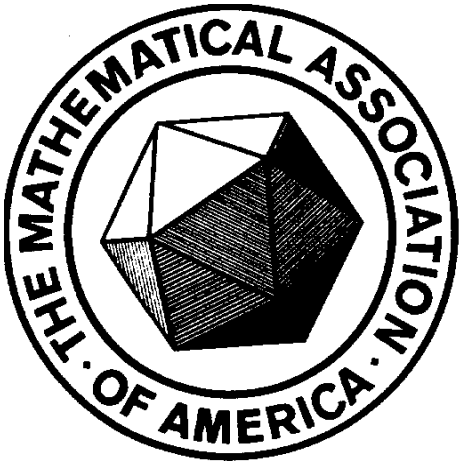
The Mathematical Association of America
New Jersey Section Meeting



Rutgers University
Busch Campus
Piscataway, NJ

Sunday, October 27, 2013

Abstracts and Biographies of Speakers

On God's Number(s) for Rubik's Slide

Michael A. Jones, *Mathematical Reviews*
American Mathematical Society

Rubik's Slide consists of a 3×3 grid of squares that is reminiscent of a face of *Rubik's Cube*. In this electronic puzzle, squares may light up in one of two colors, or remain unlit. The goal is to use a series of moves, which we view as permutations, to change a given initial pattern to a given end pattern. We use a simpler version of the puzzle to introduce an algebraic and graph-theoretic analysis. By extending the analysis to examine the easy version of *Rubik's Slide*, we find the most moves an omniscient god would need to solve any instance of the puzzle. These instances are related to subgroups and god's number is the diameter of the coset graph associated with the subgroup. We also determine god's numbers for all variations of the medium and hard versions of the puzzle.

This puzzle and this type of analysis has been introduced to high school students in the Michigan Math and Science Scholars program at the University of Michigan in summers 2012 and 2013. The talk is based on *On God's Number(s) for Rubik's Slide* by M.A. Jones, B.C. Shelton, and M.E. Weaverdyck. Shelton and Weaverdyck were Jones' graduate and undergraduate assistants, respectively, for the 2012 program.

Michael A. Jones is an Associate Editor at the American Mathematical Society's *Mathematical Reviews* in Ann Arbor, MI. He earned his Ph.D. in game theory under Donald Saari at Northwestern University in 1994. After positions at the US Military Academy at West Point and Loyola University in Chicago, he spent 10 years at Montclair State University, during which time he served as the MAA NJ Book Sale Coordinator and Public Information Officer. His article on Chutes and Ladders, coauthored with Montclair students Leslie Cheteyan and Stewart Hengevelde, was awarded the 2012 Polya Award. He has been a member of the Editorial Board of the *College Mathematics Journal* since 2005, but will be resigning from the board in January 2014 to become editor elect of *Mathematics Magazine*.

Archimedes' Epitaph and Toric Varieties

Christopher Woodward, Professor of Mathematics
Rutgers University

Archimedes' epitaph is the equality of the surface area of a sphere with the lateral surface area of the circumscribed cylinder. Its higher-dimensional generalization to "toric varieties" is a standard result in modern symplectic geometry. It leads to a generalization of the fundamental theorem of algebra to several variables, called Kouchnirenko's theorem, which predicts the number of critical points of a polynomial of several variables. Recently E. Gonzalez and I used these kind of results to study the number of critical points of potentials that appear in mirror symmetry for toric varieties.

Chris Woodward is Professor of Mathematics at Rutgers University in New Brunswick. He received his doctorate from MIT in 1996 on symplectic geometry advised by Victor Guillemin. He is an associate editor of *Transactions and Memoirs* of the American Mathematical Society as well as *Selecta Mathematica*, and he has an interest in middle school math education. He is married to Neepa Maitra, a professor of physics at Hunter College; they have two daughters, ages 11 and 13.

Math and Art: The Good, the Bad, and the Pretty

Annalisa Crannell, Professor of Mathematics
Franklin & Marshall College

How do we fit a three-dimensional world onto a two-dimensional canvas? Answering this question will change the way you look at the world, literally: we'll learn where to stand as we view a painting so it pops off that two-dimensional canvas seemingly out into our three-dimensional space. In this talk, we'll explore the mathematics behind perspective paintings, which starts with simple rules and will lead us into really lovely, really tricky puzzles. Why do artists use vanishing points? What's the difference between 1-point and 3-point perspective? Why don't your vacation pictures don't look as good as the mountains you photographed? Dust off those old similar triangles, and get ready to put them to new use in looking at art!

Annalisa Crannell is a Professor of Mathematics at Franklin & Marshall College and recipient of the MAA's 2008 Deborah and Franklin Tepper Haimo Award for distinguished teaching. Her primary research has been in topological dynamical systems (also known as "Chaos Theory"), but she is becoming active in developing materials on Projective Geometry applied to Perspective Art. She has worked extensively with students and other teachers on writing in mathematics, and with recent doctorates on employment in mathematics. She especially enjoys talking to non-mathematicians who haven't (yet) learned where the most beautiful aspects of the subject lie.

Abstract of Workshop

Your Name in Space!
Annalisa Crannell

Why leave those letters in your name flat and lifeless, when you can give them 3-D depth and fullness? Come get your new-and-improved math/art today, and you can draw your name in 3-d letters, using some quick-and-easy tricks from 1-point perspective drawing! Offer available while art supplies last.

Abstract and Biographies of Mathematics Education Panelists

Impact of Courses for In-service Teachers on Design of Courses for Prospective Teachers

Michael Weingart and Amy Cohen, Rutgers University

Rutgers leads an NSF-funded Math-Science Partnership (2009-2014) serving mid-career middle school math teachers. The partnership includes 15 school districts in central New Jersey. This talk will describe the project (briefly) and discuss how these summer institute courses have influenced changes in what and how we teach students planning to enter the teaching profession.

Amy Cohen has taught at Rutgers for 40 years, and she has been active in MAA-NJ for much of that time. Her ambition is to make instruction more satisfying for teachers and students, alike.

Michael Weingart is currently Associate Undergraduate Director in math at Rutgers. His responsibilities include courses for general education purposes and math content courses for prospective K-8 teachers.

Increasing interaction in Online Courses

Reva Narasimhan, Kean University

Online courses can often be isolating, particularly in mathematics, due to the nature of the assignments that are usually given. We discuss how low or no cost technologies for web based, interactive meetings can enhance an online course.

Students taking online courses in mathematics prefer some form of lecture in addition to their reading requirements. A platform with active participation is usually preferred over a prerecorded lecture. An interactive lecture incorporating PowerPoint slides, screen sharing, and online videos can create a dynamic environment for students to learn. We will discuss some easily available platforms that can make this possible, using our online introductory statistics course as an example.

Reva Narasimhan is an Associate Professor of Mathematics at Kean University, Union, NJ. She received her Ph.D. in Applied Mathematics from the University of Maryland at College Park. She has over twenty years of teaching experience and her current interest is in enhancing undergraduate mathematics education. She has presented at many conferences including national and regional MAA, AMATYC, and NCTM conferences and has also published textbooks and scholarly articles.

Is One of These Things Not Like the Others?
MfA and Teacher Professional Development Programs

Katherine Socha, Math for America, Director of Educational Policy

Math for America (MfA) is a professional development program for secondary school science and mathematics teachers that started in New York City. There are many different models for teacher preparation, induction, and ongoing professional development, and this talk will compare and contrast their approaches with that of MfA.

Katherine Socha is the Director of Education Policy at Math for America. Previously, she was a tenured associate professor of mathematics at St. Mary's

College of Maryland. In 2009-2010, Katherine held a AAAS Science & Technology Policy Fellowship in the Division of Mathematical Sciences at the National Science Foundation. Katherine received the 2008 Lester R. Ford Award for Expository Excellence and the Henry L. Alder Award for Distinguished Teaching from the Mathematical Association of America. Katherine earned her Ph.D. in Mathematics from the University of Texas at Austin. Her mathematical interests are in the areas of partial differential equations and fluid dynamics.

Abstracts of MAA-NJ Contributed Paper Sessions

Session 1: General Session
SEC room 202
Presider: Chengwen Wang, Essex County College

1:30-1:45
Jay Schiffman, Rowan University, schiffman@rowan.edu
Abundant Numbers Not Divisible By Any One of the First N Primes
Positive integers are classified as abundant, deficient or perfect. If $\sigma(n)$ denotes the sum of the divisors of n, then n is abundant when $\sigma(n) > 2n$. 12 is abundant since $\sigma(12) = \sigma(2^2 \cdot 3) = \sigma(2^2) \cdot \sigma(3) = \left(\frac{2^{2+1}-1}{2-1}\right) \cdot (3+1) = 7 \cdot 4 = 28 > 24 = 2 \cdot 12.$

The first odd abundant and square-free odd abundant numbers are 945 and 15015 respectively while 5391411025 is the first not divisible by either 2 or 3. The function $\frac{\sigma(n)}{n}$ yields the ratio of the sum of the divisors of an integer to the integer itself and is known as the abundancy of the number. When $\frac{\sigma(n)}{n}$ is an integer, one calls such integers mutiply-perfect. For example, perfect numbers have an abundancy of two while deficient numbers have an abundancy less than two and an abundant numbers have an abundancy greater than two. If the abundancy of a number is a positive integer greater than or equal to two, the integer is classified as multiply-perfect. The integers 120 and 30240 can be shown to be 3-perfect and 4-perfect respectively. We secure the initial abundant and square-free abundant numbers not divisible by each of the first few primes.

1:50-2:05

Jonathan Weisbrod, BCC, jweisbrod@bcc.edu

Berggren Tree of Pythagorean Triples Using Dickson's Formulas

We introduce a method of producing the Berggren Tree of primitive Pythagorean Triples by using functions of two parameters. The two parameters, α and β, which define each primitive Pythagorean triple by formulas published by Dickson are mapped to three pairs of integers which in turn produce a unique pair of new parameters. By continuing this process infinitely, we generate all primitive Pythagorean triples.

2:10-2:25

Vincent J. Matsko, Princeton International School of Mathematics and Science, vince.matsko@gmail.com

A Collatz-Like Iteration

Consider the following iterative procedure: Begin with a positive integer written in base 10. If the integer is divisible by 3, then divide by 3; otherwise, reverse the digits and add 1. It is not hard to show that this process either reaches 1 or gets caught in a cycle. Changing the divisor 3 to another number or changing the base also raises numerous questions.

2:30-2:45

John C. Miller, Rutgers University, jcmiller@math.rutgers.edu

Computing Class Numbers Beyond Odlyzko's Bounds: Real Cyclotomic Fields

Although the usual integers have the property of unique factorization, this property may fail in a general number field. This failure is measured by the ideal class group, whose cardinality is the *class number* of the field.

One of the most intensively studied classes of number fields are the cyclotomic fields. Surprisingly, their class number has only been determined for fields of rather small conductor, due to the difficulty of finding the "plus part" of the class number, i.e. the class number of the maximal real subfield. For example, the class number of the real cyclotomic fields of prime conductor has only been determined for primes up to 67. The difficulty is that the Minkowski bound of these fields is very large, and also the root discriminant is too large for the class number to treated by Odlyzko's discriminant bounds.

Our recent results have improved the situation. We can now unconditionally prove that the class number of the real cyclotomic fields of prime conductor is 1 for primes up to 151. Furthermore, under the assumption of the generalized Riemann hypothesis, we can calculate the class number of real cyclotomic fields up to prime conductor of 241. This new technique should be applicable to any number field of moderately large discriminant, allowing us to confront the problem of determining the class number for a large group of number fields which so far have not been treatable by previously known methods.

2:50-3:05
Barbara Osofsky, Rutgers University, barbara.osofsky@gmail.com
A Tale of an Interesting Example
We start with a little example that led to a rather surprising mathematical result. The research paper in which this example appeared had a mathematical error although the computations appearing in the paper were correct. The problem arose from confusing a linear transformation with the matrix of that linear transformation with respect to some basis, although the error was not discovered until I proved a result directly contradicting the conclusion of the paper. My result was challenged by a correct proof that a computation indicated in the paper implied that my proof was incorrect. How would you handle this kind of problem with your students?

In spite of all this, understanding the example (without the false statement) was an essential step in resolving a question that had seemed intractable for over half a century.

Session 2: General Session
Room SEC 205
Presider: Kathy Turrisi, Centenary College

1:30-1:45
Marshall Whittlesey, California State University San Marcos, mwhittle@csusm.edu
A Course in Spherical Geometry for Undergraduates
In this talk we survey some of the interesting and poorly known theorems of spherical geometry and its applications. We suggest this topic as one well worth

teaching to undergraduates, especially potential high school teachers of geometry, but also think the subject should be better known among all mathematicians.

1:50-2:05
Abdramane Serme, BMCC/CUNY – The City University of New York, aserme@bmcc.cuny.edu
Student Research/Mentoring Programs at BMCC: From the Mentees Vantage Point
Mentoring students in a community college setting is a challenge. In this presentation we show how the dedication of faculty members combined with the leadership of the department chair and the involvement of the provost, allow us to develop a strong student mentoring program by faculty members at Borough of Manhattan Community College (BMCC). We will also share with the audience the viewpoint of the students about their participation in the mentoring program.

2:10-2:25
Lina Wu, Borough of Manhattan Community College, linawupaul@gmail.com
Incorporating Art in Mathematical Teaching and Assessment as Imaged–Based Learning
The presenter will describe the pedagogy of incorporating art in teaching and assessment for the advanced math courses at college-level. This teaching idea was applied in the author's math class during the 2013 Summer Calculus as a pilot course at the Borough of Manhattan Community College (BMCC). Funding for this program was made by the Rubin Museum of Art in New York City.

2:30-2:45
Kathleen Shay, Middlesex County College, KShay@middlesexcc.edu
Get out the vote!: A Pedagogy for Engaging Students in College Mathematics Classes
Through the NSF-funded Project MathVote, faculty from six colleges and universities have collaborated to write voting questions for a variety of undergraduate mathematics classes and to study the pedagogy of classroom
… continued on page 11

Mathematical Association of America
New Jersey Section, Fall 2013 Meeting Program

8:30 – 9:30	**Registration and Breakfast**; outside room SEC 111
8:30 – 1:30	**Book Exhibits**; outside room SEC 111
9:30 – 9:40	**Welcome by Mike Beals**, Vice Dean for Instruction in the School of Arts and Sciences and Professor of Mathematics, Rutgers University; room SEC 111
9:40 – 10:30	**On God's Number(s) and Rubik's Slide**, Michael Jones; *Mathematical Reviews*. Presider: Helen M. Roberts, Montclair State University; room SEC 111
10:30 – 11:10	**Intermission**; outside room SEC 111 **Book Exhibits**; outside room SEC 111
11:10 – 12:00	**Archimedes' Epitaph and Toric Varieties**, Christopher Woodward, Rutgers University. Presider: Mike Beals, Rutgers University; room SEC 111
12:00 – 1:30	**Box Lunch**; rooms SEC 202, 204, 205, 206, and 207
1:30 – 3:05	**Concurrent Sessions**; rooms SEC 202, 205, and 207 **Workshop:** Annalisa Crannell; room SEC 206 **Panel: Initiatives in Mathematics Education**; room SEC 204 • Amy Cohen, Rutgers University • Michael Weingart, Rutgers University • Reva Narasimhan, Kean University • Katherine Socha, Math for America, Director of Educational Policy
3:05 – 3:35	**Intermission and Refreshments**; between registration and SEC 111 (Silent auction bidding ends at 3:35.)
3:35 – 4:25	**Math and Art: The Good, the Bad, and the Pretty;** Annalisa Crannell, Franklin & Marshall College. Presider: Jay Schiffman, Rowan University; room SEC 111
4:30 – 5:00	**Prizes and Awards**; Door prizes and silent auction winners (must be present to win); room SEC 111
5:00	**Dinner Honoring Speakers**; Pithari Taverna, Highland Park

continued from page 9…
voting. This talk will describe how we utilize voting in our classes, provide examples of the kinds of questions we ask, and introduce our freely available question library containing over 2,000 multiple choice and true/false questions.

2:50 – 3:05
Pamela Harris, USMA, Pamela.Harris@usma.edu
Strengthening Communication Skills through Cadet Created Homework Videos
The wide availability of online tutorial videos has revolutionized the way students learn mathematics. In this project we take the approach of having students create their own homework videos by using the screen-capture and video recording capabilities of an iPad. The aims of these videos were twofold. First, through the creation of homework videos cadets conveyed technical information; this helped strengthen their communication skills. A second objective of this project was the development of an online library of videos that cadets could study from in preparation for homework and exams. In this paper we examine data gathered during this project to determine the benefits of replacing traditional handwritten homework assignments with videos. In addition, we provide some observations as to the usefulness of the videos in strengthening communication skills as well as what effects an online library of videos has on the study habits of students.

Session 3: General Session
Room SEC 207
Presider: Catharine Dickerson, Rowan University

1:30-1:45
Patrick Mugg, USMA, Patrick.Mugg@usma.edu
Construction and Analysis of Multi-Rate Partitioned Runge-Kutta Methods
Adaptive Mesh Refinement (AMR) of hyperbolic systems allows us to refine the spatial grid of an initial value problem (IVP), in order to obtain better accuracy and improved efficiency of the numerical method being used. However, the solutions obtained are still limited to the local Courant-Friedrichs-Lewy (CFL) time-step restrictions of the smallest element within the spatial domain. Therefore, we look to construct a multi-rate time-integration scheme capable of solving an IVP within each spatial sub-domain that is congruent with that sub-domain's respective

timestep size. The primary objective for this research is to construct a multi-rate method for use with AMR. This work focuses on constructing a 2nd order, multi-rate partitioned Runge-Kutta (MPRK2) scheme, such that the non-uniform mesh is constructed with the coarse and fine elements at a two-to-one ratio. We will use general 2nd and 4th order finite difference (FD) methods for non-uniform grids to discretize the spatial derivative, and then use this model to compare the MPRK2 time-integrator against three explicit, 2nd order, single-rate time integrators: Adams-Bashforth 2 (AB2), Backward Differentiation Formula 2 (BDF2), and Runge-Kutta 2 (RK2).

1:50-2:05

Sarita Nemani, Georgian Court University, nemanis@georgian.edu

A Perturbation Method for Toepliz Penta-Diagonal Systems

In this presentation, a fast algorithm for solving a large linear system with a symmetric Toeplitz penta-diagonal coefficient matrix is presented. This algorithm is based on perturbation and roots of the coefficient matrix. The operation counts for the method considered take into account the basic arithmetic operations and weights them equally. The error analysis is given using the max norm. Some numerical examples are presented to illustrate the efficiency and stability of the method described in this talk.

2:10-2:25

David Molnar, Felician College, molnard@felician.edu

Metrical Theory for Continued Fractions Generated by Mobius Transformations Modulo One

The “metrical theory” of continued fractions refers to results known to be true of the continued fraction expansion of “almost all” numbers *x*: for example, there are classical results governing the growth of the denominators of the convergents to a generic irrational. These results can be reproduced using ergodic theoric, specifically applied to the *natural extension* of the Gauss map $Tx = \left\langle \frac{1}{x} \right\rangle$. We will discuss analogues of these results for certain linear fractional transformations modulo one. These maps generalize the Gauss map, yielding an infinite family of variant continued fractions.

2:30-2:45

Abdramane Serme and Jean Richard, CUNY-BMCC, ASerme@bmcc.cuny.edu, JRichard@bmcc.cuny.edu

Solving Ill Conditioned Linear Systems and the Convergence of the Extended Iterative Refinement Algorithm

Solving a linear system Ax = b with an ill conditioned nonsingular nxn matrix A require special attention if we want the computation to yield an accurate solution $x = A^{-1}b$. The accuracy of the solution x is base on the way one computes A^{-1}. We decide to compute the solution $x = A^{-1}b$ by using the Schur aggregation method. The Schur aggregation approach is base on the notion of additive preconditioning. The approach consists of transforming the linear system Ax = b using the Sherman-Morrison-Woodbury (SMW) formula $A^{-1} = (C - UV^H)^{-1} = C^{-1} + C^{-1}U(I_r – V^HC^{-1}U)^{-1}V^HC^{-1}$. For a random, well conditioned and properly scaled Additive Preconditioner UV^H of rank $r < n$, the A-modification $C = A + UV^H$ is well conditioned. The component $C^{-1}U$ of the Schur aggregate $S = I_r – V^HC^{-1}U$ is computed using the extended iterative refinement algorithm. We consider the linear system CW = U from $W = C^{-1}U$. The algorithm is as follow:

$W_0 = C^{-1}U_0$, ($U_0 = U$ and $C_0 = C + F_0$), $W_k = (C + F_k)^{-1}U_k$, $U_{k+1} = U_k + CW_k + E_k$

$X_k = W_0 + W_1 + … + W_k$; for k = 0, 1, 2, …

The convergence of the above extended iterative refinement algorithm is not trivial. This presentation will discuss some conditions under which the algorithm converges.

2:50-3:05

Matt Sequin, Rutgers University, mjs626@rci.rutgers.edu

Relationships Between Quantum Invariants of 3-manifolds

We will describe two quantum-3 manifold invariants: the Kuperberg Invariant and the Hennings Invariant. We will discuss a direct proof that if H is an involutory Hopf algebra, the Kuperberg Invariant applied to H is equal to the Hennings Invariant applied to D(H), the Drinfeld double of H.

Call for Nominations for the MAA-NJ Award for Distinguished College or University Teaching

The MAA-NJ Section Distinguished Teaching Award Selection Committee is seeking nominations for the 2014 award. Please consider nominating an inspiring, respected, or influential deserving colleague for this prestigious award. Information about the nomination process and eligibility requirements are posted online http://www.maa.org/newjersey. For additional information you may contact Zhixiong Chen (Secretary, MAA-NJ) at zchen@njcu.edu. Award nominations are due by November 1, 2013.

Lunch Discussion Tables

Organized by Theresa C. Michnowicz, New Jersey City University.
There will be six discussion tables at lunch:

1. **Effective Teaching Methods for Undergraduate Courses**, led by Siham Alfred, Raritan Valley Community College; room SEC 204
2. **The First Day of Class**, led by Annalisa Crannell, Franklin & Marshall College; room SEC 204
3. **Beyond the REU: Finding, Funding and Follow-through in Undergraduate Research**, led by Gene Fiorini, DIMACS REU Director, Rutgers University; room SEC 204
4. **MathSciNet and You**, led by Michael A. Jones, *Mathematical Reviews*, American Mathematical Society; room SEC 206
5. **Professional Development Exchange Program for Two-year College Faculties and Chairs**, led by Mamta Vyas, Essex County College; room SEC 206
6. **NJ-NExT table** (NJ-NExT fellows only) led by Kaaren Finberg, Ocean County College; room SEC 202

Those who pre-registered have priority at these discussion tables. We look forward to a set of lively and interesting discussions!

Call for Contributed Papers and Lunch Table Discussion Topics for the Spring 2014 MAA-NJ Meeting

There will be four special contributed paper sessions. All papers will be reviewed by the organizers and the selection committee. Please submit a title, three- to

four-line summary, and one-page abstract in Microsoft Word format by February 12, 2014 to the organizer of the session.

1. **History of Mathematics**. Organizer: Larry D'Antonio, Ramapo College, ldant@ramapo.edu.
2. **Mathematics, Magic, and Mystery**, the 2014 Math Awareness topic celebrating the centennial of the birth of Martin Gardner. Organizer: Paul von Dohlen, William Paterson University, vondohlenp@wpunj.edu.
3. **Stem Programs**. Organizer: Chengwen Wang, Essex County College, wang@essex.edu.
4. **Statistics: Practice and Pedagogy**. Organizer: Dexter Whittinghill III, Rowan University, whittinghill@rowan.edu.

MAA members interested in leading a Lunch Table Discussion at the Spring 2014 meeting are asked to submit their proposals to Theresa C. Michnowicz, New Jersey City University, tmichnowicz@njcu.edu, by **February 1, 2014.**

Book Sales at the Meeting

The discounted meeting price for MAA books (35%) also applies to books *not* currently on display. When you order books at the meeting, there are no shipping costs. We will also again offer "buy one, get one free": if you order a book at this meeting, you can also take one book from the "free" group of books.

Future Meetings

MAA-NJ. The Spring 2014 MAA-NJ Section meeting will be held at Rowan University, Saturday, April 5, 2014. Speakers will be Rick Cleary, Babson College; Frank Morgan, Williams College; and Laura Taalman, James Madison University.

Future National MAA Meetings

The 2014 Joint Mathematics Meeting will be in Baltimore, MD on January 15 – 18. The 2015 Joint Mathematics Meeting will be in San Antonio, TX on January 10 – 13.

MathFest

The Mathematical Association of America will hold its annual MathFest in Portland, Oregon from August 7 to August 9, 2014. For further information, go to

http://www.maa.org/mathfest/. The 2015 MathFest will be in Washington, DC from August 5 to August 8, 2015.

Call for papers at the spring 2014 meeting of the New Jersey Association of Mathematics Teacher Educators (NJAMTE). If you are doing research, or something innovative, in the education of pre-service or in-service mathematics teachers (at any level, K-12) that you would like to share, you are invited to submit an abstract for a presentation (15 minute presentation/ 15 minute discussion) at NJAMTE's annual meeting on May 22, 2014 at The College of New Jersey. For details about the submission process, contact the President, Bonnie Gold, at bgold@monmouth.edu. The deadline for submissions is February 15, 2014.

Governor's Report

The Board of Governors' meeting this summer was much quieter than the last two that I attended. We elected a couple of governors-at-large and new chairs of the Councils on Prizes and Awards and Meetings and Professional Development, approved assorted prizes and awards and several guidelines for awards as well as the editorial boards for two of our journals. We approved revised by-laws for the Oklahoma-Arkansas section.

There was a discussion of membership issues; one of the concerns is that relatively few younger faculty, including Project NExT fellows, are MAA members. We need to find a way to get younger faculty to understand that teaching mathematics is what they do, and because of this, being a member of the organization devoted to teaching undergraduate mathematics should be part of their professional life. And we need to get young faculty, as they move from their first few years of teaching to tenure, to start participating more in the MAA. Discussion at lunch focused on these issues.

Make the most of your membership in the MAA: volunteer to serve on a committee. You'll get to know others who share your interests and learn what is happening around the country!

Items of interest from the various reports that were given:

The theme for Math Awareness Month 2014 will be “Mathematics, Magic and Mystery,” based on a proposal developed by Paul Zorn and Colm Mulcahey. The MAA had primary responsibility for the choice this year. Bruce and Eve Torrence have agreed to coordinate our effort, along with Colm. The theme is explicitly linked to the centennial of Martin Gardner’s birth, and there are lots of potential partners/collaborations possible.

The Conference Board on the Mathematical Sciences met on May 3. The 2010 CBMS Survey is now out and is available at cbmsweb.org.

The MAA has an NSF grant, MAA Regional Undergraduate Mathematics Conferences, to provide undergraduate students the opportunity to present mathematical results and to better expand their knowledge of the wide range of theory, history, and applications of the mathematical sciences. Approximately 280 conferences have been funded over the past nine years. They expect to have sufficient remaining funds to fund conferences through spring 2015. Please visit the project web site www.maa.org/rumc for additional information.

Two members of the New Jersey section were invited speakers at MathFest: Pat Kenschaft, retired from Montclair State University, gave the AWM – MAA Etta Z. Falconer Lecture, “Improving Equity and Education: Why and How,” and Karen Ivy, of New Jersey City University, gave the NAM David Blackwell Lecture, “Bridging A Gap between Creative Literacy and Quantitative Literacy: Using Poetry to Improve Quantitative Reasoning.”

Respectfully submitted,
Bonnie Gold, Governor for the New Jersey section

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Book Sale Coordinators	Dirck Uptegrove, Alcatel-Lucent; Elizabeth Uptegrove, Felician College; Paul von Dohlen, William Paterson University
Door Prize Coordinator	Sarita Nemani, Georgian Court University
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Project NJ-NExT Director	Kaaren Finberg, Ocean County College
Webmaster	Paul von Dohlen, William Paterson University

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Awards Committee: Siham Alfred, Raritan Valley Community College; Larry D'Antonio (chair), Ramapo College; Elizabeth Uptegrove, Felician College; Dexter Whittinghill, Rowan University.

Nominating Committee: Mark Korlie (chair), Montclair State University; David Marshall, Monmouth University; Sarita Nemani, Georgian Court University; Tatyana Stepanova, Raritan Valley Community College.

Teaching Award Committee: Carol Avelsgaard, Middlesex County College; Bruce Bukiet, NJIT; Bonnie Gold (chair), Monmouth University; Tom Osler, Rowan University; Robert Wilson, Rutgers University.

Selection Committee for Contributed Papers: Yi Ding, New Jersey City University; Olcay Ilicasu (chair), Rowan University; Theresa Michnowicz (ex-officio), New Jersey City University; Kathy Turrisi, Centenary College; Chengwen Wang, Essex County College.

Hosting Committee: Amy Cohen, Matt Sequin, Michael Weingart, Robert Wilson, Rutgers University.

GSUMC Organizing Committee

Karen Clark, The College of New Jersey; Olcay Ilicasu (co-director), Rowan University; Katarzyna Kowal, Ramapo College; Aihua Li (co-director), Montclair State University; Ken McMurdy, Ramapo College; Tatyana Stepanova, Raritan Valley Community College; David Trubatch (co-director), Montclair State University; Chengwen Wang, Essex County College, Jonathan Weisbord, Burlington County College; Mamta Vyas, Essex County College.

The Garden State Undergraduate Mathematics Conference (GSUMC) Celebrated its Tenth Anniversary

The tenth GSUMC was held at Felician College Lodi Campus on April 13, 2013. About 140 undergraduate students participated in the conference. The New Jersey Undergraduate Mathematics Competition attracted 27 teams of 81 students from 15 schools throughout New Jersey and Pennsylvania. The top five teams were: (1) Rutgers University, (2) Ramapo College of New Jersey, (3) University of Scranton, (4) The College of New Jersey – 1, and (5) The College of New Jersey – 2.

Seventeen students presented fifteen posters in the undergraduate poster competition session. Three posters were rated Outstanding and three were rated Excellent. Outstanding posters were by William Burke, Montclair State University (advisor: Aihua Li); Kayla Coleman, The College of New Jersey (advisor: John David); and Ryan McDermott, Rutgers University (advisor: Robert Wilson) Excellent posters were by Daniel Brownridge and Brenda Lobb, Monmouth University (advisor: David Marshall); Matthew Shoppas, Burlington County College (advisor: Jonathan Weisbrod); and Siobhan Soltau and Jillian Varner, Montclair State University (advisor: Ashwin Vaidya). A special event for this GSUMC was the tenth anniversary celebration banquet.

Regional Faculty Workshop on REU-Math Issues

Funded by NSA grant H98230-12-1-0303, a Regional Faculty Workshop on REU Issues was held on May 4, 2013 at the Holiday Inn, Totowa, New Jersey. The lead organizer was Dr. Aihua Li of Montclair State University. Other co-organizers were Dr. Thomas Hagedorn of the College of New Jersey and Dr. Olcay Ilicasu of Rowan University. The workshop included two keynote presentations and two panel discussions.

Dinner Honoring the Invited Speakers

The Section will honor the invited speakers at dinner at the Pithari Taverna in Highland Park following the meeting. Everyone is cordially invited.

Acknowledgments

The New Jersey Section thanks Larry D'Antonio of Ramapo College for serving as chair of the Awards Committee, Mark Korlie of Montclair State University for serving as chair of the Nominating Committee, and Olcay Ilicasu of Rowan University for serving as chair of the Selection Committee for Contributed Papers.

The New Jersey Section thanks the Mathematics Department of Rutgers University for their kind hospitality in hosting the meeting. They also thank Princeton University Press for donations for the silent auction and door prizes.

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