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NSF ADVANCE – IT Catalyst EFFORT@RIT (NSF #0811076)

http://nsfadvance.rit.edu/

Establishing the Foundation for Future Organizational Reform and Transformation

Self-study across STEM departments and colleges using data collected through a faculty climate survey, policy benchmark, and HR objective data review in order to identify any barriers that may exist to the recruitment, retention, and advancement of women faculty at RIT.
EFFORT@RIT Project Team

Principal Investigators:

- **Margaret Bailey**, Faculty Associate to Provost & Professor, KGCOE
- **Stefi Baum**, Director of the Center for Imaging Science & Professor, COS
- **Sharon Mason**, Associate Professor, GCCIS
- **Jacqueline Mozrall**, Associate Dean & Professor, KGCOE
- **Maureen Valentine**, Vice Dean & Professor, CAST

Senior Personnel:

- **Carol Marchetti**, Associate Professor, COS
- **Elizabeth DeBartolo**, Associate Professor, KGCOE
- **Steve LaLonde**, Associate Professor, KGCOE
- **Gina Williams**, Business Analyst, HR
Primary Research Questions

1. What is the distribution of STEM faculty by gender, rank, and department?
2. What are the outcomes of institutional processes of recruitment and advancement for men and women?
3. What is the gender distribution of STEM faculty in leadership positions?
4. What is the allocation of resources for STEM faculty?
5. Are there barriers to the recruitment and advancement of women?
6. How successful are existing structures at addressing these barriers?
Objective Data & Benchmarking

- **Objective Data Review**
  - Examined trends in objective data from October 2004 to October 2010

- **Benchmarking**
  - RIT’s policies and procedures were researched in search of:
    - Diversity statement
    - Tenure policies
    - Mentoring
    - Faculty awards
    - Leave policies
    - Grievance policies
    - Procedures/Benefits for women seeking academic positions
    - Tuition support for family
Climate Survey

- To ensure confidentiality, Survey Research Institute (SRI) at Cornell invited participation directly through an external, secure website.
- Survey offered to all TT faculty
- General areas covered in the survey:
  - Teaching, Resources, and Service
  - Career Satisfaction, Work Load, Recognition
  - Climate, Mentoring, Tenure, Promotion
  - Balancing Personal and Professional Life

66% response rate overall with n = 535/808

>70% response rate for every STEM College
Significant Findings

- The current representations of women STEM faculty are below national averages.
- STEM faculty size has nearly tripled since 1995 - representation of female increased from 16% to 23%.
- Women leave the faculty at a significantly higher rate than their male colleagues.
- The current representation of women STEM faculty applicants is below national pool availability.
- Upon hire, women faculty receive less credit towards tenure and are less likely to be hired at a rank above Assistant professor.
- In 2010, unexplained faculty salary differences existed along gender lines.
34% average of doctoral S & E employed at U.S. Master’s granting colleges and universities [1]
In 2010, five STEM units had no female faculty and half had less than critical mass (<20%) [2,3]

<table>
<thead>
<tr>
<th>Area</th>
<th># Women Oct 2008</th>
<th># Women Oct 2010</th>
<th>% Women 2010</th>
<th>Asst: % Women</th>
<th>Assoc: % Women</th>
<th>Full: % Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total STEM</td>
<td>86</td>
<td>95</td>
<td>23%</td>
<td>31% (36/115)</td>
<td>24% (35/148)</td>
<td>16% (24/154)</td>
</tr>
<tr>
<td>Total SBS</td>
<td>31</td>
<td>33</td>
<td>36%</td>
<td>43% (13/30)</td>
<td>43% (16/37)</td>
<td>17% (4/24)</td>
</tr>
<tr>
<td>STEM/SBS</td>
<td>117</td>
<td>128</td>
<td>25%</td>
<td>34%</td>
<td>28%</td>
<td>16%</td>
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Table 1. Number of T/TT (excludes research faculty) Women Faculty in STEM/SBS
Table 2 reveals lower levels at RIT except for “computing” where a high percentage of faculty have master’s degrees as their highest degree (a relic of past hiring practices).

- 32% of female T TT STEM faculty do not have a terminal degree compared to 22% of the males.
- From 2007 - 2010, the percentage of female applicants for STEM positions was 19%.

### Table 2. Representation of RIT Women T TT Faculty Compared with National Availability

<table>
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<tbody>
<tr>
<td>Engineering (not Engr. Tech.)</td>
<td>12%</td>
<td>21.6%</td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>13%</td>
<td>29.3%</td>
</tr>
<tr>
<td>Computing</td>
<td>29%</td>
<td>22.0%</td>
</tr>
<tr>
<td>Mathematics and Statistics</td>
<td>16%</td>
<td>31.1%</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>43%</td>
<td>50.6%</td>
</tr>
<tr>
<td>Psychology</td>
<td>40%</td>
<td>72.0%</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>36%</td>
<td>48.6%</td>
</tr>
</tbody>
</table>
Supplemental Research Questions

7. Which factors best explain reported overall faculty satisfaction with one’s position at the university?
8. How is satisfaction related to faculty perception of value and influence?
9. Are there differences in perceived value and influence by variables such as gender or ethnicity?
Modeling Overall Satisfaction

- Although *climate* and *work/life balance* issues are identified as barriers for women faculty at RIT, overall satisfaction with one’s faculty position for both sexes is more closely linked to their perception of *value and influence* ($R^2 = 60.3\%$) as opposed to *climate* ($R^2 = 20.8\%$) and *work/life balance* ($R^2 = 13.1\%$) measures.
Full Report On-line

http://nsfadvance.rit.edu/
Next Step - Connect@RIT

- NSF Advance Institutional Transformation Proposal Connect@RIT – submitted fall 2011
- Recommended for funding – start date 1 SEP 2012
- Combines NSF Advance grant focus on increasing the ranks of female STEM faculty in academia with direct support from RIT
- Aims to simultaneously improve the climate for all faculty at RIT and increase the representation and advancement of female faculty at RIT
- Examines unique challenges experienced by female faculty of color and deaf and hard of hearing faculty
Connect@RIT Leadership Team

- Margaret Bailey (KGCOE), PI
- Stefi Baum (COS), Sr. Personnel
- Kijana Crawford (COLA), Sr. Personnel
- Susan Foster (NTID), Sr. Personnel
- John-Paul Hatala (CAST), co-PI
- Carol Marchetti (COS), co-PI
- Sharon Mason (GCCIS), co-PI
- Maureen Valentine (CAST), co-PI
- Other Sr. Personnel:
  William W. Destler, Jeremy Haefner, Kevin McDonald, Kit Mayberry, Hector Flores, Lynn Wild, M. Renee Baker, Donna Dickson, Connect Program Manager (TBD)
Connect@RIT Overview

- $3.2M, 5 years
- Significant institutional contribution
- Planned activities built around “social resources theory” employing a “multi-frame organizational analysis approach”
  - Structural - Valentine
  - Human resources - Marchetti
  - Political – Bailey
  - Symbolic - Mason
Connect@RIT Outcomes

- Positive Climate
  - improve quality of work life, higher faculty satisfaction

- Inclusive and diverse faculty
  - Higher % of female faculty, more women in leadership positions

- Increased Transparency and Equity
  - Campus open to dialogue

- Structures in place to support women faculty and sustain progress
Connect@RIT Proposed Framework for Institutional Transformation

2008 - 2011, NSF IT-Catalyst grant: EFFORT@RIT
Findings ▪ Supportive administration ▪ Institution poised for change ▪ Rank advancement similar for men and women ▪ More stress for women due to work/life balance ▪ Women more dissatisfied with distribution of time at work ▪ Higher attrition rate for women and AALANA faculty ▪ Low % of women faculty ▪ Salary gap; women trail men at every rank ▪ Lack of dialogue around gender issues

2012 - 2017, NSF IT Grant: Connect@RIT
Social Resources Theory provides basis for Connect@RIT
Inventions and resources created within Four Strategic Approach Areas:
- Structural, Human Resources, Political, Symbolic
Intended results include:
▪ Making Connections ▪ Leveraging Resources ▪ Building Competencies ▪ Changing Culture ▪ Increasing representation of women faculty & leaders

2018 and Beyond ▪ Higher % of female faculty ▪ Women represented widely in leadership positions ▪ Campus open to identifying and addressing problems ▪ Increased transparency & equity ▪ Robust institutional structures support women ▪ Inclusive & diverse faculty network ▪ Power and resources aligned to sustain progress ▪ Positive climate for women and men ▪ Improved quality of faculty work life ▪ Higher levels of satisfaction among women faculty

Connect@RIT = Creating Opportunity Networks for Engagement and Collective Transformation: Increasing the Representation and Advancement of Women Faculty @ RIT
Connect@RIT Proposed Activities

**Structural Strategic Approaches:**
- Campus-Wide Faculty Survey
- Faculty and Department Head Annual Review Template
- Academic Policy/Procedure Revisions
- Faculty Exit Interviews
- Dual Career Hire Initiatives

**Human Resources Strategic Approaches:**
- Refine the RIT Faculty Mentoring Network
- Leadership and Career Development Program and Grants Program
- Connectivity Series
- Faculty Salary Studies
- Childcare and Personal Needs Committee
Connect@RIT Proposed Activities

- **Political Strategic Approaches:**
  - Align RIT Office of Diversity and Inclusion with *Connect*
  - Analyze and Disseminate NSF ADVANCE Indicators
  - Formalize the President’s Commission on Women
  - Advisory Team for Unique Circumstances
  - Launch Department Head Education Program
  - Launch Department Head Grants Program
  - Launch Faculty Life-Cycle Advisor Program

- **Symbolic Strategic Approaches:**
  - World-Wide Exposure to IT Project
  - Eminent Scholars Program
  - Local Dissemination at RIT
  - External Advisory Board Input to RIT Upper Administration
Connect@RIT – Impact on you?

- Clear, established processes and policies that improve work tasks and culture
- More available information – climate, demographics, benchmarking
- Professional development opportunities – for yourself and your faculty
- Stronger social networking behavior – better recruitment, retention and advancement of all faculty
R·I·T

Questions?

Project website: http://nsfadvance.rit.edu/
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