

**PROJECT NExT**  
**NEW EXPERIENCES IN TEACHING**  
**2012-2013 FELLOWS**

**Workshop held in Madison, WI**  
**July 30 - August 1, 2012**

A program of

**THE MATHEMATICAL ASSOCIATION OF AMERICA**

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**THE AMERICAN MATHEMATICAL SOCIETY**  
**THE AMERICAN STATISTICAL ASSOCIATION**  
**THE NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS**  
**THE 2010-11 (blue10) PROJECT NExT FELLOWS**  
**THE 2011-12 (peach11) PROJECT NExT FELLOWS**  
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Project NExT (New Experiences in Teaching) is a professional development program of the Mathematical Association of America for new or recent Ph.D.s in the mathematical sciences who are interested in improving the teaching and learning of undergraduate mathematics. It addresses the full range of faculty responsibilities in teaching, research, and service.

**Project NExT: New Jobs, New Responsibilities, New Ideas  
Program for the Workshop in Madison, Wisconsin  
July 30 - August 1, 2012**

Project NExT registration is in the main lobby of Pyle Center.

**MONDAY, JULY 30**

**11 am - 1:15 pm** Arrival and registration – **Pyle Center Main Lobby**

**1:30 - 1:55 pm** Welcome and opening remarks – **Pyle 325/326**  
Aparna Higgins, University of Dayton and Director of Project NExT

**2:00 - 2:45 pm** Small group discussions – See information for assignments.  
An opportunity to share your thoughts about the coming year with other  
Fellows.

Group A: <b>Pyle 111</b>	Group E: <b>Pyle 226</b>
Group B: <b>Pyle 112</b>	Group F: <b>Pyle 309</b>
Group C: <b>Pyle 220</b>	Group G: <b>Pyle 317</b>
Group D: <b>Pyle 225</b>	Group H: <b>Pyle 320</b>

**2:55 - 3:55 pm** *The Many Faces of Mathematical Proof* – **Pyle 325/326**  
Doug Ensley, Shippensburg University

**3:55 - 4:25 pm** BREAK – **Pyle Prefunction Space, 3<sup>rd</sup> Floor East**

**4:30 - 5:15 pm** Small group discussions [Same room assignments by group above, but your  
group assignment may have changed – see information.]  
An opportunity to talk about teaching techniques with Fellows who work at  
institutions that are similar to your institution.

Group A: <b>Pyle 111</b>	Group E: <b>Pyle 226</b>
Group B: <b>Pyle 112</b>	Group F: <b>Pyle 309</b>
Group C: <b>Pyle 220</b>	Group G: <b>Pyle 317</b>
Group D: <b>Pyle 225</b>	Group H: <b>Pyle 320</b>

**5:30 - 7:00 pm** DINNER – **Dining Room in Lowell Center**

**7:15 - 8:30 pm** Panel: *Joining the Mathematical Community* – **Pyle 325/326**  
Four Project NExT Fellows from previous years will describe how they  
became involved in various forms of service to the mathematics community.  
Matthew DeLong, Taylor University  
Heather Hulett, University of Wisconsin – La Crosse  
Kim Roth, Juniata College  
Christopher Swanson, Ashland University

**8:30 p.m. - ?** INFORMAL SOCIALIZING

## TUESDAY, JULY 31

- 6:30 - 8:00 am** BREAKFAST – available in **Newell’s Dining Room in Smith Hall**, if you are staying in the dorm
- 8:30 - 9:45 am** *Selected topics in teaching undergraduate mathematics I* [Five simultaneous sessions – See information for assignments.]
- A. *Visualization Techniques for Teaching Calculus* – Julie Barnes, Western Carolina University, **Pyle 112**
  - B. *Closer to Fair: Social Justice in Mathematics - Mathematics for Social Justice* – David Kung, St. Mary’s College of Maryland, **Pyle 225**
  - C. *Technically Speaking: Preparing Students to Communicate Technical Information in a Non-technical World* – Lew Ludwig, Denison University, **Pyle 309**
  - D. *Using Good Questions in Calculus* – Kim Roth, Juniata College, **Pyle DE227**
  - E. *(Free) Technology for Teaching Mathematics* – John Travis, Mississippi College, **Pyle DE232**
- 9:55 - 10:25 am** BREAK – **Pyle Prefunction Space, 3<sup>rd</sup> Floor East**
- 10:25 - 11:40 a.m.** Panel: *Deciding how to teach* – **Pyle 325/326**  
Each panelist will discuss a particular way of teaching or assessing, explaining the technique, its benefits and its limitations.  
David Pengelley, New Mexico State University  
Hortensia Soto-Johnson, University of Northern Colorado  
Ron Taylor, Berry College
- 11:45 am - 1:10 pm** LUNCH – **Pyle Center Main Dining Room**
- 1:15 - 2:30 pm** Repeat of morning breakout sessions – see information for assignments.
- 2:40 - 3:40 pm** *Something for Everyone* – **Pyle 325/326**  
Sarah Spence Adams, Olin College
- 3:40 - 4:10 pm** BREAK – **Pyle Prefunction Space, 3<sup>rd</sup> Floor East**
- 4:10 - 5:25 pm** Panel: *The faculty member as teacher and scholar* – **Pyle 325/326**  
Panelists representing a variety of institutions will discuss what expectations early career faculty should fulfill for tenure at those institutions.  
Katie Fowler, Clarkson University  
Mickey McDonald, Kalamazoo College  
Bruce Reznick, University of Illinois at Urbana-Champaign  
Martha Siegel, Towson University
- 5:30 - 7:00 pm** DINNER – **Dining Room in Lowell Center**

(Tuesday, July 31, cont’d)

**TUESDAY, JULY 31 (cont'd)**

**8:00 – 10:00 pm** Social Event for 2011-2012 and 2012-2013 Project NExT Fellows and presenters – **Smith Hall, Laines Lounge**

**10:00 pm - ?** INFORMAL SOCIALIZING

**WEDNESDAY, AUGUST 1**

**6:30 – 8:00 am** BREAKFAST available in **Newell's Dining Room in Smith Hall**, if you are staying in the dorm

**8:30 – 9:35 am** Informal discussions on topics proposed by the 2012-2013 Fellows  
**Pyle 112, Pyle 225, Pyle 226, Pyle DE227, Pyle DE232**

**9:35 – 10:05 am** BREAK – **Pyle Prefunction Space, 3<sup>rd</sup> Floor East**

**10:10 – 11:25 am** *Selected topics in teaching undergraduate mathematics II* [Five simultaneous sessions – See information for assignments.]

- A. *Undergraduate Advising* – Suzanne Dorée, Augsburg College, **Pyle 112**
- B. *Effectively Using Applied Writing Projects in Undergraduate Mathematics Courses* – Gavin LaRose, University of Michigan, **Pyle 225**
- C. *Using Video to Help Students Evaluate and Construct Proofs* – Kay Somers, Moravian College, **Pyle 226**
- D. *Experiencing Spherical Geometry: A Non-Axiomatic Approach to Teaching College Geometry* – Christopher Swanson, Ashland University, **Pyle DE227**
- E. *Functioning in Calculus: Combining Algebra, Precalculus, and Calculus for Underprepared College Students* – Laura Taalman, James Madison University, **Pyle DE232**

**11:30 am – 12:15 pm** Small Group Discussions with other Project NExT Fellows  
(This session is organized by area of research. Please attend the group that best fits your research interests.)

- Group A: Algebra, Group Theory, Linear Algebra, **Pyle 220**
- Group B: Algebraic Geometry, **Pyle DE232**
- Group C: Analysis, **Pyle 111**
- Group D: Combinatorics, Graph Theory, Discrete Math, **Pyle 226**
- Group E: Number Theory, Mathematical Logic, **Pyle DE227**
- Group F: Geometry, Topology, **Pyle 225**
- Group G: Differential Equations, Dynamical Systems, **Pyle DE332**
- Group H: Applied Math, Operations Research, **Pyle DE327**
- Group I: Math Biology, **Pyle 313**
- Group J: Mathematics Education, Probability, Statistics, **Pyle VandeBerg Auditorium 121**

**12:15 – 1:30 pm** LUNCH – **Pyle Center Main Dining Room**

**Wednesday Aug 1, cont'd**

### WEDNESDAY, AUGUST 1 (cont'd)

- 1:35 - 2:50 pm** Repeat of morning breakout sessions – See information for assignments.
- 2:55 - 3:25 pm** Planning session for January Meetings in San Diego, CA – **Pyle 325/326**
- 3:25 - 3:55 pm** BREAK -- **Pyle Prefunction Space, 3<sup>rd</sup> Floor East**
- 3:55 - 5:25 pm** Closing Session – **Pyle 325/326**  
Recognition of 2011-12 Fellows  
Presentation: *Finding Your Niche in the Profession*  
Joseph Gallian, University of Minnesota Duluth
- 6:00 – 7:30 pm** Mathfest Opening Reception (cash bar) – **Level 1 of the Monona Terrace Convention Center**
- 7:30 - 9:30 pm** Mathfest Opening Banquet
- 9:30 pm - ?** INFORMAL SOCIALIZING

### THURSDAY AND FRIDAY, AUGUST 2 AND 3

**Project NExT Courses during the Mathfest:** Four-hour courses meeting in the **Hilton Madison Monona Terrace** on Thursday and Friday, August 2 and 3.

- A. *Teaching Mathematics for Future Teachers (With an Emphasis on K-8 Teacher Preparation)* – Beth Burroughs, Montana State University, 1-3 p.m., **Tenney, Hilton Madison Monona Terrace**
- B. *Teaching Liberal Arts Mathematics Courses* – Dale Buske, St. Cloud State University, 1-3 p.m., **LaFollette, Hilton Madison Monona Terrace**
- C. *Undergraduate Research—How to Make It Work* – Aparna Higgins, University of Dayton, 1-3 p.m., **Doty, Hilton Madison Monona Terrace**
- D. *Using Inquiry to Teach Mathematics and Thinking* – Carol Schumacher, Kenyon College, 1-3 p.m., **Vilas, Hilton Madison Monona Terrace**
- E. *When Life is Linear: Applications of Linear Algebra* – Tim Chartier, Davidson College, 3:15-5:15 p.m., **Tenney, Hilton Madison Monona Terrace**
- F. *The World is More Random Than You Think: Big Ideas for Mathematicians Who Will Be Teaching Statistics* – Richard Cleary, Bentley College, 3:15-5:15 p.m., **LaFollette, Hilton Madison Monona Terrace**
- G1. *Applying for Grants from the National Science Foundation* – Jennifer Slimowitz Pearl, National Science Foundation, Thursday; *Getting Your Research Off to a Good Start*, Joe Gallian – University of Minnesota, Duluth, Friday; both days 3:15-5:15 p.m., **in Doty, Hilton Madison Monona Terrace**
- G2. *Getting Your Research Off to a Good Start*, Joe Gallian – University of Minnesota, Duluth, Thursday; *Applying for Grants from the National Science Foundation* – Jennifer Slimowitz Pearl, National Science Foundation, Friday; both days 3:15-5:15 p.m., **in Vilas, Hilton Madison Monona Terrace**