiappetta@siouxfalls.edu or mailed to:

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