



## National Science Foundation

Directorate for Education and Human Resources (EHR)  
Division of Undergraduate Education (DUE)

### ***STEP 2011: Institutional Culture, Institutional Change & Institutionalization***

Science, Technology, Engineering, and Mathematics Talent Expansion Program (STEP)  
2011 Grantees Meeting

March 17-18, 2011  
Omni Shoreham Hotel  
Washington, D.C.

### **Meeting Agenda**

#### **Wednesday, March 16, 2011**

<b>7:00 – 10:00 p.m.</b>	<b>Registration Poster Setup</b> (See meeting folder for poster locations)	<b>Regency Gallery Regency Ballroom</b>
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#### **Thursday, March 17, 2011**

<b>7:00 a.m. – 8:30 a.m.</b>	<b>Poster Setup</b>	<b>Regency Ballroom</b>
<b>7:00 a.m. – 10:00 a.m.</b>	<b>Registration</b>	<b>Regency Gallery</b>
<b>8:00 a.m.</b>	<b>Light Refreshments</b>	<b>Regency Ballroom</b>
<b>8:00 a.m. – 8:30 a.m.</b>	<b>Mentorship Meetings for 1st-Year Projects</b>	<b>Regency Ballroom</b>
<b>11:30 a.m. – 7:00 p.m.</b>	<b>Macro International Inc. Staff Available</b>	<b>Regency Gallery</b>
<b>8:30 a.m. – 10:15 a.m.</b>	<b>Opening Session</b>	<b>Regency Ballroom</b>

Welcoming Remarks:

*Susan Hixson*, STEP Lead Program Director, DUE

Meeting Information: *Daniel Udovic*, University of Oregon, Meeting Organizer

Introduction of Speaker: *Larry Suter*, Program Director, DRL

[Alicia Dowd](#), Associate Professor & co-Director, [Center for Urban Education](#), USC

Title: **Becoming Institutional Change Agents in STEM**

**Abstract:** In releasing its 2010 report *Preparing the Next Generation of STEM Innovators*, the National Science Board emphasized the need to make STEM fields more inclusive of underrepresented students and called for a “renewed aspiration towards equity and excellence in U.S. STEM education.” The Board recommended greater investment in professional development for STEM educators to assist them in identifying talented students from diverse backgrounds, creating “supportive learning ecosystem(s),” and offering curricula based on inquiry-based learning and real-world problem-solving. This presentation describes an emerging science of agency and “praxis” in STEM focused on understanding the kinds of professional development STEM educators need to become “institutional agents” on behalf of underrepresented racial-ethnic groups in STEM. Based on case study research supported by the National Science Foundation, the Center for Urban Education at the University of Southern California has characterized the role of “institutional agents” in STEM and is now evaluating the factors that enable STEM educators to act as the agents of equity and excellence called for in the Board’s report.

**Thursday, March 17, 2011 (continued)**

10:15 a.m. – 10:45 a.m.	Break	Regency Gallery
10:45 a.m. – 12:15 p.m.	Breakout Session I	See <i>Breakout Session Locations</i>
12:15 p.m. – 2:00 p.m.	Lunch and Networking	Regency Ballroom
2:00 p.m. – 3:30 p.m.	Breakout Session II	See <i>Breakout Session Locations</i>
3:30 p.m. – 3:45 p.m.	Break, Refreshments Available	Regency Gallery
3:45 p.m. – 4:15 p.m.	Poster Session A	Regency Ballroom
4:15 p.m. – 4:45 p.m.	Poster Session B	Regency Ballroom
4:45 p.m. – 5:15 p.m.	Poster Session C Refreshments Available	Regency Ballroom

**Friday, March 18, 2011**

7:45 a.m.	Light Refreshments	Palladian Foyer & Ballroom
8:30 a.m. – Noon	Macro International Inc. Staff Available Breakout Session III	Palladian Foyer
8:00 a.m. – 10:15 a.m.	Workshop: Evaluation 102	See <i>Breakout Session Locations</i>
8:30 a.m. – 10:00 a.m.	Breakouts	See <i>Breakout Session Locations</i>
10:00 a.m. – 10:30 a.m.	Break	Palladian Foyer
10:30 a.m. – 11:45 a.m.	Plenary Session	Palladian Ballroom

Introduction of Dr. Cora Marrett: *Susan Hixson*, STEP Lead Program Director, DUE

Remarks and Introduction of Speaker:

*Cora Marrett*, Senior Advisor for Foundation Affairs, NSF

[Freeman Hrabowski, III](#), President, University of Maryland Baltimore County

Title: **Lessons Learned: Best Practices and Strategies for Supporting Students' Success in Science and Engineering**

**Abstract:** In the light of increasingly competitive global markets and rapid technological and demographic changes at home, it is imperative that America produce many more well prepared scientists and engineers from all backgrounds. Freeman Hrabowski has served as the Principal Investigator on his university's National Science Foundation ADVANCE grant, and he chaired the National Academies Committee that recently produced the report, "Expanding Underrepresented Minority Participation: America's Science and Technology Talent at the Crossroads." For decades a champion of expanding STEM participation by students from all backgrounds, Hrabowski will address best practices and lessons learned in STEM education, particularly as they relate to the transformation of institutional cultures.

11:45 a.m. - Noon	Closing Remarks	Palladian Ballroom
Noon	Meeting Adjourns	

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**Meeting Support in the NSF/TEAM GA-1 Office**

**Committee Room**

## Biographies of Plenary Speakers



[Alicia C. Dowd](#), Ph.D., is an associate professor of education at the University of Southern California's Rossier School of Education and co-director of the Center for Urban Education (CUE). Dr. Dowd's research focuses on political-economic issues of public college finance equity, organizational effectiveness, and accountability and the factors affecting student attainment in higher education. CUE is a national leader in multidisciplinary inquiry and mixed methods research, including action research, designed to bring about racial-ethnic equity in higher education.

Dr. Dowd is the principal investigator of a National Science Foundation funded study of *Pathways to STEM Bachelor's and Graduate Degrees for Hispanic Students and the Role of Hispanic Serving Institutions*. Through this study, CUE is examining the features of exemplary STEM policies and programs to identify ways for institutions -- both Hispanic Serving Institutions (HSIs) as designated by the U.S. Department of Education, and non-Hispanic Serving -- to increase the number of Latino STEM graduates.

Dr. Dowd has served as the principal investigator of several major, national studies of institutional effectiveness, equity, community college transfer, benchmarking, and assessment. The results of these studies have been published in numerous journals including the *Review of Educational Research*, the *Harvard Educational Review*, the *Journal of Higher Education*, the *Review of Higher Education*, *Research in Higher Education*, and *Teacher's College Record*.

As a research methodologist, Dr. Dowd has also served on numerous federal evaluation and review panels, including the Education Systems and Broad Reform Panel and the National Education Research and Development Center panels of the Institute for Education Sciences (IES) and NSF's Science, Technology, Engineering, and Mathematics Talent Expansion Program (STEP-Type 2) review panel. She was also a member of the technical working group consulting on the evaluation design for the Academic Competitiveness and SMART (science, mathematics, technology) grants awarded by the U. S. Department of Education. Currently she is a member of the advisory group for the Congressional Advisory Committee on Student Financial Aid (ACSFA).

Dr. Dowd was awarded the doctorate by Cornell University, where she studied the social foundations of education, labor economics, and curriculum and instruction. Her undergraduate studies were also at Cornell, where she was awarded a bachelor of arts degree in English literature.

## Biographies of Plenary Speakers (continued)



[Freeman A. Hrabowski, III](#), has served as President of UMBC (The University of Maryland, Baltimore County) since May, 1992. His research and publications focus on science and math education, with special emphasis on minority participation and performance. He chaired the National Academies' committee that recently produced the report, "Expanding Underrepresented Minority Participation: America's Science and Technology Talent at the Crossroads."

In 2008, he was named one of *America's Best Leaders* by *U.S. News & World Report*, which in 2009 ranked UMBC the #1 "Up and Coming" university in the nation and fourth among all colleges and universities in the nation for commitment to undergraduate teaching. In 2009, *Time* magazine named him one of America's *10 Best College Presidents*.

He serves as a consultant to the National Science Foundation, the National Institutes of Health, the National Academies, and universities and school systems nationally. He also serves on numerous boards, including the Alfred P. Sloan Foundation, France-Merrick Foundation, Marguerite Casey Foundation (Chair), and The Urban Institute. He is a past member of the board of the Carnegie Foundation for the Advancement of Teaching and the Maryland Humanities Council (member and Chair).

Examples of recent honors include election to the American Academy of Arts & Sciences and the American Philosophical Society; receiving the prestigious *McGraw Prize in Education*, the U.S. *Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring*, and the Columbia University *Teachers College Medal for Distinguished Service*; being named a Fellow of the American Association for the Advancement of Science and *Marylander of the Year* by the editors of the *Baltimore Sun*; and being listed among *Fast Company* magazine's first *Fast 50 Champions of Innovation* in business and technology. He also holds honorary degrees from more than a dozen institutions.

With philanthropist Robert Meyerhoff, he co-founded the Meyerhoff Scholars Program in 1988. The program is open to all high-achieving students committed to pursuing advanced degrees and research careers in science and engineering, and advancing minorities in these fields. The program has become a national model, and based on program outcomes, Hrabowski has authored numerous articles and co-authored two books, *Beating the Odds* and *Overcoming the Odds* (Oxford University Press), focusing on parenting and high-achieving African American males and females in science. Both books are used by universities, school systems, and community groups around the country.

A child-leader in the Civil Rights Movement, Hrabowski was prominently featured in Spike Lee's 1997 documentary, *Four Little Girls*, on the racially motivated bombing in 1963 of Birmingham's Sixteenth Street Baptist Church.

Born in 1950 in Birmingham, Alabama, Hrabowski graduated at 19 from Hampton Institute with highest honors in mathematics. At the University of Illinois at Urbana-Champaign, he received his M.A. (mathematics) and four years later his Ph.D. (higher education administration/statistics) at age 24.

**Breakout Session Locations**  
**March 17 - 18, 2011**

**Breakout Session I - 10:45 a.m. – 12:15 p.m. March 17**

		<b><u>Type</u></b>	<b><u>Room</u></b>
I -1	Crossing the Divide: Building Strong Two-Year/Four-Year Partnerships	Workshop	Cabinet
I -2	Increasing Retention via Cohort-Building (e.g., Learning Communities)	Panel	Empire Ballroom
I -3	Improving Student Success in Foundational Courses in Mathematics	Panel	Embassy
I -4	Implementing Early Undergraduate Research & Internships	Panel	Capitol
I -5	Institutionalization and Sustainability of STEP Projects	Workshop	Palladian Ballroom
I -6	Getting it Together: Managing (Lots of!) People on an NSF STEP Project	Workshop	Senate
I -7	Strategies for Dissemination & Publication of Results	Panel	Executive
I -8	Assessing Your STEP Project: an Approach to Disentangling the Effects of Interwoven Project Strategies	Workshop	Congressional B
I -9	Institutional Influences on Project Success	Workshop	Forum
I -10	Becoming Institutional Change Agents: Follow up Session with Alicia Dowd	Special Session	Director's

**Breakout Session II - 2:00 p.m. – 3:30 p.m. March 17**

		<b><u>Type</u></b>	<b><u>Room</u></b>
II -1	Building Strong Partnerships with High Schools	Panel	Senate
II -2	Articulation & Reverse Articulation Agreements and Other Transfer Issues	Panel	Forum
II -3	Increasing Retention via Cohort-Building (e.g., Learning Communities)	Panel	Empire Ballroom
II -4	Improving Student Success in Foundational Courses in Mathematics	Panel	Capitol
II -5	Improving Student Success in Foundational Courses in the Sciences	Panel	Executive
II -6	Running a Successful Peer-Led Team Learning (PLTL) Program: Positive Impacts on Student Retention and on Student Leaders	Workshop	Palladian Ballroom
II -7	Models for Undergraduate Research Involving Community College Students	Workshop	Congressional B
II -8	Evaluation 101: How to Construct and Strategize for Your Evaluation Plans	Workshop	Cabinet
II -9	Encouraging Student Participation in Project Activities	Panel	Embassy
II -10	Type 2 Round-Table	Special Session	Director's

**Breakout Session Locations (continued)**  
**March 17 - 18, 2011**

<b><u>Breakout Session III - 8:30 a.m. – 10:00 a.m. March 18</u></b>		<b><u>Type</u></b>	<b><u>Room</u></b>
III -1	Crossing the Divide: Building Strong Two-Year/Four-Year Partnerships	Panel	Council
III -2	Improving Student Success in Foundational Courses in the Sciences	Panel	Congressional B
III -3	Strategies for Preparing Students for Calculus (e.g., Bridge Programs)	Panel	Director's
III -4	Implementing Early Undergraduate Research & Internships	Panel	Capitol
III -5	Empowering Undergrads to Increase Effectiveness of Your STEP Project	Workshop	Forum
III -6	Institutionalization and Sustainability of STEP Projects	Workshop	Diplomat Ballroom
III -7	Increasing Retention through Improved Academic Advising and Academic Support Programs	Panel	Empire Ballroom
III -8	Strategies for Promoting Diversity	Panel	Embassy
III -9	Evaluation 201: Implementing and Analyzing the Results from Your Evaluation Plans ( <b>8:00 a.m. - 10:15 a.m.</b> )	Workshop	Senate
III -10	Challenges in Migrating from a STEP 1A to a STEP 1B Project	Workshop	Cabinet

**Luncheon Roundtable Topics**  
**March 17, 2011**

<b><u>Topics / Interest Groups</u></b>	<b><u>Table #s</u></b>
Project Sustainability	1 - 3
Community College Projects	4 - 5
Preparing Type 1B Proposals	6 - 9
Intrusive Advising	10 - 11
Early Warning Systems to Identify At-Risk Students	12 - 13
Peer-Led Team Learning (PLTL)	14 - 15
Sustaining 2-Year/4-Year Collaborations	16
Recruiting and Retaining Women Students	17
Project Coordinators	18 - 19
Project Evaluators	20 - 21
Projects from Hispanic-Serving institutions	22
Projects from Minority-Serving institutions	23