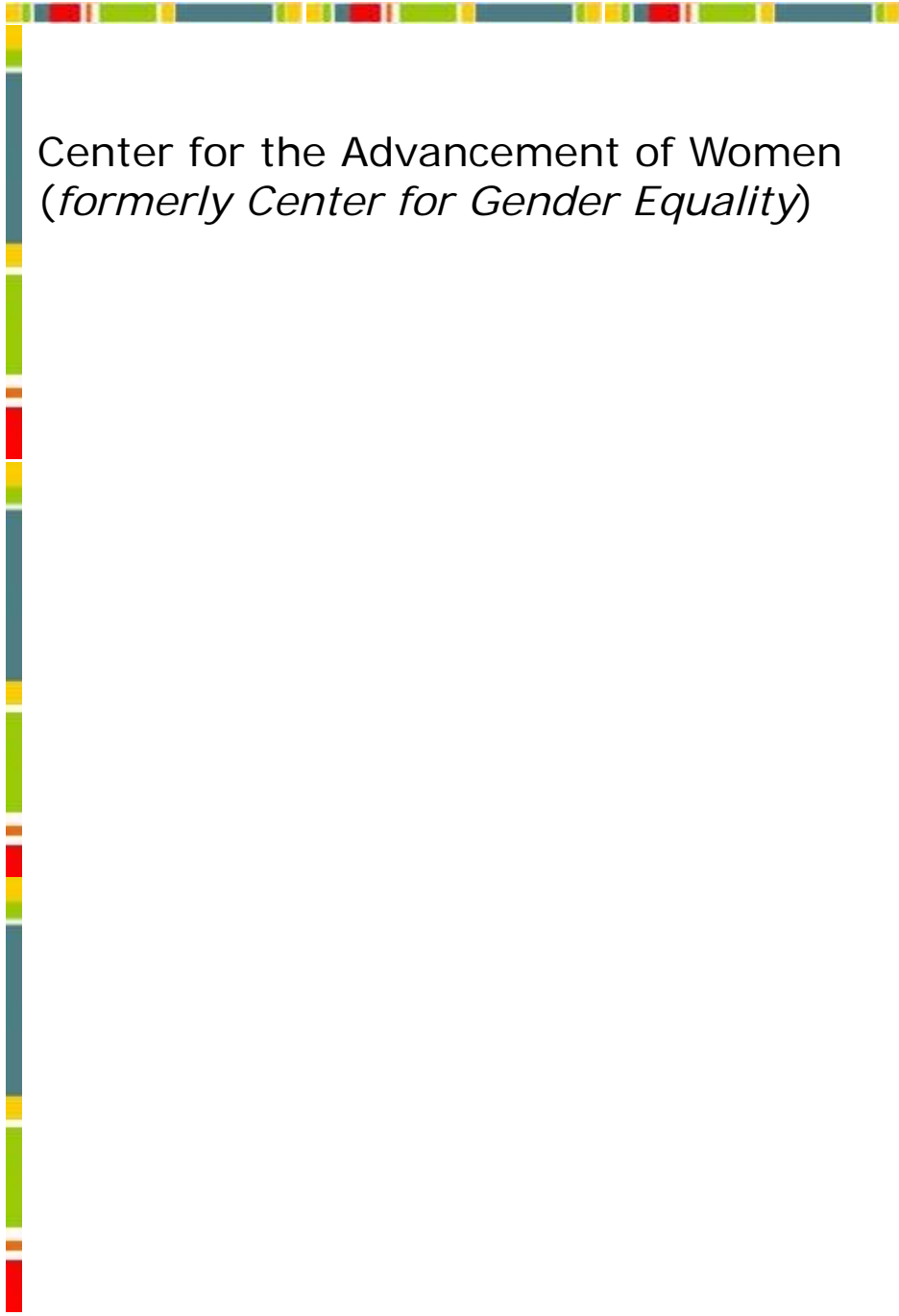




Women in Science, Engineering & Technology



Center for the Advancement of Women
(formerly Center for Gender Equality)

Women in Science, Engineering and Technology (SET)

The status of women in SET has over the past 10 years been the focus of much discussion and advocacy work within the arenas of the government, academia, and business – from CIO Magazine¹ editorials bemoaning that “it’s a man’s, man’s, man’s world in IT,” to IT professionals asking “where have all the women gone?” As with any multifaceted issue of complexity, the current status can be identified as one of both significant progress and serious inadequacies. This is particularly true of the status of women in SET, those fields representing the forefront of technological advance for the US. Briefly, a relatively large concentration of women entered the computer science fields in the 1980’s, women who now have 20 years of experience in the field; however, with a few exceptions, these professionals have not made it to positions of leadership and considerable gender disparity exists in terms of overall salary levels, advancement of women in IT leadership roles and faculty positions, and the retention of female scholars in SET graduate programs. Perhaps the most significant progress is reflected in the numerous and diverse educational and advocacy initiatives across the country now engaged in a strategic effort to address the gender disparity in SET, spearheaded by leaders of national women’s groups, women’s technical associations, girls’ organizations, workforce development professionals, newly formed government taskforces, and women scientists, engineers and astronauts. A consensus has emerged that time is clearly of the essence given that by 2010, one in four jobs in the US will require significant computational literacy (National Science Foundation (NSF)) and that there currently exists approximately 190,000 unfilled IT jobs in the US today due to a shortage of qualified workers (Information Technology Association of America (ITAA)).

What follows are the relevant points of the current status of women in SET, including indicators, analysis of disparity, and an outline of current advocacy efforts, including organizational, legislative, and individual initiatives.

A. Status by Indicators

It is widely acknowledged that women represent the largest under-utilized national resource of great potential in SET; in order to maintain the present number of scientists and engineers in the US, enrollment and retention of women and minorities in these fields must rise from a *combined total* of less than 25% to 75% in just 40 years. (Women in Technology Project, DOL)

I. Prevalence of Women in Industry/Future Trends in IT

- Only 9% of engineers in networking fields are women (Educational Equity of Girls and Women, National Center for Education Statistics, 2000.)
- Only 20% of information technology *professionals* are women (CAWMSET, 2000.)
- Women make up 29% of workers in IT occupations compared with 47% in the general workforce with women virtually absent from the ranks of senior IT management; women are leaving the field at twice the rate as men. (Study by White House Council of Economic Advisers, “Opportunities and Gender Pay Equity in New Economy Occupations”(May 2000)
- ITAA documents 41% women to 56% male overall, biggest difference in electrical and electronic engineer, data entry keyers, and computer systems analysts and scientists; they represent only 25% of the professional IT workforce.
- 7.2% of corporate officers in Fortune 500 technology companies are women (1999 plenary speech by Donna Milgram – see other statistics cited)
- Women in IT earn on average about 60% more than women in other occupations (ITAA study)

¹ CIO in the technology fields means Chief Information Officer

- According to the projected figures of the Bureau of Labor Statistics for 1998-2008, the five fastest-growing occupations are information technology occupations.
- See statistics in Tech-Savvy article

II. Training/Degrees Awarded to Women

- Computer and information science degrees earned by women fell from 35.8 in 1984 to 27.5 in 1994, lowest since 1979 (US Office of Technology Policy)
- Women represent 22% of computer and information science degrees; 13% of computer engineering (ITAA)
- Colleges will need to produce 4 times as many graduates in computer sciences as they do now to meet the current demand ("Before It's Too Late", 2000)

III. Salary

- Overall, women working in SET earn approximately 92 cents for every dollar earned by men, with men receiving higher salaries, bonuses and raises than their female counterparts (InformationWeek, annual salary survey of 1,385 female IT professionals and 7,850 male IT professionals, June 2002)
- Male IT managers earn base annual salaries 10% or about \$7,000 higher than women for the same job titles (InformationWeek report, 2002)

However, other survey results released by the Institute of Electrical and Electronics Engineers (IEEE-USA Salary and Fringe Benefit Survey of 9500 respondents, 2001) and the Bainbench 2001-2202 IT Salary Survey (of 6,000 respondents) indicate that in some regards, women are closing the gap.

- More specifically, women with 20-24 years of IT experience earned \$100,037 annually compared to \$98,500 for men of comparable experience; women with 25-29 years received \$107,000 and men \$99,600. At lower experience levels, however, men earned more than women, about \$95,000 compared to \$84,700 (IEEE Survey).
- Women working in the largest US companies (with sales in excess of \$1 billion) earn more than \$150,000 outpacing their male counterparts by almost *double* (Bainbench Survey), with women narrowing the gap in the middle management companies, where men still outpace women in salary.

However, it is evident that the economic recession has especially affected the women IT professionals disproportionately in comparison to their male counterparts; positions in project management, quality assurance and application support – areas where women tend to dominate – are being cut much more severely than highly technical roles, such as engineer or network administrator, which are more common to men (EWeek, 2002)

IV. Educational Parity in Science, Engineering and Technology

The effort to better educate young people in science, technology, and mathematics has resulted in rapid progress for girls as evidenced by the significant narrowing of the gender gap in science and math achievement. (National Council for Research on Women (NCRW), 2001) Yet, studies still indicate serious weakness in the early elementary level training of girls, such that young women exhibit less confidence in their math skills and at higher levels of math achievement, boys outperform girls. In higher education, the primary issue is one of recruitment and retaining of women into undergraduate science, mathematics and engineering programs, as evidenced by the decline of the proportion of bachelor degrees earned by women in computer science overall. However, significant progress is evident at individual institutions, such as Carnegie Mellon

University, Rensselaer Polytechnic Institute, Smith College and Spelman College, which are successfully recruiting and retaining women in engineering and technical areas as a result of “leadership from the top and carefully designed research to identify disincentives.” (NCRW) In graduate and postgraduate science and technology training, pressures on women increase, as they tend to “drop out” over the long run, given the fact that science PhDs require approximately 15 years of study from the point of entering college to complete. This long required period of graduate study especially places women at a disadvantage compared to men, given that it is this same 15 year span of time that represents for many women the critical juncture in their lives in which many are reproducing and parenting children, requiring women to either take periodic “leave of absences”, maintain an arduous work/family schedule, or more commonly, change career tracks.

Moreover, despite progress in the proportion of women in these fields, men continue to dominate science and technology faculties at the highest levels; leadership by major institutions is essential in order to keep talented women in the pipeline so that more attain senior faculty positions and leadership roles in their fields. Other noteworthy points are:

- Young women are alarmingly absent from computer science advanced placement classes; while girls’ enrollment in science and math increased over the past 2 decades, girls take fewer advanced courses in computers and physics. (CAWMSET, 2000.)
- Young women are drawn into computer technology education when integrated into subject area of interest to them (history, language, economics, etc.) vs. when presented as “set-aside” activity (NCRW)
- Girls and young women hold their own through high school in math and science, but retention of potential female scientists and engineers is more complex at the undergraduate level. Young women tend to begin college study of science and technology with career goals less defined than young men. Women’s retention rates grow as they become more comfortable and confident in their technical skills.
- A study conducted by MIT female science faculty found extensive pattern of subtle, substantial and demoralizing discrimination existed, ranging from their exclusion from significant roles and committees, differences in salary and awards, inadequate laboratory space, and a disparity in requirements for research fundraising.
- Special effort is needed to support women at the assistant professor level in order to procure tenure track appointments, such as flexible stipends for childcare expenses.

B. Reasons for Disparity

I. Gender Disparity in SET/Education

- Want something different from careers in IT: In addressing the question, “Why choose this area”, women indicated that they chose IT careers for the challenge and problem-solving aspects, more than for the high pay associated with it
- Women are not in the professional “pipeline” as long as men given trade-offs demanded in terms of work and family life, particularly the demanding postgraduate training stages (see Technology and Society, 1999 Intern’l Symposium article outlining reasons why women may or may not choose educational majors and careers in computer science and engineering (SC&E), including primary obstacle of choosing work over marriage and family (66% of women scientists marry compared to 83% of men.) (Brasemann, 2001)

- Recruitment and retention of women graduate students in computer science and engineering: see report of June 20-21, 2000 workshop (Cuny and Aspray) organized by the Computing Research Association's Committee on the Status of Women in Computing Research
- Education environment of science-based programs for undergraduate students as well as work environment of technological workplaces act as disincentives for retaining women in the field when experienced as unfriendly or hostile to women

II. Gender Disparity in Computer Use/Literacy

- Computer use is seen as tedious, sedentary and antisocial; girls often position themselves as morally or socially more evolved than boys who enjoy interacting with machines. (AAUW study)
- Women and girls are uncomfortable with the computer culture, which emphasizes almost obsessive, highly focused behavior as the key to success; current computer science curricula places an emphasis on step-by-step division of functions and women tend to lose interest.
- Socialization issues resulting in technology use imbalance: see Does Jane Compute? Preserving our Daughters' Place in the Cyber Revolution by Robert Furger; also Tech-Savvy: Educating Girls in the New Computer Age (2000) American Association University Women Educational Foundation Commission on Technology, Gender and Teacher Education
- Girls are not computer-phobic, but demonstrate reticence about a technology that seems to them largely devoted to the interests of boys (American Association of University Women)
- The public image of scientists and engineers as socially inept, male nerds ("Dilbert, cubicles, dumb, geeky-looking people") may discourage girls from considering scientific fields as a viable career path; as well, the lack of female scientists in the media may result in girls not seeing themselves as "doers" of science (CAWMSET, 2000.)

C. Efforts Promoting Women in the IT Industry

In all fields and in major technology corporations, women have formed national organizations and networks to support each other, develop visible leadership for change and advance an agenda of equity (NCRW, 2001.) Networking among women helps to alleviate isolation in a male-dominated workplace and provide greater visibility to women leaders as role models for girls and young women in their communities. The integration of family life and work is a primary concern for women in this field.

I. Organizations

a) US-based Organizations

- *American Association of University Women Educational Foundation*, Commission on Technology, Gender and Teacher Education, published Tech-Savvy: Educating Girls in the New Computer Age (2000); in addition to its advocacy work, the AAUW hosts a

premier "Selected Professions" Fellowship program which provides support to women for graduate study in engineering.

- *Association for Women in Science*, dedicated to the achievement of equity and full participation of women in all areas of science and technology, via a variety of national activities conducted by local chapters, including fellowship program.
- *Center for Advanced Study at the University of Illinois/Urbana-Champaign*, working colloquium to examine the ways "gender, race and class hierarchies are made part of the circuitry in the new information technologies as they are used on campuses." Members are interdisciplinary group of faculty and academic professionals. Produced "Wits: Women, Information Technology and Scholarship."
- *Center for Women and Information Technology*, established at the University of Maryland Baltimore County in July 1998 seeks to encourage more women and girls to study computer science and/or information systems, to pursue careers in IT and to enable all women and girls to use IT comfortably and knowledgeably, and to foster research concerning the relationship between gender and IT.
- *Computing Research Association's Committee on the Status of Women in Computing Research* issued June 2000 report on its workshop on recruitment and retention of women graduate students in computer science and engineering.
- *GirlTECH* (Getting Girls Interested in Computer Science), Program directed by Cynthia Lanius to work with teachers in encouraging girls to pursue their interests in technology and science, Rice University.
- *Information Technology Association of America*, only US trade association functioning as clearinghouse for the US IT industry, providing information on the IT industry, its issues, association programs, publications, meetings, etc., and represents industry's interests to US Congress. Also sponsors workgroup RITA - Recruiting for the Information Technology Age to assist women in obtaining employment in IT.
- *National Council for Research on Women* – see report "Balancing the Equation: Where Women and Girls Are In Science, Engineering and Technology."
- *National Science Foundation*, Workshop Series on the under representation of women and minorities in IT *Network of Women in Computer Technology*, dedicated to enhancing the skills and careers of women in the information technology fields.
- *Women in Technology International (WITI)*, large national and international organization of 75,000 women working in SET worldwide, "empowering women to use technology to succeed and inspiring girls to choose careers in technology." (www.witi.com)

b) International Organizations/Federal Agencies

- *Supporting Women in InFormation Technology (SWIFT)* in Canada with UBC and IBM.
- *US Agency for International Development, and the Office of Women in Development* in conjunction with *National Technical Information Service* (US Dept. of Commerce) and the Academy of Educational Development, currently working on issue of gender equality in the use of IT in developing countries as it is directly linked to social and economic development for those countries.

- *United Nations, Gender Working Group: Commission on Science and Technology for Development*; see publication “Missing Links: Gender Equity in Science and Technology for Development.”
- *World Women in Technology (WorldWit)*, website dedicated to providing resources for professional women to share ideas, network, mentor, and learn on a local and global level. (www.worldwit.com)

II. Government Agency/Legislative Actions Promoting Women in Technology

- **US House of Representatives: Morella-Tauscher Amendment** (1998) established the Commission on the Advancement of Women in Science, Engineering and Technology (CAWMSET) to review all past federal efforts in the area of women, underrepresented minorities and persons with disabilities in science, engineering and technology (SET) education and employment. With regard to women, the focus of the amendment is to conduct research on gender disparity in technology, to identify current practices and policies on the part of employers and unions relating to the recruitment, retention and advancement of women in technology fields, examine the preparedness of women in pursuing careers in science, engineering and technology, to develop possibilities for their advancement, and to promote innovative ways to recruit and retain well qualified women in positions of greater responsibility within academia, industry and government.

CAWMSET Report Issued July 2000: Land of Plenty: Diversity of America’s Competitive Edge in Science, Engineering and Technology

Briefly, the report makes 4 recommendations: 1) adoption and implementation of comprehensive high-quality education standards at the state level concerning math and science curricula, teacher qualifications, technological assets, and infrastructure; 2) expansion of financial investment on the part of state and federal governments in support of underrepresented groups in SET higher education; 3) accountability for both public and private SET employers regarding the career development and advancement of their employees who are women, underrepresented minorities and persons with disabilities; 4) establishment of a public, nonprofit and private sector entity whose primary function is to coordinate efforts to transform the image of SET professions and their practitioners so that the image is positive and inclusive for women, underrepresented minorities and persons with disabilities; and 5) creation of a collaborative body to continue the efforts of the Commission through the development, coordination and oversight of strong, feasible action plans. The Commission concluded that if the number of women in the IT work force were raised to the level of men, the shortage of IT workers that currently exists would be filled (1.6 million IT job openings at present; Information Technology Association of America estimate)

Over the course of the next 3 years, the CAWMSET plan will be implemented with funds provided by the following government agencies: the National Science Foundation, National Institutes of Health, the National Aeronautics and Space Administration, Dept of Energy (DOE), Defense (DOD), Agriculture (DOA), and Commerce (DOC) and the National Institute of Standards and Technology (NIST.) The Council on Competitiveness, an organization that focuses on workforce development, will take the lead in implementing the recommendations by developing a new organization: Building Engineering and Science Talent (BEST)(www.compete.org) which will be funded by the private sector.

- **Collaborative Project between US Dept. of Labor and NASA** to raise awareness of girls and women about rewarding career opportunities in technology, math, science and engineering. Through a variety of national activities, the project encourages girls across

the country to consider promising non-traditional fields and provides them with opportunities to interact with role models – women who are currently succeeding in high-tech careers. Such activities include satellite technology conferences, webcasts, high school panel discussions involving young women and girls, their parents and leaders of national women's groups, women's technical associations, girls' organizations, workforce development professionals, and women scientists, engineer and astronauts.

- **Women in Technology Project, US Department of Labor (1999-2000)** focuses on workforce development by encouraging upper-level high school girls and college women to enter higher-paying technology occupations and in the process, promote the economic development of the technology industry by developing a skilled technology workforce.

III. Advocated Strategies

The many high profile reports issued on the topic in the past 5 years – from Tech-Savvy by the AAUW, Balancing the Equation by NCRW to the CAWMSET Report – have made a number of recommendations for equalizing the gamefield. These include:

- Information technology needs to be seen as field offering women opportunity to choose technical work with social content (model: Women's Technology Center in SF, CA, invests in women entrepreneurs launching high-tech businesses and calls on successful graduates to contribute resources to other women new to field.)
- Need to interest women in technology by bringing them in at every state of the design and implementation process and encourage women to have a different view of what their lives can be like and to imagine how technology can help bring that about.
- Acknowledging the dialectical relationship between who works in the industry and who has input, as the IT industry increasingly reflects the full diversity of the user population, the products developed will also more fully reflect the needs of a diverse user population as well.
- Address disparity as the result of "deficit" and not "difference," i.e., women as a group receive fewer chances and opportunities and have worse career outcomes as a result of structural obstacles (legal, political, social) vs. viewing obstacles as inherent to women, either innate or the result of gender socialization and cultural values.
- Work environment initiatives to address double demands of career and family: sabbaticals, flex-time, work-at-home options, self-employed contract work.

IV. Leaders in the field

- See taskforce group of ITAA report: co-chair, Sherry Turkle, professor of sociology at MIT
- Institute for Women and Technology: Dr. Justine Cassell, associate professor at MIT's Media Laboratory; Dr. Valerie Barr, associate professor of computer science at Hofstra University
- Anita Borg, founder and president of the Institute for Women and Technology and research staffer at Xerox's Palo Alto Research Center
- Linda Scherr, program director of IBM Women in Technology
- Sylvia Braselmann, member of the Association for Women in Science
- Liz Ryan, Founder of World Women in Technology (WorldWIT), the world's largest online networking forum for women
- Joan Korenman, Claudia Morrell, Director and Director of Planning and Grants, The Center for Women and Information Technology
- Doris Carver, Dept. of Computer Science, Louisiana State University, Baton Rouge, LA
- Cynthia Lanus, Director of GirlTech, Getting Girls Interested in Computer Sciences, Rice University.

- Janice Cuny, Computing Research Association, Committee on the Status of Women in Computing Research
- Carly Fiorina, CEO of Hewlett-Packard Company
- Christa Sorenson, Founder of WorldWit organization

Conclusion

National advocates for women in science and technology stress the importance of leadership at major educational, corporate and government facilities to achieve institutional change. In secondary education and undergraduate studies, a cross-disciplinary curriculum is a key to drawing young women into science and technical careers. The need for mentors and networking for girls and women in science begins at the primary school level and continues through graduate education and careers in business and industry. Only a broad effort based on a wide consensus will transform the culture of science and technology in environments where women have been discouraged and excluded.

Methodology Notes

The “Women in Science, Engineering and Technology” report was produced by way of a two-step research project. The first portion of the project consisted of a thorough search of 2 “solely” academic databases – Project Muse and JSTOR – plus the EBSCO and ERIC databases (linked with Academic Search Premier, Social Science Citation Index, and Business Source Premier) utilizing a 5-year timeframe (1998-2002) and the following keyword combinations: “women” “IT,” “salary,” “gender,” “equity,” “leadership,” “representation” and “education.” Print-outs of search findings yielded approximately 125 pages of various listings which were then reviewed in order to identify those citations of interest to the project. A series of repeat, more refined searches were conducted to yield additional citations of interest, while at the same time, article and/or report copies of the appropriate citations were acquired.

The second step of the project consisted of a thorough review/reading of all relevant articles and reports in which pertinent information contained therein was ‘mapped’ and compiled according to 3 primary categories, each with various subdivisions: *the 4 status indicators* (prevalence of women in industry, salary levels of women, training and degrees awarded to women, and educational parity); *the reasons for the disparity* (disparity in education and in computer use/literacy); and *efforts promoting women in the IT industry* (organizations, both US-based and internationally, government agencies and legislative actions, advocated strategies and leaders in the field.) In each subsection, a concluding comment by the consultant would summarize the relevant findings of each section.

Although no “original” research was conducted for this project, it might appear to the reader that this was the case given that the report was intentionally written to preserve the “voice” of the various scholars or report authors who conducted research on the subject in order to convey how this issue is addressed across business, finance and the educational sectors in which it “resides.”

Bibliography

American Association of University Women, “Tech-Savvy: Educating Girls in the New Computer Age, (2000.)

Academy for Educational Development Inc., Washington DC: Agency for International Development, Washington DC; Office of Women in Development, "Gender, Information Technology and Developing Countries: An Analytic Study" (June 2001.)

Braselmann, Sylvia. "Reluctant Rebels: Women Scientists Organizing" presented at May 2001 Careers of Women in Science: Issues of Power and Control, UC Berkeley

Carver, Doris. "Research Foundations for Improving the Representation of Women in the Information Technology Workforce", Dept. of Computer Sciences, Louisiana State University, Baton Rouge, LA (May 2000.)

Center for Advanced Study at the University of Illinois/Urbana-Champaign, "Wits: Women, Information Technology and Scholarship"

Commission on the Advancement of Women and Minorities in Science, Engineering and Technology Development, "CAWMSET Report" (2000.)

Computing Research Association's Committee on the Status of Women in Computing Research, "Recruitment and Retention of Women Graduate Students in Computer Science and Engineering" (June 2000.)

Cooper, Cary L. (Editor). Women and Information Technology, Wiley, John & Sons. November 1997.

Ebben and Kramarae, Women and Information Technologies: Creating a Cyberspace of Our Own, 1993.

Information Technology Association of America, "Building the 21st Century Information Technology Work Force: Underrepresented Groups in the Information Technology Workforce.

InformationWeek Research, "National IT Survey 2002.

Loader, Brian D. Cyberspace Divide: Equality, Agency and Policy in the Information Society. Routledge, May 1998.

National Commission on Mathematics and Science Teaching for the 21st Century, "Before It's Too Late: A Report to the Nation" (2000.)

National Council for Research on Women, Balancing the Equation: Where Women and Girls Are In Science, Engineering and Technology (2001.)

Rowbotham, Sheila and Mitter Swasti (eds.) Women Encounter Technology: Changing Patterns of Employment in the Third World. Routledge, September, 1997.

Spertus, Ellen. "Why are There so Few Female Computer Scientists?" MIT Artificial Intelligence Laboratory, 1991.

Stackpole, Beth. "Hit Hard by Recession, Women IT Pros Regroup" Eweek, March 25, 2002.

United Nations, Gender Working Group for the Commission on Science and Technology for Development; "Missing Links: Gender Equity in Science and Technology for Development."

US Office of Technology Policy, "America's New Deficit: The Shortage of Information Technology Workers" (Sept. 1997.)

New York Public Library Databases

Academic Search Premier (Provides full text for 3,288 scholarly publications covering academic areas of study including social sciences, humanities, education, computer sciences, engineering, language and linguistics, arts & literature, medical sciences, and ethnic studies.)

Business Source Premier (Provides full text for over 2,470 scholarly business journals covering management, economics, finance, accounting, international business and much more.)

Dissertation Abstracts (1.5 million dissertations and master's theses, from over 1,000 North American graduate schools and European universities.)

EBSCOhost (Includes three databases "MasterFILE Premier" -- for general reference, business, consumer health, general science, humanities, and multi-cultural periodicals.)

ERIC (ERIC, the U.S. Department of Education Educational Resource Information Center database, contains citations and abstracts from over 980 educational and education-related journals, as well as full text of more than 2,200 digests.)

InfoTrac Web: Business and Company Profiles

JSTOR (A collection of core scholarly journals, many of which date from the 1800s. Current journals are not covered by JSTOR)

PCI: Periodicals Contents Index Web (The most comprehensive index to journals in the Humanities and Social Sciences)

Sociological Abstracts (Journal citations and abstracts; book, chapter, and association paper abstracts; and book, film, and software review citations. Coverage from 1963-present.)

Social Sciences Index

Newspaper Source (Provides full text for 159 regional U.S. newspapers, eighteen international newspapers, six newswires, and nine newspaper columns, The Christian Science Monitor, and The Los Angeles Times.)

Newspaper Source (Provides full text for 159 regional U.S. newspapers, eighteen international newspapers, six newswires, and nine newspaper columns, The Christian Science Monitor, and The Los Angeles Times.)

New York Times and New York Post Full Text (Full-text newspaper articles from the New York Times and New York Post for one full year (rolling back 365 days).

Websites

Association for Women in Science (<http://www.awis.org>)

Catalyst (<http://www.catalystwomen.org/>)

Center for Women and Information Technology (<http://www.umbc.edu/cwit/>)

Center for Women's Business Research (<http://www.nfwbo.org/>)

Committee on Women in Science and Engineering (<http://www4.nas.edu/osep/cwse.nsf>)

Computer Weekly (www.cw360.com)

Computing Research Association (<http://www.cra.org>)

Information Technology Association of America (<http://www.ita.org>)

Information Week (<http://www.informationweek.com>)

M.I.T. Program in Science, Technology and Society (<http://web.mit.edu/sts>)

M.I.T.: WSS Links: Women and Gender Studies/Science and Technology

<http://libraries.mit.edu/humanities/WomensStudies/Tech2.html>)

National Science Foundation (<http://www.nsf.gov/>)

U.S. Department of Labor (<http://www.dol.gov>)

U.S. Bureau of Labor Statistics (<http://www.bls.gov/>)

Women in Global Science and Technology (<http://www.wigsat.org/>)

Women in Technology International (<http://www.witi.com/>)