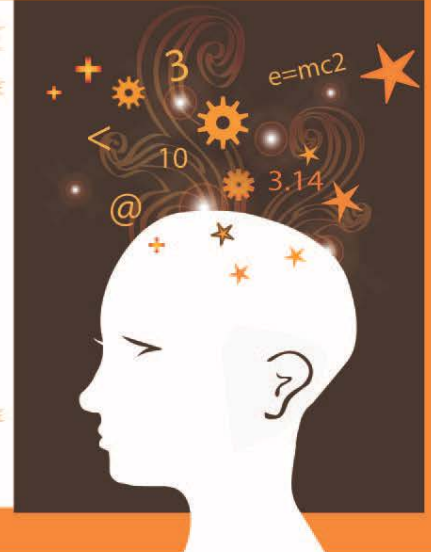


R·I·T

ADVANCE R·I·T

for women faculty in science, engineering, computing and technology



This material is based upon work supported by the National Science Foundation under Grant No. NSF # 0811076, ADVANCE Institutional Transformation – CATALYST Program





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 T 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.

Table 1. Number of T/TT (excludes research faculty) Women Faculty in STEM/SBS

Area	# Women Oct 2008	# Women Oct 2010	% Women 2010	Asst: % Women	Assoc: % Women	Full: % Women
Total STEM	86	95	23%	31% (36/115)	24% (35/148)	16% (24/154)
Total SBS	31	33	36%	43% (13/30)	43% (16/37)	17% (4/24)
STEM/SBS	117	128	25%	34%	28%	16%

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

	RIT % Women (2010)	National % Women [1]
Engineering (not Engr. Tech.)	12%	21.6%
Physical Sciences	13%	29.3%
Computing	29%	22.0%
Mathematics and Statistics	16%	31.1%
Biological Sciences	43%	50.6%
Psychology	40%	72.0%
Social Sciences	36%	48.6%

- 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%.

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/>



The screenshot shows a web browser window displaying the ADVANCE RIT NSF Grant Website. The browser's address bar shows the URL <http://nsfadvance.rit.edu/>. The website header features the RIT logo and the text "Rochester Institute of Technology". Below the header, there is a navigation bar with links: "HR Objective Data Review", "Policies Review", "Climate Survey", "Research Questions", "Publications & Documents", and "NSF ADVANCE Pr". The main content area has a large orange banner with the text "ADVANCE RIT" and "for women faculty in science, engineering, computing and technology". Below the banner, the heading "Welcome to the ADVANCE RIT NSF Grant Website" is followed by a detailed paragraph about the project. The paragraph describes the project's goal of identifying barriers for current women faculty at RIT and lists six research questions. It also mentions the project's funding of \$199,770 and its duration from 8/1/08 to 7/31/12. The text continues with a summary of the climate survey results, highlighting issues related to career navigation, sponsorship, and work/life balance. Finally, it states that the study sought answers to each research question and that the following report summarizes evidence-driven results and conclusions for each. The browser window also shows various toolbars, including a search bar, a list of favorites, and a status bar at the bottom indicating "Internet | Protected Mode: On".

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Welcome to the ADVANCE RIT NSF Grant Website

The ADVANCE IT-Catalyst project, "Establishing the Foundation for Future Organizational Reform and Transformation at Rochester Institute of Technology" Establishing the Foundation for Future Organizational and Reform at RIT or simply EFFORT@RIT (#0811076, 8/1/08 – 7/31/12, \$199,770, <http://nsfadvance.rit.edu/>). The EFFORT@RIT research objective is to identify barriers for current women faculty at RIT in regards to rank, tenure, career advancement, leadership role progression, and resource allocation in order to establish how well the university addresses issues that have been found to be important in the recruitment, retention, and advancement of women faculty. During the study, the research team sought answers to six 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 faculty in leadership positions? 4) What is the allocation of resources for faculty? 5) Are there barriers to the recruitment and advancement of women? 6) How successful are existing structures at addressing these barriers? The study focused on six colleges including computing, science, technology, engineering, and mathematics disciplines and where possible and practical, extended the focus to the two remaining colleges (liberal arts and business) and other non-STEM departments due to the integral role each serve within this technologically focused university.

Climate survey results, in conjunction with the objective data review and benchmarking information, led to the identification of barriers to the recruitment and advancement of women faculty involving career navigation, climate, and flexibility/options for managing the work/life balance. Issues related to career navigation could be caused by women's self-agency and negotiation skills, coupled with a lack of "sponsorship" from more seasoned faculty and/or administration, hinder the success of female faculty in obtaining more advantageous starting packages, assignments, compensation, and promotion. Climate issues are exacerbated by female's view of the workplace in personal terms, as opposed to a more male process-oriented view, meaning that issues of connectedness, support, and interpersonal relations, are important to their success. Overall satisfaction for men and women seems to be tied to faculty perception of value and influence, and to a lesser extent to one's view of the department climate and work/life balance. Finally, managing work/life balance through flexible work arrangements, available and convenient child care, and tenure dock adjustments, may lower stress and increase satisfaction, and potentially aid in the retention of female (and male) faculty.

This study sought answers to each research question and the following report summarizes evidence-driven results and conclusions for each. Based on the findings, a list of detailed recommendations are offered which will afford RIT the opportunity to systematically track and report on data related to the representation, advancement, and recruitment of women faculty at RIT. To promote the success and advancement of women faculty at RIT, other recommendations are aimed at enhancing or implementing new programs and policies which stem from the study's findings. Recommendations that follow seek to address barriers to the recruitment, representation, and advancement of women faculty at RIT by building on existing institutional structures as well as developing and integrating new structures.

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)

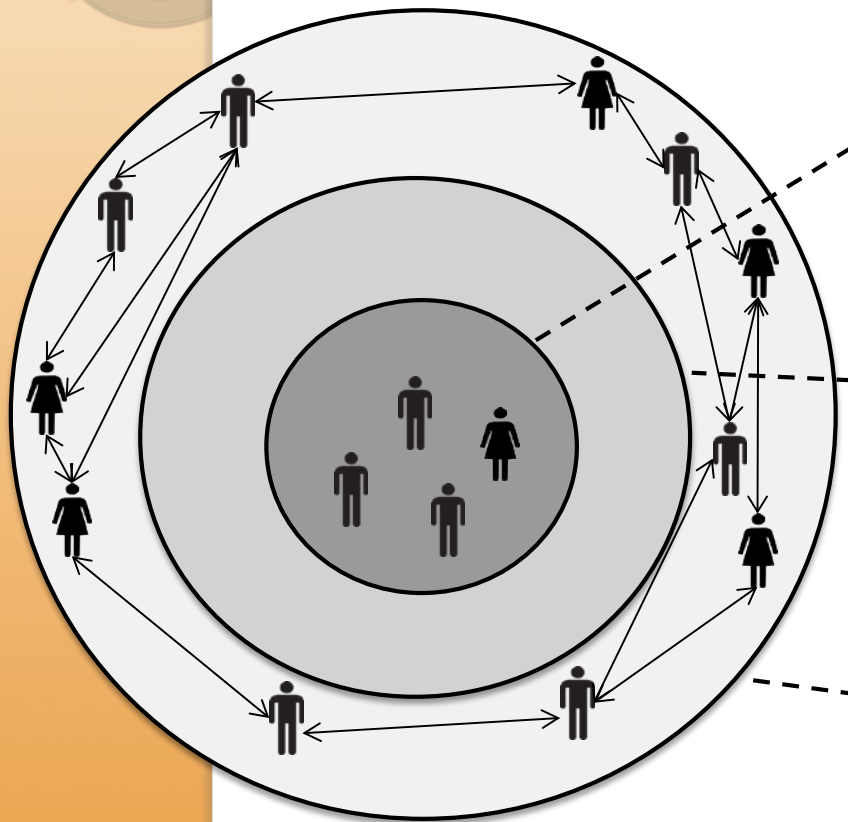
Connect@RIT Overview

- \$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?

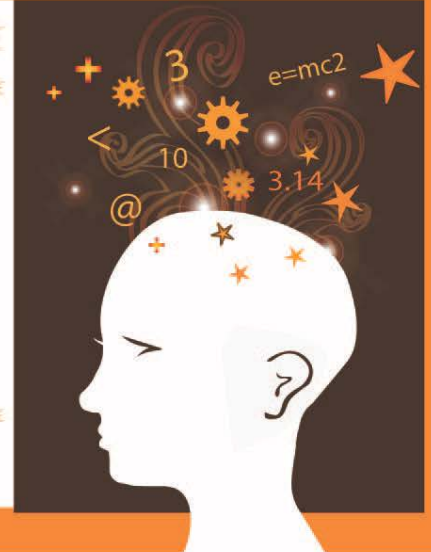
- Clear, established processes and policies that improve work tasks and culture
- More available information– climate, demographics, benchmarking
- Professional development opportunities – for yourself and your faculty
- Stronger social networking behavior – better recruitment, retention and advancement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

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Questions?

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

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