Institutional Self-Assessments as Change Agents: Georgia Tech's Two Year Experience

April Brown, Donna Llewellyn, Marion Usselman
Georgia Institute of Technology

In January 1999, the results of two institutional self-assessments were reported at the Georgia Tech President's Cabinet meeting. This marked the culmination of a five-year effort to evaluate the status of women at Georgia Tech and to help warm up a climate perceived to be inhospitable by many female students and faculty. These self-assessments, the *InGEAR Report on the Status of Women at Georgia Tech, 1993-1998*[1], and *Enhancing the Environment for Success: Report from the Task Force for Opportunities for Women in Engineering*[2], established baseline data that now allow us to evaluate changes that have occurred in the subsequent two years. They also helped to raise the awareness of gender issues on campus, and to establish an agenda for institutional change. In this paper we report the findings and recommendations of these two institutional self-studies, and review the progress Georgia Tech has made over the intervening two years.

Integrating Gender Equity and Reform (InGEAR)

In 1995, the National Science Foundation awarded a research grant to a consortium of five institutions of higher education in the State of Georgia[3] to transform teacher education programs that prepare K-12 teachers in the areas of science, engineering and mathematics (SEM). The title of the NSF sponsored project, InGEAR (Integrating Gender Equity and Reform"), suggested its purpose:

> *To promote equal access to quality science and mathematics education for boys and girls across Georgia. Equal access includes encouragement to explore and discover, intellectual challenge, and success that is born out of these opportunities. Access also includes awareness of career opportunities associated with science, mathematics and related technical fields, such as engineering.*[4]

The Georgia Institute of Technology was designated the lead institution in the consortium due to its reputation and service as the major educational institution in the state vested with the responsibility to educate and train students in the technical fields, and also because of the existence and track record of its Center for Education Integrating Science, Mathematics and Computing (CEISMC). The Georgia Tech InGEAR staff convened an Advisory Committee consisting of over 20 Georgia Tech faculty and staff who were instrumental in designing and reviewing initiatives taking place on the Georgia Tech campus. It was crucial that this Advisory Committee consist of members of the Georgia Tech community who had sufficient influence to effect meaningful change. It therefore included senior representatives from the various Deans' offices, academic faculty, Human Resources, Institutional Research and Planning, Admissions, Career Services, Counseling Center, and the Office of the Dean of Students.

Part of the requirement of the NSF grant was that each of the five participating universities conduct an extensive institutional self-evaluation of the status of female students and faculty on campus. The Report on the Status of Women at Georgia Tech, completed in the fall of 1998, documented the results of a five-year examination of student and faculty demographics, the educational and professional experiences of female students and faculty, and the campus climate at Georgia Tech. The broad objective of the investigation was to identify the fundamental issues that differentially affect the education and employment of female students and faculty at Georgia Tech.

Task Force for Opportunities for Women in Engineering

In March 1998, Dr. Jean-Lou Chameau, Dean of Georgia Tech's College of Engineering (CoE), appointed a task force whose mandate was to assess the participation of female students and faculty in the College. The task force, consisting of ten members of the Georgia Tech community (including faculty, administrators, students and alumni), focused on those elements of the academic and research environment that act as constraints and/or barriers for women faculty and doctoral students in their quest for professional success.

One of the first actions of the task force was to define a vision for the College's initiative on women in engineering. In response to the Dean's charge of making the College a national model for the participation and success of women faculty and students, the task force prepared the following vision for the College of Engineering:

> *As part of a leading education and research institution in the nation, the College of Engineering at Georgia Tech will provide an environment conducive for women to pursue successfully and in a professional manner an engineering education and career.*

The task force then compiled demographic and climate data on engineering female faculty and doctoral students through existing institutional information and interviews. This data was compared, when possible, to benchmark information from peer institutions. In July, 1998 the results of these studies, and the ensuing recommendations, were published internally in a report entitled "Enhancing the Environment for Success: Report from the Task Force for Opportunities for Women in Engineering."

Report Conclusions

The two reports revealed that while the Institute had made important gains in increasing the number of female students and female faculty over the past decade, as well as in addressing issues regarding the overall "campus climate" for women, much remained to be done. Many of the more visible improvements regarding gender equity throughout the campus had come about through deliberate, systemic efforts: changes in the makeup of Student Services personnel, including the hiring of a director of Diversity Programs; the establishment of a Women's Resource Center; a series of Gender Equity Workshops (held during 1996-97 as part of the InGEAR effort); and a Women's Leadership Conference held in 1998. Furthermore, Georgia Tech had been successful in recruiting and retaining a high percentage of female students as compared to its benchmark institutions. Such institution-wide efforts attested to Georgia Tech's commitment to diversify its student body to meet future workforce demands.

In addition, Georgia Tech had made an effort to hire more female faculty, especially in the Schools of Engineering. In this regard, the investigators documented an interesting, and unsettling, finding: Georgia Tech compared favorably to its benchmark institutions in the number of women hired at the assistant professor rank, but it lagged behind these same institutions in the number of female faculty at the associate and full professor ranks.

The reports identified several institutional factors that might have contributed to the low retention and promotion rates of female faculty. For example:

- The Institute (in particular the College of Engineering) had concentrated on hiring women at the assistant professor level in the early 1990's and many of these women had not yet had time to progress through the system.
- The tenure and promotion process did not recognize different career trajectories and different career rates of advancement. Both men and women perceived institutional practices and processes as being unnecessarily political and arbitrary.
- The lack of attention to family-friendly policies, specifically in the areas of maternity leave and on-site day-care, had a significant impact on all faculty who aspired to balance family and career.

Thus, in spite of some important improvements, it was clear that there were challenges yet to be addressed. Both demographic data and survey and interview statements from women and men across the Institute documented the existence of specific institutional barriers and difficulties for women at Georgia Tech. However, no institutional mechanism existed for tracking and responding to the concerns of women across Institute constituencies. Likewise, while there were legal procedures for addressing individual sexual harassment concerns, there were no procedures for addressing more typical and subtle forms of gender harassment that affect the overall campus climate: casual (as well as deliberate) sexist comments, personality-based performance evaluations, differential work loads, or male-focused performance expectations.

Report Recommendations

The two institutional self-studies both recommended steps that Georgia Tech could take to improve the experiences and climate for women on campus. The recommendations differed significantly in their focus, but were consistent in their broad messages. Summaries of both sets of recommendations are included below.

InGEAR Report Recommendations

One of the key recommendations of the InGEAR report addressed the need to establish a President's Commission on the Status of Women. Such a commission would serve in an advisory capacity to the President and would be charged with the responsibility of continually monitoring and reporting about gender equity related issues on campus. It was recommended that this commission include representatives from every constituency on campus: undergraduate students, graduate students, untenured faculty, tenured faculty, staff, administration, Georgia Tech Research Institute (GTRI) personnel, co-op students, and alumni.

The additional recommendations covered three areas:

New positions of leadership, mediation and administration

The InGEAR Report recommended that the President

- fund a full-time Women's Resource Center Director;
- hire a faculty ombudsperson charged with the responsibility of monitoring and hearing faculty concerns about sexual or gender harassment or other employment grievances; and
- form a Task Force to evaluate the Institute's Tenure and Promotion Policies and Procedures.

Policy

The InGEAR Report recommended that the Institute amend its policies to acknowledge the importance of balance in the lives of its employees. Specifically, Georgia Tech should

- establish a Family Leave Policy that provides 6 weeks of paid leave for either parent of a newborn or newly adopted child, or for responsibilities due to a family illness.
- develop policies and procedures that allow faculty to delay tenure for up to 3 years for good cause. Good cause includes family care.

Sexual Harassment Prevention Training

The InGEAR Report recommended that the Institute

- charge the appropriate unit with the responsibility to conduct Gender Equity workshops for graduate teaching assistants;
- charge the appropriate unit with the responsibility to assess current efforts to educate new faculty about the Institute's Sexual Harassment Policy and reporting procedures;
- educate all faculty about their legal and institutional responsibilities in hearing about or witnessing instances of sexual harassment or gender harassment; and
- re-examine its sexual harassment policy on a regular basis to assess its effectiveness, and implement an annual reporting and publication of reported cases that also describes the outcome of each case.

College of Engineering Task Force Recommendations

The task force recommended that several actions be taken to achieve the vision described earlier. The Report first described the basic points of departure that served as the basis for these recommendations. To a large extent these points of departure came from the analysis of the data that were collected as part of this effort; in other cases they represented the task force's beliefs on the current status of women in engineering and how Georgia Tech could make a difference.

Task Force Report's Points of Departure:

1. Organizational environments and cultures are strongly influenced by leadership. Many of the issues identified by the task force are related to perceptions of reality. Many others are engrained in the institutional foundation of Georgia Tech. In order for progress to be made, the College of Engineering must have strong leadership on women's issues. Thus, we strongly believe that the Dean in particular and the School Chairs *must* be the driving force for change.

2. Women faculty and students do not want gender-specific programs for women because they fear that the existence of such programs will create the perception that

women cannot be successful without special assistance. Thus, the basic foundation for the College's success in enhancing the environment for women faculty and graduate students will be to incorporate changes and support structures *within the current institutional framework*. This implies that current organizational procedures, e.g., annual evaluations, strategic plans, faculty hiring decisions, and capital campaign activities should be used as much as possible to implement the task force's recommendations.

3. There are many strategies that could be followed to enhance the Georgia Tech environment for women. We believe that the most effective strategy is to increase the number of women faculty, especially at the senior level. Such faculty can be role models, mentors, and catalysts for change.

4. Much of what the task force found in its data collection and interview activities is not new. For example, the issues of family leave and daycare have been identified as important quality-of-life issues for many years (in fact, many of the interviewees began interviews by saying, "let me guess what you've heard, day care and maternity leave…"). *We believe it is time for the Georgia Tech administration to do something about it*. So, although some of the recommendations that follow deal with family leave and daycare, we want to emphasize that many in the Georgia Tech community are losing patience with apparent inaction.

5. Many of the recommendations will clearly improve the environment for all faculty and students, not just women. Thus, although we recommend actions that can enhance the environment for women, in reality such actions will help the entire community.

6. The task force believes that the best way to manage the change process is to establish goals at the outset, and then monitor achievement over time.

The Task Force recommended the adoption of the following goals:

Student Goals:

- Maintain the percentage of female undergraduate students at a level of approximately 5% above the national average.
- Increase the percentage of our undergraduate women that go to graduate school and include this percentage in the School assessment process.
- Increase the percentage of women enrolled in the graduate program to at least 25% in five years. Specific percentage goals for each School should be established in the context of current enrollment and national field-dependent trends, and then used in School assessment.
- Provide a learning environment that is free of sexual harassment and gender bias.

Faculty Goals:

- Increase the percentages of women faculty at all levels, especially at senior levels. Specifically, in five years double the number of women faculty and have nine women full professors. Each School should strive to hire or promote one woman full professor.
- Improve the climate for all faculty in terms of assessment, family policy, and professional development.

Recommended Action Items

Student Action Items:

- Assess the extent of sexual harassment and gender bias at Georgia Tech through an appropriate instrument (i.e., survey and/or interview) and then follow this with periodic assessment every few years.
- Develop a centralized process for identifying our top women undergraduate students and then encouraging them to pursue a graduate degree, particularly a Ph.D.
- Provide funds from the Dean's office for women graduate research assistants (NOT fellowships).
- Make certain that information on the mentoring and career development programs available to students at Georgia Tech is well publicized.
- Review the financial support system for students to determine if gender differences exist which affect the inclusion and ultimate success of the student.
- Provide family support for students via policy and programs as discussed in the faculty section below.
- Include a new Georgia Tech web page summarizing information about the status of women students and faculty in the CoE.

Faculty Action Items:

Regarding Faculty Hiring and Professional Development

- Review search processes to ensure that each School is identifying a diverse pool of the best candidates whenever new faculty are to be hired.
- Have special chaired (senior or junior development) positions.
- Develop an industry-targeted program to identify and recruit women for faculty positions.
- The Dean's office should provide partial financial support for hiring women faculty - either a percentage of the initial salary or salary after a successful third year critical review.

Regarding Tenure and Promotion

- Develop clear criteria for evaluation and ensure that these criteria are uniformly applied.
- Review the tenure and promotion process to ensure fairness in the process.
- Provide each untenured faculty member with feedback on his or her performance through an annual assessment by the tenure and promotion committee.
- Assess School to School variation in teaching in relation to junior faculty load and success in the tenure and promotion process.
- Perform a faculty survey (including men) to better understand the environment for junior faculty and how each faculty member's road to successful promotion and tenure can be enhanced.
- Put in place a mentoring system *with a reward structure*.

Regarding Senior Faculty

- Have a dean's level advisory committee where senior women faculty can both have a role in guiding institute policy, and learn about promotion at higher levels.
- Make sure the senior administrators are mentoring in an active way to set the tone that this is a good thing to do.
- Have a rotating Associate Dean position that senior faculty can occupy and is accessible to underrepresented faculty.
- Ensure that post-tenure review is a process of periodic review, but is in no way a means of weakening or distorting the commitment of tenure.

Regarding Family Policy

- A significant finding of this Task Force is the concern about the impact of having children on a faculty career. This issue must be addressed by policy and programs to ensure Tech's commitment to its' faculty.
- Implement a family leave policy.
- Develop a Georgia Tech daycare program/facility for faculty, staff, and students.
- Investigate new approaches to including family issues in promotion and tenure assessment for both men and women.

Regarding Faculty Isolation and Climate Issues

- Establish a New Faculty Committee in each School, comprised of faculty at all levels, to ensure that new faculty are provided with information about available resources in the School and how to get things done.
- Have a reception each fall for all women faculty in the College, welcoming the new ones, and celebrating the promotion and tenure successes of the past year.
- Have a faculty initiated lunch program available for women faculty to meet each other and discuss research or professional development issues.

Dissemination of Institutional Reports

For internal dissemination on the Georgia Tech campus, the results and recommendations of the InGEAR and Task Force reports were combined into a presentation that was given to the President's Cabinet and to the Academic Senate. The reports were also publicized in the faculty/staff and student newspapers. In addition, the Task Force report was circulated to all CoE School Chairs and administrators, and the InGEAR report was posted on the website of the Vice Provost for Undergraduate Studies and Academic Affairs (http://www.academic.gatech.edu/study/). This URL was disseminated on the listserv of the National Science Foundation's Program for Gender Equity and was widely circulated within the professional community.

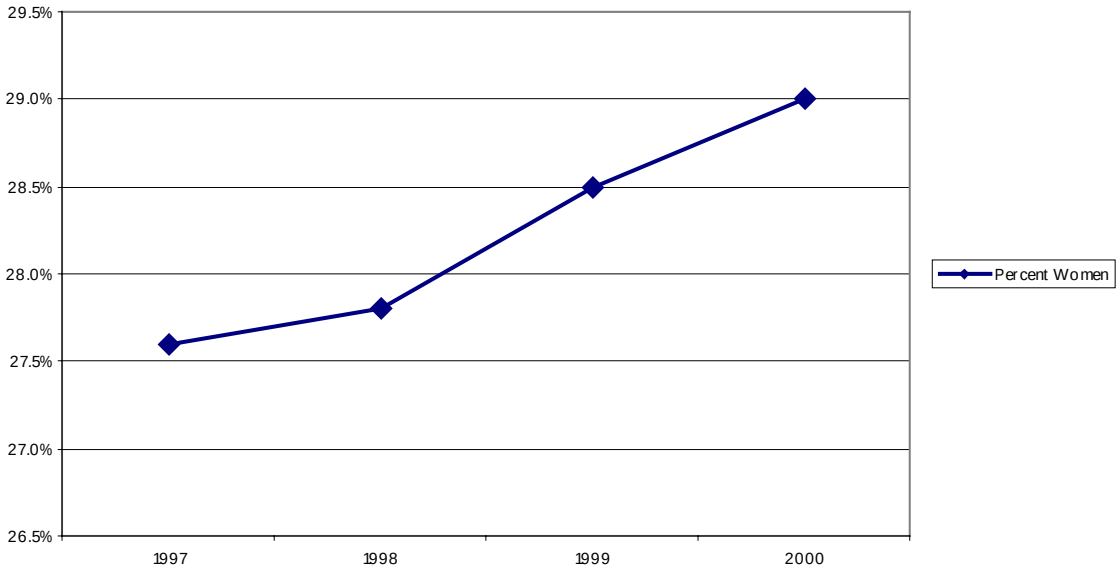
Two Years Later…

In the past two years advances have been made on several fronts:

Changes in Campus Demographics

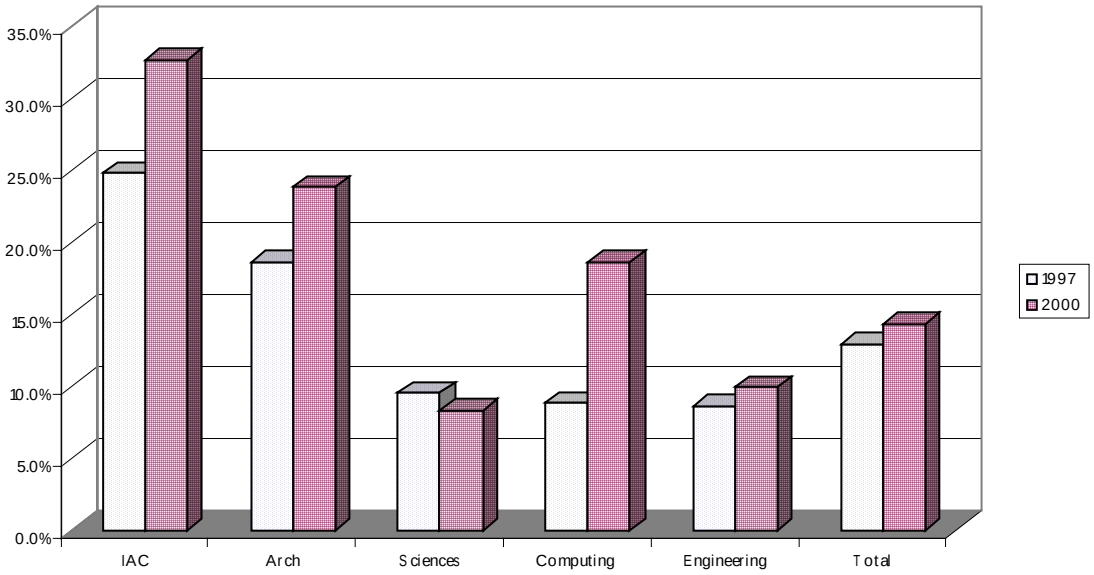
- Women continue to represent an increasing percentage of the Georgia Tech undergraduate student body (Figure 1).

Figure 1: Percent First Year Undergraduate GT Students who are Women - 1997 to 2000



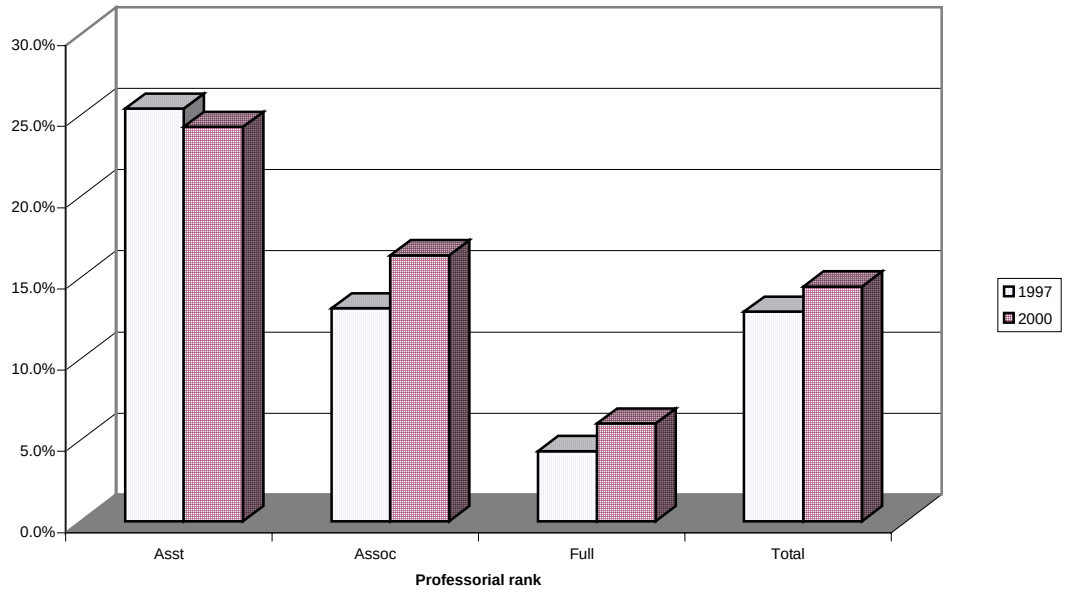
- The total number of female tenure track faculty has increased, with the largest percent increase occurring in the College of Computing (Figure 2).

Figure 2: Percent of GT Tenure Track Faculty who are Women, by College 1997, 2000



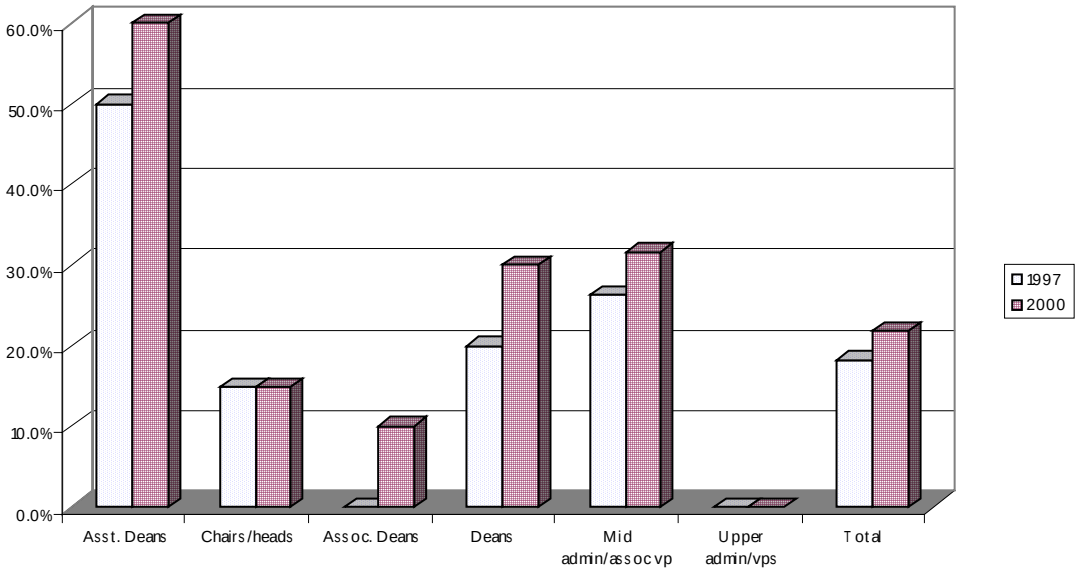
- The numbers and percentages of female associate and full professors have each increased (Figure 3).

Figure 3: Percent of GT Faculty who are Women, by Academic Rank - 1997, 2000



- The number of female upper administrators has increased (Figure 4). Note that this includes the hiring of the first two female academic deans in Georgia Tech's history.

Figure 4: Percent of GT Upper Administration who are Women, by Level - 1997, 2000



Changes in Staffing and Policy

- Two new positions were funded, one for the Director of the Women's Resource Center and one for a faculty ombudsperson to hear faculty grievances.

- The Faculty Assembly passed a family-friendly tenure clock policy, and the University System Board of Regents is currently reevaluating both their tenure clock and maternity leave policies.

Changes in Process

- Data collection is crucial to the success of institutional assessment and reform. When data is not tracked effectively, it implies that the issues are not important. The InGEAR institutions all experienced problems gaining access to institutional data, often because it was never collected or compiled. Two examples are illuminating: when Georgia Tech students changed majors, the new major simply replaced the old one in that data field in the student's official records. Therefore tracing the patterns of academic major changes to identify academic units that had difficulties retaining female majors required a laborious examination of all individual student transcripts for the years in question.[5] Similarly, faculty promotions, tenure decisions, and terminations were not systematically tracked and could only be studied by analyzing each year independently. Because of the InGEAR institutional self study, Georgia Tech now tracks faculty promotion and tenure longitudinally (by race and gender), and no longer overwrites student changes in major (thus allowing the institution to easily study the patterns of student major changes over time.) It cannot be overemphasized that all data should be reported by gender and race.
- Due to ABET and other assessment efforts, there is increasing emphasis placed on alumni reflections on their educational experiences. In 1998 Georgia Tech already had established a 5-year post-graduation Alumni Survey. Like the institutional data collection process, the redesign of this survey has been affected by the increased awareness on campus of diversity issues. As such, the Alumni Survey now includes questions related to campus climate and equity.

New Initiatives

- Georgia Tech is aggressively pursuing a full-service child care center in partnership with a neighboring community. Several initial planning steps have been completed including securing funding, hiring an architect, filing incorporation papers, and initializing the filing of appropriate city permits. The projected opening date is January 2002.
- An annual faculty mentoring award was set up in the College of Engineering partially sponsored by the SUCCEED (Southeastern University and College Engineering Education Coalition) NSF Coalition.
- A campus-wide task force was formed to study the tenure and promotion process.

Conclusions and Lessons Learned

Georgia Tech's institutional self-assessments were crucial for raising the level of awareness on campus regarding issues of women, and for providing baseline data from which future goals could be established and to which future progress could be compared. They also identified gaps in the data collection procedures, thereby helping to establish a process of data reporting that will allow effective future monitoring of how women and minorities are faring at Georgia Tech. Some of the changes that have subsequently occurred can be traced directly to these reports and to the other accompanying InGEAR activities—specifically the changes in staffing, policy, and process. Other changes, such as demographic shifts, have multiple and complicated causes. Institutional self-assessments, and their accompanying reports on the status of women on

campus, cannot by themselves effect these changes—they can, however, help create a climate where change is possible.

Many factors contributed to the acceptance and success of the InGEAR and College of Engineering Task Force reports. The CoE Task Force was convened by the Engineering Dean, effectively guaranteeing that the report would be taken seriously. Similarly, from the beginning the Georgia Tech InGEAR staff sought to involve key, highly placed, individuals throughout the university, thereby gaining strong support from senior members of the institutional community. Members of both InGEAR and the Task Force had easy access to virtually all institutional data, a privilege that is crucial for honest self-assessment but which was not shared by InGEAR staff at other universities.

The wide support enjoyed by the InGEAR and Task Force research team undoubtedly indicated that the time was right for pushing for institutional change with regards to women in engineering at Georgia Tech. However all change takes time and can engender hostilities, and sometimes success must be measured by small shifts. Institutional self-assessments, particularly when the results are communicated widely and openly, can be a powerful tool in helping with this change. At least then you know whether change is taking place, whatever the cause, and whether it is in the right direction.

Bibliography

1. *InGEAR Report on the Status of Women at Georgia Tech, 1993-1998*, http://www.academic.gatech.edu/study/
2. *Enhancing the Environment for Success: Report from the Task Force for Opportunities for Women in Engineering*, July 31, 1998, internal Georgia Tech document.
3. Clark Atlanta University, Georgia Institute of Technology, Georgia Southern University, Georgia State University, The University of Georgia
4. InGEAR Project Evaluation, Year 1, page 1. HRD #9453106
5. "Major Hopping," by Lynn Fountain and Donna Llewellyn. Proceedings of the 1997 American Society for Engineering Education Annual Conference & Exposition, Session 2630.

APRIL BROWN
Dr. April Brown is a Professor of Electrical Engineering and Associate Dean of Engineering at Georgia Institute of Technology. Previous positions were at the Hughes Research Labs and the Army Research Office. Her primary area of research is in microelectronics. She is currently working on faculty development and other projects in the College of Engineering Dean's Office. April served as a co-chair of the College of Engineering Task Force for Opportunities for Women in Engineering in 1998.

DONNA LLEWELLYN
Dr. Donna Llewellyn is the Director of the Center for the Enhancement of Teaching and Learning and an adjunct associate professor in Industrial and Systems Engineering at Georgia Institute of Technology. Her current areas of research are in equity of engineering education, and assessment of instruction. Donna served as a co-PI of the InGEAR grant from 1995 through 1998 and was a co-author of the Self-Study Report.

MARION USSELMAN

Dr. Marion Usselman is a Research Scientist at the Center for Education Integrating Science, Mathematics and Computing (CEISMC) at Georgia Institute of Technology. Marion received her Ph.D. in biophysics from Johns Hopkins University and has taught in the Biology Department at the University of North Carolina, Charlotte. She focuses on equity issues in education, and K-12 educational reform. Marion was the Project Director for the InGEAR grant from 1996 through 1998 and was a co-author of the Self-Study Report.