

# **One Hundred One Ideas for ACM-W Chapters**

**by**

**Gloria Childress Townsend**

Professor of Computer Science

**Stephanie Ball**

**Laura Kuh**

Computer Science Majors  
DePauw University



**SIGCSE**

**2013**

Microsoft®  
**Research**

Original 2005 version revised in 2013 by Gloria Childress Townsend

Top ten hints for applying the 101 ideas:

- 10 The easiest way to begin: Brown bag lunch
- 9 Begin simply; increase complexity, as helpers are found
- 8 Aggressively seek internal and external funding
- 7 Fully engage students in the organization's operation
- 6 Solicit feedback
- 5 Brainstorm ways to conserve time/energy
- 4 Don't be discouraged: recruit "one woman at a time"
- 3 Remember that your efforts will be appreciated forever
- 2 Expect mentoring to be reciprocal and fulfilling
- 1 Start now!

We appreciate Microsoft for supplying two generous grants that enabled the first three printings (a total of 750 books, so far). Our special thanks go to Dr. Revi Sterling, who encouraged us, supported us and believed in the project from start to finish. We also gratefully acknowledge the Association for Computing Machinery Women's Council (ACM-W) for providing Stephanie's funding; and DePauw University, for Laura's.

Special thanks to:

Bettina Bair (bbair@cse.ohio-state.edu)  
Paula Gabbert (paula.gabbert@furman.edu)  
SIGCSE Committee on Expanding the Women-in-Computing Community

This work is licensed under the Creative Commons Attribution-NoDerivs License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nd/2.5/> or send a letter to Creative Commons, 559 Nathan Abbott Way, Stanford, California 94305, USA.

*Gloria Childress Townsend* (gct@depauw.edu)  
*June 30, 2005*  
*July 26, 2013 (second edition)*

# Table of Contents

## Academic

1.	Start an ACM-W Chapter	7
2.	High School Students Shadowing College Students	8
3.	College Students Shadowing Professionals	9
4.	Departmental Posters	9
5.	Poster Session	9
6.	Interdisciplinary Posters	10
7.	Banquet/Award Ceremonies	10
8.	Advisory Board	10
9.	Newsletter	11
10.	One-on-One Mentoring	11
11.	Group Mentoring	12
12.	Tri-mentoring	12
13.	Peer Tutoring	12
14.	High School Tutoring	13
15.	Class Report	13
16.	Make a Website; Create a Facebook Group	13
17.	Study Sessions for Classes	14
18.	Study Sessions for GRE	14
19.	"Take Apart Your Computer" Day	14
20.	Community Colleges	17
21.	Research Presentation	17
22.	Visit Universities	17
23.	"Meet the Grads" Night	18
24.	Bulletin Boards	18
25.	Scrapbook	18
26.	Testimonials	19
27.	Buddy System	19
28.	Women's History Month; Computer Science Education Week	19
29.	Communication Workshop	20
30.	Book Discussion	20
31.	Lab Welcoming	21
32.	Ice-breaking session	21
33.	Invite a Friend	21
34.	Interdisciplinary Activities: Double Majors	22
35.	Interdisciplinary Activities: Alumnae	22
36.	Gaining Confidence	22
37.	Combined Event	23
38.	Research	23
39.	Laboratories Assistants	23
40.	Book Club	24
41.	Oral Histories	24

42.	Science Fair	24
43.	Brain Games	25
44.	Graduate School Information Sessions	25
45.	Visit High Schools	25
46.	Programming Contests	26
47.	Refuting Stereotypes: Image Contest	26
48.	"Debunking the Geek" Workshop	27
49.	"What is COMPUTER SCIENCE, by the Way?" Showcase	27
50.	Luncheon	27
51.	New Majors	28
52.	Self-Defense Class	28
53.	Open House	28
54.	Hat Discussion	29
55.	First-year Orientation	29
56.	Conferences	30
57.	Imagine Cup Workshops	30
58.	Graduate School Applications	31
59.	Using LinkedIn Effectively	31
62.	Robots	32
63.	Sexual Harassment	32
69.	Interview Questions Database	35
70.	Scholarships and Grants Database	35
71.	Internships Database	35
72.	Research Opportunities Database	36
79.	Achievement Parties	42
97.	Meet the Faculty Luncheon	53
98.	Role-modeling Luncheon	54
101.	Summer Camp	55

## **Professional**

3.	College Students Shadowing Professionals	9
12.	Tri-Mentoring	12
16.	Make a Web Site	13
35.	Alumnae with Interdisciplinary Degrees	22
56.	Conferences	30
58.	Graduate School Applications Workshop	31
59.	Using LinkedIn Effectively	31
60.	How to Network	31
61.	Resume Building Workshop	32
65.	Job Hunts	33
66.	Mock Interviews	34
67.	Lectures	34
68.	Panel Discussions and Roundtables	34

69.	Interview Questions Database	35
71.	Internships Database	35
72.	Research Opportunities Database	36
77.	Ice Cream Parties	41
83.	Design a Business Card	45
96.	Professional Luncheons	53

## **Service**

14.	High School Tutoring	13
20.	Community Colleges	17
42.	Science Fair	24
45.	Visit High Schools	25
64.	Community Workshop	33
73.	High School Computer Science Demonstrations	36
74.	Girl Scout Badges	39
75.	Grade School Visits	39
76.	Philanthropies and Community Service Days	41

## **Social**

2.	High School Students Shadowing College Students	8
3.	College Students Shadowing Professionals	9
4.	Departmental Posters	9
10.	One-on-One Mentoring	11
11.	Group Mentoring	12
12.	Tri-Mentoring	12
23.	"Meet the Grads" Night	18
24.	Bulletin Boards	18
33.	Invite a Friend	21
37.	Combined Event	23
40.	Book Club	24
47.	Refuting Stereotypes: Image Contest	26
48.	"Debunking the Geek" Workshop	27
53.	Open House	28
54.	Hat Discussion	29
55.	First-year Orientation	29
56.	Conferences	30
62.	Robots	32
77.	Ice Cream Parties	41
78.	Holiday Parties	41
79.	Achievement Parties	42
80.	"Sexiest Geek" Party	42

81.	Movie Night	43
82.	T-shirt Design Contest	43
84.	Starting New Clubs and Building Existing Clubs	45
85.	Revamp Display Cases	45
86.	Computer Jewelry	46
87.	Exercise Group	48
88.	Computer Science Lounge	48
89.	Stress Relief	49
90.	Communication Tools	49
91.	Organized Outings: Students' Choice	50
92.	Organized Outings: Dinner	50
93.	Organized Outings: Shopping Trips	50
94.	Organized Outings: Sporting Events	51
95.	Senior Celebration	52
96.	Luncheons: Professional	53
97.	Luncheons: Meet the Faculty	53
98.	Luncheons: Role-modeling	54
99.	Blogs	54
100.	Scavenger Hunts	54
101.	Summer Camps	55

# 1. Start an ACM-W Chapter

## *Academic*

Description: If a "women in computing" organization already exists at your school, please think seriously about transforming it to an ACM-W chapter. If no organization exists, consider chartering an ACM-W chapter; just two student officers can launch a chapter.

Benefits: Starting an ACM-W chapter immediately connects students throughout the world to students in schools that already have ACM and ACM-W chapters. ACM is recognized internationally as the premier professional organization for computing professionals, so an ACM-W chapter and its members have instantaneous recognition and respect. An ACM-W chapter also builds a support network for students who are underrepresented and allows wonderful leadership opportunities (in a nurturing atmosphere) for many women.

Having an ACM-W chapter allows the organization to compete with all ACM and ACM-W chapters to win annual \$500 awards in five Chapter Excellence categories. Students in ACM-W chapters are also eligible for UPE/ACM student chapter scholarships. Chapter members may access the Digital Library (plus additional publications) and use the free ACM Distinguished Speakers Series.

Group Size: Two or more

### ***Benefits from Specific ACM-W Chapters***

***Texas A&M:*** "Becoming an ACM-W chapter 'legitimized' our Women in CS group. For example, in the past, the annual Departmental Awards Banquet excluded our organization, but this year AWICS was included for the first time, because it was a recognized chapter of a national organization."

-Nancy Amato

***Furman University:*** Allows both men and women to join ACM-W.

-Paula Gabbert

***DePauw University:*** Creates an alliance between ACM and ACM-W to end divisiveness and to strengthen each organization through joint activities, sharing officers, and sponsor coordination.

-Gloria Childress Townsend

***Central Indiana Regional ACM-W Chapter (Butler, Indiana and DePauw Universities; Rose-Hulman Institute of Technology):*** Forms a regional consortium for the purpose of creating "critical mass" by connecting several small organizations, where each school maintains its own identity and many separate activities, but the schools also plan joint activities on a grander scale.



The Ohio State University ACM-W chapter officers spell out ACM-W!

## **Shadowing**

### ***2. High School and College Students***

#### *Academic & Social*

Description: Pair high school students with college students. The undergraduate should invite the high school student to spend the day with her, attending classes and eating meals together. (High school vacation days work well.)

Benefits: High school students will learn more about a college computer science major, since many high schools hide computing courses within business departments.

Shadowing may help girls with their future plans after high school. The college student also provides a positive image of a “scientist” for the high school girl.

Group Size: Unlimited groups of two



### **3. College Students and Professionals**

*Social & Professional*

Description: Pair female college students with female professionals in the students' desired career field. A student can spend the day with the professional at her place of work.

Benefits: Shadowing a computing professional allows a student to receive an insider's view of a career field she is considering, while revealing to her the necessary skills she needs to acquire, in order to thrive in the environment. Additionally, alumnae maintain closer ties with their former major department.

Group Size: Unlimited groups of two

## **Posters**

### **4. Departmental posters**

*Academic and social*

Description: Gather a group of students to make posters advertising all of the departmental events. Alternately, students may create posters advertising course offerings for the upcoming semester, focusing on the fact that just one computer science course can be beneficial regardless of the person's major.

Benefits: Poster making provides an opportunity for socialization among the women in the computer science department, while also providing the rest of the campus with information about the department.

Group Size: Large

### **5. Poster Session**

*Academic*

Description: Organize a small poster session for students who have conducted summer research and participated in internships. (Consider a cooperative effort with the local ACM student chapter.)

Benefits: Invite friends, computer science majors, members of introductory computing classes, faculty members, etc.

Group Size: Small

## **6. Interdisciplinary Posters**

*Academic*

Description: Ask for volunteers who are double majors and who would like to be profiled in a poster display destined for the computer science lounge/laboratory area. Create high-quality posters, explaining how the individuals combine computer science with another major. The interdisciplinary areas of research between biology and computer science seem particularly attractive to women and should be emphasized as much as possible.

Benefits: These posters will help students see that computer science is compatible with almost any field and that pursuing a degree in computer science does not limit one to programming.

Group Size: Small

## **7. Banquet/Award Ceremonies**

*Academic*

Description: Reward academically outstanding students by recognizing them at an end-of-semester banquet. Rewards can include gift cards for local restaurants or stores, plaques, or certificates. Be sure to include at least one "most improved" award.

Benefits: An award ceremony makes an already rewarding experience that much more enjoyable, while role models encourage all students to strive for excellence.

Group Size: Large

## **8. Advisory Board**

*Academic*

Description: Students in the computer science department are elected by their peers (or appointed by faculty members) to form a committee that meets periodically with faculty members in the department. Students and faculty discuss issues such as curriculum, department activities, and any problems that arise during the school year.

Benefits: The creation of an advisory board allows students to deal with problems in a professional manner, helping to prepare them for life outside of school and to build a resume that balances technical skills with leadership skills. An advisory board also improves communication (maintaining a healthy department) and helps deflect problems for future students.

Group Size: Small

## **9. Newsletter**

*Academic*

Description: Form a group of students who are responsible for writing a monthly newsletter. Topics for the newsletter may include articles from the alumnae or faculty, senior profiles, advice from students, lists of upcoming events, etc. The newsletter can be a hardcopy or e-form. Print a large copy for the bulletin board.

Benefits: A newsletter keeps all women in the computer science department informed and connected to each other while giving the students in charge an experience that can be useful when looking for a job.

Group Size: Small

## **Mentoring**

### ***The Benefits of Mentoring***

Previous research [1, 2, 3, 5, 11, 13, 15, 16, 20] points to the benefits of mentoring for women in computing. Mentors pass on valuable help and advice in a field where male students thrive and seem to be members of a computing 'fraternity'. Mentoring can alleviate women's sense of being 'left out' and provide more tangible benefits as well: graduate school or career planning, for example.

## ***10. One-on-One Mentoring***

*Academic & Social*

Description: Pair younger female students with older female students based on similar interests; use an application form, asking students to record campus activities, other interests, career goals and comments in an open-ended "anything else you would like to tell us in order to match mentors and mentees". Make sure that someone in the organization is made explicitly responsible for driving group activities and sending emails at regular intervals with conversation suggestions, so momentum begins early and continues to build.

Benefits: One-on-one mentoring provides much more quality time and promotes a closer relationship between mentor and mentee.

Group size: Unlimited groups of twos

## **11. Group Mentoring**

*Academic & Social*

Description: Randomly assign one older female student to a group of younger female students.

Benefits: Group mentoring provides the younger students with a support group full of valuable knowledge and resources. Random assignment allows for diversity within the group.

Group size: Unlimited

## **12. Tri-Mentoring**

*Academic, Social, & Professional*

Description: Forming groups consisting of a female first-year or sophomore, a junior or senior and a member of the computer science faculty. Different groups can consist of a high school student, undergraduate student, and faculty member; undergraduate, graduate, and faculty member; or undergraduate, graduate, and professional. Again, make sure that someone in the group is made explicitly responsible for driving group activities so momentum begins early and keeps going.

Benefits: Provides all three members with a support network, where each person supplies a different point-of-view of the computing discipline.

Group size: Unlimited groups of three

# **Tutoring**

## **13. Peer**

*Academic*

Description: If at all possible, find funding for departmental tutors. (In extreme cases, where no funding can be secured, ask student volunteers to tutor their peers in specific classes.) Tutors can sign up for time slots; the information can be emailed to majors; and students can meet the tutors in the computer labs or in special reserved rooms. Strive to create the ideal balance of men-to-women, international-to-US, etc. The tutors have good contacts with new students; they are ideally positioned to recruit new majors.

Benefits: In most cases, both the tutor and the student can learn and benefit from each other. The tutor will be able to brush up on her skills from the lower-level classes and practice interpersonal, communication and teaching skills, while the student can learn many helpful tips from the tutor. If student tutor pro bono, remember to include the impressive detail in future letters of recommendation.

Group Size: Small

## **14. High School**

### *Academic & Service*

Description: Ask for volunteers to tutor local high school students, using a location on the high school campus.

Benefits: The tutor mentors a younger student, while making an important service contribution to the community. High school tutoring also exposes younger students to the field of computer science at a crucial time, when students are beginning to form ideas of what they would like to do after high school.

Group Size: Small

## **15. Class Report**

### *Academic*

Description: Ask a sponsor from the computer science faculty members to assist in organizing a task force that will publish a report, which describes the female computer science perspective regarding classes, laboratories, etc., and lists a set of recommendations. Allow a representative group to attend a department meeting in order to make a formal presentation and to distribute copies of the report.

Benefits: Reports carry the potential to initiate departmental conversations, which lead to institutional change. The climate of the process encourages untenured female faculty members to address issues that might be difficult to discuss in more traditional meetings within the department.

Group Size: Small

## **16. Make a Website; Create a Facebook Group**

### *Academic & Professional*

Description: Make a "women in computing" website for your school. Include upcoming activities for the women in the department, pictures and descriptions of recent events, and biographies of successful women in a wide variety of interesting computing-related careers.

Benefits: Making a website is a very effective and persuasive way to advertise the benefits of the computer science major and joining the local organization, while preparing for a career in computing. The skills used to make a website will be useful for the author(s) in almost any future venture.

Group Size: Small

## **Study Sessions**

### **17. Classes**

*Academic*

Description: Students from the same classes can meet several nights before a test to review the material and ask questions.

Benefits: An organized study session prevents procrastination. Students are able to combine their knowledge for a better understanding of the material.

Group Size: Medium

### **18. GRE**

*Academic*

Description: Ask faculty members to hold a study session for students interested in taking the GRE. Afterwards, encourage students to review each subject area (such as computer organization) as a group, using at least two sessions where all students prepare for the first meeting using notes and textbooks from previous classes. Individual members of the group prepare presentations that address unanswered questions in a second meeting.

Benefits: Allowing the students to ask experienced faculty members questions about the GRE will calm nerves and kick off the test preparation phase. "Dividing and conquering" further preparation keeps the group on task and lends efficiency to the process.

Group Size: Large

## **19. "Take Apart Your Computer" Day**

*Academic*

Description: Faculty members help female students explore the inside of a computer. Alternately, student volunteers take computers apart with younger students, such as students from a local high school, Girl Scout troop, etc.

Benefits: As young children, girls are not encouraged to explore things on their own, especially a computer – the "boys' domain". Therefore, women are less likely than men to view the computer as a "toy" to take apart and to explore. Participating in a "Take Apart Your Computer" Day gives women a new perspective, demystifies the computer as a black box, and creates a knowledge base that empowers women. Bettina Bair at The Ohio State University offers a "Computer Anatomy 101 Workshop" that is a variation. (See next pictures.)

Group Size: Small



Bettina Bair and ACM-W event for elementary school girls

**For more information regarding Idea #19:**

**Bettina Bair**  
**The Ohio State University**  
**bbair@cse.ohio-state.edu**

"This event turned out to be fairly easy to run. We were lucky to get a lot of equipment donations from CSE faculty, staff and students. We had many old PCs, one Macintosh and even a couple thin clients. There were also several monitors, keyboards, mice, disk drives and various modems and other circuitry. Almost everyone got her own PC to dismantle. (There were a couple of pairs of sisters who worked together on one box.)

It was amazing how fearless the girls were in ripping out circuit boards, disk drives and cables. They also surprised us by asking to take home various parts as souvenirs. One girl was thrilled with her 'brain' (CPU). Another girl dismantled a keyboard to leave us a Thank You note spelled out in key pads.

The best part was seeing everyone successfully identify all of the eleven components in their challenge: CPU, Memory, Bios, Chipset, Video Board, Modem, Soundboard, Motherboard, Fan, Diskdrive and Power Source. Each child went home with a ring of 'mindquest' style trading cards that contained fun facts about all the parts [available online]. These girls are going to be terrific computer scientists someday.

When all the dust settled, we were left with the skeletonized carcasses of a dozen PCs, some lost screw bits, a pile of unclaimed screws, a lot of pictures and many fond memories."

**Cost:** We spent money on printing the trading cards (~\$250), and on stickers (~\$5). Volunteers brought tools, which were loaned out (and mostly returned in good condition). The workshop took about 45 minutes to set up and about 15 minutes to cleanup. We had one practice session for the volunteers, too.



## **20. Community Colleges**

### *Academic & Service*

Description: Statistics indicate that community colleges have a higher percentage of female students receiving degrees in computing-related majors than four-year institutions do. Gather a small group of students to visit a nearby community college and have a meeting, brown-bag lunch, or similar event with women who have related interests. The students can talk about their respective programs and explore ways to continue communication and common events. The community college probably lacks a formal, organized "women in computing" group, allowing the visitors to encourage formation of a sister or joint group.

Benefits: A meeting between a community college and a four-year institution benefits the women's programs of both schools by encouraging retention in both schools and recruitment of the women who will graduate with associate's degrees to the four-year, sister school.

Group Size: Small

## **21. Research Presentation**

### *Academic*

Description: Select several female seniors from the capstone course (Senior Project, Senior Seminar, etc.) for a program where the seniors give advice to younger women. Some or all of the seniors can demonstrate their work for the younger students.

Benefits: This activity provides role-modeling opportunities and helpful advice for younger women from experienced students.

Group Size: Large

## **22. Visit Universities**

### *Academic*

Description: Small- or medium-sized colleges plan a field trip to a nearby large, research institution's campus to visit research project laboratories and/or hear female graduate students talk about their research and their lives as graduate students. For large universities, plan a trip to a nearby small or medium-size college to present research and talk about lives as graduate students.

Benefits: This activity keeps the students up to date on current research and provides undergraduates with insight into graduate school life. Mentoring and practicing presentation skills reward graduate students.

Group Size: Large

## **23. "Meet the Grads" Night**

*Academic & Social*

Description: Invite recent graduates to talk to current students in the computer science department. The graduates should be a mix of people who went to graduate school and people who started their careers right after graduation.

Benefits: Students will receive knowledge about possible paths after graduation and helpful advice about their futures from successful role models.

Group Size: Large

## **24. Bulletin Boards**

*Academic & Social*

Description: Gather a group of students to make announcement boards to be placed in public areas, advertising classes in the computer science department, career possibilities, research posters, pictures of local award winners and women in-the-news, famous women in computing, tutoring opportunities, grants scholarships, ACM-W meetings, etc.. Popular places to post would be restrooms, inside classrooms, and in dorms. Consider fun pictures of officers, blown up to poster size. This also helps to dispel stereotypes. Vicki Allan at Utah State University takes pictures of her officers making a human pyramid on the quad or dressed in prom dresses, tiaras, with sashes stating the students' offices. Another shot shows the officers lying as spokes in a wheel with their heads together.

Benefits: Bulletin boards are a great, informal source of information that could draw curious people to the computer science department, especially if placed in unexpected but highly-visited locations.

Group Size: Large

## **25. Scrapbook**

*Academic*

Description: Organize a group with scrapbook experience to construct a "women in computing" scrapbook. When high school women come for visits, show them the book. When young women in introductory classes talk about majoring or when faculty members suggest it, also share the scrapbook with them.

Benefits: The scrapbook is useful for recruiting young women to the computing field. It shows the advantages and diversity the major has to offer.

Group Size: Medium

## **26. Testimonials**

*Academic*

Description: Host an "Oprah" event: Each woman shares her "most difficult time in computing and how she dealt with problem" or "what I've learned in COMPUTER SCIENCE that may help others", etc.

Benefits: An event like this allows the students to open up and share their experiences with one another, promoting new friendships, understanding and role-modeling.

Group Size: Large

## **27. Buddy System**

*Academic*

Description: At the beginning of each semester, hold a meeting where women can get together and meet the other women in their classes. The students can then pair up with each other (or form small groups) and set up times to meet outside the classroom throughout the semester, so that the class goes more smoothly for each.

Benefits: Previous research has shown that women thrive in smaller classrooms with small group interaction [15]. The buddy system works to achieve that small group interaction with women.

Group Size: Groups of two

## **28. Women's History Month and Computer Science Education Week**

*Academic*

Description: Provide a display for the computer science classrooms area regarding pioneers, including the ENIAC women, Ada Lovelace, and Grace Hopper. Work with the Women's Center, Feminist Studies Department, or the Computer Science Department, etc. to ask a technical female speaker of historical interest to tell her story. Invite as broad an audience as possible. Ask the speaker to lunch or dinner with members of the women-in-computing organization.

Benefits: Honoring women pioneers is a great way to inform people of the achievements that women have made in computing.

Group Size: Medium

## **Women and Communicating**

### ***Breaking the Communication Barrier***

Good communication skills are vital to success in the workplace, but men and women communicate very differently, which can often lead to problems. Understanding these communication differences could be a huge advantage to a woman, who then may be able to strengthen her communication skills in situations where both sexes are involved.

### **29. Communication Workshop**

*Academic*

Description: Find an expert in communication who is willing to volunteer time. Many schools or offices specialize in providing teaching and training for campus groups and departments. Frame the workshop as a general-audience event: How everyone can improve communication practices.

Benefits: At Stanford University, a third of the attendees to this event were male, even though the event was held in the Women's Center – far from the Computer Science building. Communication is a critical part of computing project work success, and the topic had broad appeal. By taking the focus off of women, gender issues in communication can still be part of the discussion. By including both men and women, the focus can shift from what women should "fix" to how everyone can improve communication. (Lilly Irani)

Group Size: Large

### **30. Book Discussion**

*Academic*

Description: Obtain a copy of Deborah Tannen's book *You Just Don't Understand* or *Women and Men in Conversation*, or Linda Babcock's book, *Women Don't Ask: Negotiation and the Gender Divide*. Allow several women who have time to read or skim the books to hold a discussion on women's forms of communication.

Benefits: Books provide good resources to explore the communication barrier between men and women in more depth.

Group Size: Large

## **31. Lab Welcoming**

*Academic*

Description: The uninviting and unfamiliar COMPUTER SCIENCE laboratory environment can be daunting to women. Gather several older students and invite the laboratory assistants and any other student assistants in the department to a discussion session, providing information that will sensitize the students. The lab assistants should be sure to circulate among the students, be friendly, stop to ask how students who don't request help are doing, and not wait for students to summon a tutor.

Benefits: This welcoming session makes the students more comfortable in the lab environment, especially at big schools where labs are dominated by men.

Group Size: Small

## **32. Ice-breaking Session**

*Academic*

Description: Early in the first week of the semester, invite all the student assistants (as well as any faculty members who are willing to attend) to a punch-and-cookies event for women in the introductory courses. Ask each tutor/assistant to provide personal information plus a hint that s/he developed from her/his own experience with the introductory sequence. Explain to the student helpers beforehand that the goals lie in: Demonstrating the approachability of the students/faculty; breaking the ice so that students are more likely to seek help, when they need it; showing students that they "belong" and that the department welcomes them.

Benefits: Students, tutors, and faculty members will be better acquainted and the students will be more likely to seek help from these excellent resources.

Group Size: Large

## **33. Invite a Friend**

*Academic & Social*

Description: Ask women to invite as many women as they can to a lunch or dessert event. Advanced students should briefly describe "why I am majoring in computer science" and "what our classes are like". The sponsor can suggest that taking one, single class can make a difference in one's career choices; that taking the introductory course is a win/win situation; that having no computing background serves as a filter to strain out future options. She also describes the support system in place for women-in-computing.

Benefits: Students with no computing background realize the benefits of taking a computer science course.

Group Size: Large

## **Interdisciplinary Activities**

### **34. Double Majors**

*Academic*

Description: Invite students who are double-majoring or otherwise pursuing interdisciplinary paths, along with faculty members who perform interdisciplinary research to speak about projects. Examples include digital art, artificial life, mathematical simulation, etc.

Benefits: Women are able to see other women pursuing a different path in computer science other than just writing code. These women can be role-models to students who want to use computers as agents to benefit the community.

Group Size: Large

### **35. Alumnae**

*Professional*

Description: Ask an attorney, physician, or veterinarian, etc. who is an alumna to hold a short conversation with the women-in-computing group. Have the speaker concentrate on how the computer science undergraduate degree helped her to succeed in her chosen field.

Benefits: Alternative paths from undergraduate computer science majors are important choices for young women and can broaden their fields of opportunity.

Group Size: Large

## **36. Gaining Confidence**

*Academic*

Description: Ask advanced students to provide hints for being more actively engaged in class. Instruct the women to also describe a specific event that portrays how the hint was applied to an actual situation. Ask the younger women to describe situations in which they feel hesitant to participate in classes. Brainstorm ways to overcome the hesitancy. Ask the younger women to report outcomes/progress at the next women-in-computing event.

Benefits: This activity helps women become more successful and more confident in class.

Group Size: Large

## **37. Combined Event**

*Academic & Social*

Description: Join forces with another campus group, such as an ACM chapter, a Women in Science group, or the Society of Women Engineers (SWE) for a combined event.

Benefits: More people can be more fun! A combined event can also broaden an organization's support system.

Group Size: Large

## **38. Research**

### ***Collaborative Research Experience for Undergraduates (CREU)***

This program is an initiative to increase the number of women and minorities continuing on to graduate school in computer science by providing them with positive research experiences during their undergraduate career. Co-sponsored by CRA-W (Computing Research Association's Committee on the Status of Women in Computing Research) and CDC (Coalition to Diversify Computing), CREU employs students during the academic year for research work with faculty members on various projects that would not usually receive monetary support. For more information, visit the CREU website at <http://www.cra-w.org>.

*Academic*

Description: Encourage professors to apply for grants from the National Science Foundation, ACM, etc. to fund research programs for students of all levels, not just upper-class students.

Benefits: Participating in research gives students real world applications for classroom material, increases retention and promotes interest in graduate school.

Group Size: Small

## **39. Laboratory Assistants**

*Academic*

Description: Invite junior or senior women to volunteer their time and help out during busy lab hours. Alternately, recruit women to serve as paid laboratory assistants. Profile current tutors, during a chapter meeting, encouraging the students to discuss the benefits/advantages of their work.

Benefits: Female assistants combat the traditional image of the male computer scientist. Also, women in positions of authority act as role-models to recruit more females. Female laboratory assistants fill extremely valuable roles, if the computer science faculty roster is all or primarily male.

Group Size: Small

## **40. Book Club**

*Academic & Social*

Description: Invite students to participate in a monthly book club meeting, where they are free to discuss any interesting novels, but are encouraged to read computer science related books, such as *Unlocking the Clubhouse: Women in Computing*.

Benefits: A monthly book discussion can open up conversation among students.

Group Size: Large

## **41. Oral Histories**

*Academic*

Description: Women have valuable stories to share with succeeding "generations" of students. Have women tape each other and edit the footage into stories. Ask each pair to describe how each member chose computing as a major, what struggles she has had and how she overcame adversity, and her future plans.

Benefits: The women, who work together in pairs, are able to mentor and role model each other, as well as give advice to students in the years to come.

Group Size: Pairs of two

## **42. Science Fair**

*Academic & Service*

Description: Ask for student volunteers to judge high school or grade school level science fair projects.

Benefits: Grade school and high school are crucial times, when young girls are deciding if science is right for them. Seeing women role models at their schools could positively influence their decisions to become female scientists.

Group Size: Large



## **43. Brain Games**

*Academic*

Description: Send out campus flyers from the women-in-computing organization. The flyers should be filled with brain games and puzzles that exercise one's problem solving skills. Be sure to include a line that says "If you like these brain games, you'll love CS1!"

Benefits: Students who are good at problem solving often excel in computer science. People pursue paths that please them: If a student believes she might be good at computer science, she will be more likely to enroll in the class. The brain game flyers make the connection.

Group Size: Large

## **44. Graduate School Information Sessions**

*Academic*

Description: Ask computer science professors to hold a graduate school information session for students who are considering continuing education. Topics of discussion may include cost, what to expect, possible degrees one may obtain, and what to look for in a graduate school.

Benefits: This session provides the student with information about graduate school that they may not be able to find elsewhere.

Group Size: Large

## **45. Visit High Schools**

*Academic & Service*

Description: Ask for student volunteers to visit local high schools to educate younger students about the field of computer science and its benefits. Call high schools to find out times and dates for college/career fairs or other counseling events. Offer to attend the event and represent computer science.

Benefits: High school visits expose the younger students to the concepts of computer science at a crucial time in their academic careers, when they are beginning to view themselves as college-bound. These visits spark interest in the students and persuade them to follow a science path.

Groups Size: Small

## **46. Programming Contests**

*Academic*

Description: Hold a programming contest for introductory students only, with questions supplied by local professors.

Invite advanced students to prepare for and to attend programming contests hosted by professional organizations.

Antonio Lopez's students mentor girls in a fifth-grade, urban, inner-city school, hosting a programming contest for teams once a year. (tlopez@xula.edu)

Benefits: Programming contests give participants a chance to put skills acquired in the classroom to use in social situations. The preparation process allows social interaction; travel experiences help motivate students to learn more.

Group Size: Small

## **Refuting Stereotypes**

### ***47. Image Contest***

*Academic & Social*

Description: Instruct women to bring a picture of the most stereotyped, nerdy computer scientist image they can find. Vote for a winner. Use the image as a basis for a bulletin board display or Web pages, if there are no copyright issues. In the display, label the nerd with "Many people think that this man is a computer scientist, and he could be, because computer scientists come as many different packages as any other kinds of people." Adjoin the captioned area with electronic or hardcopy pages of young alumnae, labeled: "Here are some of our alumnae."

Benefits: Constructing the display, seeing the alumnae photographs and hearing the alumnae stories refute the stereotype of the "lonely programmer."

Group Size: Large

#### **48. "Debunking the Geek" Workshop**

*Academic & Social*

Description: Encourage women to brainstorm a list of geeky terms that befuddled them in their foray into computer science culture. Either as a group, or through a moderator who feels particularly familiar with the terms (upperclass women are good choices), discuss the terms, tell stories about their use, demystify them, and poke fun at them. In Stanford (Lilly Irani) ACM-W/WICS' experience, this also tends to be a place where computer science staples, such as Linux are made less intimidating

Benefits: The workshop tends to be full of funny stories, as students and faculty members demystify geek terms and cultural practices that men employ more often than women.

#### **49. "What Is COMPUTER SCIENCE, by the Way?" Showcase**

*Academic*

Description: Organize a short-series of workshops that happen every week or two, where faculty members (and perhaps PhD students) provide short, engaging presentations on their research, aimed at undeclared, exploring undergraduates. Provide lunch.

Benefits: Many students, and especially women, come to school with the idea that computer science is programming. At schools where women do not have to choose a major right away, women may not be willing to commit to a "breadth-first" introduction course or a mentoring relationship. The program allows for as little or as much participation in the workshops, while providing a small group community over the course of the workshops. (Lilly Irani)

#### **50. Luncheon**

*Academic*

Description: Ask several advanced students to research careers (e.g. project manager, consultant, Web page developer) and attend a luncheon "in character". Use several round tables, if the group is large. Have women rotate among tables describing their work and "what a typical day is like."

Benefits: Many women believe that careers in computing involve programming only. We must constantly reinforce the variety of available career options in computing.

Group Size: Large

## **51. New Majors**

*Academic*

Description: Celebrate in style, when a woman declares a major in computing. Use light-hearted spoofing of sororities – for example, members wear "sorority pins" (made with small computer parts) and pin the new major. (See 86. Computer Jewelry) Decorate or buy a special cake with the name of the new major and add words of welcome.

Benefits: The humorous atmosphere allows women who are new to the group to relax and join in the fun. The elaborate attention, at the same time, demonstrates that the new woman is now part of a highly-organized and energetic group that truly is pleased to welcome her into its membership.

Group Size: Small or Large

## **52. Self-Defense Class**

*Academic*

Description: Gather a group of female students to participate in self-defense classes. Self-defense not only includes protecting oneself physically, but also mentally.

Benefits: Women are more likely to apologize while speaking and to be more timid in public situations. These classes will help boost self-confidence, as well as teach preparation for risky situations, especially working late at night in isolated computer labs, which are not heavily populated.

Group Size: Large

## **53. Open House**

*Academic & Social*

Description: Hold an information session close to registration time for prospective students. Invite current computer science majors as well as professors in the department to mingle with possible future computer science majors. Offer the prospective students tours of the department and its spaces.

Benefits: Open houses draw students to the department and introduce students, who may not have had any previous experience, to the field of computer science.

Group Size: Large

## **54. Hat Discussion**

*Academic & Social*

Description: Hold a meeting with no formal topic. Prior to the meeting, ask women to submit discussion ideas ("a problem I'm having", "information I need", "please give me advice about the following", etc.) by email. Copy, fold and place the ideas in a "hat". At the meeting, draw a discussion topic from the hat.

Benefits: This type of discussion effectively addresses the issues, which are of concern to the students, and gives shy students a chance to participate.

Group Size: Large

## **55. First-year Orientation**

*Academic & Social*

Description: During the spring, request inclusion in the school's first-year orientation program for students interested in the computer science major. Provide snacks and a good place for the students to circulate and get acquainted with female students and faculty in the department and learn about computing classes.

Benefits: Using the orientation period to introduce first-year students to other older students (and one or more faculty members) from the department provides the young students with a chance to make new friends. Doing this at such an early juncture in the academic year initiates the recruitment process properly.

Group Size: Large

## **56. Conferences**

*Academic, Professional, & Social*

Description: Invite students to attend a women-in-computing conference, either locally or nationally, or persuade your university to host one.

Benefits: Conferences are a great opportunity for women to meet other women in the computer science field and to make good networking connections for future use.

Group Size: Large

### ***The Grace Hopper Celebration of Women in Computing***

The Grace Hopper conference, presented by the Anita Borg Institute for Women in Technology and the Association for Computing Machinery, brings together many women from all over the country with one common interest – computer science. Participants attend to listen to women who are leaders in their respective fields, as well as look at the latest research developments. Each year, the conference has a theme. The two most recent themes: "Ubiquity of Computers" and "Making History." For more information, visit the official Grace Hopper website: <http://www.gracehopper.org>.

### ***The Indiana Celebration of Women in Computing***

In a sense, InWic can be viewed as a mini Grace Hopper, executed on a small, regional scale. During the 2012 conference, almost one hundred fifty participants from Indiana universities, in addition to some guests from other states, spent nearly twenty-four hours exploring their similarities and differences as women in computing. The conference brought together computer science students and faculty members from schools such as Indiana University, DePauw University, Rose-Hulman Institute of Technology, Purdue University, and Indiana-Purdue at Indianapolis University, along with industry leaders and research scientists for a regional gathering at a rustic inn in a scenic state park. For more information: <http://www.cs.indiana.edu/inwic/>  
To launch your own regional celebration

## **Workshops**

### ***57. Imagine Cup***

*Academic*

Description: Host a workshop, where students form small groups to explore participation in Microsoft's Imagine Cup. The workshop leader displays the Imagine Cup webpage (<http://www.imaginecup.com>), developing a checklist, so that groups understand all requirements. Afterwards, groups brainstorm ideas for projects and share ideas at the conclusion of the workshop. Ideally, students who have participated in Imagine Cup in prior years share their experiences.

Benefits: Imagine Cup is an ideal complement to programming contests.

Group Size: Large

## **58. Graduate School Applications**

*Academic & Professional*

Description: Faculty members, professionals, or graduate students give tips and advice to undergraduates who are filling out applications for graduate, professional school, assistantships, fellowships; writing personal statements and interviewing.

Benefits: This workshop provides students with a head start in filling out applications, a peer support group and practical guidance for success.

Group Size: Small

## **59. Using LinkedIn Effectively**

*Academic & Professional*

Description: An upper-class student or two can lead this workshop, displaying LinkedIn pages on a large-screen display. Attending students bring laptops. Leaders progress through the partitions of a LinkedIn page, explaining how students can effectively portray past experiences to attract attention of potential employers.

Benefits: With the proliferation of LinkedIn use, the workshop is enormously popular. The event helps computing majors, and at the authors' school drew majors' friends, serving as a good-will event and a recruiting opportunity.

Group Size: Large

## **60. How to Network**

*Professional*

Description: After a leader describes how to give an elevator talk, students form pairs to develop and practice their personal talks.

Benefits: Hold the workshop before students attend an important conference, such as the Grace Hopper Celebration of Women in Computing or attend a job fair or other professional event.

Group Size: Large

## **61. Resume Building**

*Professional*

Description: Bring in one or more professionals to give tips to students about resume features that attract favorable attention from recruiters. Students bring resumes to the workshop that is held in a laboratory. After the general advice from the experts, students use the advice to rewrite portions of their resumes, while professionals circulate giving suggestions.

Benefits: Students build persuasive resumes. Hints and tips from a professional give students confidence and enhance their chances of being hired.

Group Size: Small

## **62. Robots**

*Academic & Social*

Description: Gather a group of students to experiment with Lego Mindstorm® or other inexpensive robots.

Benefits: Experimenting with robots introduces students to the computer science sub-field of robotics. The experience demonstrates a real world application of computer science, which can be very attractive to women. Programming the robots in small teams creates more natural circumstances for younger women who are joining the major to interact with and get acquainted with older majors.

Group Size: Small

## **63. Sexual Harassment**

*Academic*

Description: Gather a group of women to attend a session to discuss sexual harassment. Discussion topics should include how to recognize/define harassment and how to respond when the problem arises. Role-playing works well as a component of the event.

Benefits: Sexual harassment can be a problem in a field like computer science, where women are usually underrepresented. The workshop will give women more self-reliance should they encounter sexual harassment.

Group Size: Large



## **64. Community**

### *Service*

Description: Hold periodic workshops for people in the community. Students can help citizens with any computer problems they may be having, or simply teach them to set up and use an email account. Additionally, students may help the unemployed or under-employed construct resumes and learn basic technology skills. The Ohio State University's TWICE group (<http://twice.cse.ohio-state.edu/>) also helps teach a computer club for girls at a low-income elementary school and provides technical support for low-income neighborhood resource centers.

An organization might also want to partner with a local freegeek chapter (<http://www.freegeek.org/>) to collect, repair and redistribute old PCs.

Benefits: Community workshops build positive connections between community members and university students. Additionally, students gain teaching experience and confidence in their computing skills.

Group Size: Large

### ***Community Technology Enhancement Program (CTEP)***

CTEP is a DePauw University sponsored community outreach program that uses its resources to provide Internet 101 workshops for the members of the Putnam County community. These workshops have covered such areas as word processing, e-mail, web surfing, and other computer basics. More importantly CTEP collects used but usable PCs and Macintoshes, refurbishes them, and distributes them to members of the community who would not otherwise have access to a computer. For more information, visit the CTEP website at <http://www.depauw.edu/offices/ctep/>.

## **65. Job Hunts**

### *Professional*

Description: Assemble a group of students to attend a job fair in the nearest big city, the students' school or another university.

Benefits: Job hunting as a group prevents procrastination, and may serve as a support system for individuals.

Group Size: Large

## **66. Mock Interviews**

*Professional*

Description: Have professors or professionals from area businesses volunteer to participate in mock interviews for students contemplating graduate school or entering the work world.

Benefits: Practicing interviews with professors gives students an opportunity to freshen their interview skills in a less threatening environment. Practicing with professionals gives a more real world experience, and possibly creates networking relationships.

Group Size: Small

## **67. Lectures**

*Professional*

Description: Invite a female speaker from a computing-related business or nearby research school to speak to students. ACM has a speaker board:  
<http://www.acm.org/top/lect.html>

Benefits: Lectures give students information about different career paths and research areas that involve more than programming. The speakers also offer students a chance to ask questions or advice and view new role models.

Group Size: Large

## **68. Panel Discussions and Roundtables**

*Professional*

Description: Invite three or four people from the technological workforce to speak with students about their careers and lives outside work. (One or two speakers may be preferred, because it is important to provide ample time for audience participation.)

Benefits: The discussion time is more informal, maximizing personalized and meaningful conversations that may be more valuable than formal lectures for many women.

Group Size: Large

## **Databases**

### **69. Interview Questions**

*Professional & Academic*

Description: Construct a database of interview questions and add to the database as each year's group of seniors interviews. The database may also include general tips and advice for interviews.

Benefits: Students understand what to expect from future interviews so that they are not blindsided by interviewing situations. Adding a session where students practice mock interviews with the database questions and participate in a group discussion of the mock interview results enhances student preparation and builds confidence.

Group Size: N/A

### **70. Scholarships and Grants**

*Academic*

Description: Build a database of scholarship opportunities for women in computing. Encourage women to provide the names and contact information for scholarships they have applied for or received.

Benefits: Searching for scholarships can be a very time consuming and erratic activity. Students can synergistically share information, so that the current group and future groups of women in computing profit.

Group Size: Large

### **71. Internships**

*Academic & Professional*

Description: Have students submit reviews of their internships -- location, specifics of the job, feedback, etc. -- or keep on record places that are accepting students for internships.

Benefits: Internships are an important step in one's career, and sharing resources benefits the women-in-computing group.

Group Size: Large

## **72. Research Opportunities**

*Academic & Professional*

Description: Compose a database, which contains information about different research opportunities available to undergraduates.

Benefits: Many students fail to realize that there are research opportunities available to undergraduate students. Using a luncheon event to advertise the database by having advanced students talk about research experiences (both academic and social) will encourage younger students to apply to several summer programs. If the experienced students have produced posters or journal articles, display the poster or distribute copies of the papers.

Group Size: Large

### ***The Benefits of a Database***

Storing information in a database is organized and efficient. Students can query the database at any time to quickly find information. Students are also more likely to take advantage of such a convenient resource.

## **73. High School Computer Science Demonstrations**

*Service*

Description: Ask student volunteers to travel to local high schools to give computer science demonstrations for the younger students. Suggestions for presentations include robotics, basic game programming with graphics, and website design. Talk with principals and college administration to determine if high school students can audit or enroll in undergraduate CS1 classes. If both parties agree, advertise CS1.

Benefits: Science demos give younger students a look at the entertaining side of computer science. The earlier girls are exposed to the field and its role models, the more likely they will be to take a course, when they enter college.

Group Size: Large



Three young women with power screwdrivers getting ready to work on a robot's frame



An updated version of "Rosie the riveter"



One of four New Orleans high school teams that attended the regional FIRST competition in Atlanta, GA

**For more information regarding Idea #73:**

**Tony Lopez**  
**Xavier University**  
**tlopez@xula.edu**

"In Fall 2004, faculty members from the Department of Computer Sciences and Computer Engineering at Xavier University of Louisiana became mentors to students in New Orleans Public Schools who were participating in the FIRST (For Inspiration and Recognition of Science and Technology) Robotics challenge. FIRST Robotics is a national effort (See [www.usfirst.org](http://www.usfirst.org)). The faculty members involved: Drs. Marguerite Giguette, Ray Lang, Jeff Matocha, Andrea Edwards, and Dongyan Chen.

**Cost:** The New Orleans Public School (NOPS) system bore the cost of the FIRST Robotics project for the students and faculty from the four high schools that were involved.

The Xavier faculty contributed their free, after-work time (10 or more hours per week each for about eight weeks) and Xavier hosted the awards presentation for the high school students at the end of the competition.

## **74. Girl Scout Badges**

*Service*

Description: Help girls in a local Girl Scout troop earn their technology badges. Requirements for such badges include making word documents, doing artwork on the computer, and constructing a website.

Benefits: Helping young girls earn their Girl Scout badges gives them positive role models to remember, when negative computing stereotypes appear.

Group Size: Large

## **75. Grade School Visits**

*Service*

Description: Ask volunteers to take trips to area grade schools to educate students about the computer science field. Alternately, as pictured below, invite a grade school class to the college.

Benefits: Adolescence is a time, when children begin discovering themselves and what they enjoy doing. Grade school visits expose the students to new ideas, and encourage both boys and girls to explore computer science.

Group Size: Small



**For more information regarding Idea #75:**

**Gloria Childress Townsend**  
**DePauw University**  
**[gct@depauw.edu](mailto:gct@depauw.edu)**

"The fifth-grade girls, who are pictured above, had not yet reached the middle school years, where the literature suggests that interest in computing declines. The event's success supported the views contained in the literature: The expressed confidence and enthusiasm of the little girls equaled or surpassed that of the young boys. I observed no gender differences at all within the computing activities.

The event was fairly easy to conduct. I contacted the elementary school teacher. She coordinated the transportation and parental permission processes. I coordinated the preparation for the event, where my students authored a Web page with country "name and flag" icons that represented links to the individual Web pages that each child would create (stored on the university's server), during our event. The children had each researched a chosen country and arrived at our university with written information and URLs that would provide the content of the Web page that each of my students would help them prepare. At the conclusion of the event, each pair (college student and fifth-grader) presented their country's information, using Web page projection as a visual aid."

**Cost:** approximately **\$20**, for nametags and refreshments that we served after the presentations (giving my students additional time to interact with the young girls socially and to provide role modeling)



## **76. Philanthropies and Community Service Days**

### *Service*

Description: Select some local philanthropic organizations and volunteer to help, either by raising money, participating in individual events that the charities sponsor or organizing a women-in-computing team to contribute to the success of a fund-raising activity. Events include walks for cancer, blood drives, etc. Volunteer at the local humane shelter, soup kitchen, nursing home, etc. Invite mother and daughter teams from the "faculty and staff" pool or the local community to explore the world of computers together, during a short workshop.

Benefits: Supporting community organizations strengthens the bond between community members and college/university students. Community service allows students to think about something besides computer science and the protected, insular campus world.

Group Size: Large

## **Parties**

### **77. Ice-cream Parties**

#### *Social & Professional*

Description: Invite professionals from various companies and seat them at different tables, each with a different ice-cream topping. When students arrive, they receive their ice-cream, and move from table to table to complete their sundaes. At the same table, they are able to meet and talk with the professionals. Alternately, place upper-class women at the tables and invite first-year and sophomore women to construct sundaes.

Benefits: The informal setting allows for a more relaxed atmosphere, while still providing the students with great opportunities to learn more about a computer science career or major.

Group size: Large

### **78. Holiday Parties**

#### *Social*

Description: Students can get together, during the holidays to celebrate with their family away from home. Halloween, Winter Holidays, Valentine's Day and St. Patrick's Day provide good opportunities to celebrate. Encourage "dressing the part", during some holidays (e.g. green for St. Patrick's Day).

Benefits: Parties can provide students with an opportunity to take a break from studies and to socialize more informally with other students in their discipline.

Group Size: Large

## **79. Achievement Parties**

### *Social & Academic*

Description: Celebrate when students or faculty members in the department gain special recognition. Examples include job offers, graduate school acceptance or receipt of an award of special significance.

Benefits: A person's achievement always means more, when shared with a group of close friends. Recognition allows students a chance to celebrate the benefits of hard work, while motivating other students to strive for their best.

Group Size: Large

## **80. Sexiest Geek Party**

### *Social*

Description: Hold a party to see who can be the "sexiest geek alive." Ellen Spertus (pictured below) won such a contest with a slide rule and holster strapped to her leg and PVC corset with a printed-circuit board pattern

[http://www.mills.edu/ACAD\\_INFO/MCS/SPERTUS/Geek](http://www.mills.edu/ACAD_INFO/MCS/SPERTUS/Geek)

Benefits: This type of party encourages social activity in the department. It gives an opportunity to relax and joke about the stereotype of the "computer science geek."

Group Size: Large



## ***Food – The Easiest Way to Get Started***

Many of the ideas in this book involve food. Often, women will be more likely to attend events, if food is served – it makes the activity seem more relaxed and acts as an icebreaker at social events. It would be a good idea to combine food with any of the activities in this booklet to make them more welcoming to women. The most difficult task lies in convincing women to attend an event the very first time: "free food" provides incentive, because "everyone has to eat". For a cultural component, share dishes from India, China, Mexico, etc. An additional suggestion surrounding food involves the general difficulty in obtaining RSVPs: Provide pizza and have the women RSVP with their favorite pizza toppings or provide two or three brownie types and have women RSVP with their favorite type, etc.

## **81. Movie Night**

*Social*

Description: Women spend a simple, relaxing night with other women in the computer science department, watching movies and eating popcorn. Recognize scenes where errors demonstrate that the producer had no computing consultant present or ask students to silently record the errors and award a prize for the "best set of errors". ACM has a video lending library: <http://www.acm.org/top/library.html>

Benefits: Movie night provides an opportunity for socializing and a break from studying. Many movies have computing themes (e.g. The Net, Hackers, The Computer Wore Tennis Shoes, The Matrix, The Matrix Reloaded, The Matrix Revisited, Hot Millions, His Other Woman (or Desk Set), Weird Science, Pi, Swordfish, War Games, AI, The Animatrix, Enemy of the State, Explorers, Johnny Mnemonic, The Lawnmower Man, Simone, Strange Days, Takedown, Tron, 2001: A Space Odyssey, 2010, Virtuosity, You've Got Mail). ACM has a video lending library: <http://www.acm.org/top/library.html>

Group Size: Variable

## **82. T-shirt design contest**

*Social*

Description: Gather a group of women to participate in a women-in-computing t-shirt design contest using computer generated graphics. Students vote on the best design, which will be used to make t-shirts for the entire group.

Benefits: The contest unifies the group and provides a creative medium for recruiting and promoting women in computing.

Group Size: Large



## **83. Design a Business Card**

*Professional*

Description: Use one of the inexpensive printing companies to order business cards, after students design their own cards. Ask faculty members and students for samples from their collections to use as examples. Perform a web search for additional examples and print these.

Benefits: Conduct the event and finish printing in time for a conference or other professional event that several students will attend. Pair the activity with the "How to Network" Workshop (#60).

Group Size: Large

## **84. Starting New Clubs and Building Existing Clubs**

*Social*

Description: Ask professors for permission to visit classes, encouraging students to attend local events. (If possible, gather ACM members for joint visits, in order to support both complementary organizations.)

Encourage women at neighboring schools to start "women in computing" organizations of their own. Help arrange and host an organizational meeting for the sister school.

Benefits: The more clubs, the more resources students have at their disposal, along with the possibility of hosting joint events.

Group Size: Large

## **85. Revamp Display Cases**

*Social*

Description: Redo the computer science department display cases so that they draw attention to more women and other underrepresented groups.

Alternatively, as a creative, light-hearted, and social prelude, organize a "sculpting" party to produce computer art for the display cases -- sculptures built from discarded computers and parts. Include pictures of the "artists".

Benefits: The display cases are able to educate everyone about the computer science department. By presenting women's images in the display cases, the stereotype that 'computer science is a male-dominated field' is dispelled and the idea that 'women are welcome here' is substituted.

Group Size: Small

## **86. Computer Jewelry**

*Social*

Description: Design computer jewelry. Buy earring backs, beads, stringing material, glue, etc. and use old chips or motherboards to make computer-inspired jewelry.

Benefits: This activity is a fun and creative outlet for students and provides "free advertising", when other students ask about the jewelry.

Group Size: Large





**For more information regarding Idea #86:**

**Gloria Childress Townsend**  
**DePauw University**  
**gct@depauw.edu**

"Idea #86 provides one of the best environments in terms of women's engagement and socialization that I have used, during a dozen years of organizing "Women in Computing" events. My students lingered for more than an hour, creating several pieces of jewelry and key rings. The picture above depicts one row of jewelry makers: a sophomore, junior and two seniors. Before the activity only two students in the row knew each other, the two seniors. Working together in a creative task allowed the women to communicate more naturally and informally; the artistic expression served as an ice-breaker. I encourage you to try this activity at your school. Please contact me, if you have questions."

**Cost:** I purchased glue, jewelry tools (e.g. pliers), barrettes, key chains, earring parts, pin backs, beads, etc., spending approximately **\$40**; however, I have enough left-over supplies that I can use them for repeat events. I used old, tiny motherboards and hard drives that made up a necklace that I bought. I will purchase more parts next year, if I cannot acquire them without cost from my Information Services Department.

## **87. Exercise Group**

*Social*

Description: Set up times during the week for a group of computer science students to meet at the gym or at another location with video facilities (Tai-bo, etc.)

Benefits: Staying in shape is important, and working out alone is a drag!

Group Size: Medium

## **88. Computer Science Lounge**

*Social*

Description: If the school has no computer science majors' lounge, organize a group of at least half women to approach the computer science faculty members and/or the administration to create a lounge with a kitchen area. If the school already has a computer science lounge, organize a task force to improve it. Again, request that faculty members provide help.

Benefits: Creating a comfortable lounge area will give the current computer science majors/minors a nice place to study and socialize. The female committee members will ensure that the space is female friendly. This area may also raise campus interest in the computer science major.

Group Size: Medium



## **89. Stress Relief**

*Social*

Description: Prior to finals time, bring materials for making stress-relief icons: silly putty, bean bags, rubber bands to snap, don't-worry dolls, don't-worry beads, etc. Use the activity as a light-hearted approach to finals time; however, augment the activity by asking junior and senior women to give general advice about preparing for finals. Ask each woman what computer science final(s) she will take. Ask for volunteers (who have had each class) to give specific advice for each final. Lastly, group women according to finals and invite them to organize study groups.

Benefits: Sometimes students simply need time to relax and take a break. The activity provides a time to relieve stress, while also helping to prepare students for their finals.

Group Size: Large

## **90. Communication Tools**

*Social*

Description: Organize a twitter account, listserv, Blackboard, or similar communication tool for local women-in-computing communication and/or among regional women-in-computing organizations.

Benefits: Keeping communication lines open is very important to the women-in-computing cause. It helps broaden the support system and makes organizing events easier.

Group Size: Small, Medium or Large

## **Organized Outings**

### ***The Benefits of Socializing***

Each of the ideas in this section focuses on getting women-in-computing organizations to socialize with other members in the field. It is important for women to know that they can be successful in computing but do not have to spend all their free time staring at a monitor. Organized events show that there are many women who balance computing and non-computing interests.

#### **91. Student's Choice**

*Social*

Description: During one meeting, ask each woman to describe her favorite out-of-class activity (amusement park, concert, walking, hiking, working out, etc.) and then organize the event/activity in which the group shows the most interest.

Benefits: Exploring the extracurricular interests of women in computing demonstrates the balanced lives of the members. (Many women believe the myth that all computing students must program 24/7.)

Group Size: Large

#### **92. Dinner**

*Social*

Description: Meet another women-in-computing group from a nearby institution at a restaurant that is approximately halfway between the two schools. (Women from DePauw University meet women from Rose-Hulman Institute of Technology in Harmony, Indiana, equidistant from the two schools.)

Benefits: Meeting with another women-in-computing group exposes women in each group to other computer science majors and allows opportunities to share ways the respective universities deal with the problem of underrepresentation and to brainstorm additional strategies.

Group Size: Medium

#### **93. Shopping Trips**

*Social*

Description: Gather a group of women to spend Saturday at a mall.

Benefits: This trip provides students with an opportunity to get away from school for a day and spend time socializing with other women in the department.

Group Size: Small

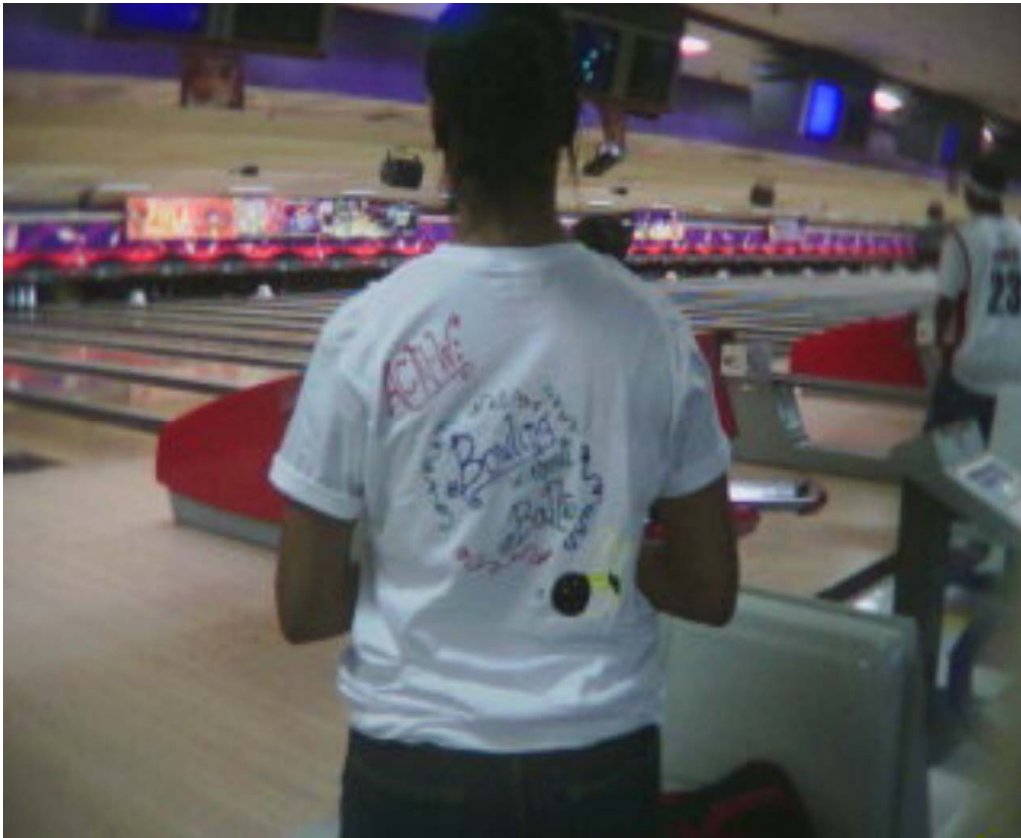
## **94. Sporting Events**

### *Social*

Description: Organize a group of women to head to a local sporting event (such as a baseball or basketball game) or to go bowling. The Ohio State University ACM-W chapter bowls together; here is Binaebi Akah in her custom "Bowling without Balls" t-shirt.

Benefits: This event allows socializing in a relaxing, care-free environment and gives visibility of the group and its unity to a wide segment of the campus population.

Group Size: Small



## **95. Senior Celebration**

*Social*

**Description:** At the last spring women-in-computing meeting, celebrate the seniors. Order a cake with seniors' names (see picture below). Photograph them for women-in-computing archives, Web pages, scrapbook, etc. Ask each woman to tell about her plans for the future, her advice to younger women, etc.

**Benefits:** A celebration of achievement makes soon-to-be graduates feel proud of their four years of hard work. It also gives the younger women something to look forward to in the years to come, encouragement to proceed and more ideas about career/post-graduate plans.

**Group Size:** Large



**For more information regarding Idea #95:**

**Gloria Childress Townsend**  
**DePauw University**  
**[gct@depauw.edu](mailto:gct@depauw.edu)**

"Pictured above are seven of our thirteen female computer science seniors. I'm holding the cake, as I've done for a dozen years. The May activity is one of the women's and my favorites. The younger women always benefit from hearing the confidence in the voices of the seniors, as they give advice and tell about their future plans."

**Cost:** I also provide pizza and soft drinks, but the price of the cake in Indiana is **\$12**

# Luncheons

## 96. Professional *Professional & Social*

Description: Invite professionals from various fields (databases, software engineering, project management, etc.) to speak to students during lunch time. More students are likely to attend the lecture in this informal setting where lunch is provided.

Benefits: Attending luncheons can benefit students by creating opportunities for networking. Luncheons also provide students with new views of computing careers that dispel the myth of the isolated programmer. Career women give special insight, regarding how to deal with situations unique to women.

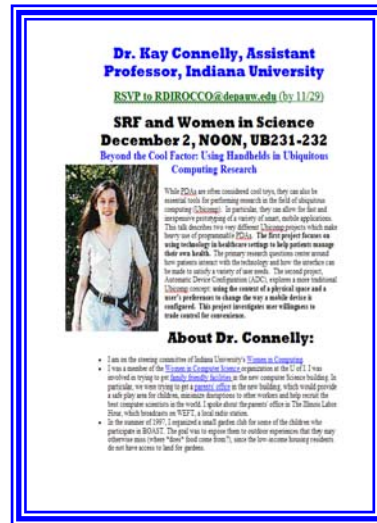
Group Size: Large

### For more information regarding Idea #96:

**Gloria Childress Townsend**  
DePauw University  
gct@depauw.edu

"One of our most popular luncheons featured a young professor who described her project using handhelds to monitor diabetes patient's diets. See the poster thumbnail on the right. I advise recruiting speakers who work in areas that 'help people'"

**Cost:** The speaker did not ask for an honorarium, although we paid her a small sum. Most local speakers will visit without charge. The price of meals can be **\$0**, if students brownbag. Our Union Building supplied food for thirty women: approximately **\$250**



## 97. Meet the Faculty *Academic & Social*

Description: Set up a luncheon date at the beginning of each school year and invite students and faculty to meet and socialize. Vicki Allan (Utah State University) organizes "how to succeed in computer science" discussions at these kinds of socials.

Benefits: Meeting the professors in a stress-free environment will initiate more open communication among students and faculty.

Group Size: Large

## **98. Role-modeling**

### *Academic & Social*

Description: Invite advanced students, female faculty members, and one or more young alumnae in the area to a lunch with the younger undergraduate students. Use round tables and scatter the role models among the tables, if the group is large enough to have separate tables. During dessert, ask each role model to briefly share "a computer science problem that I encountered and how I solved it" or "how I got into computing". Ask the women to share (by email with the coordinator of the event) their stories beforehand, so that the stories can be checked for overlap and so that the stories can be typed into a document to share with women who cannot attend the lunch. Bettina Bair provides a list of good questions:

<http://www.cse.ohio-state.edu/~bbair/acmw/questions/questions.html>

Benefits: Role-modeling is often particularly effective for younger women in their undergraduate years, especially if the model demonstrates a degree of "just-like-me" and does not appear to be "superwoman."

Group Size: Large

## **99. Blogs**

### *Social*

Description: During a lunch or other event, invite women who write blogs to share by reading an entry. Hold the event in a tech-equipped room, so that the blogs can be viewed, as well. Distribute a handout with URLs. Ask the women to describe the process of creating a blog.

Benefits: Sharing blogs provides another means of communication and role-modeling among women with the same interests. It also provides an enjoyable way to put one's computer science skills to use.

Group Size: Large

## **100. Scavenger Hunt**

### *Social*

Description: Start the "hunt", during a women-in-computing event. Distribute lists with items such as "Find the senior who studied abroad in Paris, when she was a junior and what happened to her at the Eiffel Tower" or "Find the sophomore who is a member of the women's volleyball team and how many saves she made in the last game." Begin the hunt at the event, but allow women extra time to finish their lists. Evaluate lists for winners at a subsequent meeting. Award prizes if possible. Prepare a handout with the correct answers.

Benefits: Women will naturally interact and ask questions of each other, so that they get to know one another. Additionally, women learn that other computing majors have interesting and balanced lives, dispelling the myth of the solitary programmer.

Group Size: Large

## **101. Summer Camps**

### *Social & Academic*

Description: Form a group of students and dedicated faculty members to host a week-long science summer camp for the local area grade school or high school girls. Investigate small grants. Give young girls a glimpse of "the other science: computer science", along with the more traditional sciences.

Benefits: The younger students receive an early introduction to the field of computer science, increasing the likelihood of their pursuing a science major when they reach college. Female camp counselors also act as positive role models for the younger girls, reinforcing the idea that science is interesting and that women are capable of doing science. The college-aged students gain experience in teaching and communication skills, which can benefit them later in their careers.

Group Size: Large

### ***DePauw Institute for Girls in Science (DIGS)***

DIGS is a program to encourage interest in science for middle school girls. Approximately thirty girls from 7th, 8th or 9th grade come to campus for an intensive, hands-on science experience. There are two different formats for DIGS. During the academic year the program runs from Thursday evening until noon on Saturday. During the summer the program runs from Sunday afternoon through noon on Friday. The core of either format lies in intensive, hands-on exploratory lab sessions. Sessions are held in biology, chemistry, computer science, geology, mathematics, physics and psychology. Each lab session, which lasts about three hours, has four to six DIGS students working with one faculty member and one or two DePauw University students. With funds from the university and other agencies, DePauw University has been able to offer the program (including housing and meals) free of charge. The only thing the participants have to provide is transportation to and from campus. For more information, visit the DIGS website at <http://www.depauw.edu/univ/wis/digs.asp>.

## Citation Notes

[1] Almstrum, V. L., Simons, B., Brown, C. A. and Myers, J. R. *Improving mentoring for women in computer science fields*. Summary of panel discussion at SIGCSE Technical Symposium (Indianapolis, IN, February 1993) <<ftp://ftp.cpsr.org/spsr/gender/mentor.sum>>.

Mentoring: The panel gives examples of current programs that provide positive mentoring in organizations. Some solutions are also offered concerning why women are losing ground in computer science fields.

[2] Camp, T. *Survey says! Results on the incredible shrinking pipeline*.  
[http://www.mines.edu/fs\\_home/tcamp/results/paper.html](http://www.mines.edu/fs_home/tcamp/results/paper.html).

Surveys on mentoring: After reviewing statistics illustrating how the percent of women involved in computer science from high school to graduate school is shrinking, the article predicts what the future holds for women in the field, based upon a community survey (n = 111). The article also compiles statistics regarding gender and degrees in the computer science field from the National Center for Education Statistics and presents the results in the form of several graphs and charts. Included are 37 suggestions for combating the underrepresentation of women in computing.

[3] Camp, T. *Women in Computer Science: Reversing the Trend*. Syllabus: August 2001, pg. 24-28.

Support Organizations/Mentoring: Camp gives measures and resources to reverse the trend of decreasing numbers of women in the computer science field. She lists four suggestions for initiatives to bring women into computer science.

[4] Francioni, J. *A conference's impact on undergraduate female students*. ACM SIGCSE Bulletin, v.34 n.2, June 2002.

Classroom/Curriculum: The article evaluates how the ability, potential and opportunity for computer science students are different now from in the past. The author lists five ways to support female undergraduate students to better support their computer science and engineering education. Female students must understand that there are different options and paths to take within the field of computer science.

[5] Frenkel, K. *Women and computing*. Communications of the ACM, v.33 n.11, p.34-46, Nov. 1990.

Building Confidence/Curriculum/Mentor-Role Modeling: The article explores why the computer science classroom is unfriendly to women. Several suggestions examine ways to give women more self-confidence and security. (e.g. create a mandatory introduction to computer science class in high school) Other topics include race, sex-biased software and college/high school mentor partners.



[6] Frieze, C., Blum, L. *Building an effective computer science student organization: the Carnegie Mellon women@SCS action plan*. ACM SIGCSE Bulletin, v.34 n.2, June 2002.

Support Organization/Networking: The paper gives activity and event ideas that encourage and support a community of women in computer science. Suggestions given: faculty and institutional support, a program coordinator, meetings, council leaders, a website, rooms, distribution lists, funding and giving back to the school and community. Other ideas of encouragement for women: grants, help sessions, study breaks with food, speakers and giving advice about graduate school.

[7] Gabbert, P. and Meeker, P. *Support communities for women in computing*. ACM SIGCSE Bulletin, v.34 n.2, June 2002.

Classroom/Support Organizations/Networking: The article highlights five communities with resources that are available for women-in-computing organizations.

[8] Gürer, D. *Pioneering women in computer science*. ACM SIGCSE Bulletin, v.34 n.2, June 2002.

Role Modeling: The history of several female pioneers demonstrates their influence in programming the first electronic computers, while laying the groundwork and being role models for women's expanding involvement in computer science. The article discusses the women's excitement in design and programming, yet a concern for balancing job and family responsibilities.

[9] Gürer, D. *Women in computing history*. ACM SIGCSE Bulletin, v.34 n.2, June 2002.

Role Models: Historians take steps toward the goal of recognizing women's accomplishments through publishing biographies on women in technology. The article describes female programmers, practical applications, high-level languages, compilers, human machine interaction, and making software that is more accessible and easier to use.

[10] Hanchey, C. *'Women in Programming' Is Not An Oxymoron!* Oklahoma Baptist University, pp. 253-256.

Role Models: In the classroom, women are not recognized for their accomplishments. The article suggests that educators must take an active part in providing role models to students. The author suggests an assignment concerning women's history in computing, giving three recommendations for the assignment.

[11] Klawe, M. and Leveson, N. *Women in computing: where are we now?* Communications of the ACM, v.38 n.1, p.29-35, Jan. 1995.

Mentoring and Support Organizations: The authors conducted a survey of 117 faculty members concerning the frustrations of female faculty members. The article lists programs and activities that have been used to explore solutions to problems faced by women in computing. Projects include expanding the pipeline, a database project,

mentoring and academic support, sharing advice/experience, workshops, career booklets, and a prize initiative for outstanding undergraduates.

[12] Mervis, J. NSF Searches for the right way to help women. *Science*. Vol. 289, 21 July 2000, pp. 379-381.

Support Organizations/Networking: The National Science Foundation creates programs that can address underrepresentation of women in computing.

[13] National Academy of Sciences. *Adviser, Teacher, Role Model, Friend: On Being A Mentor to Students in Science and Engineering*. National Academy Press, Washington, DC, 1997. Also: <http://www.nap.edu/readingroom/books/mentor/>.

Role Modeling/Mentoring: The guide summarizes four features/suggestions and ten pieces of advice that are common to successful career advising/mentoring relationships. The goal is to encourage mentoring habits that are in the best interests of both parties in the relationship. The article also mentions minority, cultural, gender, family and other important issues.

[14] Pearl, A., Pollack, M., Riskin, E., Wolf, E., Thomas, B., Wu, A. Becoming a computer scientist. *Communications of the ACM*, vol.33 no.11, pp.47-57, Nov. 1990.

Role Models: The article focuses on pipeline shrinkage for women in computer science. One reason: lack of role models. The article points out gender biases and stereotypes in recreational and educational software programs. The authors list four other obstacles for women. The article gives seventeen recommendations for change.

[15] Pfleeger, S. et al. *Increasing the Enrollment of Women in Computer Science*. <http://www.cra.org/Activities/craw/>.

Mentoring/Internships/Programs: The article contains suggestions such as adding internships and team projects. Other suggestions involve having female mentors during summer research institutions, having groups with role models and lots of opportunities, creative and enjoyable assignments, financial investment in support of underrepresented groups, networks of students, and an online community.

[16] Sandler, B. R. *Women as mentors: myths and commandments*.  
<<http://www.bernicessandler.com/id30.htm>>.

Mentoring: The article expresses the vital importance of women mentors for female students who are eager to succeed. It also investigates eight mentoring myths and gives ten pieces of advice for mentoring relationships.

[17] Teague, G. J. and Clarke, V., A. *Attracting women to tertiary computing courses*. ACM SIGCSE Bulletin, vol. 25 no. 1, pp.208-212, March 1993.

Research on pre-introductory courses/actions: The article looks at an encouraging video and a one-week computer appreciation program to encourage girls to study computing. It shows tables and charts based on ratings and responses that the girls gave after the two activities. The article gives conclusions dispelling antisocial myths for computer science majors and that what they do is challenging, interesting, and fun for the girls in the study.

[18] Teague, G. J. Women in computing: what brings them to it, what keeps them in it? *ACM SIGCSE Bulletin*, vol. 34 no. 2, June 2002.

Research on Role Modeling/Building Confidence: Survey of fifteen women who discuss how stereotypes and misperceptions cause underrepresentation of women in computer science. The study shows how the advantages outweigh the disadvantages of women in the computing field. A major request from the survey sample is more female colleague. Disappointments with people and politics prevail; not dissatisfaction with the job in the workforce. The article gives six conclusions/suggestions.

[19] Townsend, G. C. Viewing video-taped role models improves female attitudes toward computer science. *Proceedings of the Twenty-seventh SIGCSE Technical Symposium on Computer Science Education*, pp.42-46, February 15-17, 1996, Philadelphia, Pennsylvania, United States.

Research on Pre-Introductory Courses/Actions: The article recounts how girls' attitudes changed after watching an informative video on computer science. There are two solutions offered concerning the misrepresentation of computer science and the underrepresentation of women in computer science. The article contains a summary of six advantages of video taping.

[20] Valian, V. *Why So Slow? The Advancement of Women*. The MIT Press, Cambridge, MA, February 1999.

Research on Role Models/Gender/Mentoring: Gender schemas and the biology of behavior and cognition. Valian evaluates successes and failures in business, industry and academics. She also provides concrete advice for securing the advancement of women.

Microsoft is a registered trademark of Microsoft Corporation