

# Intentional equity

Over a decade ago, when I was chief scientist at the U.S. National Aeronautics and Space Administration, I spoke at a conference called Women and Science: Celebrating Achievements, Charting Challenges. I lauded women working in astrophysics, government, and science policy in the United States and elsewhere, but said that progress was mixed—the veneer of success for women across the sciences, and in science leadership, was too thin across the globe. What has changed since then? Cultural barriers, a lack of enlightened policies, and the need for role models and support systems still exist worldwide. However, today there is good reason to be optimistic. The international scientific community is coming together intentionally to acknowledge and tackle gender equity.

This year, I made my first trip as the U.S. National Science Foundation (NSF) director to the Next Einstein Forum (NEF) in Africa, where I was on a panel discussing women in science, technology, engineering, and mathematics (STEM) fields. Scientists, engineers, and innovators from across the continent—women and men—all were hungry for change and fighting for equality. A resulting declaration committed to prioritizing the enrollment of women in STEM programs at the tertiary and postgraduate levels in Africa. I also was in India for the annual meeting of the Global Research Council (GRC), where heads of research funding agencies took up the issue of gender equity in STEM research. Even though I was the only woman (until then) on the 12-member governing board, everyone agreed to a statement of actions that countries could implement to further gender equity in STEM fields, including gender considerations in research design and analysis. The GRC board committed to collect and share data to chart progress.

The global economy, too, is now being viewed through a gender equity lens. Japan, host country of the May 2016 G7 Science and Technology Ministers' Meet-

ing of leading industrial nations, is encouraging G7 nations to lead efforts in “inclusive innovation” to ensure that everyone accesses and benefits from science and technology. Further, the final G7 report encourages the development of “policy and working environments in which equal opportunity allows women to exert their abilities [and] advance their career prospects.” Such changes help STEM equality and will attract and

retain talented women in STEM careers.

What about the United States? Women now earn about half of all science and engineering bachelor's degrees, yet they account for only 30% of the U.S. science and engineering workforce. In some STEM fields, such as mechanical engineering, the percentage of women is in the single digits. NSF will continue to advance equity through data-driven decision-making. Our Career-Life Balance Initiative, for example, mitigates factors that can negatively affect women's ability to carry out research, especially during the early years of their careers. NSF's ADVANCE program encourages universities to use institu-

tional data about recruitment and retention to develop structural changes to improve representation and advancement of women. These deliberate actions by NSF complement the research that NSF supports in the science and practice of STEM gender equity. Projects range from computer programming camps to encourage girls, to studies on creating classroom environments that attract and retain female students. One of our newest initiatives, NSF INCLUDES, is fostering innovative alliances and networks that can scale up effective methods for addressing shortages and broadening the participation of women and others who are underrepresented in STEM fields.

Ensuring global equity for women in science and engineering research requires personal commitment to action within one's own sphere of influence. It is a call to action we all must embrace.

—France A. Córdova



France A. Córdova is director of the U.S. National Science Foundation, Arlington, VA, USA.



**“...global equity for women in science...is a call to action...”**



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France A. Córdova (July 28, 2016)

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Editor's Summary

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