

GENDER EQUITY

U.S. Agencies Quiz Universities On the Status of Women in Science

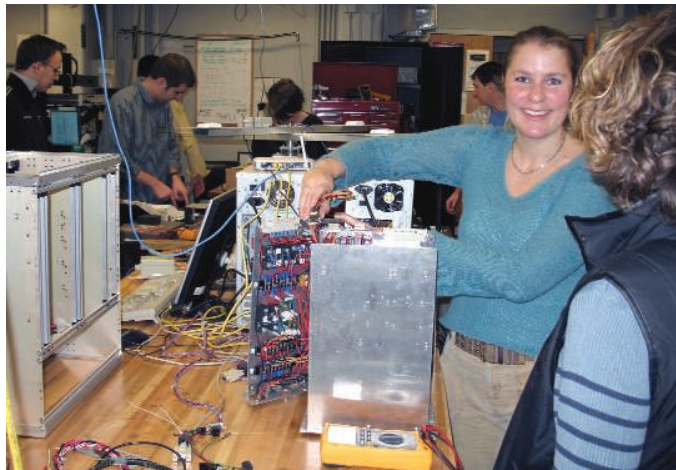
The U.S. government has begun questioning research universities to determine whether their treatment of women students in science and engineering violates federal law. *Science* has learned that officials from the National Science Foundation (NSF), the Department of Energy (DOE), and NASA have visited four academic departments on three campuses in the past 14 months to monitor their compliance with a 1972 law that prohibits sex discrimination in educational programs and activities receiving federal funds. The law's Title IX has traditionally been used to broaden women's participation in high school and college athletics; educators say it's the first time the government has applied it to long-standing gender imbalances in fields such as physical sciences and engineering.

"I'm delighted that a start has been made," says Debra Rolison, a chemist at the Naval Research Laboratory in Washington, D.C., and longtime advocate for the enforcement of Title IX in academics. "This will push science and engineering departments to work harder to recruit and retain female students and faculty."

Women are underrepresented in several areas of U.S. science: For example, only 22% of graduate students in engineering, and fewer than 10% of engineering professors, are women. Although some argue that such imbalances merely reflect personal preferences, others blame a male-oriented culture within many science and engineering departments. A 2004 report by the Government Accountability Office, which scolded NSF, DOE, and NASA for not checking to see whether their grantees are complying with Title IX, prompted the current round of reviews. In 2005, Congress also ordered NASA to do two such reviews a year.

In spring of last year, DOE officials visited Columbia University's physics department to conduct the agency's first-ever

onsite Title IX compliance review. NSF officials did the same thing around the same time at Columbia's electrical engineering department. And NASA officials looked at the aerospace engineering departments at the University of Michigan, Ann Arbor, and the University of Maryland, College Park. In addition to examining grievance procedures, reviewers interviewed dozens of female students and faculty members about access to laboratory facilities and the general climate of their departments, as well as



Team players. Amber Miller's experimental cosmology lab at Columbia University.

gathering data on enrollment and faculty composition. NASA's David Chambers says his team deliberately asked "who was in a leadership position and who was doing the note-taking" as well as whether male and female graduate students were equally likely to get research assistantships. NSF has reported its findings to Columbia, whereas DOE and NASA plan to share reports with the universities this spring.

The nature of those interviews was annoying to some. At Columbia, cosmology professor Amber Miller described her DOE interview as "a complete waste of time." The reviewers "made us write down every piece of equipment in the lab," she says, and whether women were permitted to use each

item on the list. She says the interviewer responded to her generic complaint about a shortage of lab space to press her on whether she felt discriminated against as a woman. "I wanted to say, 'Leave me alone, and let me get my work done,'" says Miller.

Columbia's Department of Physics Chair Andrew Millis thinks that the reviewers' concern about access to equipment suggests that they don't really understand basic academic science. "For God's sake, everybody is so desperate for good graduate students that gender is the last thing that faculty members are looking at when considering applicants," he says. "Frankly, the process has been a little tedious."

But other academics say that questions about climate are appropriate. "To understand if women face barriers, you have to look at the experiences of individuals in the department," says psychologist Abigail Stewart, head of Michigan's Institute for Research on Women and Gender, who was interviewed during the NASA review. Jocelyn Samuels of the National Women's Law Center, a Washington, D.C., nonprofit that has pushed for compliance reviews, applauds the government for looking beyond obvious metrics such as the number of women students and faculty members in a particular department. "Sex discrimination in labs ranges from outright harassment and sexual overtures to expressions of doubt about women's capabilities and exclusion of women from social gatherings where lab matters may be discussed," Samuels says.

Agency officials did not explain the basis for determining compliance and have not said what would happen if they uncover evidence of discrimination. But one DOE official noted that "this is not a 'Gotcha!' exercise. It is just a matter of ensuring that everybody gets equal opportunity."

Whereas DOE and NASA plan to continue their reviews, NSF's Ronald Branch says that an interagency group within the White House Office of Science and Technology Policy (OSTP) is now leading the Administration's effort to monitor compliance. OSTP did not return calls seeking comment.

—YUDHIJIT BHATTACHARJEE