

### *Under-represented Minorities in the Scientific Workplace*

The Association for Women in Science (AWIS), a national nonprofit organization that advocates for the interests of women in science, technology, engineering, and mathematics (STEM), strongly supports the promotion of diversity in the academic and corporate scientific workplace. A diverse scientific workforce as exemplified by race/ethnicity, gender, sexual orientation/gender identity, religion, color, national origin, disability, and age has been shown to benefit not only individual scientists but also the national economy. In fact, industries that have made efforts to enhance diversity in their workplace argue that increasing diversity can serve to improve innovation, productivity, and global competition. The numbers of women and under-represented minorities (URM) in the STEM disciplines have greatly improved over the past several decades, but institutional efforts to recruit, train, retain, and promote their participation in STEM fields are still inadequate.

AWIS encourages individuals and institutions to step forward and take a leadership role in the advancement of diversity in the STEM disciplines. AWIS believes that a diverse scientific workforce will increase the variety of perspectives, life experiences, and approaches in the workplace. This, in turn, can serve to enhance science and has the potential to generate a broader range of discoveries that will enrich all societies.

#### **Under-represented Minorities\* in STEM Education**

Although the number of URM scientists and engineers is increasing, there is a continuing need for programs directed towards recruiting and training more URMs in STEM careers. In order to improve representation of URMs in STEM disciplines, academic institutions must create a climate in which URMs can realize their full potential. *AWIS recommends that academic institutions*

- Support the continuation of programs that promote the advancement of URM students in the STEM disciplines.
- Develop new programs that offer URM students opportunities to engage in activities related to STEM fields, such as research.
- Regularly evaluate the progress of new and existing programs and determine areas where improvement is needed, using surveys to determine the opinions of students, faculty, and administration.
- Increase the representation of URM in STEM faculty positions to facilitate mentoring relationships between URM students and STEM faculty members.

\* The federal definition of under-represented minorities in STEM disciplines includes African-Americans, Hispanics and Native/Alaskan Americans. Asians and Asian-Americans will be the focus of a forthcoming AWIS Position Statement.

#### **Under-represented Minority Employment in STEM Fields**

Although the “urban myth” is that the number of URMs qualified for faculty positions in STEM fields is exceedingly small, studies supported by the National Science Foundation (NSF) and other research agencies show that the proportion of URMs awarded degrees in STEM disciplines has risen markedly in the past 30 years. The pool of African Americans and Hispanics with doctorates in

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science and engineering is therefore considerably larger than generally assumed. Consistent with the increase in native-born minorities in the doctoral-level workforce in recent years, there is a higher proportion of URMs among younger workers than older workers. A major question is whether the increasing proportions are reflected in the faculties of colleges and universities, where URMs serve as important role models for future generations. AWIS asserts that the increasing numbers of URMs with doctorates in STEM fields should be reflected in a far greater number of URM hired as junior faculty than is currently the case. *AWIS recommends that academic institutions*

- Offer workshops that address diversity and cultural awareness issues to academic administrators and faculty.
- Exercise quality control in diversity training programs, and conduct follow-up to determine whether action has been taken and progress made as a result of these programs.
- Provide department chairs and deans with professional development to inform their leadership decisions regarding departmental climate and evaluation issues.
- Encourage administrators to establish goals for the hiring and retention of URM faculty and collect data on the progress made.
- Assemble diverse search committees and coach the members on how to interpret evaluation letters written for URMs and women.
- Hold chairs accountable for providing equitable start-up packages for newly hired faculty.
- Achieve a representation of URM faculty adequate for their URM students, and provide evidence through published data.

#### **Under-represented Minority Women in STEM Fields**

As our nation progresses towards an increasingly technological and scientifically complex society, it is important that every American receive an equal opportunity to achieve and contribute to the STEM disciplines. AWIS strongly encourages programs, such as the NSF's ADVANCE program, which seeks to increase the participation and advancement of women in academic science and engineering careers. At the undergraduate level, URM women are slightly more likely than white women to major in STEM fields, while at the doctoral level URM women are slightly less likely than white women to achieve a PhD in STEM. Nonetheless, in 2004 and 2005 the number of Hispanic, African-American and Native American/Alaskan Native women earning doctorates in science, engineering and math totaled 1640, representing almost 12% of all PhDs awarded to women in these two years. These numbers suggest that URM women should be a good source of future U.S. scientists. However, science departments of U.S. research universities currently show fewer URM women among assistant professors than would be expected by their representation among PhD recipients. The under-representation of URM women scientists in research universities shows a pattern that is more similar to that seen with all women scientists than to the pattern seen with URM men among science faculty. AWIS encourages academic institutions to support the fundamental work necessary to broaden participation of URM women in STEM fields. *This can be achieved if academic institutions*

- Continue to support and promote the development of programs, such as ADVANCE, that seek to cultivate a broadly inclusive science and engineering workforce.
- Increase efforts to recruit minority women to faculty positions.

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- Disaggregate hiring, promotion and retention data to determine why the proportion of URM women in faculty positions lags behind that of URM men.
  - Provide appropriate academic and personal mentoring for URM women in the STEM fields.
  - Facilitate regular meetings with administration, faculty, and students to address issues affecting minority women in the STEM fields.

### **Beyond the Double Bind for Women of Color**

Exacerbating the lack of women of color as scientist role models for women students is a pattern in which the few successful URM women are rapidly moved into non-faculty and non-science jobs. Administrators in universities, industry, government agencies, and non-profit organizations who wish to demonstrate diversity are attracted to the idea of getting 2-for-1. Consequently, the few women of color who are hired for faculty positions are often asked to assume administrative responsibility for both gender and racial/ethnic diversity, while they are still climbing the tenure ladder. If this occurred after they had achieved the rank of full professor and had made a mark within their scientific community, such recognition might be advantageous. However, asking them to carry the total diversity burden at their universities while still relatively junior not only removes them from the scientific community but, in most cases, undermines their scientific careers because of insufficient time to focus on teaching and research. *AWIS urges administrations to*

- Spread the administrative responsibility for diversity and mentoring among several faculty members, including women and minorities.
- Facilitate the participation of minority women in STEM activities within and outside the institution.

### **References**

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