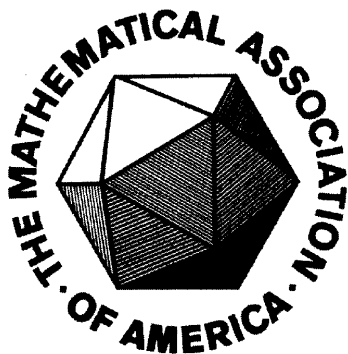


NORTHEASTERN SECTION



NEWSLETTER

Fall 2012

Volume 34

Number 2

Web Page:

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

Webmaster:

Rob Poodiack, Norwich University

EXECUTIVE COMMITTEE

CHAIR

Karen Stanish

Department of Mathematics
Keene State College
Keene, N.H. 03435
(603) 358-2587
kstanish@keene.edu

GOVERNOR

Tommy Ratliff

Department of Mathematics/CS
Wheaton College
Norton, MA 02766
(508) 286-3968
tratliff@wheatoncollege.edu

PAST CHAIR

Rob Poodiack

Department of Mathematics
Norwich University
158 Harmon Drive
Northfield, VT 05663
(802) 485-2339
rpoodiac@norwich.edu

SECRETARY-TREASURER

Ann Kizanis

Mathematics Department
Western New England College
Springfield, MA 01119
(413)782-1784
akizanis@wne.edu

TWO-YEAR COLLEGE REP.

Philip Mahler

Mathematics Department
Middlesex Community College
591 Springs Road
Bedford, MA 01730
(781)280-3861
mahlerp@middlesex.mass.edu

NEWSLETTER EDITOR

Frank Ford

Department of Mathematics/CS
Providence College
Providence, RI 02918
(401)865-2635
fpford@providence.edu

UPCOMING SECTION MEETING

November 16 and 17, 2012

Fall Section Meeting

Bridgewater State University, Bridgewater, MA.

FUTURE SECTION MEETINGS

May 31-June 1, 2013

Spring Section Meeting

Western Connecticut State University, Danbury, CT.

Program Committee Chair: Becky Hall, WCSU

Local Arrangements: David Burns and Chuck Rocca, WCSU

November 22 and 23, 2013

Fall Section Meeting

Wheaton College, Norton, MA.

OTHER ACTIVITIES

November 16, 2012

Section NExT Meeting

Bridgewater State University, Bridgewater, MA.

Other Committee Chairs

Contributed Papers Coordinator

Shannon Lockard

Department of Mathematics
Bridgewater State University
Bridgewater, MA 02325
(508) 531-2830

slockard@bridgew.edu

Graduate Student Papers Coordinator

Sarah Mabrouk

Department of Mathematics
Framingham State University
Framingham, MA 01701-9101
(508) 626-4785

smabrouk@framingham.edu

Section NExT Coordinator

Jason Moliterno

Mathematics Department
Sacred Heart University
Fairfield, CT 06825-1000
(203) 371-7775

moliternoj@sacredheart.edu

Student Problem Solving Competition

Co-Coordinator

Jennifer Berg

Mathematics Department
Fitchburg State University
Fitchburg, MA 01420-2697
(978) 665-3787

jberg5@fitchburgstate.edu

Undergraduate Student Papers

Coordinator

Raimondo Kovac

Mathematics and Computer Science
Department
Rhode Island College
Providence, RI 02908
(401) 456-9753

rkovac@ric.edu

New Colleagues Papers Coordinator

Lynette Boos

Department of Mathematics and
Computer Science
Providence College
Providence, RI 02918
(401) 865-2630

lboos@providence.edu

Dinner Meetings Coordinator

Lucy Kimball

Department of Mathematical Sciences
Bentley University
Waltham, MA 02452
(781) 891-2467

lkimball@bentley.edu

Student Problem Solving Competition

Co-Coordinator

Joe Fields

Mathematics Department
Southern Connecticut State University
New Haven, CT 01420-2697
(860) 392-6519

fieldsj1@southernct.edu

Message from the Governor.....Tommy Ratliff

I attended my first meeting of the Board of Governor's this summer before Mathfest in Madison, Wisconsin, and it was quite interesting to get a broader perspective on the initiatives of, and challenges facing, the MAA. The largest challenges are financial as the national MAA will again run a deficit this year. Paul Zorn, President of the MAA, explained that the easy belt-tightening has already been implemented, and therefore, the emphasis moving forward will be on the investment in strategic priorities. Paul and Michael Pearson, the new Executive Director of the MAA, outlined several of these initiatives.

- * The MAA will continue to focus on its textbook options as low cost alternatives to many other offerings in the market. This will not only serve the mathematics community but is also an area of potential growth for the MAA, especially as e-book options become more easily deployed.

- * There will be some adjustments to the membership dues structure in the near future, including a move toward the electronic delivery of journals.

- * The MAA website is getting a major redesign and will be launched in Spring 2013. The new online bookstore powered by amazon is already active.

- * With its 100th anniversary in 2015, the MAA is laying the groundwork for a fundraising campaign for its Second Century.

- * The MAA is very active in mathematics competitions, sponsoring both the Putnam Exam and the American Mathematics Competitions for middle-schoolers and high-schoolers. If you are interested in offering the AMC, see the website at amc.maa.org.

The hope is that short-term investments now will lead to higher revenues in the future. The Board of Governors expressed general support for pursuing these initiatives, although the Governors will still need to vote on specific budget requests.

There were several other items discussed during the meeting that I think will be of interest to the members of the Northeastern Section.

- * The MAA and NCTM have a joint position statement on the teaching of calculus at http://www.maa.org/news/2012_maanctm.html. I would encourage you to read this and consider the implications for the calculus offerings at your institution.
- * The MAA also has a series of guidelines for avoiding implicit bias in MAA selection committees at http://sections.maa.org/avoiding_bias.pdf. We should be aware of the issues in our Section committees, and I think many of the guidelines may be useful at our own institutions.
- * The most animated discussion of the Governors surrounded the issue of implementing a policy of double-blind reviewing for the MAA print journals. After much discussion, the Board of Governors voted in favor of the policy for the print journals while giving the journal editors some latitude in implementing it.

One of my primary roles as Governor is to explain not only the decisions that are made at the national MAA but also the motivation for these decisions. If you have any questions related to the national MAA, please do not hesitate to contact me.

Message from the Chair.....Karen Stanish

We enjoyed another fantastic meeting at Central Connecticut [State University](#) on June 8-9, 2012. Thank you to Charles Rocca, from Western Connecticut State University, and his program committee for putting together an engaging program and to Rachel Schwell and her colleagues at Central Connecticut [State University](#) for being such wonderful hosts.

At this Fall's meeting at Bridgewater State University we will be electing Section Officers including my successor. I'm happy that Ann Kizanis who handles our money and makes our reports to National, and Phil Mahler who is always ready to serve on a program committee

have agreed to run again for Secretary-Treasurer and Two-Year College Representative, respectively. I will be proud to hand over my gavel to whichever of the two candidates for Vice-Chair -Eric Johnson of the Coast Guard Academy, and Lynette Boos of Providence College – wins and succeeds me in Fall of 2013. The vote will be at the Business Meeting on Saturday.

The Section is interested in using some of its funds to assist in funding activities in the Section. If you have plans for a speaker but cannot find all the money you need or have another idea for an activity that the section could help fund, just send me an email and I will present your proposal to the Executive Board.

We are now accepting nominations for the 2013 NES/MAA Award for Distinguished College or University Teaching. Do you have a colleague in your department who has been an excellent teacher for years? Someone whom you strive to be like in the classroom? Is there a math professor in your college whose classes students talk warmly about for months or years afterward? Is there someone you know who has been doing great work for a long time, but is deserving of wider recognition for their success? That person would be an excellent nominee for this prestigious award. Please see the Section website for more details and the nomination form. Nominations can be either emailed or postal mailed to me by January 15, 2013.

I hope you all are enjoying a fruitful semester and will make time to join us at Bridgewater State University on November 16-17, 2012 and at Western Connecticut State University on May 31-June 1, 2013. Don't forget to mark your calendars for MathFest 2013 that will be held in Hartford, CT this summer.

Message from the Secretary-Treasurer Ann Kizanis

In the spring newsletter, I reported a balance of \$22,894.15. Since that time, the expenses from the successful spring meeting at Central Connecticut State University were \$2,473.97. The revenue from

meeting registrations was \$4,302.66. The expenses for the printing and postage of the spring newsletter totaled \$707.10. Moreover, we earned \$86.43 in interest from money placed into an 18 month CD. We also received our subvention check in the amount of \$2,772.00 from the national office this fall. Our present balance is \$26,874.17.

The expenses for our spring 2012 meeting were \$3,349.36 less than the total fall 2011 meeting expenses, and the revenue from spring meeting registrations was \$1,342.11 less than the revenue from fall meeting registrations. The expenses for the postage and printing of our newsletter last spring decreased from last fall. We spent \$1,305.52 for the printing and postage of the fall 2011 newsletter and \$707.10 for the printing and postage of the spring 2012 newsletter.

In the spring, I wrote and submitted the yearly Financial Report of the Northeastern Section of the MAA. I also wrote our section’s Annual Report at the beginning of the summer.

That is my update for now! We are all looking forward to the Fall MAA meeting at Bridgewater State University, on November 16-17, where I will update you further on our finances. I wish you all a very enjoyable fall semester!

From the Newsletter Editor Frank Ford

Our meeting at Central Connecticut State was another excellent outing. Rachel Schwell and her team of Roger Billsoly, Yuanqian Chen, Karen Santoro and Roger Vogeler were excellent hosts and even managed to extend the due dates for the hotel reservations. Charles Rocca and his team of Senan Hayes and Elaine Dinto produced a program that was varied and exciting. Now we take a quick trip to Massachusetts for our Fall meeting at Bridgewater State University and then back to Connecticut for next Spring’s meeting. It is not too early to plan to attend the MathFest in Hartford this Summer.

We have a great slate for the elections this Fall. Ann Kizanis and Phil Mahler are willing to continue the hard work they do for the Section and Eric Johnson and Lynette Boos are both great choices for our next chair. Be sure to vote.

Student Presentations at the Spring 2012 Meeting

Estimating Prime Distributions via Euclid's Proof of their Infinitude

Justin Bransfield, Central Connecticut State University

On the Coarse Geometry of L^1 : A coarse Equivalence

Phanuel A. Mariano, Western Connecticut State University

Area and Perimeter Ratios

Katie Nunes, Keene State College

Thrust Required and Power Required in Flight: A Mathematical Generalization

Matthew Caputo, Keene State University

A Microscopic Description of the Elusive Hoyle State

Alison Dreyfuss, Keene State College

Contributed Papers Presented at the Spring 2012 Meeting

Counting Fixed Points, Two-Cycles, & Collisions of the Discrete Exp Function

Margaret Robinson, Mount Holyoke College

The Bridge Program- Reducing the Need for Remediation of At-Risk Students Entering College

Senan Hayes, Western Connecticut State University

On the Cardinality of Hausdorff Spaces

Ivan Gotchev, Central Connecticut State University

GIAM and Other Free Textbooks

Leon Brin, Southern Connecticut State University

Flipping Calculus- Parr 1

Fei Xue, University of Hartford

Flipping Calculus- Part 2

Jean McGivney-Burelle, University of Hartford

Exploring Transformations of Function Using Geometry

Becky Hall, Western Connecticut State University

The Paper Pool Table Problem Revisited

Debra Borkovitz, Wheelock College

Introducing the Spherically Transformed Hierarchical Gauss

Hermite Quadrature R Package

Jacob Gagnon, Worcester Polytechnic Institute

Several Curious Applications of Spherical Triangles

Marshall Whittlesey, California State University San Marcos

Integral Identity for the Two Dimensional Poisson Kernel and
Dirichlet Problem in a Ball

Sergei Artamoshin, Central Connecticut State University

Undergraduate Research Opportunities in Systems of Difference Equations

Chris Lynd, University of Rhode Island (graduate student)

iPad Apps for Math: Respond to your math students: quick, light, and mobile

Hendree Milward, Tunxis Community College

Using GAP in an Abstract Algebra course

Joseph E. Fields, Southern Connecticut State University

From the Colleges

American International University (reporter **Paul Desmarais**) I'm just letting you know that I retired from American International College as of 31 Aug 12. After 37 years at the college, the last 24 as Math. Dept. chairman, I have taken the step into the BIG BEYOND. Currently there is only one full-time member of the Math. Dept., James Sansalone. Jim's email address is James.Sansalone@aic.edu. AIC no longer offers a Mathematics major but still offers a minor.

Boston College (reporter **Dan Chambers**) We had two retirements at the end of the 2011-2012 academic year: Richard Jenson and Robert Bond. Ned Rosen and Peg Kenney will retire at the end of the 2012-2013 year.

In 2011-2012, new Faculty joining the Department were John Baldwin Ph.D. Columbia University in Low-dimensional Topology, Contact Geometry; Ian Biringer, Ph.D. University of Chicago in Geometry; Dawei Chen, Ph.D. Harvard University in Algebraic Geometry; Maksym Fedorchuk, Ph.D. Harvard University in Algebraic Geometry; David Geraghty, Ph.D. Harvard University in Number Theory (starts Fall 2013); Joshua Greene, Ph.D. Princeton University in Low-dimensional Topology; Dubi Kelmer, Ph.D. Tel Aviv University in Number Theory and Spectral Theory; and David Treumann, Ph.D. Princeton University in Algebraic Geometry and Representation Theory.

Eastern Connecticut State University (reporter **Pete Johnson**) Dr. **Sally Keating** retired from Eastern Connecticut State University in December 2011, after having spent 24 years in the Mathematics and Computer Science Department.

The Department is also pleased to be conducting three searches for tenure-track faculty. One of these searches is for our new position in Bioinformatics.

Holy Cross (reporter **Catherine Roberts**) **David Damiano** was promoted to Full Professor. Prof. **Catherine A. Roberts**, Chair of Math/CS has been appointed to the Editorial Board of the Monthly.

St. Michael's College (reporter **George Ashline**) Earlier in the fall, on September 13, we hosted an NES-MAA dinner meeting for twenty mathematics faculty from our region. **Michael Dorff** of BYU was our invited speaker, and he engaged the group with the workshop entitled "Filling Courses and Recruiting Mathematics Majors", an abbreviated version of a workshop he has given at several national MAA meetings. The session addressed many ways to enhance mathematics programs through a variety of ideas gleaned from successful initiatives at BYU and other institutions, as well as additional ideas generated by the group.

Jo Ellis-Monaghan continues as Editor-in-Chief of PRIMUS (Problems, Resources, and Issues in Mathematics Undergraduate Studies), a refereed Taylor & Francis journal devoted to dialogue and exchange of ideas among those interested in teaching undergraduate mathematics.

In March 2012, **Phil Yates** presented "Historic Floods and One % Chance Flood Estimation" at a Norwich University Mathematics Colloquium. Focusing on the flood history of the Congaree River in South Carolina, this research was done jointly with Prof. **John Grego** of the University of South Carolina.

In July 2012 at the TeX User's Group Conference in Boston, **Jim Hefferon** presented with Prof. Michael Doob of the University of Manitoba "Reaching for the Stars with Asymptote."

In October 2012, we inducted nine undergraduates into the Vermont Alpha chapter of Pi Mu Epsilon. **Zsu Kadas** continues as chapter advisor. Liz McMahon from Lafayette College gave our annual PME lecture on "Mathematics in the Game of SET."

Starting in Fall of 2012, both **Jim Hefferon** and **Lloyd Simons** are on sabbatical. We have hired **Melanie Brown** as a Visiting Assistant Professor for 2012-2013.

Plymouth State University (reporter **John Donovan**) The Mathematics Department at Plymouth State University hired two one year visiting faculty this year, **Robert Rioux** (MS, University of New Orleans) most recently from Southeastern Louisiana University and **Robert Stephens** (PhD, University of Toledo) most recently from Georgetown College (Ky.) Additionally, **Annie Hager** (MS, University of Maine) was hired to a full-time contract faculty position. We will be hiring three new tenure track faculty this academic year to replace the recently retired **William J. Roberts** and departed faculty members **Dana Ernst** (University of Northern Arizona) and **Thomas Boucher** (Texas A&M University - Commerce). To find out more about these positions please email John Donovan at jedonovan@plymouth.edu.



Northeastern Section Fall MAA Meeting ,
Project NExT

Full Newsletter accessible from
www.maa.org/northeastern

BRIDGEWATER STATE UNIVERSITY, BRIDGEWATER, MA
57TH FALL MEETING OF NES/MAA

Meeting web site: <https://sites.google.com/site/nesmaafall2012/>
Friday, November 16, 2012 Northeastern Section NExT Program

- 11:30 Registration in Atrium, 1st floor Conant Science and Mathematics Building
- 12:00 – 1:00 Section NExT lunch
- 1:00 – 2:00 Section Next talk: Keeping Active in Your Section
Frank Ford, Providence College
- NES/MAA 57th Meeting**
- 11:30 – 5:00 Registration in Atrium, 1st floor Conant Science and Mathematics Building
- 1:00 - 6:00 Vendors Exhibit in Arcade, 2nd floor Conant Science and Mathematics Building
- 1:00 – 6:00 History of Math Exhibit, 2nd floor Conant Science and Mathematics Building
- 1:00 – 6:00 Crystals Exhibit, Outside Room 120, Conant Science and Mathematics Building
- 1:00 – 3:00 Student Problem Solving Competition
- 1:30 – 3:00 Executive Committee Meeting
- 3:00 – 3:50 Double Counting: The Fundamental Principle of Combinatorics
Timothy Woodcock, Stonehill College
- 4:00 - 4:50 About Some Differential Geometric Problems in Graph Theory
Oliver Knill, Harvard University
- 4:00 – 4:50 Student Workshop: Mathematics of Gerrymandering
Jeff Suzuki, Brooklyn College
- 5:00 – 6:00 Student Presentations (Undergraduate & Graduate)
- 6:00 – 6:45 Reception sponsored by Pearson
- 6:45 – 8:00 Banquet
- 8:00 – 9:00 Manhole Covers and Complex Geometry
Tanya Khovanova, MIT

Saturday, November 17, 2012

- 7:30 – 11:00 Registration in Atrium, 1st floor Conant Science and Mathematics Building
- 8:00 - 3:00 Vendors Exhibit in Arcade, 2nd floor Conant Science and Mathematics Building
- 8:00 – 3:00 History of Math Exhibit, 2nd floor Conant Science and Mathematics Building
- 8:00 – 3:00 Crystals Exhibit, Outside Room 120, Conant Science and Mathematics Building
- 8:00 – 8:50 New Colleagues Talks
- 9:00 – 10:00 Distinguished Teacher Talk:
Counting Fixed Points of the Discrete Exponential Function Modulo Powers of a Prime
Margaret Robinson, Mt. Holyoke
- 10:00 – 10:30 Morning Break
- 10:30 – 11:30 Christie Lecture: Reflections of an Old Problems Editor
Clayton Dodge, University of Maine
- 11:30 – 12:00 Business Meeting including Election of Officers
- 12:00 – 1:00 Lunch
- 1:00 – 2:00 Panel Discussion: Problems, Problems, Everywhere
Panel: Pat Costello (EKU), Harold Reiter (UNCC),
Derek Smith (Lafayette)
- 2:00 – 3:00 Contributed Papers

Program Committee:

Thomas Moore (chair), Bridgewater State University
Shannon Lockard (co-chair), Bridgewater State University
Ralph Bravaco, Stonehill College
Tommy Ratliff, Wheaton College
Matthew Salomone, Bridgewater State University
Margaret Stevenson, Massasoit Community College

Local Arrangements Committee:

Rebecca Metcalf (chair), Bridgewater State University
Glenn Pavlicek, Bridgewater State University
Kevin Rion, Bridgewater State University
Polina Sabinin, Bridgewater State University

Election of Section Officers

At the business meeting, the MA/NES members will elect officers. The nominating committee proposes the following slate:

For Vice-Chair (will become chair in November 2013 for a 2-year term)

Lynette Boos Providence College

Lynette Boos is an Assistant Professor of Mathematics at Providence College. Before moving to Rhode Island, she enjoyed a three year post doctoral position at Trinity College in Hartford, Connecticut. Lynette has been an active member of the MAA since 2005, and she is a 2007 Project NExT fellow (sun dot). In 2010 Lynette began organizing the New Colleagues Talks at the fall MAA section meetings, and she also attends at least one dinner meeting each year. Along with Jennifer Beineke and Aliza Steurer, she co-organized the MAA General Contributed Paper sessions at the 2012 Joint Mathematics Meetings in Boston.

Lynette earned a Bachelor of Science in Mathematics and German from Hillsdale College in Michigan and a Doctor of Philosophy in Mathematics from Bowling Green State University in Ohio. Her research is in complex analysis and Banach algebras. When she isn't doing or teaching mathematics, Lynette enjoys reading, traveling, and playing second violin in the Warwick Symphony Orchestra.

Eric Johnson United States Coast Guard Academy, New London, CT

Eric C. Johnson received his B.S. in Mathematics and the Max Hirsch Prize for “outstanding academic achievement and promise for a successful career” from Rensselaer Polytechnic Institute (RPI) in Troy, NY in 1991. He continued his study of mathematics at RPI in graduate school, earning a M.S. in 1993 and a Ph.D. in 2001. His research interests lie in linear and nonlinear optimization, although he is even more interested in teaching (including math placement and assessment).

After finishing his Ph.D., Eric worked for a year as an adjunct professor at RPI and Siena College in Loudonville, NY before joining the Department of Mathematics at the U.S. Coast Guard Academy (CGA) in New London, CT in 2002. In addition to his teaching and advising duties at the CGA, Eric routinely advises cadet capstone projects, sits on the Faculty Senate, is a member of the GOLD (Guide to Officer and Leader Development) Advisory Team, coordinates the Math Placement Program for incoming freshmen, is his department's MAA and SASMC (Service Academies Student Mathematics Conference) representative, volunteers both as a faculty advisor/coach to the CGA Men's Club Volleyball Team and as judge and reader for the annual MathCounts competition, and has been an active member of the NES/MAA since 2006, serving as the Contributed Papers Coordinator for the past year.

When he isn't working, Dr. J, as his students affectionately call him, enjoys working outside in his yard and garden, playing volleyball, cooking, watching Red Sox and NFL games on TV, and spending time with friends and family. He is currently single and lives in Groton, CT.

For Secretary/Treasurer

Ann Kizanis Western New England College, Springfield, MA

Ann graduated with a B.A. in Mathematics from Connecticut College in 1985. During her time there, she received the Julia Welles Bower Prize for Excellence in Mathematics each year. She also received the Rosemary Park Fellowship for Teaching in 1985 and was named a Winthrop Scholar.

She did her graduate work at Wesleyan University in the area of archimedean lattice-ordered groups and graduated with a Ph.D. in 1991. She then began working as an Assistant Professor of Mathematics at Western New England University. She was granted tenure in 1995, was promoted to Associate Professor in 1996, and was promoted to Professor in 2004. While at Western New England University, she received the Teaching Excellence Award in 1995, as well as the Golden Bear Award, given in recognition of unselfish

commitment to the student body at the university. For the last ten years, Ann has also held the position of Associate Dean of the College of Arts and Sciences at the university.

Ann remains very active in governance and departmental affairs and has been a member of many committees at the university during the last 21 years. Among them, she has served on the Faculty Senate for three terms, was chair of the Retention Task Force, and was chair of the First Year Program Committee for nine years. She also served as advisor to the Math Club from 1992-2000. She presently serves on various departmental and university committees.

Ann has been a member of the Mathematical Association of America since graduate school. She was a member of the Local Arrangements Committee for the Fall Meeting of the NES/MAA that was held at Western New England University in 1997 and 2009 and was also Publisher Liaison for the Spring Meetings in 1995, 1996. She has served as Secretary/Treasurer of the Northeastern Section of the Mathematical Association of America for the last twelve years. Ann has enjoyed working and interacting with members of the Northeastern section and hopes to continue to serve the section.

In her free time, Ann enjoys traveling. She visits her relatives in Greece each summer. She and her husband enjoy sight seeing, visiting family, and relaxing while in Greece. They also enjoy cooking together, visiting museums, and working outside on gardening and landscaping projects.

For Two-Year Representative

Phil Mahler Middlesex Community College, Bedford, MA

Phil Mahler has taught mathematics at community colleges in Michigan and Massachusetts since 1977. He was a co-chair for the Michigan Section, and has served as NE/MAA program chair, newsletter editor, and two-year college representative. He has served on three national MAA committees. He is a past president of NEMATYC and AMATYC and was a leader in the creation of

AMATYC's *Beyond Crossroads* document and its Project ACCESS. He has participated in activities at the national level on quantitative literacy and college algebra reform. Phil holds a BA in Modern Languages from Assumption College, and, after service as an electronics technician in the Navy, he earned an MAT in Mathematics from the University of Florida.

Other candidates may be nominated at the meeting

Frank Ford
Newsletter Editor
Dept of Math/CS
Providence College
Providence, RI 02918