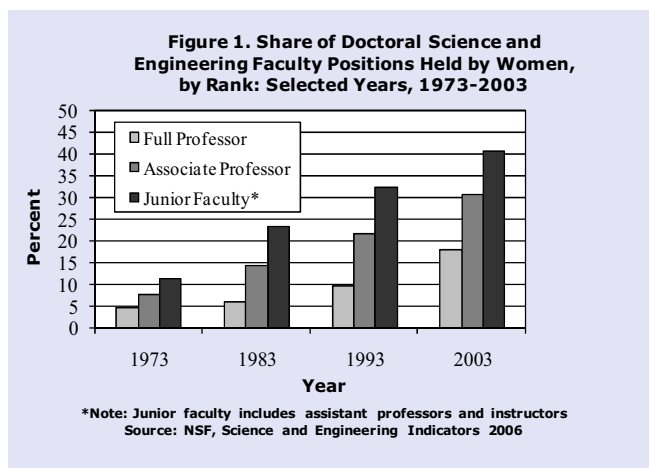


### Executive Summary

#### BACKGROUND

The recruitment and promotion of women in the science, technology, engineering and math (STEM) disciplines present several challenges. Some of these include salary and promotion lags, less access to resources and professional and social networks, more challenges balancing career and family, lack of institutional attention to dual-career issues, a “leaky pipeline” of women out of STEM, stereotyped expectations about women’s roles and abilities, and unwelcoming work climates.

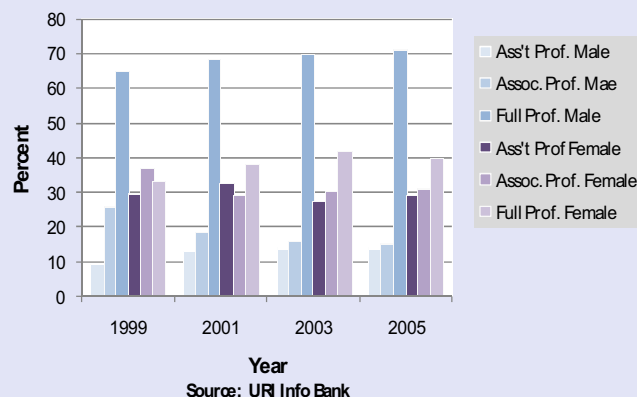
Although nationally the share of women scientists in all ranks has increased in recent years, the share of women in lower ranks has remained disproportionately high (see Figure 1).



This pattern holds true at the University of Rhode Island (URI). More frequently, women occupy lower ranks than men, not only because more women are entering the STEM disciplines than in years past, but because it takes women longer to reach higher ranks. The difference is widest at the full professor level (see Figure 2).

The National Science Foundation (NSF) recognizes that advancing science in America requires a diversity of approaches and perspectives, and the full participation of women and underrepresented minorities. In 2003 URI received an NSF ADVANCE Institutional Transformation award to increase the numbers and promote the careers of women in STEM at our institution.

**Figure 2. Percentage within Gender of Tenure-Track Faculty at URI**



As part of the ADVANCE initiative, a work environment survey was administered in the fall of 2004 to all URI faculty to assess their attitudes and perceptions about a variety of factors that impact their careers. The findings represent a snapshot of the experiences of faculty. This report summarizes the findings.

The goal of the survey was to develop and share a comprehensive understanding of the status of women STEM faculty. We examined whether differences were attributable to gender, discipline, or college. The survey was based on climate surveys from other ADVANCE institutions and assessed multiple constructs of working climate.

#### SURVEY OVERVIEW

**Sample.** The survey was distributed to all URI faculty (approximately 700), including tenure-track and research faculty, and those from STEM and non-STEM disciplines. STEM disciplines included: the College of Engineering (COE); 7 departments from the College of the Environment & Life Sciences (CELS); the Graduate School of Oceanography (GSO); 7 departments from the College of Arts and Sciences (CAS); and 1 department from the college of Pharmacy (PHY). Non-STEM disciplines included the remaining departments in CELS, CAS, and PHY, as well as the Colleges of Business (CBA), Human Science and Services (HSS), and Nursing (NRS).

**Sample distribution.** The response rate was about 39%, with 271 completed surveys returned via paper or electronic submission. Half the respondent (N=137) were STEM faculty (35 females and 101 males) and 44% (N=120) were from non-STEM fields (76 females and 40 males). About 20 individuals did not indicate their academic field. The known gender breakdown was 118 females (43%) and 144 males (54%); 9 individuals did not report gender. Because URI has disproportionately more male than female faculty, these numbers represent about half of all female faculty and about a third of all male faculty.

Proportionately, the highest response rate came from NRS (N=17, 60%) and CELS (N=47, 58%). CBA had the lowest proportional response rate (N=13, 24%). All other colleges had between 33-36% of their faculty responding. Because of college size, 35% of the respondent set represented CAS, 17% representing CELS, with the remaining colleges representing less than 10% each.

**Rank & Tenure Status.** The following percentages are in relation to the total sample and reflect the known rank by gender breakdown. Respondents were 23.4% Assistant Professors (8.4% male, 16.4% female), 17.3% Associate Professors (6.5% male, 11.8% female), and 51.3% Full Professors (39% male, 13.9% female). The average number of years that faculty respondents had been at URI was 16.67 years, with females being here an average of 12 years, and males an average of 20 years. There was no significant gender difference in time to tenure (average for females = 5.00 years versus 4.77 years for males).

**Comparing Gender, Discipline, and College Across 10 Climate Indicators.** The analyses included group difference tests on gender, discipline (STEM fields compared to non-STEM fields), and college. The survey included 10 major climate indicators assessing academic work environment for faculty: resource satisfaction, service contributions, recognition, research productivity, overall climate, career attitudes, interpersonal and work issues, spouse/partner issues, work and gender issues, and teaching contributions. Two additional constructs, job/tenure issues and discrimination, were analyzed descriptively.

## SIMILARITIES IN CAREER PATTERNS

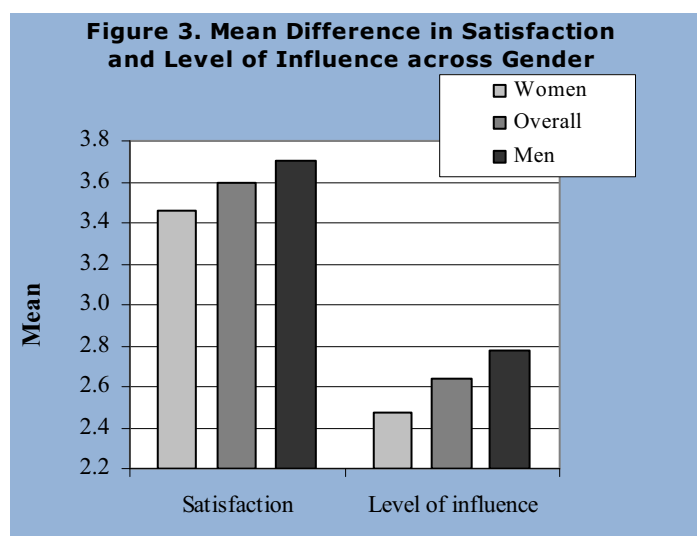
Overall, there were non-significant results for several measures. Gender, discipline, and college groups were similar in terms of their reports of *resource satisfaction* (elements of initial contract negotiations), *service contributions* (committee membership, leadership, volunteering, and requests) *recognition* (awards within and outside of the department), and *research productivity* (self-rating of productivity and rating of the department's view of the participant's productivity).

## DIFFERENCES IN WORK ENVIRONMENT

This area was separated into 3 general constructs: overall work climate, career attitudes, and perceptions or experiences of discrimination. Most areas showed significant differences between women and men, along with some college differences within the overall climate construct.

**Overall Climate.** The climate construct included *overall work environment*, *gender equity*, and *department leadership*. Across genders, men reported a significantly more positive work environment than women. Men also reported significantly higher levels of gender equity than women. Across colleges, there were no significant differences for overall work environment or gender equity. Although there were no gender differences in ratings of department leadership, there were significant differences across some colleges, with CELS faculty rating leadership more positively than some other colleges.

**Career Attitudes.** The career attitudes construct included *career satisfaction* and *perceived level of influence*. Men reported higher ratings of career satisfaction than women. Additionally, men reported having more influence over department matters than did women (see Figure 3). There were no significant differences across discipline or college on career attitudes.



**Discrimination.** Respondents were asked to indicate job-related discrimination practices (including race, ethnicity, gender, sexual orientation, ability, religious, and other) that they had personally perceived or experienced at URI in the last 5 years. About 66% of female respondents indicated experiencing or perceiving some form of discrimination, compared to only 31% of male respondents. Female faculty reported being aware of significantly more incidents of discrimination (3.40 incidents) than did male faculty (1.84 incidents) during the last 2-5 years.

## DIFFERENCES IN WORK/LIFE BALANCE

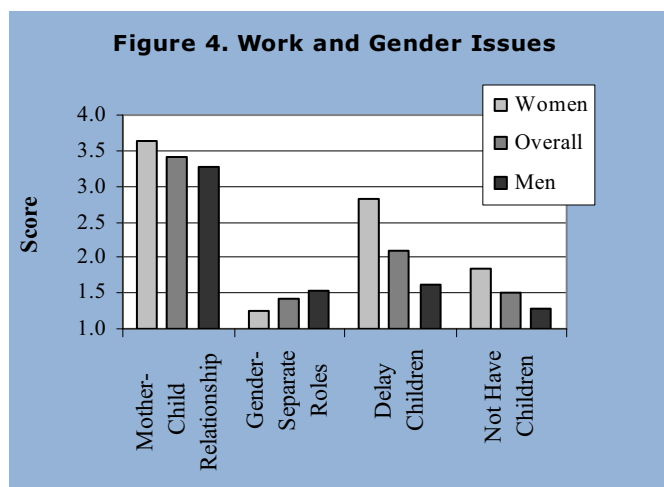
The analyses revealed important gender differences in almost all work/life balance areas, and some college differences. This area included 3 general constructs: interpersonal issues, gender issues, and partner issues.

**Interpersonal and Work Issues.** The interpersonal and work issues construct included *mentoring satisfaction*, *collegiality*, and *career and personal life balance*. Since a limited number of respondents indicated that they had a mentor, mentoring satisfaction was excluded from further analyses. Both men and women reported similar levels of collegiality. Men reported more balance in career and personal life than women.

Across colleges, there were no significant differences for levels of collegiality. However, for career and personal life balance, CELS faculty and HSS faculty had a greater concern about balance than COE faculty.

**Gender and Work Issues.** This construct included *mother-child relationship*, *gender-separate roles*, *delay having children*, and *not having children*. Also included in this section are considerations on stopping the tenure clock.

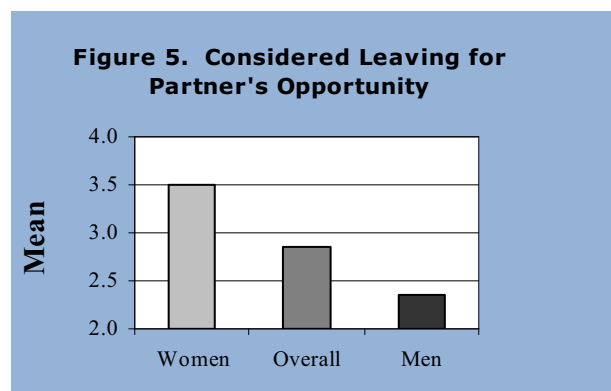
Women and men differed significantly on all aspects of work and gender issues (see Figure 4). For mother-child relationship, men disagreed more strongly with the statement that a mother who works outside the home can have just as good a relationship with her children as a mother who does not work. For gender-separate roles, men agreed more strongly with the statement that it is



better if a man earns the income and a woman takes care of the home and children. Women were significantly more likely than men to have considered delaying or not having children.

There were no significant differences across discipline and college for work and gender issues.

**Spouse/Partner Issues.** This construct included *partner career opportunity* and *partner career assistance*. Women reported more willingness to leave URI for a partner's career opportunities than men (see Figure 5). There were no significant gender differences in request frequency or levels of satisfaction when asking the University for partner placement (dual-career) assistance. There were no significant differences across discipline and college for spouse/partner issues.



**Tenure Clock Stops.** When asked if their department allowed them to stop the tenure clock, 31% of respondents said yes, 4% said no and 65% indicated that they did not know. This suggests that departments could communicate the availability of tenure stops more clearly to faculty. Only 12 respondents (4%) indicated that they have ever stopped the tenure clock. The most frequent reason cited for stopping the clock was childbirth. Five percent of respondents indicated that they chose not to stop the tenure clock even though they were entitled to do so. Qualitative comments on this topic centered around childbirth, adoption and maternity leave, and the decision nonetheless not to stop the tenure clock even though it might have been an option.

## DIFFERENCES IN TEACHING EXPERIENCES

These analyses included *teaching involvement* (sum of advisees, sum of new and proposed courses, and number of hours per week spent mentoring), and *teaching hours* (sum of teaching and office hours and the number of undergraduate and graduate courses taught). Women and men did not differ in their teaching experiences. However, there were several differences across discipline and college both in teaching involvement and teaching hours.

For discipline, non-STEM disciplines taught more courses and had more new courses than STEM disciplines. There was no significant difference in the sum of teaching hours. Between colleges, CAS faculty reported more teaching hours than PHY faculty and GSO faculty. The only significant college difference in teaching involvement was that GSO faculty had significantly fewer new courses than all other colleges.

## Significant findings to consider: At the University of Rhode Island . .

### men and women report similar levels of:

- satisfaction with resources
- service contributions
- professional recognition
- research productivity
- professional collegiality

### men report more:

- career satisfaction
- positive work environment
- gender equity
- departmental influence
- overall workplace equity
- work/life balance
- traditional views of gender work roles

### women report more:

- interpersonal work challenges
- gender discrimination
- overall workplace discrimination
- likelihood to delay or to not have children
- willingness to leave URI to accommodate a partner's career
- belief in combining career & family

## CONCLUSIONS

These results may offer some insights into the faculty culture at URI. Men and women across disciplines and colleges feel similarly about resource satisfaction, service contributions, professional recognition, and research productivity. These are positive indicators of equity at our University.

However, women and men at URI differed on several key indicators. These factors are not unique to URI, but reflect a national problem. Men at URI generally reported more career satisfaction. They reported experiencing a more positive work environment, including more gender and overall employee equity, influence over department decisions, and fewer challenges in balancing work and life. In addition, men endorsed more traditional statements regarding women's roles in the workforce.

On the other hand, women at URI reported significantly more observations or experiences of workplace discrimination, as well as challenges dealing with interpersonal issues at work, such as struggles feeling valued or "fitting in." More than men, women at URI report more challenges balancing work and personal/family responsibilities. They also reported more need for flexibility in career paths because of partner or parenting responsibilities.

## IMPLICATIONS

The results of this survey provide some foundation for change efforts where they are needed. Attracting and retaining a diverse and excellent faculty pool at URI requires conscientiousness effort. Promoting or amending University and college policies and practices that result in effective recruitment and retention strategies is most important. Ideas for change include:

**Recruitment Best Practices.** An unwelcoming work environment is only experienced by those in the minority.

Decreasing experiences of isolation or discrimination will occur through diversifying the faculty. This requires proactive recruitment strategies that go beyond normal search practices. Broadening the pool of applicants requires specific strategies, such as personal networking and effectively presenting the University as a welcoming, inclusive place to work. Meeting the needs of dual-career couples is another vital problem to solve.

**Mentoring.** Research clearly shows that effective mentoring is a key factor in career success, especially for under-represented members. The finding that the majority of survey respondents could not identify a mentor strongly suggests that active institutional efforts, including formal policies, training, and rewards are needed in this area.

**Work-Life Policies.** The needs of the 21st century workforce are changing. Balancing caregiving responsibilities and career is no longer a marginal concern, but central in today's workplace for both women and men. Responsive policies and practices that include leaves, tenure stops, flexible work options, open support from administrators and a "culture of coverage" among colleagues has shown to result in increased career satisfaction, lower attrition, increased productivity, and other positive outcomes. The finding that many respondents didn't know about tenure-stop possibilities suggests the need for more communication about these issues.

**Workplace Climate.** In addition to the steps above, attention must be paid to subtle factors in the work environment that contribute to a "chilly" environment for underrepresented members. These factors are often invisible to majority members, and not mentioned by minority members. Providing opportunities for social and professional networking and collaborating, actively recognizing the contributions of *all* members, providing information and resources evenly, and noticing clues of isolation are a few steps easily overlooked but critical to ensuring healthy and thriving departments and University.