



# COSSA

## Washington Update

Volume 28, Issue 6

March 23, 2009

### 'BUILDING A DIVERSE SCIENTIFIC WORKFORCE' SUBJECT OF CONGRESSIONAL BRIEFING

On March 12, the Collaborative for Enhancing Diversity in Science (CEDS) along with 60 diverse organizations across the spectrum of education and science held a [congressional briefing](#), *Building a Diverse Scientific Workforce: Collaboration for Competitive and Healthy Nation*, to discuss the necessity and accompanying challenges of increasing the diversity of America's scientific workforce.



Mary Ann McCabe, SRCD

The briefing's speakers were: **Raynard S. Kington**, Acting Director, National Institutes of Health (NIH); **Wanda E. Ward**, Acting Assistant Director for the Education and Human Resources Directorate (EHR), National Science Foundation; and **Arthur L. Coleman**, Managing Partner and Co-founder of EducationCounsel. **Mary Ann McCabe**, Director, Office for Policy and Communications, Society for Research in Child Development, served as the event's moderator.

Welcoming the standing room only crowd, McCabe observed that the number of organizations co-sponsoring the event illustrated "the level of interest and concern across the diverse areas of science about these issues." She noted that "most scientific disciplines share the same challenges" and that the level of interest is also "demonstrative of the type of collaboration among organizations that's already started." The enormous interest in the topic reflects that "everyone is concerned about the science workforce for the 21st century in order for our country to stay competitive and be a leader in innovation," McCabe stated. She also clarified that for CEDS and many of the groups that cosponsored the briefing the challenges are for science across the board - "every area of science and technology."

#### 'A Complicated Story'

Using what he called "the demographic imperative" slide that is "required" when discussing this issue, Kington explained that the "fundamental reason why many of us are deeply concerned about the scientific workforce today and the trends that we are seeing," is that "clearly, the country is becoming more and more diverse." The expectation is that by 2050, the white population will be less than half of the entire population of 18-year olds. "This obviously has significance for the scientific workforce because there are dramatically different probabilities of minorities - some higher, some lower - entering into scientific careers and succeeding in them," he further explained.



Presenting data from the NIH, Kington noted that the agency's starkest challenge is addressing the "startlingly low number" of NIH principal investigators (PIs) who are from underrepresented minorities, particularly African-Americans

and Hispanics. He also pointed out that the percentage of Native American PIs is so “incredibly small” that it is hard to do a serious analysis. The number of Asian investigators is larger. Perhaps the most striking aspect of the NIH data Kington revealed is that there has not been a dramatic change over the last ten years. Another aspect of this situation is the low number of doctorates in science and engineering going to underrepresented minorities with no dramatic increases in recent years despite many efforts to achieve diversity. Some agencies have been working at this for literally 30 years, acknowledged Kington.

NIH has begun a series of analytic projects to address these challenges. According to Kington, the agency is doing two types of analysis, including modeling likely changes in the scientific work force by looking at demographic changes. While it is conventional wisdom that Asians are overrepresented in the scientific workforce, Kington shared that the analysis is discovering interesting patterns, particularly for Asians, over the course of careers. Another interesting and counter-intuitive finding, according to Kington, is that “both African-Americans and Hispanics are more likely to have a tenure-track position at seven years after the doctorate” than majority professors. Conversely, Native Americans are more likely to have NIH funding, controlling for such factors as: age, year of Ph.D., category of doctoral institution, the field, marital status, children, the employer’s characteristics, and publication. These results from the analysis run counter to the agency’s expectations. What the data reveals, Kington explained, is that there is “a huge need for empirical work looking at the actual evidence and understanding the dynamics of this system of careers.”



Raynard S. Kington, NIH

The picture is further complicated when one looks at the institutions where individuals achieve tenure, he stated, emphasizing that the NIH has just begun its analysis in this area. He also highlighted the NIH’s “major initiative” looking at the careers of women in science, largely as a result of the recent National Academies’ report on the topic.

Concluding, Kington warned the audience that “all of us need to be prepared for unpleasant evidence, evidence that might raise uncomfortable questions and uncomfortable issues.” It is a “complicated story” and “we will have to be willing to hear unpleasant things if we are finally going to have an important serious discussion about what we can do to correct the problem.”

### Meeting the ‘National Need for a Robust Scientific Workforce in the 21st Century’

Ward discussed NSF’s role in meeting the national need for a robust scientific workforce in the 21st century. She explained that she assumes that “there is a national imperative and that diversity does, in fact, strengthen the scientific enterprise by the intellectual diversity of thought.” Agreeing with Kington, Ward emphasized that there continues to be a crisis in the “underrepresentation of certain U.S. groups in the STEM fields – mainly women students, faculty of color, and persons with disabilities.”



Wanda E. Ward, NSF

Focusing on innovation, which remains the engine of U.S. economic competitiveness, Ward suggested the role of diverse intellectual capital is a topic of great interest to the NSF. She stressed that fostering an innovation ecosystem would require intellectual capacity building. Thus, STEM talent development for all Americans, scientists, technologists, engineers, technicians, the instructional workforce as well as the illiterate citizenry, becomes imperative.

Ward maintained that research infrastructure “is having learning platforms of places where creativity is fostered and intellectual diversity of thought would be encouraged and fostered.” These are some of the subjects that the NSF is increasingly examining. She informed the group that the NSF has “some 60 programs” at various levels and scales that it supports. Half of them are managed in EHR. The programs range from “focused programs” which center exclusively on either underrepresented minorities, to those that spotlight women, and others that emphasize persons with disabilities. Still, there are other programs where “diversity is a central element that is embedded within the thrust of the entire program,” she explained.

Newer directions NSF has taken include its *Innovation through Institutional Integration* program (I<sup>3</sup>). This program allows the agency to address areas such as centrally broadening participation and addressing the issue of critical educational junctures, the integration of research in education which is a hallmark approach at NSF, a globally engaged workforce, as well as research and evaluation as a cross-cut to all of these issues. All of this, Ward described, occurs in the context of a global and cyber-enabled world. Basically, the program was designed to challenge faculty, administrators, and institutions of higher education “to think more strategically about the creative integration of NSF-funded awards, towards a whole that exceeded the sum of its parts,” she explained further. The agency’s approach, increasingly, is to look across the Foundation to see what it is doing in this area to move forward more robustly. Ward concluded by sharing the range of activities in which the NSF has supported professional associations on the topic of broadening participation.



### Policy and Legal Environments Affecting Issues of Access and Diversity



Arthur L. Coleman, EducationCounsel LLC

Stepping back from the programmatic and specific agency details, Coleman provided a “big-picture” look at the policy and legal environment that affects issues of access and diversity, focusing on science education and the science professions. He cautioned the audience that this was more than just an issue for lawyers. His perspective from working with colleges, universities and national associations around the country, is very much an institutional perspective, he stated. He stressed that “you have to know that terrain” and what is permissible. He concurred with Kington that “this is ultimately about the research and the evidence base to then drive good results.”

The question, he posited, is “what is the evidence?” Coleman suggested that “good policy development, while importantly focused on the legal sphere, has to be correspondingly focused on the question of research and data.” He counseled, however, that “the perfect cannot be the envy of the good” and stressed that it is his “strong belief” that “we know more than we sometimes give ourselves credit for.”

Coleman also stressed that in addition to the best research and data, it is also important to focus “on building stakeholder understanding and public will and support.” He explained that the dynamic we see “shifting literally before our eyes now” is moving from the “court of law to the court of public opinion.” Echoing Kington’s point on the imperative of “tackling hard and unpleasant evidence,” he emphasized that it is important to “let facts, as opposed to ideology, drive this conversation.”

Citing the Supreme Court affirmative action decisions in Grutter v. Bollinger and Gratz v. Bollinger, Coleman observed that these University of Michigan cases “framed a compelling case about their institutional mission-driven imperative.” That model, he contended, whether you are sued or not, “is a foundation for broad success in the political as well as the legal enterprise.” Noting NSF’s efforts to integrate its programs, Coleman argued that “if you follow the theory about the benefits of diversity in education and in science more specifically... there has to be that integration because while the numbers are critically important . . . they are the necessary-but-not-sufficient condition for achieving the kind of benefits we say we care about in education and in society.” Highlighting the majority’s opinion in the Law School case, and the Court’s emphasis on the “substantial” and “real” educational benefits of diversity, Coleman explained that the arguments “are the foundations for them accepting the [University of Michigan Law School’s] argument that the benefits of diversity could justify some race and ethnicity-conscious practices. It was compelling. There was social science evidence, there was institutional evidence, there were specific perspectives brought to the table that convinced, in that case five justices out of nine.”



Why do we care about diversity as an educational enterprise, Coleman asked. "If you understand the ultimate theory that diverse teams actually push and challenge and force new perspectives that lead to better thinking, that lead to better solutions, and ultimately lead to better outcomes, you actually understand that there's no specific area around where diversity works and doesn't," he answered. And, he argued, "this isn't just about the educational benefits . . . but this is about the economic imperative, thematically," as laid out by Kington and Ward. It is also about national security and the U.S. having the kind of military it needs, Coleman concluded.

A transcript of the March 12th briefing and the speakers' PowerPoint presentations are available on the web at <http://www.cossa.org/diversity/diversity.html>.

The House Diversity and Innovation Caucus led by Reps. Eddie Bernice Johnson (D-TX), Silvestre Reyes (D-TX), Michael M. Honda (D-CA), G.K. Butterfield (D-NC), Ruben Hinojosa (D-TX), and Zoe Lofgren (D-CA) promoted the briefing. The Caucus was created in 2007 to: Generate policy ideas for increasing the participation of groups underrepresented in the fields of Science, Technology, Engineering, and Math (STEM); Articulate the importance of pro-STEM and pro-innovation policies for groups under represented in STEM; Communicate the importance of promoting diversity in STEM for the achievement of America's innovation and competitiveness goals; and Work with Congressional Leadership and relevant committees to ensure that innovation and competitiveness policy is shaped in such a way that it takes advantage of the potential offered by minority communities and by women, groups that are both under-represented in the STEM fields.

The organizations of the Collaborative for Enhancing Diversity in Science (CEDS) believe that collaboration is essential to enhancing recruitment and retention of underrepresented racial and ethnic minorities in science. CEDS seeks to forge opportunities for its member organizations to work together, learn from each other, and develop common approaches, where appropriate. In February 2008, led by COSSA the groups held a leadership retreat. The report with recommendations resulting from the meeting, *Enhancing Diversity in Science: A Leadership Retreat on the Role of Professional Associations and Scientific Societies*, is available at <http://www.cossa.org/diversity/diversity.html>.



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The Consortium of Social Science Associations (COSSA) is an advocacy organization promoting attention to and federal support for the social and behavioral sciences.  
UPDATE is published 22 times per year. ISSN 0749-4394. Address all inquiries to COSSA at [newsletters@cosa.org](mailto:newsletters@cosa.org)

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