

**PROJECT NEXt**  
**NEW EXPERIENCES IN TEACHING**  
**2003-2004 FELLOWS, PROVIDENCE, RI**

A program of  
**THE MATHEMATICAL ASSOCIATION OF AMERICA**

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**THE ASSOCIATION OF MATHEMATICS TEACHER EDUCATORS**  
**THE GREATER MAA FUND**

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**2003-2004 Project NExT Fellows  
Providence Program, August 2004**

The Project NExT registration area is in the lobby of Barus & Holley on the Brown University campus. All sessions, unless otherwise noted, are in Barus & Holley (B&H).

**TUESDAY, AUGUST 10**

**8:00 – 10:00 p.m.** Social Event for all Project NExT Fellows and invited guests  
**Vartan Gregorian Quadrangle**

**WEDNESDAY, AUGUST 11**

**7:00 – 8:00 a.m.** BREAKFAST  
**B&H Lobby**

**8:15 – 9:30 a.m.** TWO concurrent sessions

**A. *Advising students about careers in industry***

**B&H 158**

Panelists: Dan Callon, Franklin College  
Kevin Hutson, Denison University  
Richard Little, Baldwin-Wallace College  
Stephen Shauger, National Security Agency

In this panel session we will discuss nonacademic jobs that use mathematics and the ways that faculty can advise students on such career options. Topics to be addressed include recommending coursework, establishing points of contact, and tips on the job application process.

Organizers: Naomi Cameron, Occidental College  
Stephen Shauger, National Security Agency

**B. *Designing new courses in applied mathematics or modeling***

**B&H 161**

Panelists: Bernard A. Fusaro, Florida State University  
Susan C. Geller, Texas A&M University  
Mason Porter, Georgia Institute of Technology

The panel will focus on applied mathematics and modeling instruction at the undergraduate level. We will discuss general principles and tactics that help in designing new courses in these areas as well as pitfalls to avoid. The panelists will give suggestions for teaching applied courses and for coaching the Mathematical Contest in Modeling teams.

Organizer: Cristina Bacuta, State University of New York College at  
Cortland  
Elizabeth Stanhope, Willamette University

**WEDNESDAY, AUGUST 11 (cont'd)**

**9:35 – 10:05 a.m.**    **BREAK**  
**B&H Lobby**

**10:10 -- 11:40 a.m.**    **TWO concurrent sessions**

**A.**    ***Designing and teaching courses for non-mathematics majors***  
**B&H 158**

Panelists:    Ed Burger, Williams College  
                  Annalisa Crannell, Franklin & Marshall College  
                  Gordon Williams, Moravian College  
                  Jonathan Hodge, Grand Valley State University

The focus of this panel discussion is the design of mathematics courses for non-mathematics majors. Panelists will discuss courses for diverse audiences from the liberal arts to the visual arts on topics ranging from math and art to voting theory. Along with the details of specific courses, the panelists will speak on the underlying philosophy of such courses, errors to avoid when developing or teaching them, and how to make such a course an important and valuable life experience for non-science students.

Organizers:    Jonathan K. Hodge, Grand Valley State University  
                  Gordon Williams, Moravian College

**B.**    ***Fostering an atmosphere conducive to undergrad research***  
**B&H 161**

Panelists:    Ellen Mir, Elon University  
                  Sandra Paur, North Carolina State University  
                  Harriet Pollatsek, Mount Holyoke College

Undergraduate research programs can greatly enrich the undergraduate experience. How can we generate enthusiasm among our colleagues about such programs? In this session panelists will talk about efforts inside and outside of the classroom that encourage and support undergraduate research. They will also discuss their departments' research programs, and some challenges they are still struggling to meet.

Organizers:    Barry Balof, Whitman University  
                  Katie Mawhinney, Appalachian State University

**WEDNESDAY, AUGUST 11 (cont'd)**

**11:45 – 12:30 p.m.** Small group discussions with other Project NExT Fellows. [Please select the session that best describes your research interests.]

Analysis – **B&H 153**

Combinatorics, graph theory, discrete mathematics – **B&H 155**

Applied mathematics, operations research – **B&H 157**

Geometry, topology, set theory, logic – **B&H 158**

Mathematics education – **B&H 159**

Probability/Statistics – **B&H 160**

Algebra/Number theory – **B&H 161**

Differential equations and dynamical systems – **B&H 163**

**12:30 – 1:45 p.m.** LUNCH  
**B&H Lobby**

**2:00 – 3:15 p.m.** **TWO** concurrent sessions

**A. Structuring our mathematics research to include undergraduates  
B&H 158**

Presenters: Annalisa Crannell, Franklin & Marshall College

Joe Gallian, University of Minnesota Duluth

Colin Adams, Williams College

Kurt Bryan, Rose-Hulman Institute of Technology

This session will be a panel discussion about finding ways to include undergraduates in aspects of our own mathematics research. We plan to address the following questions: How do we break down our work into suitable segments accessible to undergraduates? How do we make the year-to-year transition of working with different students? What sorts of journals are appropriate for publishing undergraduate research? How much guidance does a typical undergraduate need from the faculty supervisor?

Organizers: Meredith Greer, Bates College

Allison Pacelli, Williams College

**B. Ideas for attracting and retaining majors  
B&H 161**

Presenters: Edward Burger, Williams College

Olympia Nicodemi, State University of New York, Geneseo

Lynn Olson, Wartburg College

Sandra Paur, North Carolina State University

A mathematics department cannot flourish without a healthy cadre of students. Yet it is often difficult to attract students to our discipline, especially for mathematics departments at smaller colleges. Our panelists will share some successful strategies for attracting and retaining mathematics majors, including the roles played in such efforts by the academic program, partnerships with other disciplines, extracurricular and social activities, advising, and the creation of an attractive "public profile" for the department.

Organizers: Andrew Miller, Belmont University

Catalin Zara, Penn State Altoona

WEDNESDAY, AUGUST 11 (cont'd)

3:15 – 3:50 p.m.      BREAK  
MacMillan Lobby

3:55 – 5:45 p.m.      *Closing Session*  
Recognition of 2003-04 Fellows  
Presentation: *Finding your Niche in the Profession*  
Joseph A. Gallian, University of Minnesota, Duluth  
MacMillan 117

7:30 – 9:30 p.m.      *Mathfest Opening Banquet*  
Master of Ceremonies: Annalisa Crannell, Franklin & Marshall  
College  
Presentation: *Captivating Stories for Mathematics Students*  
Dan Kalman, American University

THURSDAY, AUGUST 12 and FRIDAY, AUGUST 13

**Project NEXt Courses during the Mathfest:**

Four-hour courses meeting on the afternoons of Thursday and Friday, August 12 and 13, in the Rhode Island Convention Center (RICC). (Courses A, B, and C meet at 1:00 – 3:00 p.m. on both days; Courses D and E meet at 3:15 – 5:15 p.m. on both days.)

- A.      *Math Modeling in the Curriculum* – Catherine Roberts, College of the Holy Cross,  
**1:00 – 3:00 p.m., RICC 554A.**
- B.      *Preparing to Teach Mathematics for Prospective Teachers*, Judith Covington, Louisiana  
State University, Shreveport, **1:00 – 3:00 p.m., RICC 553A.**
- C.      *Introductory Statistics* – Jeff Witmer, Oberlin College, **1:00 – 3:00 p.m., RICC, 553B.**
- D.      *Getting Your Research off to a Good Start/Proposal Preparation for Projects in  
Undergraduate Mathematical Sciences* – Joseph Gallian, University of Minnesota,  
Duluth, and Calvin Williams, National Science Foundation,  
**3:15 – 5:15 p.m., RICC 553A, 553B.**
- E.      *Undergraduate Research – how to make it work* – Aparna Higgins, University of Dayton,  
**3:15 – 5:15 p.m., RICC 554A.**

SATURDAY, AUGUST 14, afternoon

Project NEXt Fellows are invited to attend two sessions sponsored by Texas Instruments on using hand-held calculators to enhance the teaching of mathematics. One session will deal with teaching mathematics below the level of calculus, and the other will deal with calculus and differential equations. The presenter is Edward Connors of the University of Massachusetts, Amherst. The details about times and location are in a flyer in your Project NEXt registration folder.