SCIENCE EDUCATION AND CAREERS

AAAS promotes science education and literacy as well as a diverse science and technology workforce through its dynamic and varied career and education programs. Those programs aim to support all individuals who are engaged in science and technology, helping provide the career resources they need to achieve their maximum potential.

Project 2061: Promoting Science Literacy

Whether working in schools or science museums, with educators in the United States or China, AAAS's Project 2061 continues to advance literacy in science, mathematics and technology.

With a new $2.4 million grant from the U.S. Department of Education, Project 2061 is developing instructional units designed to help middle-school students understand the core chemistry behind biological processes such as the synthesis of structural proteins that make up muscle, skin and hair, one area where its research is currently focused. At the same time, the units will take advantage of a variety of models—from LEGOs and two-dimensional drawings to computer simulations—to engage students with different learning styles in making sense of increasingly complex ideas.

To help improve science literacy around the critical issue of global climate change, Project 2061 hosted a two-day conference on climate literacy and how to foster it through informal learning experiences at science centers, museums, zoos and aquariums as well as through media projects and community programs. The conference was supported by the National Science Foundation, which also provided support for conference participants to attend the AAAS Annual Meeting in San Diego.

Project 2061's work continues to be influential at home and abroad. In 2010, for example, Project 2061 staff welcomed a delegation of Chinese educators and university officials and then traveled to Shanghai, Seoul, and Kigali, Rwanda, to provide training to science educators. Project 2061 also provided professional development for U.S. teachers, curriculum specialists, textbook publishers, education researchers, and teacher education faculty. “We are available to work with people around the world who are serious about improving science education,” said Project 2061 Director Jo Ellen Roseman.

“GET SET” for Better Science Teaching

When middle-school students at Sacred Heart School in Washington, D.C., correctly identified a mechanical problem in a solar power circuit, something new occurred in their classroom: The students started talking about careers in engineering.

Researching ways to engage students in science and to get underrepresented students to succeed in science, technology, engineering and mathematics (STEM) is the focus of the AAAS initiative called GET SET, or Global Education for Tomorrow in Science, Engineering and Technology. Supported by nearly $1.5 million from the National Science Foundation, the program offers project-based STEM experiences during the school day, after school, and during the summer for students. Professional learning experiences for teachers occur after school, on Saturdays, and during the summer.

Sacred Heart students as well as students from seven other schools built model wind turbines and solar power systems in a GET SET after-school program called the AAAS Spark Club. The impact of
Spark Club and all of the GET SET standards-based STEM experiences will undergo an independent assessment by Campbell-Kibler Associates, Inc.

**Survey: Women Still Face Obstacles**

More women than men are obtaining doctoral degrees, but they’re less likely to enter and remain in scientific careers, according to a survey conducted by AAAS and *Science* at the request of L’Oréal USA. While women with doctoral degrees in science and engineering represented a third of faculty positions as of 2006, only about 11 percent of full-time faculty in engineering, and less than one-fourth in computer sciences were women.

Policymakers and employers need to “smooth the path so that we can make better use of the talent that is represented by women,” said Shirley Malcolm, director of Education and Human Resources at AAAS, adding that U.S. competitiveness and innovation benefit from diversity in science.

**Noyce Teacher Scholarship Program**

Two complementary themes, high expectations and high standards, headlined at the 2010 Robert Noyce Teacher Scholarship Program Conference. In a keynote speech at the conference, which is organized by AAAS, Science Editor-in-Chief Bruce Alberts emphasized the value of new, voluntary national science education standards, saying the term “science education” needs to be redefined because it focuses far too often on memorization of science words. In another conference session, Jason Kamras, a former National Teacher of the Year, told Noyce grantees, undergraduate and graduate students and teachers to “believe without a doubt that every single one of your kids … can achieve at the highest level.”

The Noyce program, which began in 2002, makes grants, mostly to universities, to recruit students and professionals in science, technology, engineering and mathematics, who then become K-12 teachers in high-need school districts. Since the program began, it has trained 7,700 teachers. It is funded by the National Science Foundation.

**Internships Offer an “ENTRY POINT!”**

To increase diversity and innovation while welcoming persons with disabilities into the science and technology fields, AAAS helped connect disabled science and engineering students with internships at leading companies and government research agencies across the country during the 14th year of its program known as ENTRY POINT!

“The scientific and engineering workforce is incredibly competitive, and to advance, networking and internships are absolutely critical,” said Winnie Rodriguez, program associate in AAAS Education and Human Resources.

The AAAS Project on Science, Technology and Disability also organized a meeting of engineers with disabilities, who talked about their challenges and the measures they had taken to surmount them to be successful.

**New Handbook for Building Campus Diversity**

Diversity in the science and technology community helps ensure that science- and technology-related products, services and solutions are competitive in an increasingly multicultural and global economy. In the United States, however, racial and ethnic minorities, women and persons with disabilities hold only one-fourth of science and engineering jobs.

To address such discrepancies, AAAS and the Association of American Universities have released a handbook with legally sustainable ways to increase student and faculty diversity. The handbook demonstrates methods for considering factors such as socioeconomic status and a candidate’s success in working with and fostering participation by people from a broad range of backgrounds.

**SACNAS Summer Leadership Institute**

The 2010 Summer Leadership Institute of the Society for Advancement of Chicanos and Native Americans is co-organized and hosted by AAAS. Featured speakers in 2010 included Yvette Roubideaux, the director of the Indian Health Service, and Cora Marrett, then acting director of the National Science Foundation. The institute participants, postdocs and early- and mid-career scientists acquire skills and tools to support their aspirations to become leaders in their fields and institutions. The institute is funded by the National Institutes of Health.