INCREASING THE PARTICIPATION OF UNDERREPRESENTED GROUPS IN SCIENCE

February 1, 2007

The Honorable Bart Gordon
Chairman
House Committee on Science
2320 Rayburn HOB
Washington, DC 20515

Dear Chairman Gordon:

As leaders of the computing community, we write to request your assistance in clarifying the role of the National Science Foundation in supporting efforts that seek to encourage the participation of women and underrepresented groups in computing, science, technology, engineering and mathematics (CSTEM) disciplines.

As you are well aware, the science and engineering community – and U.S. industry, which relies on the community – has expressed growing concern over the relative under-participation of U.S. students in CSTEM disciplines. The problem is particularly acute in the computing/information technology disciplines where interest among incoming freshman has dropped by nearly 60 percent in the last four years, despite growing job demand in the professional IT workforce. Indeed, in a discipline so critical to our Nation's continued leadership and future competitiveness in the global economy, the Department of Commerce predicts that universities will graduate only half of the needed degree recipients between 2004 and 2014.

The computing community is taking a number of steps to attempt to reverse this trend, including revising introductory curricula in university programs, improving how computing and computer science is taught in grades K-12, working to improve the "image" of computing, and attempting to reach out to women and other groups traditionally underrepresented in the computing disciplines. This last approach is particularly necessary: in 2004-2005, universities offering graduate degrees in computer science and engineering (CS&E) awarded just 14 percent of their CS&E degrees to women and just over 8 percent to underrepresented groups.

NSF, in fulfillment of its mission to "strengthen the U.S. scientific and engineering research potential," has been very supportive of efforts designed to reach out to women and underrepresented groups in CSTEM. Recognizing the magnitude of the problem within computing, NSF has funded efforts within its Computer and Information Science and Engineering (CISE) directorate to address it, including the current Broadening Participation in Computing (BPC) initiative. These programs have good track records of funding efforts within the community that have demonstrated effectiveness – for example, programs and institutions like the National Center for Women and Information Technology (NCWIT), the Computer Science Teachers Association, and CRA's Committee on the Status of Women in Computing (CRA-W), which received the President's Award for Excellence in Science, Mathematics and Engineering Mentoring in 2004.

Our concern is that NSF, while very willing to fund new programs to address these underrepresentation issues, does not have a funding model to support successful efforts on anything approaching a sustaining basis. Unfortunately, there are no other agencies that have shown a willingness to adopt these successful programs once orphaned by NSF, and it has so far proven difficult for industry to fund them on a sustaining level. So successful efforts – even those that have been independently evaluated and demonstrated effective – must be restructured substan-

tially to include new approaches in order to satisfy NSF's guidelines about new programs and receive new funding when their original grants expire (typically in 3 to 5 years). As you can imagine, this is incredibly counter-productive, especially as the need for these programs remains great.

We ask that the Science Committee please review this issue and reaffirm NSF's role in supporting efforts that strengthen the Nation's research potential. We would like to see the Committee encourage NSF, when evaluating programs for funding, to consider existing programs with demonstrated success – especially while the need for the original program remains – rather than focus solely on new approaches. We think this is consistent with NSF's mission and especially necessary given the current problems reaching those under-represented populations, and the amount of time systemic reform requires.

We would welcome the opportunity to discuss this issue with you in more detail at your convenience. Our hope is that there will be opportunity to address the issue early in the new Congress as your committee considers the reauthorization of the NSF and other related competitiveness legislation. We are certainly pleased to offer our help to you and your committee in any way we can.

Thank you for your consideration and your continued leadership as a champion of science in the House.

Sincerely,

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