



**National Science Foundation**

**Workshop and Exhibition  
January 15 – 16, 2008**

**The Walter E. Washington Convention Center  
Washington, D. C.**

***Science Education and Workforce Development  
Key Challenges for Innovation in the States***

On January 15-16, 2008, the National Science Foundation hosted a national workshop and exhibition on *Science Education and Workforce Development: Key Challenges for Innovation in the States* at The Walter E. Washington Convention Center, Washington, D.C. In cooperation with the National Governors Association (NGA) and others, the NSF focused attention on (a) newly-developed tools that can enhance innovation and educational accountability at local, state and regional levels; and (b) partnerships that engage federal and state agencies, K-12 and high education with business and industry to improve science education and workforce development.

Led by NSF's Directorate for Education and Human Resources and the Office of Legislative and Public Affairs, the meeting brought together some 200 participants from state executive offices; K-12, informal, and higher education; scholarly and professional associations; businesses and other organizations with an interest in workforce or economic development. PowerPoint Slides or URL addresses are available for a number of the sessions, as indicated on the agenda below.

*Agenda*

January 15, 2008

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|-----------|--|
| 2:00 p.m. | Registration   |
| 3:00 p.m. | Welcoming Remarks<br><i>Dr. Cora B. Marrett</i><br><i>Assistant Director for Education and Human Resources (EHR)</i><br><i>National Science Foundation (NSF)</i> |
|           | Framing of the Workshop<br><i>Dr. Diane M. Spresser</i><br><i>Office of the Assistant Director, EHR, NSF</i>   |

3:30 p.m. Tools for Building Community Engagement and Support for High Quality Science Education and the Workforce “Pipeline”

<http://www.nsf.gov/ehr/Kettlewell.pdf>

*Dr. Jan Kettlewell, Rosalind Barnes, and Sheila Jones  
University System of Georgia*

*In a recent report from the nonprofit, nonpartisan Public Agenda, parents and students acknowledge the national importance of mathematics, science, and technology but fail to see the importance for themselves. “Important, but Not for Me: Parents and Students in Kansas and Missouri Talk about Math, Science, and Technology Education” frames this phenomenon, labeled by Public Agenda as an ‘urgency gap.’ The NSF-funded University System of Georgia Math and Science Partnership (MSP) shares the public relations and other tools researched, developed, and implemented as part of their work, as well as other aspects of their overall strategy.*

4:30 p.m. Introduction of Speaker and Unveiling of Prototype Website  
*Karen L. Sandberg  
Office of Legislative & Public Affairs (OLPA), NSF*

“Science and Innovation” Website

<http://www.innovation.terc.edu>

*Joni Falk, TERC*

*“Science and Innovation” prototype website was developed as an experimental tool for decision-makers and users in the States.*

5:15 p.m. Exhibits and Reception

6:15 p.m. Introduction of Speaker  
*Dr. Diane M. Spresser*

“Important . . . But Not for Me: Kansas and Missouri Students and Parents Talk About Math, Science and Technology Education”

<http://www.publicagenda.org/importantbutnotforme/>

*Ruth A. Wooden, President  
Public Agenda*

*“There is growing consensus among the nation’s business, government and higher education leaders that unless schools do more to train and nurture a whole new generation of young Americans with strong skills in math, science and technology, U.S. leadership in the world economy is at risk.” But, a recent report released by Public Agenda “concludes that Kansas and Missouri parents and students didn’t get the memo” and “finds that just 25% of Kansas/Missouri parents think their children should be studying more math and science; 70% think things ‘are fine as they are now.’ The report also explains why parents and students are so complacent in this area and what kinds of changes might be helpful in*

*building more interest in and support for more rigorous MST courses”  
[summary from Public Agenda].*

January 16, 2008

- 8:30 a.m.      Remarks and Introduction of Speakers  
*Dr. Wanda E. Ward*  
*Deputy Assistant Director, EHR, NSF*
- 8:45 a.m.      Tools for Making Teacher Professional Development “Pay Off”  
*Dr. Heather Hill, Harvard University*  
*Improving Teacher Professional Development*  
<http://www.nsf.gov/ehr/Hill.pdf>  
*Dr. Sean Smith, Horizon Research, Inc*  
*ATLAST Assessing Teacher Learning About Science Teaching*  
*How Do You Know Whether They Are Learning What You Want Them to*  
*Learn?*<http://www.nsf.gov/ehr/Smith.pdf>  
*Dr. Philip Sadler, Harvard University*  
<http://www.cfa.harvard.edu/smgphp/mosart/index.html>

*Teacher professional development is critical in the current accountability environment. Is the professional development funded in local school districts really accomplishing its purposes? Are teachers actually learning the mathematics and science they need to know to teach their students? This session focuses on new, nationally developed and validated tools for assessing teachers’ growth in understanding the mathematics and science needed for teaching, a critical component of effective teacher professional development.*

10:00 a.m.      Break

10:30 a.m.      Remarks and Introduction of Panel  
*Dr. Carlo Parravano, Executive Director*  
*Merck Institute for Science Education*

*Critical Role of Industry in Science Education and Workforce Development*  
*Cathleen Aubin Barton (panel moderator), U. S. Education Manager*  
*Intel Corporation*

*Thomas A. Gallagher, Plant Manager*  
*General Motors Powertrain, Baltimore Transmission Plant*

*Dr. S. Anders Hedberg, Director*  
*Bristol-Myers Squibb Corporate Philanthropy*

*Lata N. Reddy, Vice President*  
*The Prudential Foundation*

*A recent report from the Urban Institute, “Into the Eye of the Storm: Assessing the Evidence on Science and Engineering Education, Quality,*

*and Workforce Demand,” indicates that more students are taking mathematics and science classes than ever before and that “the U.S. is not at any particular disadvantage compared with most nations.” The report concludes, in fact, that the American education system produces qualified graduates in excess of demand. Panelists from the business community discuss the need for students who are well educated in science and mathematics, as well as strategies, initiatives, and lessons learned from the important roles played by industry in education and development of the scientific and technical workforce.*

- 11:45 a.m. Exhibits
- Keynote Luncheon  
*We thank Intel Corporation for their sponsorship of the Keynote Luncheon.*
- 1:00 p.m. Introduction of Keynote Speaker  
*Dr. Arden L .Bement, Director  
National Science Foundation*
- Keynote Address  
*Governor Edward G. Rendell  
Commonwealth of Pennsylvania*
- 1:45 p.m. Remarks and Introduction of Pennsylvania STEM Center  
*Charles Toulmin, Senior Policy Analyst, Education Division  
National Governors Association (NGA)*
- NGA STEM Centers in the States: Pennsylvania STEM Center  
*F. Joseph Merlino and Anthony J. Girifalco*  
**NGA STEM Centers in the States: Pennsylvania STEM Center**  
<http://www.nsf.gov/ehr/MerlinoGirifalco.pdf>  
*Pennsylvania STEM Center Team*
- States recognize rigorous science, technology, engineering, and mathematics (STEM) education is critical to future economic soundness. The Pennsylvania STEM Center is creating and coordinating a statewide and regional infrastructure to design and implement a ten year STEM agenda to engage and better prepare more P-16 students, especially minorities and females, for STEM careers and STEM literacy.*
- 3:00 p.m. Tools for Advancing STEM Education and Workforce Development:  
What Do We Have? What Do We Need?  
*Dr. Wanda Ward, Deputy Assistant Director  
EHR, NSF*
- 3:30 p.m. Closing Remarks, Evaluation, and Adjournment