

NORTHEASTERN SECTION



NEWSLETTER

Spring 2011

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<http://www.maa.org/northeastern>

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UPCOMING SECTION MEETING

June 10 and 11, 2011 Spring Section Meeting
Norwich University Northfield, VT
Program Committee: Ernest True, Norwich University
Richard Hyde, Norwich University
Robert Poodiack, Norwich University
Local Arrangements: Robert Poodiack, Norwich University
Darlene Olsen, Norwich University
Gerard LaVarnway, Norwich University

FUTURE SECTION MEETINGS

November 18 and 19, 2011 Fall Section Meeting
Connecticut College New London, CT
Program Committee: Joe Fields, Southern Conn. State Univ.
Local Arrangements: Kathy McKeon, Connecticut College
Spring, 2012 Spring Section Meeting
Central Connecticut State University, New Britain, CT.
Local Arrangements: Rachel Schwell, CCSU
Fall, 2012 Fall Section Meeting
Bridgewater State University Bridgewater, MA.
Spring, 2013 Spring Section Meeting
U.S. Coast Guard Academy Groton, CT.
Fall, 2013 Fall Section Meeting
Wheaton College Norton, MA.

OTHER ACTIVITIES

June 10, 2011 Section NExT Meeting
Norwich University Northfield, VT.

COORDINATORS

| | |
|---------------------------------------|--|
| Dinner Meetings: | Lucy Kimball lkimball@LNMTA.bentley.edu |
| NES/MAA Distinguished Teaching Award: | Jason Moliterno, Sacred Heart University molitiernoJ@sacredheart.edu |
| Section Project NExT: | Karen Stanish, Keene State College kstanish@keene.edu |
| New Colleagues Talks: | Chris Aubuchon, Johnson State College aubuchoc @ badger.jsc.vsc.edu Phil Hotchkiss, Western New England College PHOTCHKISS@wsc.ma.edu |
| Undergraduate Papers: | Raimundo Kovac, Rhode Island College rkovac@ric.edu Karen Stanish, Keene State College kstanish@keene.edu |
| Graduate Papers: | Sarah Mabrouk, Framingham State College smabrouk@frc.mass.edu |
| Contributed Papers: | Eric Johnson, US Coast Guard Academy Eric.C.Johnson@uscga.edu |
| Problem Competition: | Jason Moliterno, Sacred Heart University MolitiernoJ@sacredheart.edu Rob Poodiack, Norwich University rpoodiac@norwich.edu |

Message from the Chair.....Rob Poodiack

Happy Spring everyone! Even in Vermont the record snowfall has finally melted, but we've had way more rain than anyone could want in a short period. I'm writing this while taking a break from pumping water out of the basement again!

We've had a lot going on in the Northeastern Section since the last newsletter. First and foremost, the crew at Providence College put on an excellent Fall meeting in November. Thanks to Frank Ford and the entire Mathematics/CS department at PC for their tireless work in putting the meeting together, and to Ann Moskol at Rhode Island College for her work as program chair. Anyone who's worked with Frank knows that his "right-hand person" is his administrative assistant, Lynne DeMasi. She deserves thanks for her organizational skills and diligence.

Many of us in the Section attended the Joint Mathematics Meetings this past January in New Orleans. This is the third time in a decade that the meetings have been in the Big Easy, and I'm always struck by what a perfect location New Orleans is for a meeting. The facilities are always top notch and the food ... ahh, the food. Our section always has a large contingent of runners who get together for morning runs during national meetings, and I think we all still gained weight!

We owe Ockle Johnson, our former governor, a debt of gratitude for filling in for Ed Sandifer once more at the Governors' meeting while Ed continues his recovery from his stroke. All reports are that Ed's recovery continues, and that he's beginning to be able to attend short math history meetings. We continue to wish Ed and his family all the best!

The Spring meeting is fast approaching, and my colleagues and I at Norwich University will act as your genial hosts. The program for the meeting has a bit of an applied flavor, but there will also be

side journeys into graph theory, and writing across the curriculum. Joe Silverman of Brown University, our 2011 Winner of the NES/MAA Award for Distinguished College or University Teaching, will deliver the Battles Lecture on cryptography in the classroom. Karl-Dieter Crisman of Gordon College will give a workshop on getting started with SAGE, an open-source computer algebra software. Why not come to the Green Mountains of central Vermont for a two-day mini-vacation with lots of great math?

There are lots of opportunities to get involved. Graduate and undergraduate student paper sessions are open, as are the usual contributed paper sessions. Try out a short version of a talk you're working on in front of a friendly audience. Are you new to the profession? Let us welcome you aboard by inviting you to our Section NeXT program on early Friday afternoon. We'll give you lunch, free registration for the meeting, and you get to hear Donna Beers from Simmons College speak about the teaching of functions. What more could you ask for?

We also have Mathfest coming up in August in Lexington, KY. Then the focus shifts back to the section for our Fall meeting at Connecticut College in New London, CT ... AND ... the Joint Mathematics Meetings in January will be in Boston, MA, a well-known tropical location in winter. I look forward to seeing everyone at an upcoming meeting!

Message from the Secretary-Treasurer Ann Kizanis

In the fall newsletter, I reported a balance of \$24,735.97. Since that time, the expenses from the successful fall meeting at Providence College were \$4,827.89. We also spent \$225.00 on Student Awards for the Problem Solving Contest. The reimbursements for travel totaled \$190.97. The total expenses for the fall meeting were \$5,243.86, while the revenue from meeting registrations was \$6,569.07. We had two late expenses from the

meeting last spring that totaled \$142.49. The expenses for the printing and postage of the fall newsletter totaled \$1,196.02, and we spent \$30.00 on the framing of our Teaching Awards. Moreover, we earned \$9.82 in interest from money placed into a money market account, since the last newsletter. Our present balance is \$24,702.49.

The total expenses for our fall meeting were \$773.71 more than our spring meeting expenses, while the revenue from fall meeting registrations was \$1,354.07 more than the revenue from spring meeting registrations. The expenses for the postage and printing of our newsletter last fall increased slightly from last spring. We spent \$780.97 for the printing and postage of the spring 2010 newsletter and \$1,196.02 for the printing and postage of the fall 2010 newsletter.

In January, I wrote and submitted our Section's 2010 end of year Financial Report, and at the beginning of the summer, I shall be writing our section's Annual Report.

That is my update for now! We are all looking forward to the Spring MAA meeting at Norwich University on June 10-11, where I will update you further on our finances. I wish you all a very enjoyable summer!

Two-year College Representative's Report.....Phil Mahler

What's Up in our Region's Two-Year Colleges

AMATYC held its fall national meeting in Boston. This and the previous meeting in Las Vegas have sparked a national interest in a revision of curriculum called "course redesign", which has become popular locally. This generally applies to developmental courses and breaks up these courses into modules, and delivers the content online. Popular vehicles are Aleks and MyMathLab. A second revision taking hold in some places nationally is to offer a two-semester sequence of developmental + college level. This

recognizes the very poor graduation rates for students faced with three or four semesters of developmental mathematics before taking a “college level” course. The developmental focuses only on what is really needed for the college level course. For example, the algebra skills for statistics are minimal, where the need is more for reading and critical thinking abilities. The Gates Foundation is supplying serious support for this initiative. This program invites a serious rethink of what a college graduate should know about mathematics.

MATYCONN held its spring meeting at Naugatuck Valley Community College and featured talks on enhancing mathematics teaching, and “Abstract Algebra and Nilpotent Groups”. Connecticut’s Steve Krevisky, well known in New England and nationally, is a candidate for AMATYC Secretary. NEMATYC held its spring meeting at Cape Cod Community College, and participants stayed in lodging right on the water. The luncheon speaker was Ian Winokur, who spoke in Providence to this Section on Rubik’s cube and speedsolving.

Of belated note is the serious development of the community college systems in Maine and New Hampshire. Maine’s system of technical colleges was wedded and transformed in a system of community colleges in 2003, and this system continues to grow. Similarly as recently as 2008, New Hampshire renamed and refocused some of its technical colleges into a more coherent community college system.

From the Newsletter Editor Frank Ford

Thank you for coming to our Section meeting at Providence College in November. Thanks to the work of my administrative assistant, Lynne DeMasi, and the assistance of those on the local arrangements committee- Asta and Joseph Shomberg and Su-Jeong Kang, we had a wonderful time and we made over \$1300. Ann Moskol of Rhode Island College, Lynnette Boos of Providence

College and Philip Mahler of Middlesex Community College prepared an excellent program. Now, we are ready to cross the northern Massachusetts border and visit northern Vermont. I hope to see you all there.

Student Presentations at the Fall 2010 Meeting

Maria Bergan, University of New Haven

Can we divide a vector by another vector?

Brianna Neff, Sacred Heart University

Eigenvalues and Eigenvectors

Kyle Evans, Sacred Heart University

Convex Polyhedra and Fair Dice

Nick Kapoor, Sacred Heart University

An Iteration in Geometry: Sequences of Triangles

Tam Huynh, Simmons College

Fibonacci and Lucas Numbers: Their Mathematical Relationship and Applications

Jennifer Lea, Simmons College

Group Theory and Rubik's Cube

Colleen Nielsen, Keene State College

Infinitely Many Primes: Three Proofs

Alison Dreyfuss, Keene State College

Braess Paradox

Helene Duke, Providence College

Edge-Enhancing Speckle Denoising for Ultrasound Images

Helene Duke, Providence College

Edge-Enhancing Speckle Denoising for Ultrasound Images.

Robert Donovan, Worcester State University

An Exploration of Ideal-Divisor Graphs

Kaitlyn Brady, Worcester State University

The Laplace Young Equation and Modeling of Capillary Action: The Small Angle Case

Contributed Papers Presented at the Fall 2010 Meeting

A Collatz-Type Conjecture on the Set of Rational Numbers

Mohammad Javaheri, Trinity College

Zero-One Laws in Hypercyclicity

Irina Seceleanu, Bridgewater State University

Multilevel Generalized Mixed Effects Models with Applications to an AIDS Clinical Trial

Jacob Gagnon, Worcester Polytechnic Institute

Preliminary Report: Strengthening Preservice Teacher Understanding of "Function"

Donna Beers, Simmons College

Formative Assessments in Upper Division Mathematics

Brian Kelly, Bryant University

Probability Density Functions from Real-World Settings

Annala Kelly, Roger Williams University

New Colleagues Talks Presented at the Fall 2010 Meeting

A Little about Hodge Theory

Su-Jeong Kang, Providence College

Substitution models in combinatorial phylogenetics

Cayla McBee, Providence College

A Consistency Condition for CAT-scan Data

Margo S. Levine, Harvard Medical School

What's cool about combinatorics?

Aba Mbirika, Bowdoin College

Some New Directed and Colored Extremal Graphs

Craig Tennenhouse, University of New England

NES/MAA Award for Distinguished College/University

Teaching of Mathematics

Rob Poodiack

Joseph Silverman received his bachelor's degree from Brown and his masters' and doctoral degrees from Harvard University. He has been teaching for 29 years at the Massachusetts Institute of Technology, Boston University and, since 1991, at Brown. He has

been an NSF Post-Doctoral Fellow, an Alfred P. Sloan Foundation Fellow, and has received the MAA Lester Ford Award.

In his nomination of Dr. Silverman for the award, Silverman's colleague Tom Banchoff wrote,

“Joseph Silverman is an outstanding teacher at all levels. As Ph.D. advisor of more than 22 students at Brown (with more on the way), together with his 120 research papers and seven books, his research contributions are most impressive. Equally impressive however are his contributions to undergraduate teaching and the mentoring of developing teachers.”

Dr. Silverman's students are equally effusive in their praise. One student writes:

“He doesn't try to dazzle his students with his own brilliance, and doesn't practice the elaborate theatrics of some other superstar teachers in our discipline. Instead, he simply delivers clear lecture after clear lecture and efficiently, transparently imparts a vast amount of information.”

Among his accomplishments, Dr. Silverman has written numerous research articles and award-winning books aimed at graduates and undergraduates. His two-volume work on the arithmetic theory of elliptic curves is considered the standard work on the subject, and won the AMS's Steele Prize for outstanding exposition. Prof. Silverman's undergraduate book, “A Friendly Introduction to Number Theory,” is becoming a popular text as well. The same former student goes on to say:

“It's possible to get a sense of his teaching by reading his undergraduate and graduate textbooks. He has a clear, steady voice that places the content in the foreground and the author well in the background. His books are so well organized that their construction feels inevitable.”

Dr. Silverman's work with graduate students goes beyond guiding scholars toward their Ph.D. He also takes a lot of time to actively involve graduate assistants in the courses he teaches. One former graduate student writes:

“The qualities I discovered in Joe are rare in one person: Delight

in mathematics, an impressive breadth of technical expertise, a lucid yet warm teaching style, and the generous willingness to share insights with a new student. I cannot recommend a better model of what it means to be a teacher of mathematics.”

Prof. Silverman will receive his award at the Spring meeting at Norwich University. In a break with tradition, since Dr. Silverman is in a lot of demand to speak, he cannot attend the Fall meeting to give the traditional lecture. Instead, Prof. Silverman will give the Battles Lecture on Friday night at the Spring meeting.



**Northeastern Section Spring MAA meeting ,
Project NExT
Spring 2011
Newsletter at
<http://www.providence.edu/mcs/fpf/maa/>**

**NORWICH UNIVERSITY, NORTHFIELD, VT
SPRING MEETING OF NES/MAA
JUNE 10-11, 2011**

**Friday, June 10, 2011: NES/MAA Project NExT Program (all
full-time untenured faculty are welcome)**

12:00 - 1:00 p.m.

Lunch in Wise Campus Center

1:00 - 2:00 p.m.

Donna Beers, Simmons College

Friday, June 10, 2011: NES/MAA Spring Meeting

11:30 - 5:00 p.m.

Registration in Cabot Science Hall

1:30 - 3:00 p.m.

Executive Committee

Meeting in Tompkins 170

3:00 - 3:50 p.m.

**Jeffrey Bond, University of
Vermont (Bioinformatics Talk)**

4:00 - 4:50 p.m.

**Geoff Cowles, UMASS-Dartmouth
(Oceanography Talk)**

5:00 - 6:00 p.m.

Sullivan Museum Visit

5:00 - 6:00 p.m.

Undergraduate Student Papers

6:00 - 7:50 p.m.

Reception, and Banquet

8:00 - 9:00 p.m.

**Battles Lecture: Cryptography in
the Classroom ... and Beyond**

Joseph Silverman,

Brown University

2011 Distinguished Teacher

Award Winner

Saturday, June 11, 2011

8:00 – noon

**Registration in Cabot Science Hall
Contributed Papers and Graduate
Student Papers**

8:00 – 8:50 a.m.

**Incorporating Writing into College
Math Courses**

9:00 – 9:50 a.m.

**Julie Theoret,
Johnston State College**

10:00 – 10:50 a.m.

**Noah Graham,
Middlebury College
(Physics/Relativity Talk)**

11:00 – 11:00 a.m.

Business Meeting

11:30 – 1:00 p.m.

Lunch

1:00 – 1:50 p.m.

**Dan McQuillan,
Norwich University
(Combinatorics Talk)**

2:00 – 3:00 p.m.

**Workshop to introduce SAGE, a
free, open-source computer
algebra system
Karl-Dieter Crisman,
Gordon College**

Updates at <http://bit.ly/MAANorwich>

Here are your housing choices.

Campus Housing: You may reserve a room on campus in one of the University's residence halls on your pre-registration form. Rate is \$35.67 per person double occupancy and \$50.67 for single occupancy

**Hotels: 25 rooms have been reserved at
Comfort Inn And Suites**

Maplewood, 213 Paine Turnpike N., Montpelier (Exit 7 off I-89, about 6 miles N of Norwich University).

**The rate is \$112.49 for Friday night, single or double.
(\$10 extra per person after that.)**

The offer is good until May 30th.

The group name is "Norwich Math."

Contact info: (802) 229-2222 or on the web at:

<http://www.comfortinn.com/hotel-montpelier-vermont-VT004>

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