

## **BENCHMARKS 2004**

*Prepared by the URI ADVANCE Evaluation Committee*

*This data was compiled from information received from the Office of the Assistant Provost at the University of Rhode Island as of July 2004.*

### **1. Number and Percent of Women Faculty in Science/Engineering by Department (Table 1)**

Of the 289 faculty in Science, Technology, Engineering, & Mathematics (STEM) departments, women number 64, or 22.1 %. These positions include tenure-track, research, and lecturer positions. They do not include marine research scientists. The College of Arts & Sciences, with 34 women, has the highest percentage of female faculty (30.6%), consisting mainly of faculty in the biological sciences and social sciences (psychology, and sociology/anthropology). The Physics and Chemistry departments are where women are most underrepresented in the College of Arts & Sciences, with only one tenure-track position held by a female in each department. Of the four colleges evaluated, the College of Engineering had the lowest percentage of female faculty (9.3%), with five of the six departments employing only one female tenure-track faculty.

Within the three categories (i.e., tenure-track, research, and lecturer positions), women held the highest percentage of lecturer positions, and the lowest percentage of tenure-track positions.

### **2. Number and Percent of Women in Tenure-Line Positions by Rank and Department (Table 2)**

Overall, women in tenure-track positions are evenly dispersed between Assistant, Associate, and Full professor when looking at all STEM departments. However, individual departments and colleges have an unequal representation of each position. Whereas the College of Engineering has five tenure-track positions held by females, only one is a full professor with the majority of the remaining women in assistant professor positions. Of the four colleges evaluated, the Graduate School of Oceanography (GSO) had the highest percentage of full professor positions (100%) although only 3.5 of the 29 tenure-track positions were filled by females (11%). With the exception of the College of Arts & Sciences, most departments possess only one tenure-track position filled by a female and this is generally an associate professor position. The Psychology Department, in the College of Arts & Sciences (CAS) has the highest number of full professor positions held by females (N = 5 or 28%) and the highest overall *number* of positions held by females (N = 12 or 41%). Biological Sciences, also in the CAS, has the highest *percentage* of female faculty (N = 8 or 56%) of the STEM departments.

### **3. Promotion Outcomes in STEM Fields by Gender (Table 3)**

Promotion outcomes for faculty in STEM departments were analyzed by gender for the years 1990 to 2004. Overall, t-test analyses revealed no significant differences. For tenure promotion from assistant professor to associate professor, the range for both was from 3 to 7 years. Females were found to have an average time of 5.6 years (N = 19) and males 5.3 years (N = 40).

For promotion from associate to full professor, the number of cases for each gender varied widely, with 16 females and 82 males being promoted in the past 14 years. The range also varied by gender. For female faculty the range was from 3 to 12 years (SD = 2.55). However, for male faculty, the range was from 2 to 19 years (SD = 3.31). To control for outliers, cases that exceeded 2 standard deviations from the mean were excluded from the analysis. This resulted in 5 cases being excluded from the male cohort and 0 from the female cohort. Using these criteria, the average time for female promotion from associate to full professor was 6.88 years (N = 16) and for males 6.51 years (N = 77).

#### 4. Years in Rank in STEM Fields by Gender (Table 4)

To be provided.

#### 5. Time at Institution and Attrition by Gender for STEM Faculty (Table 5)

The difference in time at institution increases between genders from assistant to full professor. At the assistant professor level, the average time at institution for females is 5.4 years and for males is 5.0 years. This indicates that females spend slightly longer at the assistant level than males. At the associate level men begin to exceed women in time spent at the institution. Females at the associate level have been at the University an average of 10.9 years, and males an average of 15.3 years. At the full professor level females have spent an average of 21.2 years and males an average of 26.7 years. This information does not imply that females are promoted more quickly or spend less time in each rank, but that males are employed and remain at the University for a longer total amount of time. Additionally, it should be noted that these average times do not account for any leave taken during the time of employment, which may affect the total average time at the institution.

Attrition was evaluated from 2001- 2004, by the Office of the Provost. The data show a higher number of STEM males leaving the university than females overall, reflecting the overall difference in numbers of men and women faculty. The percentage of males leaving the University is 9% of the total STEM faculty, while the percentage of females is 6% of the total faculty. In both cases, when retirement was the reason for leaving the individual was at the full professor position (28 men and 2 women). When the individual resigned her or his position (5 men and 2 women) it was at the assistant professor level. As indicated in Table 4, there are more males holding higher ranks at the University, leading to a higher percentage of retirements at the full professor level than for females.

#### 6. Number of Women in STEM who are in non-tenure-track positions

Table 1: Number & Percent of Female Faculty in STEM by Department

Table 6: Number & Percent of Females in Non-tenure STEM positions

As indicated in Table 6, non-tenure track positions were identified as research, lecturer, or marine scientist positions. The position of marine scientist exists only in the Graduate School of Oceanography. Only 36.4 % of researchers, 33.3% of all lecturers, and 35% of marine scientists were found to be female throughout all STEM departments. While many departments contained no faculty within these positions, those that did remained dominated by males. Being the largest

college at URI, the College of Arts & Sciences had the largest number of lecturer positions, and only 18.5% of these were held by women. The College of Environment and Life Sciences (CELS) had the most balanced representation of females through its non-tenure track positions, in comparison to the other three STEM colleges. One of the 2 research positions in CELS was female (50%), and both of the 2 lecturer positions were held by women (100%). GSO had only one lecturer position which was held by a female. The marine scientist positions were dominated by males with females filling only 35% of the total positions.

## **7. Number & Percent of Women Scientists and Engineers in Administrative Positions (Table 7)**

Administrative leadership positions for the purpose of this evaluation were defined as department heads, deans, associate deans, assistant deans, vice provosts, and provosts/vice presidents. Of the 83 positions identified, 33 were held by women (39.8%). The positions with the highest percentage of women were Vice Provost (50%), and Assistant Dean (60%). Most notably, the position of Provost and Vice President of Academic Affairs is held by a woman, and she is the first woman to serve as Provost and Vice President for Academic Affairs of a New England land grant university.

Furthermore, each position was disaggregated into those held by an individual possessing a Masters degree or Ph.D. in STEM fields. Again, the position of Vice Provost had the highest percentage with only one individual having a STEM degree and being female. Of the nine Associate Deans with a STEM background, four were females (44.4%). The one Assistant Dean having a STEM background was male.

It should also be noted that for the purposes of this evaluation, a Masters degree or Ph.D. in a STEM field included all departments identified by the ADVANCE grant and in addition several departments identified as STEM due to the scientific background and experience required for their field. These included: Nursing, Nutrition and Food Science, Pharmacy, and Physical Therapy.

## **8. Number & Percent of Women STEM Faculty in Endowed/ Named Chairs**

There is one woman with a STEM background (genetics) who is holding an endowed chair position in Women's Studies.

## **9. Number & Percent of Women in STEM Faculty on Promotion and Tenure Committees**

At the University of Rhode Island, promotion and tenure decisions are not made by committee. Instead, a process of peer evaluation occurs, offering all faculty the opportunity to review a candidate's file and submit letters of evaluation to the chair, who then writes a recommendation to the dean, as described below in the AAUP contract:

*Article 15.7 Process of Department Peer Evaluation. Before preparing his/her written evaluations . . . the department chairperson shall consult with the department faculty by such procedure for peer evaluation as the faculty shall devise through annual department discussion and vote. Methods shall be at the discretion of the department, so long as each faculty member is given the right, without prejudice to any party involved, to abstain from participation . . . . No method of department peer evaluation may deny any faculty member the right to submit a written evaluation of any or all faculty which shall be included in the material forwarded to the Dean with the chairperson's written evaluation.*

*Article 15.8.2 Inclusion of Department Evaluation. In writing his/her evaluations, the department shall give full consideration to all opinions and evaluations obtained by consultation with the department faculty . . .*

Agreement between Rhode Island Board of Governors and  
University of Rhode Island Chapter American Association of  
University Professors

## 10. Salary of STEM Faculty by Gender (Table 8)

Table 8 indicates that in all tenure-track positions males have a higher salary than females. The University of Rhode Island has a three tier salary structure based on market forces. The third tier is comprised of engineering and computer science departments, the second tier consists of oceanography, marine affairs, and environmental resource sciences, and the first tier consists of all other STEM departments, including the social sciences. The difference in salaries between males and females across tiers and positions ranges from \$250 to \$7,000, and is present throughout all three tiers and all positions.

In interpreting any difference, it is important to note that the cell sizes in several categories are very small, prohibiting any general assumptions about pay discrepancies. For example, the largest difference exists in the second tier at the assistant professor position, where men earn \$7,381 more than women, though only 2 women occupy these positions. In the same position at the first tier the difference is only \$259. At the third tier, which contains the highest paying salaries for the assistant position, there is a more moderate difference of \$797. At the associate professor level, the largest difference in salaries exist in the third tier; however, again there are only two females in this tier at this position. Also, there are no females in this position at the second tier resulting in no salary data between genders. It is important to note that there have been no females hired to fulfill associate professor positions in the departments categorized under tier two and only two females at tier three, which both pay larger salaries than at tier one.

For full professor positions the largest salary difference is in the first tier (difference= \$4,570). This tier also contains the highest number of females (N = 13) as opposed to the third tier which only contains 2 females. But while there are few females in each tier, there is a stark difference between this and the number of males in each tier. This could be attributed to the predominantly male cohort hired in the 1960's and 1970's who have more time at the University (males = 24.8 years, vs. females = 20.5 years), thus resulting in differences in the full professor salaries. This is evident at every tier for full professors, where there is between 40 and 50 more males in the position than females.

## 11. Space Allocation of STEM Faculty by Gender: Baseline and Year 5

At this time, the ADVANCE team has been working in collaboration with the Office of Capital Projects and Facilities Planning in order to investigate space allocation of STEM faculty by gender. A biennial survey is distributed to all departments on campus regarding the question of space allocation. This survey will be distributed in March 2005, with the additional question regarding gender of the recipients of space. This information will provide data regarding square footage of the space allocated to faculty.

Additionally, a qualitative study will be performed to further investigate the quality of space given to STEM faculty by gender. Some data have already been gathered by the Office of Capital Projects and Facilities Planning for the College of Engineering, and an expected evaluation of the College of the Environment & Life Sciences is planned to begin in February of 2005. Further studies will investigate these same factors in the College of Arts & Sciences and the Graduate School of Oceanography. The primary question being investigated in these studies involves the

physical condition of the space, including recent renovations. These data are expected to be reported in next year's analysis. The ADVANCE team is also considering ways to more concretely determine other qualitative aspects of space, such as quality of location of space, time to receive the space, satisfaction with allocated space, etc.

## 12. Start-up Packages of newly hired STEM Faculty by Gender (Table 9)

Start-up packages were provided by the Office of the Assistant Provost, and were selected to provide a range of packages offered throughout STEM departments in the years 2000- 2004 for potential candidates and hires. A male and female hire in similar areas were chosen for comparison purposes. These packages included both initial salaries and start-up funds. As seen in Table 12, there are very few differences between genders within the same department. In nearly every case the salary offered was either equivalent or contained a difference of \$1,000 or less. In fact, in cases where there was a difference in salary offered, the female candidate was offered the higher salary. Only in the College of Engineering, was the female hired at a lower salary than the male; however these individuals were in different but comparable departments and began in different academic years. The start-up funds offered to new hires produced the same results, with little or no difference between genders. The most noticeable difference is for the Biology department within the College of Arts& Sciences. The male hired in 2003 was provided with \$140,000 of start-up funds while the female hired in 2004 was provided with \$120,000. This difference of \$20,000 is the most notable difference between genders for start-up packages offered to newly hired faculty in the STEM departments.

In subsequent years, we will not do matched comparisons but will simply report all start-ups offered.

Table 1. Number of Faculty &amp; Percent Women in STEM by Department

Department or Program	Tenure- Track			Research			Lecturer			Total Tenure, Research, & Lecture		
	Number of Male Faculty	Number of Female Faculty	Percent of Female Faculty	Number of Male Researchers	Number of Female Researchers	Percent of Female Researchers	Number of Male Lecturers	Number of Female Lecturers	Percent of Female Lecturers	Total Male	Total Female	Total Percent Female
<b><u>College of Arts &amp; Sciences</u></b>	<b>72.7</b>	<b>34</b>	<b>30.6</b>	<b>2</b>	<b>2</b>	<b>50.0%</b>	<b>11</b>	<b>2.5</b>	<b>18.5%</b>	<b>85.7</b>	<b>38.5</b>	<b>31.0%</b>
Biological Sciences	6.25	8	56.1	0	0	0.0%	2	0	0	8.25	8	49.2%
Chemistry	12.5	1	7	0	0	0.0%	1	1	50	13.5	2	12.9%
Computer Science & Statistics	8	3	27	0	0	0.0%	1	0	0	9	3	25.0%
Mathematics	14	4	18	0	0	0.0%	3	0	0	17	4	19.0%
Physics	10	1	9	0	0	0.0%	4	0.5	11	14	1.5	9.7%
Psychology	13.95	12	37	2	2	50.0%	0	0	0	15.95	14	46.7%
Sociology/Anthropology	8	5	38	0	0	0.0%	0	1	100	8	6	42.9%
<b><u>College of Engineering</u></b>	<b>58</b>	<b>6</b>	<b>9.38%</b>	<b>4</b>	<b>1</b>	<b>20%</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>62</b>	<b>7</b>	<b>10.1%</b>
Chemical	7.5	1	11.76 %	2	0	0%	0	0	0	9.5	1	9.5%
Civil	10	0	0.00%	1	1	50%	0	0	0	11	1	8.3%
Electrical	16	1	5.88%	1	0	0%	0	0	0	17	1	5.6%
Industrial	4.5	1	18.18 %	0	0	0%	0	0	0	4.5	1	18.2%
Mechanical	13	1	7.14%	0	0	0%	0	0	0	13	1	7.1%
Ocean	7	1	12.50 %	0	0	0%	0	0	0	7	1	12.5%
<b><u>College of the Environment &amp; Life Sciences</u></b>	<b>51</b>	<b>11</b>	<b>17.74 %</b>	<b>1</b>	<b>1</b>	<b>50%</b>	<b>0</b>	<b>2</b>	<b>100%</b>	<b>52</b>	<b>14</b>	<b>21.2%</b>
Cell & Molecular Biology	7	2	22.2%	1	1	0	0	0	0	8	3	27.3%
Environmental & Natural Resource Economics	9	1	10.0%	0	0	0	0	0	0	9	1	10.0%
Food Science & Nutrition	7	4	36.4%	0	0	0	0	1	100%	7	5	41.7%
Fisheries, Animal, &	6	1	14.3%	0	0	0	0	1	100%	6	2	25.0%

Veterinary Science												
Geosciences	6	1	14.3%	0	0	0	0	0	0	6	1	14.3%
Marine Affairs	5	1	16.7%	0	0	0	0	0	0	5	1	16.7%
Natural Resources Science	9	0	0.0%	0	0	0	0	0	0	9	0	0.0%
Plant Sciences	9	1	10.0%	0	0	0	0	0	0	9	1	10.0%
<u>Graduate School of Oceanography</u>	25.68	3.5	11.1%	0	0	0.0%	0	1	100%	25.68	4.5	14.9%
<b>TOTAL</b>	207.3 8	54.5	20.81 %	7	4	36.36%	11	5.5	33%	225.3 8	64	22.1%

Table 2. Number & Percent of Women in Tenure-line Positions by Rank & Department

Department or Program	FEMALE				% FEMALE
	ASS'T	ASSOC	FULL	TOTAL	
<u>College of Arts &amp; Sciences</u>	11	9	14	34	30.6
Biological Sciences	2	3	3	8	50
Chemistry	0	0	1	1	7.1
Computer Science & Statistics	2	0	1	3	27.3
Mathematics	2	1	1	4	23.5
Psychology	3	4	5	12	41.4
Physics	1	0	0	1	9.1
Sociology/Anthropology	1	1	3	5	38.5
<u>College of Engineering</u>	3	2	1	6	9.3
Chemical	0	1	0	1	10
Civil	0	0	0	0	0
Electrical	1	0	1	2	10.5
Industrial	1	0	0	1	16.7
Mechanical	1	0	0	1	7.1
Ocean	0	1	0	1	12.5
<u>College of the Environment &amp; Life Sciences</u>	2	6	3	11	17.7

Cell & Molecular Biology	0	1	1	2	20
Environmental & Natural Resource Economics	0	0	1	1	11.1
Food Science Nutrition	1	2	1	4	36.4
Fisheries, Animal, & Veterinary Science	0	1	0	1	10
Geosciences	0	1	0	1	12.5
Marine Affairs	1	0	0	1	12.5
Natural Resources Science	0	0	0	0	0
Plant Sciences	0	1	0	1	10
<u>Graduate School of Oceanography</u>	0	0	3.5	3.5	11.1
<b>TOTAL</b>	<b>16</b>	<b>17</b>	<b>21.5</b>	<b>54.5</b>	<b>20.8</b>

Table 3. Promotion Outcomes in STEM by Gender

	Average Time		Sample Size	
	Male	Female	Male	Female
Assistant to Associate	5.3	5.6	40	19
Associate to Full	6.51	6.88	77	16

Table 4. To be provided



Table 5A. Time at Institution For STEM Faculty

	<u>Number</u>		<u>Time @ Institution*</u>		
	Female	Male	Female	Male	Difference (F-M)
Full Professor	19	175	21.2	26.7	-5.5
Associate Professor	15	32	10.9	15.3	-4.4
Assistant Professor	14	23	5.4	5	0.4
Total:	48	230			

\*Time at Institution does not account for any leave time

Table 5B. Attrition by Gender for STEM Faculty

	Retire	Resign	Death	Total	% of Total Faculty
Male	28	5	2	35	9
Female	2	2	0	4	6
Total	30	7	2	39	

Table 6. Number of Women in STEM in Non-tenure Track Positions

Department or Program	Research			Lecturer			Marine Scientists		
	Number of Male Researchers	Number of Female Researchers	Percent of Female Researchers	Number of Male Lecturers	Number of Female Lecturers	Percent of Female Lecturers	Number of Males	Number of Female	Percent of Females
<b><u>College of Arts &amp; Sciences</u></b>	<b>2</b>	<b>2</b>	<b>50.0%</b>	<b>11</b>	<b>2.5</b>	<b>18.5%</b>	<b>0</b>	<b>0</b>	<b>0%</b>
Biological Sciences	0	0	0.0%	2	0	0	0	0	0%
Chemistry	0	0	0.0%	1	1	50	0	0	0%
Computer Science & Statistics	0	0	0.0%	1	0	0	0	0	0%
Mathematics	0	0	0.0%	3	0	0	0	0	0%
Physics	0	0	0.0%	4	0.5	11	0	0	0%
Psychology	2	2	50.0%	0	0	0	0	0	0%
Sociology/Anthropology	0	0	0.0%	0	1	100	0	0	0%
<b><u>College of Engineering</u></b>	<b>4</b>	<b>1</b>	<b>20%</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0%</b>
Chemical	2	0	0%	0	0	0	0	0	0%
Civil	1	1	50%	0	0	0	0	0	0%
Electrical	1	0	0%	0	0	0	0	0	0%
Industrial	0	0	0%	0	0	0	0	0	0%
Mechanical	0	0	0%	0	0	0	0	0	0%
Ocean	0	0	0%	0	0	0	0	0	0%
<b><u>College of the Environment &amp; Life Sciences</u></b>	<b>1</b>	<b>1</b>	<b>50%</b>	<b>0</b>	<b>2</b>	<b>100%</b>	<b>0</b>	<b>0</b>	<b>0%</b>
Cell & Molecular Biology	1	1	0	0	0	0	0	0	0%
Environmental & Natural Resource Economics	0	0	0	0	0	0	0	0	0%
Food Science, Nutrition	0	0	0	0	1	100%	0	0	0%
Fisheries, Animal, & Veterinary Science	0	0	0	0	1	100%	0	0	0%
Geosciences	0	0	0	0	0	0	0	0	0%
Marine Affairs	0	0	0	0	0	0	0	0	0%
Natural Resources Science	0	0	0	0	0	0	0	0	0%
Plant Sciences	0	0	0	0	0	0	0	0	0%
<b><u>Graduate School of Oceanography</u></b>	<b>0</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>1</b>	<b>100%</b>	<b>13</b>	<b>7</b>	<b>35%</b>
<b>TOTAL</b>	<b>7</b>	<b>4</b>	<b>36.36%</b>	<b>11</b>	<b>5.5</b>	<b>33.33%</b>	<b>13</b>	<b>7</b>	<b>35%</b>

Table 7. Administrative Leadership Positions

	Total	Female	% Female
Department Heads	40	16	40.0%
Department Heads(STEM)	19	4	21.1%
Assistant Deans	5	3	60.0%
Assistant Deans (STEM)	1	0	0.0%
Associate Deans	18	7	38.9%
Associate Deans (STEM)	9	4	44.4%
Deans	12	4	33.3%
Deans (STEM)	4	1	25.0%
Vice Provosts	4	2	50.0%
Vice Provosts (STEM)	1	1	100.0%
Provost/ Vice Presidents	4	1	25.0%
Provost/Vice Presidents (STEM)	0	0	0.0%
Total:	83	33	39.8%

**Table 8. Salary of STEM Faculty by Tier and Gender**

		Average Male Salary	# Males	Average Female Salary	# Females	Difference
<b>Assistant</b>	Tier 1	\$ 49,372	10	\$ 49,113	7	-\$259
	Tier 2	\$ 60,033	4	\$ 52,652	2	-\$7,381
	Tier 3	\$ 63,998	7	\$ 63,201	4	-\$797
<b>Associate</b>	Tier 1	\$ 58,391	16	\$ 58,144	13	-\$247
	Tier 2	\$ 62,383	3	0	0	0
	Tier 3	\$ 76,590	9	\$ 75,168	2	-\$1,422
<b>Full</b>	Tier 1	\$ 84,731	74	\$ 80,161	13	-\$4,570
	Tier 2	\$ 91,022	44	\$ 89,308	4	-\$1,714
	Tier 3	\$ 97,115	52	\$ 94,735	2	-\$2,380

**Table 9. Start-up Packages of Newly Hired STEM  
Faculty by Gender**

College	Department	Gender	Salary*	Start-up**	Year
Arts & Sciences	Physics	Male Candidate	\$ 49,000	\$ 140,000	2000
		Female Hire	\$ 49,000	\$ 140,000	2000
	Chemistry	Male Hire	\$ 575,000		2000
		Female Hire	\$ 597,000	\$ 60,000	2000
	Psychology	Male Hire	\$ 435,000	\$ 8,000	2001
		Female Hire	\$ 435,000	\$ 9,000	2001
		Male Hire	\$ 51,000		2004
		Female Hire	\$ 52,000		2004
	Biology	Male Hire	\$ 47,500	\$ 140,000	2003
		Female Hire	\$ 48,128	\$ 120,000	2004
Graduate School of Oceanography		Male Hire	\$ 60,833		2001
		Female Hire**	\$ 70,000		2001
Engineering	Mechanical	Male Hire	\$ 62,000	\$ 77,000	2003
	Industrial	Female Hire	\$ 61,000	\$ 80,000	2004

\* Salaries are calculate on a 9 month academic year base

\*\* Split appointment with Engineering and GSO