

# The Mentoring Chain Reaction

A panel proposal by the Brown University Computer Science Department

November 1, 2001

The retention of women in the Brown Computer Science department after the first year is traditionally lower than the co-ed retention. As a result, the Brown Computer Science community has actively supported the progress of women in its department via various programs. The focus has shifted from launching new programs to integrating them into a rewarding, efficient pyramid model. Several programs currently exist for undergraduates to mentor high school students and first-years, for faculty to mentor graduate and undergraduate students, and for faculty to mentor faculty. However, the advising is spontaneous and could mature if given a formal pyramid model. In order to reach a male to female ratio of 50:50 by 2020, the expansion of the program is necessary. Inevitably, other academic students and advisors present at the Grace Hopper Celebration would learn how to develop their own program without alienating the rest of the department.

A sampling of current programs:

**The Artemis Project** A five-week summer camp for 15-20 local Rhode Island girls entering high school who have shown strength in the sciences. The program is taught and lead by 3-4 undergraduate WiCS members. The aim is to develop the computer science interests of these students as they embark on the high school transition.

**Girl Scout Outreaches** A Girl Scouts is awarded a science badge if they complete the day's activities of learning about computer science and the use of computers. These events are held twice a year and sponsored by the WiCS group. The aim is to spark interest in girls' minds early and to

open a new world of possible vocations. In addition, this provides a social opportunity for WiCS members of different years to interact.

## **WiCS: Women in Computer Science**

Started roughly eight years ago, WiCS seeks to offer academic, research, outreach, and career opportunities to its members. Run by students and advised by faculty members, it meets socially on a monthly basis and has a student mentoring system. Currently, the group is stressing the importance of graduate level members and focusing on increasing their attendance at the meetings. Within the next few months, WiCS will expand its resources by setting up an ACM-W chapter and joining the CRA-W Distributed Mentoring system.

## **DUG: Departmental Undergraduate Group**

The DUG sponsors "town meetings" for all the members of the Computer Science department to discuss current research opportunities, summer plans, concentration advising, course creation, Group Independent Study Projects (for course credit), and introducing new faculty members. Due to WiCS's role in aiding these meetings, the ratio of men:women is generally very high (almost 50:50) out of the 50 students present. This high ratio ensures that women have a solid footing in the department.

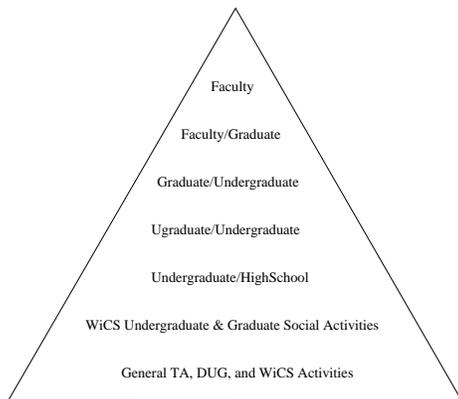
## **Undergraduate Teaching Assistant (TA) System**

At Brown's Computer Science Department, undergraduate TAs have a strong presence in the first two years of courses. As both mentors and academic guides, they encour-

age success in the course for many students. The increased proportion of women in the TA system is inspiring and encourages new students to join WiCS.

**WiCS Alumnae Mentoring** The alumnae have kept a strong connection to WiCS after they graduate and consistently refer academic and occupational colleagues to contacting the WiCS organization for advertising of academic opportunities and career recruiting. WiCS is working towards formalizing the connections into a long-standing program.

These programs, although run by the same group of people, need to be integrated into one model so that redundancies of advising and organizational efforts are not wasted. By September 2002, the following pyramid model will be implemented.



The pyramidal model uses a Mentoring Chain Reaction to efficiently use each individual's time and to maximize the string of knowledge.

The Mentoring Chain Reaction (MCR) is as follows:

- Senior faculty members advise associate faculty members
- Faculty members advise senior graduate-level students
- Senior graduate students advise entering graduate students
- Graduate students advise undergraduate seniors

- Alumnae advise undergraduate seniors
- Undergraduate seniors advise juniors
- Undergraduate upper-class women advise first years and sophomores
- Undergraduates mentor junior high and high school students via Artemis and Girl Scout outreaches

The MCR allows for flexibility, but still provides a pointer on who to first turn to when advising is needed. For example, currently, advising of the graduate school application process is from either a faculty member or on the individual effort of the student. The faculty member can provide general pointers on obtaining recommendation letters and various groups at other departments that he/she has interacted with. However, this meeting may not be the most effective aid to the senior undergraduate who is in the midst of the application procedures. With the MCR, the graduate or alumna mentor would direct the undergraduate student on how to choose schools and guide her in the confusing application process.

For the audience to grasp how these programs currently affect the department and how similar programs can be used in their own departments, a panel will present the methods used in the Brown University Computer Science Department. This panel will include Professor Amy Greenwald, former Artemis Coordinator Seema Ramchandani, and WiCS Coordinator Rachel Weinstein with support from a doctoral candidate, a second-year graduate student, and a sophomore undergraduate. As the activities of Women in Computer Science affect the entire community, statements and interviews of non-WiCS female and male students and faculty will also be a focus. The panel will last roughly an hour with an optional discussion to follow. Documentation on the nature of the program and how similar programs can be started in other schools will be available at the panel as well as at the web page for the MCR.