

Connecting Underrepresentation Research and Outreach Practice: Recruiting Women Into Computer Science

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Abstract

K–12 outreach is an important mechanism for recruiting women into computer science. This BoF provides a unique opportunity for those involved in outreach and recruitment to share best practices and to collaborate with researchers of gender underrepresentation. Applying research findings to outreach can result in more effective, sustainable practices.

Intended Audience: This BoF is mainly intended for two audiences:

- *practitioners* who are involved or interested in K–12 outreach and related recruitment activities (This includes faculty, staff, students, and professionals.)
- *researchers* who study gender underrepresentation in computer science and/or formally evaluate outreach and recruitment programs.

Both audiences are equally important, because the BoF’s high-level goal is to foster more interaction between these practitioner and researcher communities.

Description of Topic: How can gender underrepresentation research inform outreach? In this BoF, we will explore the possibilities for synergy between research into gender underrepresentation and programs designed to recruit women into computer science. The SIGCSE Technical Symposium, Frontiers in Education, and related conferences only occasionally publish evaluations and experience reports on individual outreach programs. We know of few opportunities for the community of outreach practitioners to meet as a group. This BoF provides a unique opportunity for the following key activities:

- *exchange best practices related to the delivery and evaluation of outreach programs* – Pooling knowledge and experience is especially crucial when tight budgets mean outreach efforts are under pressure to “get it right the first time.”
- *inform outreach practitioners with a sampling of relevant underrepresentation research findings* – This includes research on factors related to entry and persistence of women in computer science, e.g., prior programming background, self-confidence, and problems

in social context. This is an opportunity for researchers in the audience to directly influence the application of their findings to outreach practice.

- *discuss how to apply these research findings in outreach practice* – For example, outreach designed in direct response to findings from the research literature might be more effective. Grounding outreach practices in research and formal evaluation might also facilitate acquiring and sustaining funding. However, most outreach practitioners work with very limited time and resources, so they need low-cost means of learning about and applying research findings.
- *identify future research directions that would be particularly applicable to outreach efforts* – The BoF is not only an opportunity for practitioners to learn from researchers. We also hope the practitioners, as “consumers” of the research, can suggest new ways in which future research on gender underrepresentation might benefit or be informed by application in outreach.

Intended Outcomes: We view the BoF as a starting point and have identified a number of concrete outcomes to encourage continued collaboration:

- a collaboratively maintained web site (wiki) that summarizes BoF discussions and provides relevant links
- a reading list of useful gender underrepresentation research papers
- a list of future research areas of interest
- follow-up opportunities, including experience reports and solicitation for comments on research papers. Follow-up communication can be supported by the collaborative web site.

Qualifications of Session Leaders: Vibha Sazawal has been active in K–12 outreach for over three years. As an NSF GK–12 Fellow, she gained experience designing and delivering a 7th grade mathematics curriculum, spending 2 days a week in the classroom. She taught “Women, Computing, and Collaborating,” a freshman seminar that she designed to incorporate the results of gender underrepresentation research. The university awarded her the 2004 Graduate Medal in recognition of her outreach efforts.

Ken Yasuhara’s research area is computer science education, and his thesis focuses on the gender gap at the introductory level in computer science. In 2002, his department awarded him the Educator’s Fellowship for his commitment to computer science education. He is currently a research assistant with the Center for the Advancement of Engineering Education (CAEE).