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# ***M e t r o M a t h***

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News letter

**Metropolitan New York Section of  
The Mathematical Association of America**

February 2004



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**Bronx**

**Brooklyn**

**Columbia**

**Dutchess**

**Greene**

**Manhattan**

**Nassau**

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**Putnam**

**Queens**

**Richmond**

**Rockland**

**Suffolk**

**Sullivan**

**Ulster**

**Westchester**

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## **ANNUAL MEETING**

**Sunday, 2 May 2004**

**9:00 AM – 5:00 PM**

**Nassau Community College (SUNY)**

**Garden City, New York**

*(Inquire Within for More Information)*

## SECTION OFFICERS

|  |   |   |
|--|---|---|
| Section Governor<br>(2002 – 2005)  | <b>Raymond N. Greenwell</b><br>Hofstra University                   | (516) 463-5573<br>matrng@hofstra.edu        |
| Chair<br>(2003 – 2006)   | <b>Abraham S. Mantell</b><br>Nassau Community College (SUNY)        | (516) 572-8092<br>mantell@ncc.edu           |
| Chair-Elect<br>(2003 – 2006)   | <b>Dan King</b><br>Sarah Lawrence College                           | (914) 395-2424<br>dking@slc.edu             |
| Secretary<br>(2003 – 2006)   | <b>Henry Ricardo</b><br>Medgar Evers College (CUNY)                 | (718) 270-6429<br>henry@mec.cuny.edu        |
| Treasurer<br>(2003 – 2006)   | <b>Dean Nataro</b><br>Nassau Community College (SUNY)               | (516) 572-7203<br>dmcnataro@msn.com         |
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| Vice-Chair for Two-Year Colleges<br>(2003 – 2005)                        | <b>Laurie Delitsky</b><br>Nassau Community College (SUNY)           | (516) 572-7008<br>delitsl@ncc.edu           |
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| Math Fair Chair – Long Island  | <b>Joseph Quartararo</b><br>Northport-East Northport Public Schools | (631) 584-2016<br>cmleague@optonline.net    |
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|  | <b>Daniel Seabold</b><br>Hofstra University                         | (516) 463-5569<br>matdes@hofstra.edu        |
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| Book Exhibit Coordinator   | <b>Henry Ricardo</b><br>Medgar Evers College (CUNY)                 | (718) 270-6429<br>henry@mec.cuny.edu        |
| Liaison Coordinator  | <b>Raymond N. Greenwell</b><br>Hofstra University                   | (516) 463-5573<br>matrng@hofstra.edu        |

**Section Web Page** – [www.maa.org/metrony](http://www.maa.org/metrony)

Contact Ray Greenwell at [matrng@hofstra.edu](mailto:matrng@hofstra.edu) if you wish to add some interesting or useful information to the section web site. The section gratefully thanks Ray for maintaining the site over the past few years!

**National Web Page** – [www.maa.org](http://www.maa.org) (both sites are linked to each other)

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## MESSAGE FROM THE SECTION CHAIR

One of the first things I did when I became chair of our Section, was to seek out a precise description of the aims of the MAA. Naturally, I went to the MAA's web-page ([www.maa.org](http://www.maa.org)) to find an answer. There I found the following concise statement: *The mission of the MAA is "to advance the mathematical sciences, especially at the collegiate level."* However, if we truly want to enhance collegiate mathematics, we must also enhance mathematics at the high school level. This, I feel, is an area where our section has been remiss. Thus, one of my goals as chair is to enhance or *advance* mathematics at the secondary school level. The scheduled panel discussion for our spring meeting, *Lessons Learned from the Math A Regents Crisis*, should be of great interest to high school teachers. I consider this panel to be a first step in addressing the needs of secondary school teachers in our Section. We can do much more, and I look upon you, our members, to assist us! I urge you to give us suggestions as to how we can advance the mathematical sciences, not only at the high school level, but also at the two-year, four-year, and graduate school levels. We are very receptive to input! Please contact me, Sandra Monteferrante (Vice-Chair for Four-Year Colleges), Laurie Delitsky (Vice-Chair for Two-Year Colleges), Ann Davidian (Vice-Chair for High Schools), Dan King (Chair-Elect), or Ray Greenwell (Governor) to discuss any ideas you have which will *advance mathematics* in our Section. Now, on to our meeting...

I am delighted that our annual meeting, the first during my term as section chair, will be held at my home institution – Nassau Community College. Although, I'd be delighted no matter where the meeting was held, given the schedule we have in place! First, we have secured the esteemed MAA Pólya Lecturer David M. Bressoud, of Macalester College, as our morning featured speaker. Dr. Bressoud will speak about *Alternating Sign Matrices*,\* and has volunteered to hold a special session to disseminate the latest revisions and discuss the *Committee on the Undergraduate Program in Mathematics (CUPM) New Curriculum Guide 2004*. David is chair of the CUPM. Our afternoon featured speaker is Jennifer J. Quinn, of Occidental College, who is a popular favorite at national meetings. Dr. Quinn's presentation bears the same title as her book, *Proofs That Really Count*.\* Jennifer will also be coordinating the game *The Number Years*, where *anyone* can play and vie for prizes! Our panel discussion this year, as already mentioned, is *Lessons Learned from the Math A Regents Crisis* (remember last year's *Math A Regents* exam??!!). We are fortunate to have as panelists Dr. Alan Tucker, of SUNY – Stony Brook, and Daniel Jaye, of Stuyvesant High School, both of whom have been serving as consultants to the New York State Education Department (NYSED). Of course, we will have our usual *Contributed Paper Session*, consisting of a series of brief presentations by researchers, educators, and students (see page 7 for the particulars on submitting an abstract).

I am very much looking forward to our May meeting, both as chair of the section and as an attendee! I am also hopeful of seeing many new faces as well as familiar ones!

Abe Mantell

\* See page 10 for a more detailed description.

## MESSAGE FROM THE SECTION CHAIR-ELECT

As I write this message, my first to the Section's members as chair-elect, I am in Phoenix attending the Joint Meeting of the MAA and AMS. From Metro New York Section members just arriving at the meeting I hear reports of arctic temperatures back home. "It's nice to be here!" I say referring to the near perfect, sunny 75 degree weather that is forecast here for the entire week. But my association with the MAA has brought me considerably more benefit than just an escape from bitter winter weather back home.

I moved into the NYC region and accepted a junior faculty position at Sarah Lawrence College, located in lower Westchester County, in 1997. A small school with only 800 undergraduates and one of the country's lowest student-faculty ratios, Sarah Lawrence prides itself on personalized education. I quickly found myself surrounded by talented, energetic colleagues committed to education at the undergraduate level. Only one problem: a small student body means a small faculty and the combined mathematics and computer science faculty at SLC numbers only 3.5 FTE...including myself. Adoring my new colleagues, I nevertheless started to feel somewhat isolated from the region's larger mathematical community. Although the internet allows us to correspond more easily than ever with research collaborators, former colleagues, and old graduate school friends in distant locations, there is no substitute for face to face discussions with people sharing common interests and passions. I started to seek ways of meeting and communicating with mathematicians at nearby institutions.

Then I stumbled upon the Metro NY Section's website one day while browsing through the national MAA's webpages. There I read that a new director of the Section's Mathematical Speakers Bureau was being sought and I found the opportunity I was seeking. I have benefited tremendously in my association with the Bureau, but perhaps I have appreciated most the opportunity to meet and discuss mathematics with colleagues at a wide number of local institutions, academic and otherwise. The Bureau also put me in touch with the officers of the Metro NY Section who warmly welcomed me and encouraged me to get further involved in Section activities. After spending three years as Section secretary, I now find myself preparing for my future position as Section chair.

Know that the Metro New York Section is always seeking new individuals to help plan and execute its various programs and projects. Individuals with innovative ideas on how our organization can better serve the region's mathematical community are particularly sought. Like me, if you feel you might benefit from an association with dedicated mathematicians throughout the metro region, then by all means join us! There are many ways an individual can get involved. Volunteering to be your department's liaison, a speaker in the Mathematics Speakers Bureau, or a judge in one of the Section's co-sponsored Math Fairs is an excellent way to get connected to our organization. Each Fall the Section holds its Delegates Assembly, our annual organizational meeting, at which the Section maps out its activities for the entire academic year. Committed individuals are always needed to serve on Section subcommittees. Attending the Delegates Assembly is another excellent means by which to get involved with the Section.

If you are interested in joining us in our commitment to providing outstanding programming for the region's mathematical community, I encourage you to contact me or one of the other Section officers. Our e-mail addresses (and much additional information) can be found at the Section's website located at [www.maa.org/metrony](http://www.maa.org/metrony). We can't offer warm weather, but involvement with the Section can offer much personal and professional gratification.

Dan King

## MESSAGE FROM THE SECTION GOVERNOR

Several years ago, when I served this section as chair, I wrote in my annual message that my main qualification for chair was that I owned a pit bull. I now own two pit bulls, which I suppose is why I am now qualified to be governor. My dogs are very friendly but tenacious, two qualities that would make either of them a better governor than me.

To illustrate the importance of these qualities, let me tell you about something that happened at the annual MAA meeting in Baltimore in January 2003. As I stepped into an elevator, I recognized an MAA official whom I had seen earlier in the week at the governor's meeting. (He may want me to preserve his anonymity here.) I wasn't sure he knew me, so I introduced myself. He replied, "Yes, I know you from the governor's meeting. You were the one who asked a lot of questions, although you didn't seem to be getting many answers. But those were good questions you asked, so keep it up!"

So what kind of questions do I ask that give me such a reputation? I'm glad you asked! One question I've asked at each of the three governor's meetings I've attended so far is when can we have descriptions of each of the 130 or so MAA committees. You can see the list of committees at [www.maa.org/Aboutmaa/commlist.html](http://www.maa.org/Aboutmaa/commlist.html), but nowhere will you find the purpose of each committee. One of the governor's jobs is to get people from his or her section onto MAA committees, which is complicated when it's not clear what the committees do.

So, you may ask, why is the MAA taking so long to get this task done? (You ask such good questions! Would you like to be governor?) I think it's because so much of the MAA's work is done by professors who already have more than enough to do. In fact, it's amazing how much the MAA accomplishes with such a small, but very dedicated staff. Consider these facts: the AMS has one staff for every 180 members; SIAM has one staff for every 148 members; MAA has one staff for every 930 members! (*Focus*, Jan. 2003, p. 8) While some other organizations rely on their staff to accomplish much of their work, the MAA relies on its members. So when you (or I) ask why the MAA doesn't do this or that, we might turn the question around and ask how you (or I) as part of the MAA can do that job.

The good news is that with one-fifth of the AMS staff per member, your MAA dues are just one-fifth of the AMS dues. What's that? You say they're not, and you want to know why not? Stop asking such pesky questions!

One recent accomplishment of the MAA was the introduction of electronic voting in the last election, resulting in a 22% increase in the number of ballots, with 2462 paper ballots and 1135 web ballots cast. That still means that many of you didn't vote. So in the next MAA election, be sure to vote for candidates with the qualities you want, such as owning lots of pit bulls.

Raymond N. Greenwell

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### TREASURER'S REPORT

(as of 1/15/04)

|                       |             |
|-----------------------|-------------|
| Business Checking     | \$16,241.59 |
| Business Money Market | \$ 8,768.83 |
| 6-Month Business CD   | \$28,427.36 |
| Total                 | \$53,437.78 |

All accounts are with J.P. Morgan Chase Bank. Further details will be provided at the annual meeting.

Dean Nataro

## 2004 SPRING MEETING PROGRAM

(Preliminary)

|       |   |          |   |
|-------|---|----------|---|
| 8:30  | – | 9:20 AM  | Registration, Refreshments, Book Exhibits   |
| 9:20  | – | 9:40 AM  | Welcoming Remarks   |
| 9:40  | – | 10:30 AM | Presentation: <i>Alternating Sign Matrices</i> <sup>1</sup><br>by David M. Bressoud, Macalester College   |
| 10:30 | – | 10:50 AM | Break   |
| 10:50 | – | 12:20 PM | Panel: <i>Lessons Learned From the Math A Regents Crisis</i><br>Panelists: Alan Tucker, SUNY – Stony Brook & NYSED Consultant<br>Daniel Jaye, Stuyvesant High School & NYSED Consultant       |
| 10:50 | – | 12:20 PM | Session: <i>Committee on the Undergraduate Program in Mathematics (CUPM)</i><br><i>New Curriculum Guide 2004</i> <sup>3</sup><br>by David M. Bressoud, Macalester College & Chair of the CUPM |
| 12:20 | – | 1:25 PM  | Lunch (with time to visit exhibits)   |
| 1:30  | – | 2:00 PM  | Business Meeting  |
| 2:10  | – | 3:00 PM  | Presentation: <i>Proofs That Really Count</i> <sup>2</sup><br>by Jennifer J. Quinn, Occidental College  |
| 3:10  | – | 4:40 PM  | Activity: <i>The Number Years</i> <sup>4</sup><br>Jennifer J. Quinn, Occidental College   |
| 3:10  | – | 5:00 PM  | Contributed Paper Sessions (see final program)  |

<sup>1</sup> See page 10 for Abstract and brief Bio of David Bressoud

<sup>2</sup> See page 10 for Abstract and brief Bio of Jennifer Quinn

<sup>3</sup> More information about CUPM can be found at <http://www.maa.org/cupm/welcome.html>

<sup>4</sup> See page 10 a brief description of *The Number Years*

### Call For Abstracts: General Contributed Paper Sessions

The Metropolitan New York Section of the MAA is soliciting abstracts for the Contributed Paper Sessions of its 2004 Spring Meeting to be held on Sunday, May 2 at Nassau Community College. All interested professionals and students are encouraged to submit an abstract. Once again this year the Contributed Paper Sessions will feature presentations on mathematical research as well as mathematics education.

As always, high school and college students are especially encouraged to submit an abstract discussing their experience with mathematical research. To further encourage student participation at the Spring Meeting, the Metropolitan New York Section is pleased to waive the meeting registration fee and lunch fee and to provide a gratis 2004 MAA membership (including a journal subscription) for all student presenters! Teachers, please encourage your students to present a talk!

Presentations will be of fifteen minutes in duration followed by a five minute question and answer period. All presenters will be recognized in the final program of the Spring Meeting.

In addition to the abstract (not to exceed 300 words), all proposals should include the name of the author(s) and presenter(s), postal address, email address, phone number, and title of the proposed presentation. Please indicate any special equipment needs. High school and college student presenters should also submit the name and telephone number of their mathematics teacher or advisor.

Please submit proposals electronically to [dking@slc.edu](mailto:dking@slc.edu) by Friday, April 2 for full consideration. All abstracts will be examined by a committee of reviewers. The outcome of their deliberations will be announced by mid-April.

For additional information regarding the Contributed Paper Sessions of the 2004 Spring Meeting, please contact Dan King ([dking@slc.edu](mailto:dking@slc.edu)).

**Directions to:**

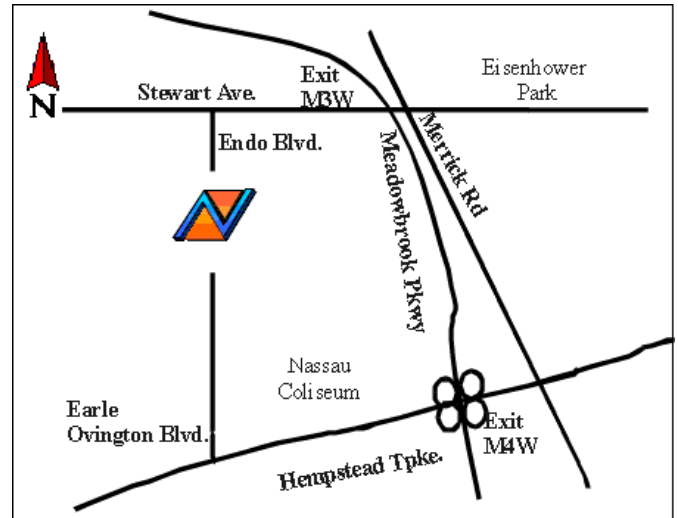
**Nassau Community College**  
 The College Center Building (CCB)  
 Garden City, NY 11530

**LONG ISLAND EXPRESSWAY (495)** – to the Northern State Parkway. Follow the directions for Northern State.

**NORTHERN STATE PARKWAY** – Meadowbrook Parkway South (Exit 31A/Jones Beach). Meadowbrook Parkway to Exit M4-Hempstead/Coliseum. Follow the sign for Charles Lindbergh Boulevard. At the first traffic light turn right which leads into the NCC parking lot. The CCB is next to the Tower (T).

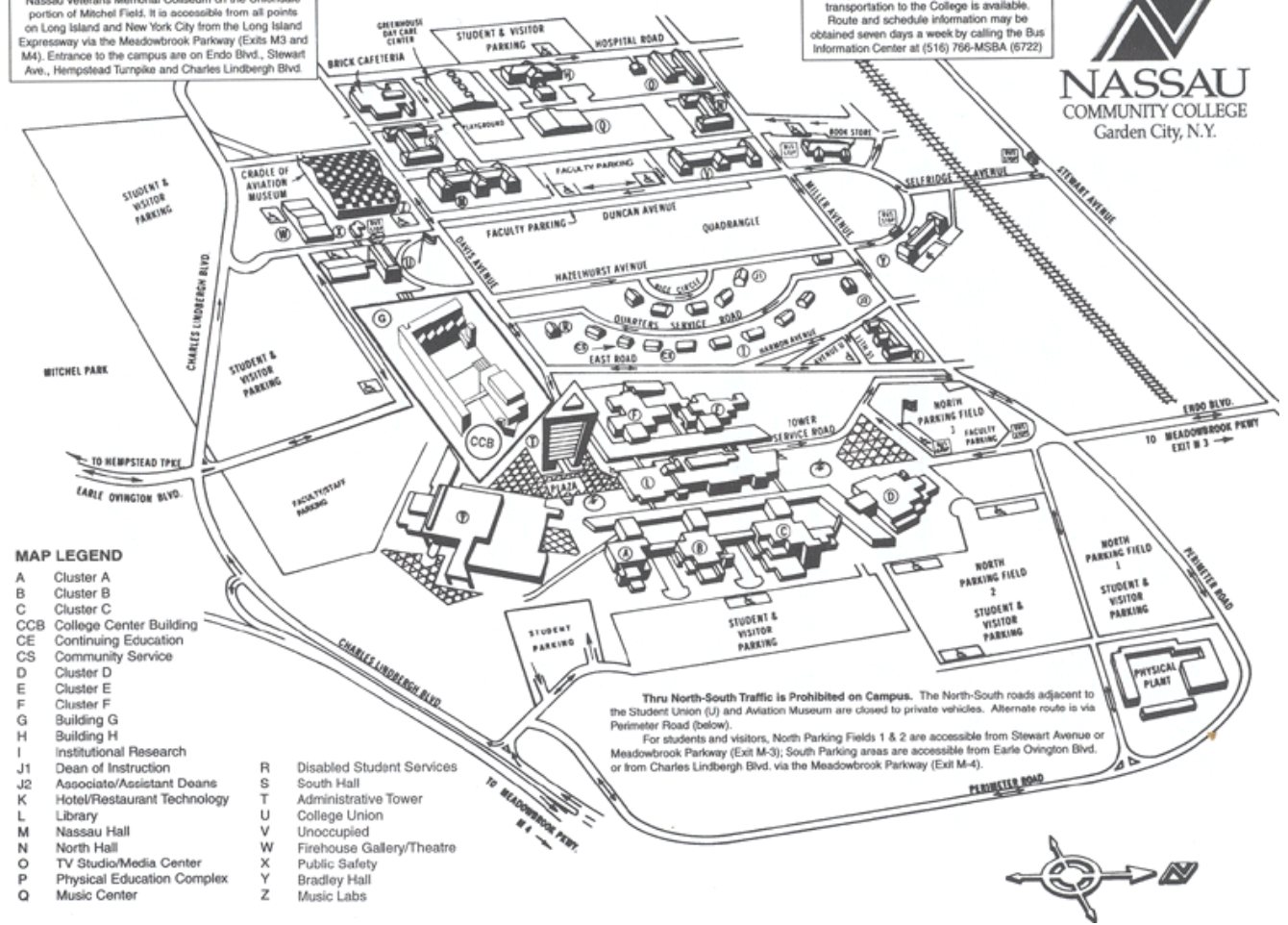
**SOUTHERN STATE PARKWAY** – to Meadowbrook Parkway North to Exit M4 (Hempstead/Coliseum). Follow signs for Coliseum. At first traffic light turn right which leads into the NCC parking lot. The CCB is next to the Tower (T).

**MANHATTAN** – Queens Midtown Tunnel (34<sup>th</sup> Street & 2<sup>nd</sup> Avenue) to Long Island Expressway (L.I.E.) East (495). Take LIE East to Northern State Parkway East. Follow the directions for Northern State.



**DIRECTIONS TO CAMPUS**  
 Nassau Community College is located just north of the Nassau Veterans Memorial Coliseum on the Uniondale portion of Mitchel Field. It is accessible from all points on Long Island and New York City from the Long Island Expressway via the Meadowbrook Parkway (Exits M3 and M4). Entrance to the campus are on Endo Blvd., Stewart Ave., Hempstead Turnpike and Charles Lindbergh Blvd.

**BUS INFORMATION**  
 Metropolitan Suburban Bus Authority public transportation to the College is available. Route and schedule information may be obtained seven days a week by calling the Bus Information Center at (516) 766-MSBA (6722)



- MAP LEGEND**
- A Cluster A
  - B Cluster B
  - C Cluster C
  - CCB College Center Building
  - CE Continuing Education
  - CS Community Service
  - D Cluster D
  - E Cluster E
  - F Cluster F
  - G Building G
  - H Building H
  - I Institutional Research
  - J1 Dean of Instruction
  - J2 Associate/Assistant Deans
  - K Hotel/Restaurant Technology
  - L Library
  - M Nassau Hall
  - N North Hall
  - O TV Studio/Media Center
  - P Physical Education Complex
  - Q Music Center
  - R Disabled Student Services
  - S South Hall
  - T Administrative Tower
  - U College Union
  - V Unoccupied
  - W Firehouse Gallery/Theatre
  - X Public Safety
  - Y Bradley Hall
  - Z Music Labs

**Thru North-South Traffic is Prohibited on Campus.** The North-South roads adjacent to the Student Union (U) and Aviation Museum are closed to private vehicles. Alternate route is via Perimeter Road (below).  
 For students and visitors, North Parking Fields 1 & 2 are accessible from Stewart Avenue or Meadowbrook Parkway (Exit M-3); South Parking areas are accessible from Earle Ovington Blvd. or from Charles Lindbergh Blvd. via the Meadowbrook Parkway (Exit M-4).



## 2004 SECTION MEETING REGISTRATION FORM

First Name: \_\_\_\_\_ M.I.: \_\_\_\_\_ Last Name: \_\_\_\_\_

Badge Name or Nickname: \_\_\_\_\_ Affiliation: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip+4: \_\_\_\_\_ - \_\_\_\_\_

Phone Numbers: Day: \_\_\_\_\_ Eve: \_\_\_\_\_ Fax: \_\_\_\_\_

Internet address: E-mail: \_\_\_\_\_

Web-Page URL: \_\_\_\_\_

→ Special diet: (circle one) Yes / No. Please specify: \_\_\_\_\_

→ Automobile parking (circle one) Yes / No

Registration Fee: On/Before 11 April \$ 5.00 \_\_\_\_\_

After 11 April \$10.00 \_\_\_\_\_

Student Registration \* \$ 3.00 \_\_\_\_\_

Luncheon: Number \_\_\_\_ @ \$15.00 \_\_\_\_\_

TOTAL: \_\_\_\_\_

\* Registration and lunch fee waived for students presenting papers.

1.7724538509055160272981674833411451827975494561223871282138077898529112845910321813749506567385446654162268236242825706662361528657244226025250937096027870684620376986531051228499251730289508262289321

**Copy** this form and make payment with **check** made payable to The MAA. Do not send cash. **Mail** completed form with payment to:

Dean Nataro  
Department of Mathematics  
Nassau Community College  
Garden City, NY 11530-6793

## **Alternating Sign Matrices**

David M. Bressoud, DeWitt Wallace Professor  
Macalester College

This will be an overview of what is known and what is conjectured about Alternating Sign Matrices, a combinatorial structure with ties to partition theory, representation theory, and statistical mechanics. The talk will include an overview of the story of the Alternating Sign Matrix Conjecture, a tale that begins with a Lewis Carroll algorithm for evaluating determinants and ends with Kuperberg's realization that the 6-vertex model of Izergin and Korepin held the key to the solution.

### **Brief Bio of David M. Bressoud**

David Bressoud is DeWitt Wallace Professor of Mathematics at Macalester College in St. Paul, Minnesota. He was a Peace Corps Volunteer in Antigua, West Indies (1971–73), received his PhD (1977) from Temple University where he studied with Emil Grosswald. He taught at Penn State from 1977 to 1994, becoming a full professor in 1986. He has held visiting positions at the Institute for Advanced Study (1979–80), University of Wisconsin (1980–81 & 1982), University of Minnesota (1983 & 1998), and the University of Strasbourg (1984–85). He has received the MAA Distinguished Teaching Award and the MAA's Beckenbach Book Award for *Proofs and Confirmations: The Story of the Alternating Sign Matrix Conjecture* (1999). He has published over fifty research articles in number theory, combinatorics, and special functions, and his other books include *Factorization and Primality Testing* (1989), *Second Year Calculus from Celestial Mechanics to Special Relativity* (1991), *A Radical Approach to Real Analysis* (1994), and, with Stan Wagon, *A Course in Computational Number Theory* (2000). He currently serves as Chair of the College Board's AP Calculus Development Committee and as Director of Macalester's FIPSE and NSF-sponsored program "Quantitative Methods for Public Policy." In January, 2004 he becomes chair of the MAA's Committee on the Undergraduate Program in Mathematics.

## **Proofs that Really Count**

Jennifer J. Quinn, Professor of Mathematics  
Occidental College

Every proof in this talk reduces to a counting problem - typically enumerated in two different ways. Counting leads to beautiful, often elementary, and very concrete proofs. While not necessarily the simplest approach, it offers another method to gain understanding of mathematical truths. To a combinatorialist, this kind of proof is the only right one. I have selected some favorite identities using Fibonacci numbers, binomial coefficients, Stirling numbers, and more. Hopefully when you encounter identities in the future, the first question to pop into your mind will not be "Why is this true?" but "What does this count?"

### **The Number Years (with Jennifer J. Quinn)**

Come match your knowledge of mathematical minutiae against your friends and colleagues. Everyone gets to participate in this numerically oriented game show. So bring your pencils and "Come on down!" Compete for fame and fabulous prizes.

### **Brief Bio of Jennifer J. Quinn**

Jennifer Quinn grew up in Rhode Island. She graduated from Williams College where she studied mathematics, biology, and theatre. In 1993, she received her PhD in Mathematics from the University of Wisconsin, studying combinatorics under Richard Brualdi. Since then she has taught at Occidental College, where she is currently Associate Professor and Chair of the Math Department. In 2001, she received the distinguished teaching award from the Southern California Section of the MAA. Jenny is just beginning a 5-year term as co-editor of Math Horizons magazine. In addition to dozens of papers in combinatorics and graph theory, Jenny has co-authored the MAA book, *Proofs That Really Count*, on which her talk is based.

## FEATURED ARTICLE

### **The MAA in Greece: A Study Tour** by Sandra Monteferrante, Dowling College

On May 23, 2003, 30 mathematicians from 14 states and more than 2 dozen institutions convened in Athens, Greece for an adventure of a lifetime, the first MAA sponsored study tour of the rich mathematical heritage of Greece. Lead by Victor Katz, author of the popular text *A History of Mathematics, an Introduction* with the assistance of Lisa Kolbe of the MAA, who provided spirit, energy and selected poetry readings. This whirlwind journey included 13 nights in 5 hotels. Our own Metro NY Section was represented by: Suzanne Feldberg, Rafael Marino and Rochelle Meyer from NCC, Walter Meyer from Adelphi and yours truly from Dowling College. Some highlights:

ATHENS: Following a first night reception to meet and greet mathematicians from Athens Academy and Universities, we began day 2 with a visit to the Acropolis, Athens' ancient upper city. In ancient times important temples were built on a high flat bluff so as to provide a staging ground for residents to fend off invaders. Entering from the west through the Propylaea, we saw the Ionic temple of Athena Nike, the renowned Parthenon, a temple dedicated to the goddess Athena and the Ionic temple, Erechtheion, on the north boasting six figures of maidens as columns supporting its south porch. We all knew of the Parthenon's connections to the golden ratio but newly learned that the apparent straight lines of the base and columns are actually an optical illusion carefully contrived by the architects! This 5<sup>th</sup> century BC structure withstood natural and man-made assaults for more than a millennium, suffering its worst damage in 1687. That year gunpowder, stored there by the occupying Turks, exploded under a direct hit by a Venetian cannon ball.

We continued to sites in the ancient Agora, or marketplace, below along with ruins of the theaters of Herod Atticus and Dionysios, still in use today. Later we visited the site of the original National Observatory of Athens with its antique telescope, circa 1842, lovingly demonstrated by staff member Nick Patsopoulos.

On day 3, Maria Papathanassiou of the Epigraphic Museum lectured on *Ancient Greek Astronomy*. We visited the site of Plato's Academy, a test of our visionary skills, as the site gave every appearance of a vacant lot. A visit to the Cultural Center of the Foundation of the Hellenic World, as special guests of John Paschalidis, was much more rewarding. Their ambitious interactive children's exhibition, *Hellenic Cosmos*, covering all of Greek mathematics from the 6<sup>th</sup> century BC to the 4<sup>th</sup> century AD is the best I've ever seen. As icing on the cake, they offer a virtual reality program entitled *Eureka! Five Stories of Archimedes*. Vasilis Karasmanis, Director of the Office of European Cultural Center of Delphi talked on the *Mathematics of Plato*. He also proudly demonstrated a replica of the earliest keyboard instrument ever made, 3<sup>rd</sup> century BC in Alexandria, the ancient hydraulis.

The final day in Athens, day 4 began with a reception at the Academy of Athens, a talk on Aristarchus at the University of Athens and lunch with the faculty of the National Technical University of Athens hosted by their department head, N. Kadianakis. Professor of Economics, Stavros Theofanides gave us a charming collection of articles documenting the Hellenic roots of all English words (see *My Big Fat Greek Wedding* at any video rental store). Christine Phili followed with a discussion of *The Development of Mathematics in the 19<sup>th</sup> and 20<sup>th</sup> Centuries in Greece*.

Let it be said here that, despite the abundant, rich and varied planned activities there were ample opportunities for individual culinary explorations at tavernas, a funicular (cable car) ride to the top of Lycavittos Hill as well as bargain hunting expeditions to the Plaka.

DELPHI: Day 5 was filled with surveying the sanctuary of the temple of the god of light, Apollo, believed to be the "navel of the world" by the ancient Greeks beginning around the 8<sup>th</sup> century BC. According to legend, two eagles sent by Zeus from the ends of the earth to find the center, met at Delphi. Pilgrims and emissaries came from all over the ancient world to seek advice from the oracle. The site extends over successive terraces on the lower slopes of Mount Parnassos, in a spectacular location surrounded by soaring crags, the Phaidrades Rocks, commanding a view of the Gulf of Itea.

On day 6 we continued the tour of archeological sites including the temple of Athena Pronaia and then visited the Delphi Museum. This is the home of the famous bronze charioteer, an astonishingly detailed, life sized statue in the Severe Style (475-450 BC). We wound up the day at a charming hillside village, Arachova, for lunch & shopping.

OLYMPIA: Day 7 brought us to the Sanctuary of Olympia in the Peloponnese, with a history dating back to Early Helladic times (3000 BC). This was the original site of the third Wonder of the Ancient World, the golden statue of Zeus. The statue barely fit in the temple but the impression of sheer size is what made the statue so wonderful. The idea that the king of gods is capable of unroofing the temple if he stood up fascinated poets and historians alike. The base of the statue was about 6.5 m (20 ft) wide and 1.0 meter (3 ft) high. The height of the statue itself was 13 m (40 ft), equivalent to a modern 4-story building. Ancient Greeks believed that the Olympian gods inaugurated the games there when Zeus defeated Cronos at wrestling while Apollo beat Ares at boxing and Hermes at running. We ended the day at the amazingly well preserved temple of Apollo Epicurius, designed by Iktinos, one architect of the Parthenon.

NAUPLIA: We visited the 4<sup>th</sup> century BC theater of Epidaurus, considered one of the purest masterpieces of Greek architecture, on day 8 along with the palace of Mycenae, inhabited 1500-1000 BC. There we saw the famous Lion Gate of the Citadel and grave circle, a shaft tomb inside the citadel walls where the gold "mask of Agamemnon" was unearthed.

SAMOS: On day 9 we visited ancient Corinth and the 1893 Corinth Canal, a tidal waterway across the Isthmus of Corinth, on the way to Athens airport for an afternoon flight to Samos. The 4-night stay at Samos Pythagorio, birthplace of Pythagoras, was the most relaxing part of the journey. Michael Lambrou, Professor of Mathematics at the University of Crete presented his thoughts on one Archimedes' legend with a talk entitled *Burning Mirrors* on day 10. It has been alleged that Archimedes burned the entire Roman fleet by focusing the sun's rays into a single beam with mirrors. The story appeared in histories written in the 11<sup>th</sup> century and later but no earlier references are known. Recent reconstructions suggest that the feat was indeed possible.

We later visited the University of the Aegean to enjoy a lively exchange of collegial mathematics teaching experiences with their mathematics faculty. That evening we delighted in a Greek evening at the hilltop village of Vourliotes. There was dining on Greek salad, hors d'oeuvres, rooster in red wine sauce, fresh fruits and wine as well as traditional Greek dancing.

Samos is so close to Turkey that a short ferry ride brought us to the ancient cities of Miletos, home of Thales and Ephesus, the most important Roman city of proconsular Asia. The Temple of Artemis at Ephesus was one of the seven wonders of the ancient world. Built around 550 BC, it was about four times the size of the Parthenon.

Day 11 brought another high point of our tour, a visit to the so-called 8<sup>th</sup> Wonder of the Ancient World, the Tunnel of Eupalinus. This astonishing construction, by hammer and the chisel executed over a 10-year period around 550 BC is 1,036 meters long. It cuts through the mountain at a depth of 180 meters below its summit to provide a protected water supply for the ancient city of Samos. Dr. Hermann Kienast, Chief Archeologist of the tunnel, lectured on the question of just how the tunnel was built. We know they started on both ends and met in the middle but did they use right triangle trigonometry or some less theoretic approach?

We had time to relax at the beautiful beach with crystal clear water at the Doryssa Bay Hotel before flying back to Athens. Our last evening together was spent dining at Geros Tou Moria, a traditional taverna in the Plaka. Dancers in a variety of traditional costumes provided the evening's entertainment.

The MAA plans to continue these study tours in the future at different locations. I can recommend them highly. There was a thoughtful selection of sights, the right mixture of mathematical content, general interest and free time and an immediate camaraderie among tour members resulting from our common academic backgrounds.

## NEWS FROM OUR SECTION

### 8 Perfect Scorers on the AMC 8 from the Metro NY Section

The results of the 19<sup>th</sup> Annual American Mathematics Contest 8 have recently been compiled. There were 158,309 participants from 2,737 schools, with 192 perfect scores. Of the 192 perfect scores, 8 of those came from students in New York – all of whom are from the Metro NY Section:

Batuhan Demirci from Brooklyn Amity School; Joshua Bary, Samson Chen, Gregory Kong, David Lee, and Danny Zhu all from Hunter College High School, Timothy Reynolds from Pleasantville Middle School North Campus, and Krishanu Sankar from Horace Mann Middle School. These students will be honored at our annual meeting, along with the perfect scorers of the AMC 10 and AMC 12 (at the time this newsletter went to print, the results of the AMC 10 and AMC 12 were not available). For more information about the AMC's, visit: [www.unl.edu/amc](http://www.unl.edu/amc).

### Dowling College Receives \$500,000 National Science Foundation Grant

The National Science Foundation (NSF), through the NSF Robert Noyce Scholarship Program, has awarded Dowling College a four-year grant totaling an estimated \$500,000, which will help fund the College's effort to train science and math teachers to teach in the high need districts where they are needed most.

The NSF grant provides \$10,000 per year for 15 junior and senior undergraduate science and math majors in Dowling's teacher training program. In addition, \$10,000 awards are available for 13 "career changers," individuals with undergraduate math, computer science or science degrees who pursue their teacher certification at Dowling on the graduate level. Recipients will obtain New York State teacher certification in one or more areas of math or science and are required to complete two years of teaching in a high need school district for each year of scholarship or stipend.

To be eligible for a Noyce Scholarship, named after Intel founder Robert Noyce, a candidate must be a United States citizen, national, or permanent resident alien and must be majoring or degreed in mathematics or science and pursue their New York State Teacher Certification. To apply for a scholarship, interested candidates should contact Dowling College's Office of Enrollment Services at 631-244-3303. It is estimated that the nation's schools will need to hire 2.2 million teachers, including 240,000 middle and high school mathematics and science teachers in the next decade due to projected enrollment increases, anticipated retirements, and the attrition of new teachers.

This NSF grant follows a \$400,000 appropriation from the U.S. Government provided to Dowling College in April to establish the Center for Minority Teacher Development and Training At Dowling College. The Center will be one of only a few in the nation dedicated exclusively to attracting minority students from disadvantaged circumstances to become teachers.

Release on 10 recipients this year: [www.dowling.edu/news/news.php?eventid=32](http://www.dowling.edu/news/news.php?eventid=32)

Application: [www.dowling.edu/fin\\_aid/NSFapp.pdf](http://www.dowling.edu/fin_aid/NSFapp.pdf)

### 2003 Section Award for Distinguished Service

Congratulations to Raymond N. Greenwell of Hofstra University and Farley Mawyer of York College (CUNY), co-winners of the *2003 Section Award for Distinguished Service*.

Ray Greenwell has served the *Metro NY Section* first by serving as the vice-chair for four-year colleges from 1995-1997, then as chair from 1999-2001, and now as governor (2002-2005). Ray also has been doing a phenomenal job maintaining the Section web-page during the last few years! Thanks Ray!!

Farley Mawyer served as section secretary from 1991-2000. Additionally, Farley has maintained continuous service as a long-time, and active, department liaison for York College. Farley has also been a great help in hosting the annual Delegate Assembly Meetings at York during the last few years. Thanks Farley!!

## **CALL FOR PARTICIPANTS AND INVOLVEMENT**

### **Greater Metropolitan New York Math Fair: Call for Judges**

The 36th Greater Metropolitan New York Math Fair will take place on March 7, 2004 and March 28, 2004 at Pace University in Manhattan. The Math Fair was created to encourage high school students in public, private and parochial schools in the New York Metropolitan Area to pursue a phase of mathematics in which they are interested. This pursuit takes the form of researching a topic and writing a paper on the subject. This paper is presented by the student to a panel of judges who have previously been given copies of the papers. During Round 1 (March 7) the judges decide which contestants advance to Round 2 (March 28). Students not advancing receive a personalized Letter of Achievement. All students advancing to Round 2 receive a medal, either bronze, silver, or gold and a personalized Certificate of Merit. During the second round of judging the panel of judges studying a student paper and listening to the student presentation decides upon the medal that the student should receive.

The Fair could not exist without the judges who volunteer their talents to encourage these young people in the study of mathematics. We would appreciate your judging in this year's Fair, either for Round 1, Round 2 or both. You will note that these sessions are both held on Sunday so as not to conflict with your other professional responsibilities. Judging usually starts between 12:30 and 1:00 P.M. but judges usually arrive between 11 A.M. and noon to discuss the papers with other judges on the same panel. Many judges also like to arrive early in order to socialize with other mathematicians who may be judging. For Round 1 there may be up to 100 Mathematicians judging.

A judge application is available via the section web-page. If you would like to judge in this year's Fair fill in the application and return to Peter Shenkin at the address on the application. Feel free to duplicate the application and give copies to colleagues who might be interested in judging. New judges are always welcome.

Please contact Peter Shenkin for further information. E-mail him at [pshenkin@jjay.cuny.edu](mailto:pshenkin@jjay.cuny.edu) or call him at (212) 237-8742.

### **Long Island Math Fair: Call for Judges**

The Al Kalfus Long Island Math Fair wants you. Treat yourself; let the students lecture. Sit back and listen to papers written and presented by bright and interested high school students from Nassau and Suffolk counties. Judges are needed for the two first rounds and the final round. The Nassau first round will be held on Friday, March 5, 2004 at Hofstra University. The Suffolk first round will be held on Friday, March 12, 2004 at Half Hallow Hills HS. The final round is Friday, April 30, 2004 at Hofstra University. All rounds begin at 3:00 p.m. For more information, call Joseph Quartararo at (631) 584-2016.

### **Go Back to School, Join *The Mathematics Speakers Bureau*!!!**

The community needs you! Do you have a talk which would be suitable for local area students or their faculty? We are seeking out mathematicians interested in sharing their knowledge, enthusiasm, and love of mathematics. Now in its 44<sup>th</sup> year, The Mathematics Speakers Bureau (MSB) is composed of dedicated mathematicians who volunteer to speak to students and faculty of regional middle schools, high schools, colleges and universities on topics reaching beyond the traditional mathematics curriculum.

The primary goals of the MSB are to stimulate the interests of local youth in mathematics, to provide opportunities for students to meet active and enthusiastic mathematicians, to motivate students towards careers in the mathematical sciences, and to encourage cooperation between corporate and academic institutions in the mathematical education of area youth. Volunteers provide information about talks they are willing to give and the Bureau, in turn, advertises these talks to the faculty of local area schools. Schools contact speaker volunteers directly to make specific arrangements for a visit. Volunteers determine the number of presentations they give in any given academic year and always

maintain the right to refuse a school invitation for any reason. The official Bureau webpage, accessible at [www.maa.org/MetroNY](http://www.maa.org/MetroNY), contains an up-to-date listing of available speakers and their proposed talks. Additional information regarding the goals, history and operation of the Bureau can also be found at this site. If you wish to volunteer with the MSB, please contact Bureau Chair Dan King at [dking@slc.edu](mailto:dking@slc.edu).

### **Call For Abstracts: General Contributed Paper Sessions**

The Metropolitan New York Section of the MAA is soliciting abstracts for the Contributed Paper Sessions of its 2004 Spring Meeting to be held on Sunday, May 2 at Nassau Community College. All interested professionals and students are encouraged to submit an abstract. Once again this year the Contributed Paper Sessions will feature presentations on mathematical research as well as mathematics education. See page 7 for the particulars.

### ***MetroMATH* Needs You!!!**

Consider submitting a short announcement, commentary, article, study, experience, or other newsworthy item in the next issue of *MetroMath*. Contact the editor, Abe Mantell, via e-mail: [mantell@ncc.edu](mailto:mantell@ncc.edu)

1.4142135623730950488016887242096980785696718753769480731766797379907324784621070388503875343276415727350138462309122970249248360558507372126441214970999358314132226659275055927557999505011527820605715

## **EVENTS**

### **Greater Metropolitan New York Math Fair 2004**

March 7, Sunday, (Round 1) Pace University in Manhattan  
March 28, Sunday, (Round 2) Pace University in Manhattan  
For more information contact Peter Shenkin at (212) 237-8742 or e-mail at [pshenkin@jjay.cuny.edu](mailto:pshenkin@jjay.cuny.edu) or check the section web-page for more info and the judging request form.

### **Al Kalfus Long Island Math Fair 2004**

March 5, Friday, (Round 1 – Nassau County) Hofstra University  
March 12, Friday, (Round 1 – Suffolk County) Half Hollow Hills HS  
April 30, Friday, (Final Round) Hofstra University  
All rounds begin at 3:00 PM. Grade Levels are 7-12 for math and 10-12 for computers.  
For more information, call Joseph Quartararo at (631) 584-2016.

### **MAA New Jersey Section Spring Meeting**

March 27, 2004, Saturday, Rutgers University, New Brunswick-Busch Campus, NJ  
For more information visit: [www.rowan.edu/mars/depts/math/maa-nj/maa-nj.html](http://www.rowan.edu/mars/depts/math/maa-nj/maa-nj.html)

### **Hudson River Undergraduate Mathematics Conference XI**

April 3, 2004, Saturday, Mount Holyoke College, South Hadley, MA  
For more information visit: [www.skidmore.edu/academics/mcs/hrumc.htm](http://www.skidmore.edu/academics/mcs/hrumc.htm)

### **AMS Eastern Section Spring Meeting**

April 17-18, 2004, Rider University, Lawrenceville, NJ  
For more info visit: [www.ams.org/amsmtgs/2102\\_program.html](http://www.ams.org/amsmtgs/2102_program.html)

(continued on the next page)

**NCTM Annual Meeting**

April 21–24, 2004, Philadelphia, PA  
For more info visit: [www.nctm.org/meetings/philadelphia/index.htm](http://www.nctm.org/meetings/philadelphia/index.htm)

**NYSMATYC Annual Conference**

April 23–25, 2004, Holiday Inn, Kingston, NY  
For more information visit: [www.nysmatyc.org/conf2004](http://www.nysmatyc.org/conf2004)

**MAA Seaway Section Spring Meeting**

April 23–24, 2004, SUNY Cortland, Cortland, NY  
For more information visit: [www.math.binghamton.edu/maa\\_seaway/Meetings/index.html](http://www.math.binghamton.edu/maa_seaway/Meetings/index.html)

**Metropolitan New York Section Meeting**

May 2, 2004, Sunday, Nassau Community College, Garden City, NY  
For more information see this newsletter, or visit: [www.maa.org/metrony](http://www.maa.org/metrony)

**The 10th International Congress on Mathematical Education**

July 4–11, 2004, Copenhagen, Denmark  
For more info visit: [www.icme-10.dk](http://www.icme-10.dk)

**2004 SIAM Annual Meeting**

July 12–16, Oregon Convention Center, Portland, Oregon  
For more info visit: [www.siam.org/meetings/an04/](http://www.siam.org/meetings/an04/)

**MathFest** August 12–14, 2004, Providence, RI

**ICTCM (International Conference on Technology in Collegiate Mathematics)**

October 28–31, 2004, New Orleans, LA  
For more information visit: [www.ictcm.org/](http://www.ictcm.org/)

**AMS Eastern Section Fall Meeting**

November 6–7, 2004, Pittsburgh, PA  
For more information visit: [www.ams.org/amsmtgs/2103\\_program.html](http://www.ams.org/amsmtgs/2103_program.html)

**MAA Seaway Section Fall Meeting**

November 5–6, 2004, Canisius College, Buffalo, NY  
For more information visit: [www.math.binghamton.edu/menger/maa\\_seaway/meetings.html](http://www.math.binghamton.edu/menger/maa_seaway/meetings.html)

**AMATYC Annual Conference**

November 18–21, 2004, Orlando, FL  
For more information visit: [www.amatyc.org/Orlando/AMATYC\\_2004\\_Orlando.html](http://www.amatyc.org/Orlando/AMATYC_2004_Orlando.html)

**MAA/AMS National Joint Meetings**

January 5–8, 2005, Atlanta, GA  
For more information visit: [www.ams.org/amsmtgs/2091\\_intro.html](http://www.ams.org/amsmtgs/2091_intro.html)



## NEWS FROM THE MAA

(some selections found at: <http://www.maa.org/news/news.html>)

### ***Convergence: An Online Magazine Where Mathematics, History, and Teaching Interact***

The MAA has received a grant from the National Science Foundation to begin production of a new online magazine on the history of mathematics and its use in teaching. It will be called *Convergence: An Online Magazine Where Mathematics, History, and Teaching Interact*. The magazine will be part of the MAA's Mathematical Sciences Digital Library (MathDL) and will complement the existing Journal of Online Mathematics and its Applications (JOMA). The target audience is teachers of grades 9–14 mathematics, be they secondary teachers, two- or four-year college teachers, or college teachers preparing secondary teachers. ("Grade 9-14 mathematics" encompasses algebra, synthetic and analytic geometry, trigonometry, probability and statistics, elementary functions, calculus, linear algebra, and differential equations.) The editors of the magazine will be Victor J. Katz, from the University of the District of Columbia, and Frank Swetz, from Penn State University, Harrisburg.

The editors hope that this will be an exciting magazine for the whole mathematics community. The targeted launch date is April 15, 2004.

What will appear in *Convergence*? Here are some of the things we hope to include:

- Expository articles dealing with the history of various topics in mathematics curriculum. These will usually contain interactive components and color graphics, to take advantage of the capabilities of the Web. Articles will frequently be designed to appeal to multiple audiences, with hyperlinks offering more than one path through the material. In addition, we will create a discussion group for each article where readers can share suggestions as to how the material can be used in the classroom and point out strong points and possible pitfalls; authors would also have a chance to respond.
- Translations of original sources. These will generally be accompanied by commentary from experts showing the context of the works. If possible, interactive components will be used to help with the understanding of these materials. The goal of the translations will be to show teachers how ideas were developed in various cultures and how knowledge of this development is useful to teaching the same ideas to today's students.
- Reviews of current and past books, articles, and teaching aids on the history of mathematics of use to teachers, as well as reviews of websites providing information on the history of mathematics.
- Lesson plans. These will be short, fairly complete pieces designed to use history in the teaching of a topic. They will be set up so they can be used immediately by practicing teachers at various levels. Occasionally these will be linked to the topic of an expository article.
- Historical problems. These problems will appear in a section entitled "Problem of the Day," with new problems appearing daily. After publication, the problems will be archived in sections based on the main topic of the problem, such as algebra, geometry, trigonometry, or calculus.
- What Happened Today in History? Each day, there will be a listing of two to four "mathematical events" that happened on that date in history. Many of the items in this section will have links to other websites, so teachers can find out more about the particular person or event.
- Quotation of the day. A new and interesting quotation about mathematics from a historical figure will appear in this section each day.
- An up-to-date guide to what is happening around the world in the history of mathematics and its use in teaching. The magazine will report on past meetings and give notice of future meetings.
- Historical illustrations. Portraits of mathematicians or title pages of old books make wonderful illustrations to liven up a discussion or to post in the classroom.

The editors are actively looking for material and also for referees for this material. Please send ideas for articles, completed manuscripts, or any other items to Victor Katz at [vkatz@udc.edu](mailto:vkatz@udc.edu).

## **MAA Again Extends Free Memberships to New Math Ph.D. Recipients**

The MAA has just given complimentary association memberships to 956 recent Ph.D. and Ed.D. recipients. These complimentary memberships were given to those who received their advanced degrees between December 2002 and August 2003. This is another way in which the MAA encourages the participation of new Ph.D.s and Ed.D.s, which helps keep the Mathematical Association vital and current. After a year, these complimentary memberships can be renewed at a low, graduated promotional dues rate for the subsequent two years.

Readers who received a mathematics Ph.D. or Ed.D. degree during this time period and did not receive their complimentary membership should contact the MAA Service Center by email at [member@maa.org](mailto:member@maa.org) or by phone at 800-331-1622.

## **Project ACCESS – Advancing Community College Careers: Education, Scholarship and Service**

The American Mathematical Association of Two-Year Colleges (AMATYC) and the Mathematical Association of America proudly announce the creation of Project ACCESS, a mentoring and professional development initiative for two-year college faculty, funded through a three-year grant of \$475,000.00 from the Exxon-Mobil Foundation. Project ACCESS will be a program for new or recently hired faculty interested in advancing the teaching and learning of mathematics in two-year colleges. Its goal is to develop faculty who are effective teachers and who engage in a full range of professional activities in the mathematics community.

Two-year colleges provide post-secondary education to students who might otherwise not have that opportunity. First-generation college students, people who want to change careers and future workers in high-tech areas gravitate to TYC's to improve their skills in critical areas, especially mathematics. Many two-year college students transfer to four-year institutions to continue their academic careers. The presence of a strong faculty that is well versed in mathematics and that possesses a variety of effective teaching strategies is key to the preparation of competent workers and informed citizens.

Project ACCESS will support groups of 30 fellows each year. Participants must be two-year college mathematics faculty in the first three years of a full-time, renewable position. Fellows will be selected on the basis of breadth of interests, motivation for participation, plans for implementing project goals, and degree of institutional support.

The goal of Project ACCESS is to develop a cadre of new two-year college mathematics faculty (Project ACCESS Fellows) who are effective members of their profession. The objectives of this program are for participants to:

- gain knowledge of the culture and mission of the two-year college and its students,
- acquire familiarity with the scholarship of teaching,
- commit to continued growth in mathematics, and
- participate in professional communities.

Fellows will attend two consecutive AMATYC Conferences, where they will participate in pre-conference workshops as well as regular conference activities. In the intervening year, Fellows will attend an MAA Section meeting near their home institution where they will participate in both regular and specially designed activities. For the duration of the project, an electronic network will link Project ACCESS Fellows with each other and with a group of distinguished mathematics educators. The development, implementation, and evaluation of an individual project will play a key role in each Fellow's professional development experience.

The directors of Project ACCESS are Sadie Bragg (Borough of Manhattan Community College), Mary Robinson (University of New Mexico, Valencia Campus) for AMATYC, Sharon Ross (Georgia Perimeter College, emerita), and Janet Ray (Seattle Central Community College) for MAA.

Application materials will be available spring 2004. More information about Project ACCESS can be found at <http://www.maa.org/ProjectACCESS>.

### ***Incompleteness — the Theorem Becomes a Play***

Apostolos Doxiadis, author of the novel *Uncle Petros and Goldbach's Conjecture*, has recently released a play called *Incompleteness: A Play and a Theorem*. The play was first seen in a "workshop production" in Athens last summer. Doxiadis hopes that the play will be produced in the United States in the near future.

Doxiadis' play centers on the last days of Kurt Gödel, when the great logician was dying of malnutrition as a consequence of a serious mental illness. Building on what is known about Gödel's life during this period, Doxiadis constructs his story, which pits Gödel's logical approach to everything against the point of view of his fictional hospital dietician.

The workshop production was directed by Tony Stevens, designed by Maria Pesmatzoglou and lit by Andreas Bellis. The actors were Judy Boyle, Jonathan Kemp, Alexandra Pavlidou, and Ian Robertson. The play was well received by the Greek and international press. Vivienne Nilan, writing in the *Herald Tribune*, described the play as "moving but not pessimistic. Loss leads to illumination and the beginning of hope for another character." Tefchros Michailidis, writing in *Ta Nea*, describes the play as a "splendid experience."

Gregory Chaitin of the IBM Thomas J. Watson Research Center is one of the few American mathematicians to have seen the play. "In *Incompleteness: A Play and A Theorem*," he says, "Apostolos Doxiadis has achieved the impossible. This moving and deeply human play manages to bring Gödel back to life and simultaneously tell us why so many mathematicians, philosophers and post-modern artists are fascinated and obsessed by Gödel and his infamous 'incompleteness theorem'. Even though it's about a famous mathematician, the play is an entertaining, life-affirming intellectual treat."

*Uncle Petros and Goldbach's Conjecture* was one of the first of the recent group of novels dealing with mathematics and mathematicians. In his MAA Online review, Keith Devlin said that "not only does [Doxiadis] get the math bits correct, he can write fiction as well." (See <http://www.maa.org/reviews/petros.html> for the full review.)

Apostolos Doxiadis was born in Brisbane, Australia but grew up and lives in Greece. He has always been interested in fiction and the arts, but a "sudden love affair with mathematics," he said, led him to do graduate work in mathematics. In the 1980s, he turned back to his first love, working in film, theatre, and literature. *Uncle Petros*, written and published in Greek then translated to English by the author, was his breakout work. For more information about Doxiadis and his play, visit his home page at <http://www.apostolosdoxiadis.com>.

### **University Leaders Hear Mixed Messages**

A recent study argues that a careful examination of state high school exams shows that they "bear an inconsistent relationship to the knowledge and skills necessary for college success." The report, entitled *Mixed Messages: What State High School Tests Communicate about Student Readiness for College*, was produced by Standards for Success (S4S; see <http://www.s4s.org>), a three-year project of the Association of American Universities in partnership with The Pew Charitable Trusts. The goals of the project are to identify what students need to know and be able to do in order to succeed in entry-level university courses, to provide information on state high school assessments, and to work

towards bringing these two into closer alignment. The study concluded that all 31 mathematics tests (from 20 different states) were “inconsistently aligned” with the standards developed by S4S as indicators of success at the college and university level. For more information, see <http://cepr.uoregon.edu/MixedMessages/index.asp>.

Sources: The shape of space: *Nature*, *The New York Times*. Longitudinal Studies: NASSMC Briefing Service, NCEA website. Mixed Messages: NASSMC Briefing Service, *Chronicle of Higher Education*, S4S website.

### **New NSF Program Supports Undergraduate Math/Bio Training**

The Directorate for Biological Sciences (BIO), the Directorate for Education and Human Resources (EHR), and the Division of Mathematical Sciences (DMS) in the Directorate for Mathematics and Physical Sciences (MPS) at the National Science Foundation (NSF) are making available opportunities for the scientific community to enhance interdisciplinary education and training for undergraduates at the intersection of the biological and mathematical sciences. The goal is to stimulate development of a future workforce, including teachers and researchers, that are prepared to work in the increasingly many areas where these two disciplines connect. Proposals for this year's cycle are due by June 2. For further details, see the Dear Colleague letter, nsf03037, linked through the New Documents page <http://www.nsf.gov/pubsys/newdoc.cfm>.

### **NIH Promotes a More Mathematical Biology**

A recent article in *The Washington Fax*, a news and information service specializing in science policy (see <http://www.washingtonfax.com>), described a new project of the National Institute of General Medical Sciences (NIGMS), a component of the National Institutes of Health (NIH), with the goal of changing the culture of undergraduate biology by incorporating more mathematics and physics in the biology curriculum. The NIGMS proposes to sponsor, together with the Office of Science Education, workshops on how to integrate quantitative biology into undergraduate biology courses. The overall budget for the effort is planned to be at least \$900,000. The plan is a response to a National Research Council report, *Bio 2010* (<http://www.nap.edu/catalog/10497.html>), which recommended that colleges and universities review their biology curricula to keep pace with current developments in the field. (For more about NIGMS programs, visit <http://www.nigms.nih.gov>.) A current MAA project, supported by both NIGMS and the Division of Undergraduate Education at NSF, aims to support the broad goals of this initiative by compiling examples of existing efforts towards enhanced undergraduate education that reduces barriers to interdisciplinary work. *Meeting the Challenges: Education Across the Biological, Mathematical and Computer Sciences* (<http://www.maa.org/mtc>), will also provide examples of research and industry activities that support the need to increase the number of interdisciplinary programs and produce a survey of the current status of such activities.

### **RAND Report Released**

The RAND Corporation has released a report entitled *Mathematical Proficiency for All Students*. Prepared by a panel of mathematicians and mathematics educators chaired by Deborah L. Ball, the report concludes that the many attempts to create the conditions for all students to attain a reasonable level of mathematical proficiency suffer from an inadequate empirical research base. It, therefore, proposes a wide-ranging research program in mathematics education aimed at figuring out what actually will help attain the goal of proficiency for all. The report can be ordered in book form or viewed online at <http://www.rand.org/publications/MR/MR1643/>.

## **National Medal of Science Awarded to James Glimm of SUNY – Stony Brook**

Eight distinguished scientists, including one MAA member, received the 2002 National Medal of Science at a ceremony held at the White House on November 6. President Bush announced the honorees on October 22 and awarded the medals personally. Among the 8 winners is MAA member James G. Glimm, chair of the Applied Mathematics Department at SUNY Stony Brook. Professor Glimm is recognized for his work in quantum field theory and statistical mechanics, which has influenced mathematical physics and probability. His significant contributions to shock-wave theory were specifically mentioned as a reason for the award. Glimm is also a member of the AMS and SIAM. A video of the award ceremony is located at: [www.ams.sunysb.edu/~deng/ProfGlimm.WMV](http://www.ams.sunysb.edu/~deng/ProfGlimm.WMV)

Also among the honorees is Edward Witten of the Institute for Advanced Study at Princeton, NJ. Witten, a theoretical physicist, was one of the creators of string theory. His deep insight into physics and the mathematics used to describe physical situations has led to significant developments in mathematics itself. Witten is a member of the American Mathematical Society. The other recipients of the National Medals of Science were James E. Darnell, Jr. of Rockefeller University (Biology), Evelyn M. Witkin of Rutgers University (Biology), John I. Brauman of Stanford University (Chemistry), Leo L. Beranek of BBN Technologies (Engineering), Richard L. Garwin of Council on Foreign Relations (Physical Sciences, Policy), and W. Jason Morgan of Princeton University (Geophysics).

For more about the award and the winners, visit <http://www.nsf.gov/od/lpa/news/03/pr03121.htm>.

## **Alder Awards Will Recognize Talented Beginning Teachers**

Nominations for the first Alder Awards should be sent to Martha Siegel at Mathematics Department, Towson University, 8000 York Road, Stephens Hall #302, Towson, MD 21252-0001 by December 15, 2003. Contact Linda Sons, chair of the Alder Awards Committee, with any other questions. Sons can be reached at Department of Mathematical Sciences, Northern Illinois University, DeKalb, IL 60115, by phone at 815-753-6760, or by email at [sons@math.niu.edu](mailto:sons@math.niu.edu). For more info, visit: [www.maa.org/awards/alder\\_award.html](http://www.maa.org/awards/alder_award.html)

Before his recent death, Henry Alder endowed a new MAA teaching award, to be known as the Henry Alder Award for Distinguished Teaching by Beginning College or University Mathematics Faculty. The awards "are to be made to college or university faculty who have taught full time in a mathematical science in the United States or Canada for at least two but not more than seven years since receiving their Ph.D. and whose teaching has been extraordinarily successful. Their effectiveness in teaching undergraduate mathematics must be documented and shown to have influence beyond their own classroom." The awards will be given every year at one of the national meetings of the Association.

## **Nominations Sought for 2004 Gung-Hu Award**

Nominations are now being accepted for the 2004 Yueh-Gin Gung and Dr. Charles Y. Hu Award for Distinguished Service to Mathematics, the most prestigious award given by the Association. It is to be made for service to mathematics that has been widely recognized as extraordinarily successful. The period of service may be long or short, and the award may be made on the basis of one or several activities. The contribution should be such as to influence the field of mathematics or mathematics education in a significant and positive way on a national scale. Nominations should be sent to Robert Megginson, Deputy Director, Mathematical Sciences Research Institute, 17 Gauss Way, Berkeley CA 94720-5070, or via email [meggin@msri.org](mailto:meggin@msri.org), to arrive no later than April 1.

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\* *MetroMath* accepts advertising at \$50 for a half-page ad and \$100 for a full-page.

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***Committee on the Undergraduate Program in Mathematics (CUPM)***  
***New Curriculum Guide 2004***

by David M. Bressoud, Macalester College & Chair of the CUPM

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**Nassau Community College**

**Sunday, 2 May 2004**

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