

## **Systems Impact Technology Online**

*By K Kaufman*

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In July of this year, the National Council for Research on Women (NCRW) issued an unsettling report documenting a steady decline in the number of women in computer science departments at U.S. universities. According to the NCRW, in 1999 only 20 percent of all undergraduate degrees in computer science were going to women, down from 37 percent in 1984.

The report notes that “unfriendly and hostile environments” at school and work are a key part of the problem, and calls for more role models, mentoring and support structures to foster women’s advancement in technical fields.

Enter [Systems](#), an online forum for women in technology, whose primary purpose is helping its members to negotiate the subtle sexism, isolation and frustrations they face working in a professional culture that remains essentially male-dominated. Cited by the NCRW for its creation of a global support network for women in computing, the group was started in 1987 by Anita Borg, the visionary high-tech guru who currently heads the Institute for Women and Technology (see sidebar). Beginning with a few women who got together at a technical conference, the list has grown to include an estimated 2,400 members in 38 countries, with a special forum, Systems-students, for women working on computer science and related technical degrees.

According to Robin Jeffries, a user-interface engineer at Sun Microsystems who functions as the group’s administrator or “Systems keeper,” discussions on the list are free-wheeling but focused, with a low tolerance for off-topic chat. (The September 11 terrorist attacks on New York City and Washington, D.C. provided a rare exception to the rule, Jeffries notes, and resulted in a sudden dip in membership.)

For the most part, however, posts to the list range from information on research grants and conferences to questions on how to handle sexual harassment or what to do about hot flashes in the middle of a business meeting. Most members may only post a few times a year, but, many say, they read the list avidly and appreciate the high-quality information and support it provides.

“You can ask any technical question,” says Lena West, a 20-something African American entrepreneur who heads her own technology consulting firm, xynoMedia, in New York City. “You can ask anything that has to do with women in technology, from working in technology and dealing with people who don’t understand your point of view to how to configure a specific kind of server. You’re going to get a knowledgeable

answer and you're going to get help and it's absolutely supportive."

For Dr. Noni Bohonak, who works as a one-woman computer science department at a "commuter campus" of the University of South Carolina, Systers is a virtual lifeline, providing vital contact with a larger community of women in her field. "I know one other woman teaching computer science here, but she's on another campus and it's hard for us to get together," she says. "Just seeing the wide range of women with different backgrounds and seeing what they are saying is really interesting to me. It makes me aware that there are a lot more women out there involved in technology than I actually see."

Isolation and the obstacles to attracting and keeping women in the field are common themes among list members. Dr. Bohonak, who has studied retention rates for women and minorities in computer science, says that something as basic as what department computer classes are listed in can make a big difference in how many women enroll.

"Schools that have their computer science programs in the engineering school tend to get fewer women in the program," she says. "My department got moved to engineering two years ago, and our numbers are definitely down. At one point, we had about 50 percent women in our freshman computer class; this year, we've got 24 freshmen and only two women."

Caitlin Fegan, a 25-year-old Syster who works as a Web developer in Sydney, Australia, says that having other women in her computer science program provided the extra support she needed to complete her degree. At the same time, she thinks the current focus on trying to make information technology (IT) "cool" for girls may be misdirected.

"Some of the women I went to school with were from India and Southeast Asia, where the views about technical education for girls are much more pragmatic," Fegan says. "The gender gap in IT is culturally specific to the West, where individualism and fashion overrule a lot of common sense. In the minds of some cultures, like India, IT has become much like accounting, a well-paid, reliable career choice for the reasonably intelligent children of the middle classes. I actually think that presenting it that way would direct many more women into computer science."

For Lena West, the way forward includes more role models and better media coverage of women in technology, especially African American women. "Everyone says there are no role models for African American women in technology," she says. "We are out there, but there's a disconnect between us and the mainstream media. Look at the CEO of CNBC.com, Pamela Thomas-Graham. She's an African American woman, and no one even knows it. Why isn't she on the cover of what used to be the Industry Standard or

any of the other high-tech business magazines I read?"

Now sponsored by the Institute for Women in Technology, Systers is responding to the need for more focused and diverse support for women in technology with a number of new projects. According to Robin Jeffries, the list has recently started peer mentoring groups – small, online discussion groups that focus on specific topics, such as breaking into management or retraining for Internet-oriented careers. The group is also exploring how to provide more formal, one-on-one mentoring for list members.

Equally important, Jeffries says, the list has matured from its early days to support a broader range of women, including those whose opinions and experiences may not fit the assumptions often made about women in technical fields. "When Systers was starting out, there was a common core of things we agreed on," she says, "like it's important for women to advance in their careers. Now you'll find women who are working, but who are not interested in advancing and who will challenge that statement.

"The real value of Systers is that here are a set of women who probably have a lot of life experiences that are similar to what you're going through," Jeffries concludes. "I have seen women on the list who were thinking of quitting their jobs or completely dropping out of the field, and they have gotten the kind of feedback they needed to stick it out for another semester or look for another job in the same field rather than a different one. They write back, saying I really got back in touch with why I went into this work."