Accomplishments

* What are the major goals of the project?

The RU FAIR ADVANCE grant is based on five initiatives designed to support our goals:

1. The Recruitment and Retention Initiative aims to develop targeted strategies for increasing the number of women in general, and minority women in particular, on the STEM faculty of Rutgers University.

One of the main programs supporting the recruitment and retention initiatives, during year 5, were RU FAIR Professorships. RU FAIR Professors achieved goals for recruitment and
retention through an array of activities, programs and meetings. Sub-awards were provided to support visibility goals. Through panels, workshops and informal discussions and mentoring activities tenure and promotion requirements were clarified and supported. RU FAIR Professors worked with their deans, fellow faculty leaders and central administrators to create a climate that is conducive for the successful advancement of women and women of color in STEM. The RU FAIR Professors in New Brunswick were Helen Buettner, Professor of Biomedical Engineering and Chemical and Biochemical Engineering, and, Yolanda Martinez San-Miguel, RU FAIR Professor of WoCSI, and Professor of Latino and Caribbean Studies. In Camden, they were: Georgia Arbuckle-Keil, Professor of Chemistry, and Suneeta Ramaswami, Associate Professor of Computer Science sponsored. In Newark, they were: Jyl Josephson, Associate Professor of Political Science, and Judith Weis, Professor Emerita of Biology.

School of Engineering – New Brunswick: The environment for women in engineering has changed significantly since 2008. Buettner’s primary goal in engineering was to promote a sense of community among the female faculty, with the expectation that this would support success and retention of at all levels. In 2008, with 16 women spread across 7 departments comprising the School of Engineering (SOE) and housed in six separate buildings, interactions were collegial but infrequent. Materials Science and Engineering and Mechanical and Aerospace Engineering, two of the largest departments in the SOE, had only ever had one woman on the faculty. The number of women on the faculty has increased to 44%, from 16 to 23, with increases at all ranks except Professor II (Rutgers’ ‘distinguished professor’ designation). Compared to baseline year when no women were chairs, in year 5, two of the chairs out of seven are women. The shift in women at different ranks reflects successful hiring, promotion, and tenure processes over the past five years. In addition to the quantitative data, a qualitative description of progress also offers valuable insight into important changes that have occurred in engineering under the ADVANCE grant.

At the beginning of her term as an RU FAIR Professor, Dr. Buettner conducted a focus group with the women in engineering to assess the needs of the group. This first conversation was dominated by themes of difficulties arising from situations that affect women disproportionately, such as pregnancy and caregiving, and missing or unclear information about a variety of issues including tenure and promotion. The juxtaposition of the initial focus group in 2009 with a follow up focus group conducted in early 2013 reflects a shift in the issues at the forefront. Although the needs that were there in 2009 haven’t disappeared, they did not command the major part of conversation, which centered more on strategies for being successful in teaching and research. When asked what they would like to see moving forward beyond the end of the ADVANCE grant, their primary interest was in continuing opportunities to interact with each other and with other scientists, in other words, to continue building the sense of community that we aimed to establish at the outset and to use it as a professional resource.

Women of Color Scholars Initiative – New Brunswick: The Women of Color Scholars Initiative (WoCSI) is another strength of RU FAIR ADVANCE. WoCSI programming directly responds to the needs of junior women of color. The programming is shaped based on the need participants have expressed in focus groups and evaluation forms, but also based on evidence from research outlining the particular challenges that women of color face. One of the great assets is having junior women of color at the helm (along with Professor Martinez San-Miguel,
Associate Professor Dinzey-Flores and Assistant Professor Magana have shared a directorship, because they are most cognizant with the current needs of women of color. Echoing others, it was important to create a tight-knit community and informal conversations are as central as the professional workshops to effectively address the challenges.

The women of color scholars initiative has been a success by all measures: A qualitative research component shows that women benefit from it. It has positively contributed to the experience of junior women of color faculty at Rutgers, it has offered strategies to address the well-known common challenges that this constituency faces in the academy, and in time, we believe that we’ll see that it is instrumental to advancing women of color scholars to tenure and retention at Rutgers. More funding over the years has expanded the programming and impact.

Faculty of Arts and Sciences – Newark: RU FAIR Professors Josephson and Weis were able to support recruitment through sponsoring a woman post-doc speaker in two STEM departments that have underrepresentation of women. Retention was supported most especially through the support for conference travel to present research. Travel awards, which enable networking, are a crucial factor in being able to publish one's work, and are a very significant support mechanism for assistant and associate level faculty. Yet the Rutgers-Newark campus has very little funding to support faculty research promotion and dissemination efforts through conference travel because the campus is severely underfunded in this respect in relation to New Brunswick as well as in relation to other research institutions. RU FAIR Newark Professors and dean recommend that travel awards be institutionalized. They brought this and other issues impacting faculty productivity, e.g., grant writing, to the attention of STEM chairs and FAS Dean by sponsoring workshops or engaging in discussions to address the issues. A positive outcome for RU FAIR ADVANCE is that the number of women in administrative positions has increased, though this is a double-edged sword because it may impact faculty research productivity.

2. The Communication Initiative aims to enhance communication among faculty within a geographically and structurally complex multi-campus university. It also aims to build on existing initiatives to enhance our web presence and establish RU FAIR professorships within different schools and campuses; and to sponsor social events, such as lunches and picnics, to give STEM faculty from different campuses more opportunities to network.

3. Networking and Liaisons with Women's Programs Initiative aims to develop RU FAIR mini-grants for faculty development and to encourage interdisciplinary research across schools and campuses; to work closely with the nationally acclaimed Rutgers Institute for Women's Leadership (IWL) to deliver leadership training, and to encourage research.

4. The Visibility Initiative aims to achieve greater visibility for our women faculty by creating a bigger web presence, instituting a lecture series, nominating our faculty members and postdoctoral associates for prestigious awards; and by working with the Rutgers Media Relations to generate increased press coverage for their research accomplishments.

5. The Family Initiative aims to bolster the resources available for dual career families, families with children, and families caring for elderly members; and to institute a dialogue among
administrators, faculty, and staff concerning what changes in current campus structure, tenure regulations, and other policies would best accommodate the needs of families.

* What was accomplished under these goals (you must provide information for at least one of the 4 categories below)?

Major Activities:

1. The major activities of the Recruitment and Retention Initiative is listed above in 'Major Goals'.

2. The RU FAIR ADVANCE Communication Initiative - RU FAIR Professors have led the communication efforts within and across campuses. Of the RU FAIR Professors, Helen Buettner, who is a co-PI and is involved with the management of the grant, has the lead role in facilitating communications among RU FAIR Professors through phone calls and in person meetings. Although communication has presented a challenge throughout much of project due to technological difficulties – such as the limitations associated with video conferencing -- and the ongoing challenge of trying to meet the communication needs of stakeholders involved in a multi-disciplinary, multi-campus project in a university that has campuses many miles apart (Newark and Camden are, respectively, 29 and 65 miles from New Brunswick). Intercampus communication has improved considerably in the fifth year of the project. The additional support staff, who were hired in year 4, for RU FAIR Professors at Camden and Newark, have made a difference in efficiency and effectiveness of communication. Another contributing factor to this progress has been the improvements made to the SciWomen website, which features an event calendar and other resources.

Data Warehouse. Another goal of the Communication Initiative was to successfully disseminate information obtained and compiled by RU FAIR. Aligned with this goal, the Data Warehouse has been one of the principal accomplishments of RU FAIR’s communication efforts because it systematically gathered and streamlined quantitative data so that it could be easily obtained and periodically referenced.

Listserv. Another important facet of RU FAIR’s Communication Initiative has been the SciWomen’s faculty listserv, which is a mass-emailing tool that connects us to STEM faculty members at Rutgers as well as other STEM stakeholders at Rutgers. All programming events, award, funding, and other important announcements are distributed to individuals through the listserv and are advertised to the masses through publication on the SciWomen website. The number of announcements sent from SciWomen listserv has grown almost tenfold since 2009.

See 'Products' about the SciWomen website which is another important communication tool.

3. The main goal of the Networking Initiative was to work closely with the nationally acclaimed Rutgers Institute for Women's Leadership (IW L) to deliver leadership training,
and to encourage interdisciplinary research. The networking efforts also have expanded to units within and outside of Rutgers. For example, RU FAIR ADVANCE has supported the leadership training efforts of STEM UP PA at Shippensburg University. In addition, PI Bennett continues to make national and international trips to advance the women in STEM agenda (see 'Publications').

In year 5, RU FAIR ADVANCE Camden hosted a series of seminar and networking events for Women’s History Month, which in 2013 focused on women in STEM. Invitations were extended to faculty and students at five Southern New Jersey regional institutions: Camden County College, Rowan University, Rutgers University, Stockton State College, and University of Medicine and Dentistry of New Jersey. These seminars provided an opportunity for faculty from the region to share their research and develop collaborative associations among themselves and their respective academic environments. The seminars also offered students the opportunity to learn about career prospects in STEM fields. Arbuckle-Keil and Ramaswami also sponsored Mini-grants and Travel grants.

The role SciWomen and RU FAIR ADVANCE play in institutional transformation through networking efforts was evident in the June 4th Networking event, which was co-sponsored by Academic Affairs and UMDNJ. The event was recognized as the ‘first institution-wide event’ to inaugurate the ‘new’ Rutgers University. Despite its small size through the RU FAIR ADVANCE mandate faculty and administrative leaders view the SciWomen Office to be a unit that has an institution wide reach and impact.

4. In Year 5, a vast array of programs, workshops and colloquia on Camden, Newark, and New Brunswick campuses helped achieve the goals of the Visibility Initiative for women in STEM. These accomplishments included: featuring faculty through the Eminent Women Scientists Series in Camden; through the OASIS Program providing them with tools for greater visibility, e.g., the workshop titled “Personal Advocacy - Building Support for Yourself and Your Research”. The RU FAIR ADVANCE and SciWomen Teams also worked with the Rutgers Media Relations to generate increased press coverage for RU FAIR ADVANCE and faculty women in STEM accomplishments. Another effective visibility tool is the Faculty Profiles featured on the SciWomen website. Among the programs, travel awards and mini-grant awards were the mechanism to enable the visibility of Rutgers faculty. In Camden, in year five, mini-grants were awarded to six female and one male tenure-track/tenured faculty. The mini-grants are designed to support tenure track faculty for ongoing research and academic collaboration to promote their academic career. RU FAIR ADVANCE-Camden awarded travel grants to five faculty members providing an opportunity for the recipient to meet with research collaborators, or to attend and/or present research at scientific and/or leadership conferences. RU FAIR ADVANCE-Newark awarded travel grants to fifteen faculty members the majority of whom were assistant professors. Travel awards were also used for trips to Washington DC to establish connections with program officers. Some of these connections led to greater visibility for Rutgers-Newark faculty and invitations to review panels. RU FAIR-New Brunswick travel awards were extended to three women faculty members in Mathematics.
On New Brunswick campus, PI Bennett organized visits for distinguished women visitors/seminar speakers for visibility and networking opportunities. Dr. Eleanor Wurtzel, Professor, Plant Sciences, Lehman College, visited in December 2012; Dr. Diana Nemergut, Associate Professor, Department of Environmental Studies, University of Colorado Boulder and Program Director, Organisms and Ecosystems, Antarctic Sciences, NSF visited in February, 2013; and, Dr. Sanae Ariga representing the Symposium for Women Leaders in Science, Technology, Engineering and Mathematics, Professor, School of Life Science, Hokkaido University, visited in July 2013.

5. The goal of the Family Initiatives: In Year 5, the RU FAIR ADVANCE program funded seven Life-cycle awards to faculty in STEM disciplines for life emergencies that impacted their productivity. Five of these faculty members were in social science disciplines, and the other two were in engineering and in biological sciences. One of the social scientists was a full professor the rest were assistant professors. The evaluation of the life-cycle program is ongoing. Faculty members will be interviewed in Fall 2013. Interview outcomes with nine faculty members who participated in Years 1 through 4 indicate that the investment in life cycle grants for Rutgers SEM faculty has had very positive outcomes. The responses to the grant were uniformly positive. Every grantee felt that the grant offered recognition of their situation, as well as emotional and material support. The recipients were able to mitigate some of the negative effects of their personal situations through the funds available thought the grants. The grantees were able to hire Research Assistants and graduate students, offering them additional opportunities. Most of the recipients were able to maintain their research productivity.

An important step forward for the Family Initiative was the policy analysis conducted by Dr. Elizabeth Strickland. See 'Specific Objectives' below for details.

Specific Objectives:

A major goal for Year 5 was to understand better the policy environment at Rutgers in which institutional transformation must be undertaken, the SciWomen Office asked an outside consultant, Dr. Elizabeth Strickland, to undertake an analysis of the policies at Rutgers University that affect female faculty in the sciences, engineering, and mathematics. These could be policies related to employment and academic responsibilities (e.g., leave, tenure, etc.), as well as to academic operations (e.g., school and departmental bylaws, etc.).

Findings

Because Rutgers is an extremely decentralized organization, the policies and procedures that govern faculty life are scattered throughout organizational units across the university. Policies and procedures are set at a variety of levels ranging from departmental procedures to policies that apply to the entire university community. The
The decentralized way in which Rutgers is organized has implications for the policy environment that will be discussed later in this report.

The highest policy setting body at Rutgers is the 11 member Rutgers University Board of Governors. Policies approved by the Board of Governors, as well as the Board of Trustees, the President, and other Executive Officers, are compiled in a University Policy Library. The University Policy Library also includes certain academic, administrative, financial, operational, and business policies and procedures. It should be the first place of reference when searching for a university policy and may be accessed on the web at: http://policies.rutgers.edu/. Three main entities at Rutgers impact policies effecting faculty. These are: (1) Academic Affairs and its Office of Academic Labor Relations, (2) University Human Resources, and (3) the Rutgers Council of chapters of the American Association of University Professors – American Federation of Teachers (AAUP-AFT), that is, the “union.” Because faculty-related policies involve all three entities it is easy to be confused about who bears the primary responsibility for each policy area.

The analysis revealed that Rutgers faculty benefit from family and medical leave and extension of tenure-clock as part of their collective bargaining agreements. However, these provisions may not be enough for women in STEM disciplines to advance successfully in the early stages of their careers. Additionally, the institutional characteristics of Rutgers may pose a special challenge for women in STEM faculty. Because Rutgers is highly decentralized there is not uniform application of policy at the departmental level, and, especially currently, Rutgers is very much resource constrained which, again, puts, women faculty at the early stages of their careers at a disadvantage when they may need special concessions as they expand their families.

Rutgers is an extremely decentralized institution, based on history, geography, organizational structure, and budgeting. This has many implications for the policy environment and affects faculty, departments, and the central university administration in different ways. In a decentralized environment the formation, communication, and implementation of policies can be complex. For faculty members, the most significant organizational unit at the university is the academic department in which they are members and, secondarily, the school in which that department resides. At Rutgers, the diversity among departments is further complicated by the three campus nature of the university. Rutgers-Camden and Rutgers-Newark each operate under the leadership of a Chancellor, while at the Rutgers-New Brunswick campus, the main academic leader is the Vice President for Academic Affairs. A new structure is anticipated as the integration of Rutgers and UMDJ occurs, one that will accommodate the large health sciences enterprise as part of the newly integrated university.

From the perspective of an individual faculty member, whose routine interaction is at department level, it may be easy to be confused about where to access policy information or where to turn when an issue arises that requires a problem to be addressed. If an orientation to and overview of university and departmental policies and resources are not provided regularly, faculty may not fully understand policies that could affect them. In a
decentralized environment, faculty members may feel isolated within their department where the tone may be set either by a chairperson or the faculty as a whole. They may not appreciate what the broader university expectations and standards are. In cases where the departmental culture is not perceived to be inclusive, a faculty member may feel this isolation even more acutely if she does not possess a knowledge base of university policies and resources available to her.

From the perspective of a department that is interested in promoting gender diversity and equity, a decentralized environment may make it more challenging to know how best to do so. For example, it may not be apparent what best practices have been developed elsewhere and what, if any, university resources are available to assist the department in developing and maintaining an inclusive culture. This could encompass everything from the recruitment and hiring process to recognizing senior female faculty. Furthermore, department chairs who are interested in undertaking conscious steps to provide women with opportunities to thrive in their department may be hesitant to do so, unless they are convinced that the dean to whom they report and other senior leaders will be supportive of their actions. They want to know that their leadership will back them up, and it may be less obvious if this is the case in a decentralized environment. Finally, for departments that are not interested in addressing gender equity issues, no pressure to change the status quo may be felt in an organizational environment in which departments have significant autonomy.

From a university-wide perspective, when many academic and personnel decisions are made at the department or school level, any broad policy changes contemplated at a university-wide level must take into account the effect that they would have in each part of the university, be communicated clearly, and have local champions for their implementation. It takes skilled leadership to achieve a balance between respecting academic freedom within a department while at the same time holding departments accountable to university-wide expectations. Departments and schools may be motivated and encouraged to pursue directions take through the use of incentives, but this requires creativity by university leaders to do so in a way that will be effective and achieve genuine buy-in by departments. Finally, when so much of the activity related to faculty policies occurs at the department level, the central administration has a challenge in disseminating information. At Rutgers, there seem to be limited orientation and training opportunities provided for new faculty, department chairs, search committee chairs, etc. This hinders the ability of university leadership to provide consistent information and resources to all parts of the university.

Although a decentralized environment may pose some challenges in implementing policies across a diverse campus, it also has distinct advantages. Among these is that departments and schools with capable and visionary leaders can be nimble and quickly take advantage of opportunities. The success stories of departments may serve as exemplars to inspire other departments and schools. The ability for some units to serve as test beds for small-scale programs and innovations that may later be adopted across the campus is a powerful tool for the university. However this approach is most effective
when mechanisms exist for sharing and scaling up success, as well as incentivizing departments to adopt best practices.

Significant Results:

In Year 5 of the RU FAIR ADVANCE grant, the goal was to develop a targeted strategy for increasing the number of women in general, and minority women in particular, on the STEM faculty of Rutgers University. The number of women faculty members went from 144 (21%, total faculty 685) in the baseline year to 202 (25%, total faculty 800) in Year 5. At the assistant professor rank women represented 39% of faculty, at the associate professor rank they represented 35% of faculty, and at full professor rank they represented 14% of faculty (see Table 1 in Appendix 1). While the number of women on the New Brunswick Campus grew overall particularly in the assistant rank, in School of Engineering (SOE), School of Arts and Sciences (SAS), School of Environmental and Biological Sciences (SEBS), and among Women of Color Scholars, on Newark and Camden campuses the increase in numbers stayed modest.

Over the course of the Women of Color Scholars Initiative (WoCSI), female faculty of color at the University in STEM fields have increased in number. Specifically, there has been a 65 percent increase in the number of tenured/tenure-track women faculty of color since the baseline year (AY 2007-08). Currently, there are 57 tenured/tenure-track women faculty of color employed in STEM disciplines. By campus, both New Brunswick and Newark have greater numbers of tenured/tenure-track women faculty of color. Since the baseline year, there is a 63 percent (N=41) increase in the number of tenured/tenure-track female faculty of color in New Brunswick and 50 percent (n=12) increase in Newark.

Of the Initiative participants who completed the Women of Color Scholars Assessment survey (N=25), 73 percent of respondents report that the Initiative has been extremely helpful in impacting the respondents’ adjustment to becoming a faculty member at Rutgers. In addition, 70 percent of the respondents reported the Initiative has been extremely helpful for navigating the tenure/promotion process. About half of the respondents indicated that the Initiative has been extremely helpful in improving experiences in the classroom as well as improving productivity. Specifically, 48 percent of respondents report submitting two to three journal articles during AY 2012-13, while 61 percent reported having one to two articles published in academic journals. In addition, 13 percent of respondents secured a book contract during the academic year, while 4 percent have a book currently in-print. As one faculty member succinctly the impact of the Initiative; “As a tenured professor, I only wish that [WoCSI] had existed in my early career. It not only offers moral support to its members, it provides practical strategies for success.”

WoCSI has made Rutgers an attractive institution for new women of color faculty, and even faculty of color in general, and even graduate students, because it symbolically
signals that we care about inclusion and diversity and that we have in place strategies to ensure that we value creating a good environment for faculty of color. Its scope has even expanded and it has spearheaded university-wide conversations about diversity and inclusion.

During RU FAIR ADVANCE the percentage of women as new hires increased, compared to baseline year when 5 out of 36 new hires (13.9%) were women, in Year 5, 21 out of 57 new hires (36.8%) were women. Similar to the increases in recruitment, advancement outcomes were also positive. In year 5, as consistent with previous years, women's promotion to tenure and to full professor positions were at a rate of 95% or better. Another positive trend was women's numbers in chair positions. In the baseline year, 8 out of 59 STEM department chairs were women. In year 5, that number increased to 16 out of 59. Women's leadership across the institution is difficult discern because the university is expanding and re-organizing structurally.

Key outcomes or Other achievements:

The changes achieved in the School of Engineering (SOE), where Helen Buettner was RU FAIR Professor, in Rutgers New Brunswick, are being sustained in several ways. 1) The formal plan for a SOE Committee on Diversity and Inclusion, approved in concept by the dean, has been drafted and is under review. The committee will assume several functions previously performed by RU FAIR ADVANCE, including up-to-date compilation of statistics and best practices on gender equity and diversity in engineering; gender and diversity programming in SOE, including seminars, networking events, and mentoring opportunities; and the development of ombuds resources for engineering. 2) SOE is contributing to the continuation of OASIS Professional Development and Leadership Program through its support for engineering participants (13 out of 22 women in SOE have participated since 2008). 3) The advancement of more women to senior ranks is establishing more gender-fair practices at the departmental and school level. 4) The SOE is promoting a culture of inclusiveness through the development of support for women at all levels. Adding to its established strong programming for pre-college women, the SOE collaborated with Rutgers Douglass Residential College for women to bring a new living-learning community online in 2012-13 for first-year women in engineering. All of these programs integrate and reward the participation of more senior engineering students and faculty women to create a supportive climate for women in engineering at Rutgers.

Another positive outcome in New Brunswick campus is that WoCSI has secured some extra funding beyond RU FAIR ADVANCE that we can apply to academic year 2013-14 for programming activity. Nevertheless, it is important to make sure that WoCSI continues to receive support. We are hoping we can continue the program going; that it can be a model for institutionalized programs. We think there is more to be done—especially in making sure that all sectors of the university that directly or indirectly impact our experience (departments) are aware of some ways to have a more inclusive environment. And very importantly, it’s something that we have found out, it is important that it is the very junior women of color faculty and junior faculty of color that
should be at the forefront, knowing best their/our own needs, and also granting a voice to their experience.

The RU FAIR ADVANCE Consortium (internal advisory board) meeting, sponsored by the Office for the Promotion of Women in Science, Engineering, and Mathematics (SciWomen), which took place on April 12th, 2013, led to a set of recommendations made by Deans, Department Chairs and University Leaders regarding gender equity among the faculty. The recommendations include: continued support (financial and infrastructural) for the Office for the Promotion of Women in the Sciences, Engineering and Mathematics; tracking, monitoring, maintenance and reporting of the number of female (and male) faculty by department, new hires, and salary; enhanced communication with Deans across campuses to share best practices related to hiring and retaining a diverse faculty; making leadership positions more appealing, offer additional administrative support for research for when the faculty member completes his/her tenure in a leadership position; and nominating more female faculty for prominent national and international awards, recognition and honors. The discussion included an extensive debate on the faculty dual-career needs and related challenges at Rutgers. The suggestions were: strengthening and clarifying the career path for non-tenure track faculty; developing a pool of opportunity funding to supplement new hire lines; and portraying Rutgers University as a family friendly work environment. In light of these recommendations, the RU FAIR ADVANCE supplement for AY 2013-14, which will focus on faculty dual-career needs will be a well timed resource for the University to move forward on the momentum built, especially in years 4 and 5 of RU FAIR ADVANCE.

* What opportunities for training and professional development has the project provided?

Professional Development and mentoring are important tools to overcome the challenges presented by a highly decentralized and resource constrained institution like Rutgers. The OASIS Leadership & Professional Development program, which is designed to accelerate the career development and advancement of women in STEM and Health Science fields, was offered twice this academic year, in New Brunswick during the fall and in Newark during the spring. Its major components are four or five half-day workshops, mentoring and networking activities, and individual coaching. The strength of OASIS is in the cohort working together over time in a program that integrates these components. Each semester, OASIS provides professional development, coaching and mentoring to a new group of approximately twenty women in STEM and health science disciplines. Since the baseline year, over one hundred and fifty women have participated in the program. In Academic Year 2013-14, OASIS will be a self-sustaining, fee-based program.

Peer-mentoring groups are created for each OASIS program, and groups of faculty continue to meet beyond the semester where they participate in the program. Mini-grants and RU FAIR Professorships have also aided women faculty in STEM establish mentoring activities in Newark and Camden campuses. Mini-grants have helped to seed several peer-mentoring groups by providing faculty with enough resources to start grass-roots programs for peer-mentoring and other networking activities to build micro-communities throughout the institution. To attest to
the longevity of the OASIS Program’s impact, past OASIS participants from all three campuses and from different ranks have created peer-mentoring groups that continue to meet monthly even after the official conclusion of the program.

Similar to OASIS, Most of the programming for the Women of Color Scholars Initiative during AY 2012-13 centered on professional development opportunities, including workshops on work/life balance, networking and self-promotion, publishing, and tenure/promotion. The aim of the initiative has been to enhance the experience of women of color in academia and open institutional spaces supportive of women of color, also to carve out a lasting intellectual space for women of color at Rutgers.

Another leadership training opportunity was offered to women STEM faculty in Spring 2013, through a partnership between Rutgers SciWomen Office and Up, Up, and Away in Hunterdon Inc. (UUAH). An exciting two-day leadership workshop was offered to STEM tenure and tenure-track female faculty to develop their leadership skills through skill building and by fly an airplane. Twelve tenured and tenure-track faculty from STEM and health science disciplines participated in the workshop in May 2013. To understand the parallels between the risky environments of academia and this leadership experience, which involved flying an airplane, pre- and post-workshop assessment surveys were designed. They evaluated the following leadership traits: (1) confidence in taking new risks and (2) ability to persevere in risky situations.

* How have the results been disseminated to communities of interest?

For Rutgers internal purposes the SciWomen website and listersev are the tools of communication to disseminate RU FAIR ADVANCE and NSF ADVANCE information, inquiries and findings. More importantly, NSF indicator data are available on the SciWomen website. Also see Communication Initiative and Products. For Rutgers external purposes the AIM (ADVANCE Implementation Mentors Network) is a venue where information is disseminated.

* What do you plan to do during the next reporting period to accomplish the goals?

In its fifth year, RU FAIR ADVANCE completed all its programmatic goals. In academic year 2013-14, RU FAIR ADVANCE will complete the evaluation of the Life-cycle and RU FAIR Professor programs. In addition, we will continue to collect the NSF indicators.

Through the resources provided by the NSF ADVANCE supplement we will address the goals of the dual-career program. In light of the findings of the policy analysis, reported in the 'Specific Objectives' section, members of the SciWomen/RU FAIR Team will work with faculty leaders and deans to design a plan for an institution-wide mentoring program. In the decentralized environment of Rutgers, which is in a transition, designing mentoring program seems to be a necessity for Rutgers faculty.

Supporting Files
This document contains the institutional partners and mechanisms by which the Rutgers Data Warehouse is maintained. It also contains summary Tables for NSF Indicators 1 through 10.

Products

Journals


  Status = PUBLISHED; Acknowledgment of Federal Support = Yes; Peer Reviewed = Yes

Books

Book Chapters

Thesis/Dissertations

Conference Papers and Presentations


  Status = OTHER; Acknowledgement of Federal Support = Yes


  Status = OTHER; Acknowledgement of Federal Support = Yes


  Status = PUBLISHED; Acknowledgement of Federal Support = Yes


Other Publications

Strickland, E. (2013). Report of Findings on Policies that Affect Female Faculty in the Sciences, Engineering, and Mathematics at Rutgers, The State University of New Jersey. In order to understand better the policy environment at Rutgers in which institutional transformation must be undertaken, the SciWomen Office asked an outside consultant, Dr. Elizabeth Strickland, to undertake an analysis of the policies at Rutgers University that affect female faculty in the sciences, engineering, and mathematics. These could be policies related to employment and academic responsibilities (e.g., leave, tenure, etc.), as well as to academic operations (e.g., school and departmental bylaws, etc.). In order to gather background information for analysis, all web-accessible university policies that may be relevant to faculty in the sciences were gathered into a “Compilation of Rutgers University Policies that Affect Tenured and Tenure-Track Faculty in the Sciences, Engineering, and Mathematics” and a series of interviews with Rutgers faculty and administrators was conducted that is summarized in “A Synopsis of Interviews on Policies Related to Tenured and Tenure-Track Female Faculty in the Sciences,
Engineering, and Mathematics at Rutgers, The State University of New Jersey.” Together, these two companion documents provide the background material for this Report of Findings and should be reviewed alongside this report.

Status = OTHER; Acknowledgement of Federal Support = Yes

- Multiple (2012). Women of Color Faculty Bibliography. This document contains citations for peer-reviewed scholarship published on the topic of women of color faculty's experiences in academia. Citations are grouped thematically, including themes such as recruitment and retention, teaching, health, and leadership. The document is publicly available on the SciWomen website (http://sciwomen.rutgers.edu/sites/default/files/Women%20of%20Color%20Faculty%20Bibliography.pdf).

Status = OTHER; Acknowledgement of Federal Support = Yes


Status = OTHER; Acknowledgement of Federal Support = Yes

- Mary McCain (2013). External Evaluation of the NSF ADVANCE Program RU FAIR Year 4. As part of this project, RU FAIR commissioned an external evaluation of its work in Year 4 to assess its progress in achieving the project's goals. This evaluation uses a mixed-methods approach, drawing from a variety of data and information sources. These include the RU FAIR ADVANCE annual reports and other information prepared prior to and after the February 2011 NSF ADVANCE site visit, participation in the November 2011 RU FAIR External Advisory Board meeting and discussions with the RU FAIR leadership team and program staff, including the internal evaluator. This year's external evaluation also benefits significantly from internal evaluations of the individual programs, prepared by the RU FAIR team members and the Internal Evaluation Report, as well as from the RU FAIR analysis of the NSF Indicator Tables.

Status = OTHER; Acknowledgement of Federal Support = Yes

**Technologies or Techniques**

- Nothing to report.

**Patents**

Nothing to report.

**Inventions**
Nothing to report.

**Licenses**

Nothing to report.

**Websites**

Title: SciWomen Website
URL: http://sciencewomen.rutgers.edu/
Description:

The SciWomen website is an important tool for the Visibility Initiative. The website was created at the inception of the Office for the Promotion of Women in Science, Engineering and Mathematics in 2007. When NSF awarded the ADVANCE grant to Rutgers, a separate web site was created. The two websites were merged in 2010 with a large emphasis on RU FAIR ADVANCE. In February 2012, content management was changed from Dreamweaver to Drupal, and the Google Analytics were reset. Unfortunately, usage data for the website before February 2012 are no longer available, however, from this point on, Google Analytics will continue to automatically track website data. The recent activity on the SciWomen website has ranged from over 200 to 800 unique visitors to the website. Generally, the highest number of hits to the website coincides with greater numbers of programing activities in a given semester.

**Other Products**

Product Type: Databases
Description:

*Sciwomen Database*

Working closely with the Office of Institutional Research and Academic Planning, Sciwomen maintains a relational database to track and evaluate racial/gender equity at Rutgers University across all campuses. The database not only includes data necessary for compiling the NSF indicators, but also contains data on all faculty appointments across the University for comparative purposes. The database also has the capability to track faculty who have participated in RU FAIR ADVANCE/Sciwomen initiatives to help us better understand how these activities are impacting the recruitment and retention of female STEM faculty, and allows Sciwomen to generate listservs for particular faculty populations (such as women of color).
Faculty Profiles and 'MyStory'(ies)
The SciWomen website also continues to feature two types of faculty profiles. One collection is a compilation of professional biographies with links to personal and departmental home pages and illustrated first-hand accounts of women’s coming-of-age experiences as academic women in STEM called “My Story.” These profiles publicize the contributions of Rutgers’ outstanding female scientists, foster a sense of community among Rutgers’ women scientists, and enable young women to explore careers in science, social science, engineering, mathematics, and health/medicine through first-hand accounts. In June 2010, Faculty Profiles contained 221 professional biographies. Currently, there are 246 profiles featured, 54 of which include “My Stories.” Our current plans for this invaluable feature of the SciWomen website is to work with the Office of Institutional Research and Academic Development (OIRAD) to obtain direct links from our faculty profiles to OIRAD’s faculty survey database. This will create a streamlined, up-to-date and professional look for our website that will require minimal maintenance.

Women of Color Scholars Assessment Survey

This survey is one of the few (if not only) data collecting efforts across Rutgers University designed specifically to document the experiences and perceptions of women of color faculty. Faculty are asked about their satisfaction with the Women of Color Scholars Initiative program offerings, as well as the effectiveness of programming for advancing women of color scholars careers. In addition, the survey assesses writing productivity and skill building (i.e., navigating third year and tenure reviews, locating and securing campus resources, maintaining work-life balance, broadening professional networks, establishing mentoring and collaborative relationships, etc.).

Pre- and post-workshop assessment surveys were designed for the Rutgers Women Take Flight Program to evaluate leadership traits that include (1) confidence in taking new risks and (2) ability to persevere in risky situations. More specifically these surveys shed light on participants understanding of how taking new risks impacts her academic and personal life, as well as to assess the potential impact of workshop experiences on the
participants’ motivation to persist within their chosen academic career paths and to advance in STEM fields.

Other:

Supporting Files

<table>
<thead>
<tr>
<th>Filename</th>
<th>Description</th>
<th>Uploaded By</th>
<th>Uploaded On</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report on Findings_SciWomen Policy Project.pdf</td>
<td>To understand better the policy environment at Rutgers in which institutional transformation must be undertaken, the SciWomen Office asked an outside consultant, Dr. Elizabeth Strickland, to undertake an analysis of the policies at Rutgers University that affect female faculty in the sciences.</td>
<td>Joan Bennett</td>
<td>08/29/2013</td>
</tr>
<tr>
<td>Ext Eval RU FAIR Year Four_Feb 28, 2013.pdf</td>
<td>This document contains the external evaluation report conducted by Mary McCain, a consultant, for year 4 of the RU FAIR ADVANCE program.</td>
<td>Joan Bennett</td>
<td>08/29/2013</td>
</tr>
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</table>

Participants

Research Experience for Undergraduates (REU) funding

What individuals have worked on the project?

<table>
<thead>
<tr>
<th>Name</th>
<th>Most Senior Project Role</th>
<th>Nearest Person Month Worked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joan W Bennett</td>
<td>PD/PI</td>
<td>6</td>
</tr>
<tr>
<td>Helen Buettner</td>
<td>Co-Investigator</td>
<td>2</td>
</tr>
<tr>
<td>Hector Lopez</td>
<td>Non-Student Research Assistant</td>
<td>6</td>
</tr>
<tr>
<td>Yolanda Martínez-San Miguel</td>
<td>Faculty</td>
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<tr>
<td>Georgia Arbuckle-Keil</td>
<td>Faculty</td>
<td>1</td>
</tr>
<tr>
<td>Elizabeth Strickland</td>
<td>Consultant</td>
<td>6</td>
</tr>
<tr>
<td>Beth Tracy</td>
<td>Consultant</td>
<td>6</td>
</tr>
<tr>
<td>Suneeta Ramaswami</td>
<td>Faculty</td>
<td>1</td>
</tr>
<tr>
<td>Jyl Josephson</td>
<td>Faculty</td>
<td>1</td>
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<tr>
<td>Pamela Gleason</td>
<td>Other Professional</td>
<td>11</td>
</tr>
<tr>
<td>Nimanthi Rajasingham</td>
<td>Graduate Student (research assistant)</td>
<td>5</td>
</tr>
<tr>
<td>Name</td>
<td>Most Senior Project Role</td>
<td>Nearest Person Month Worked</td>
</tr>
<tr>
<td>-----------------------</td>
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</tr>
<tr>
<td>Crytal Bedley</td>
<td>Graduate Student (research assistant)</td>
<td>12</td>
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<tr>
<td>Ronnie Kauder</td>
<td>Consultant</td>
<td>3</td>
</tr>
<tr>
<td>Mary McCain</td>
<td>Consultant</td>
<td>1</td>
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<tr>
<td>Patricia A Roos</td>
<td>Co PD/PI</td>
<td>0</td>
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<tr>
<td>Natalie Batmanian</td>
<td>Other Professional</td>
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</table>

**What other organizations have been involved as partners?**

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shippensburg University</td>
<td>Pennsylvania</td>
</tr>
<tr>
<td>University of Medicine and Dentistry of New Jersey</td>
<td>New Jersey</td>
</tr>
<tr>
<td>Up, Up, and Away In Hunterdon Inc.</td>
<td>Hunterdon County in New Jersey</td>
</tr>
</tbody>
</table>

**Have other collaborators or contacts been involved? N**

**Impacts**

**What is the impact on the development of the principal discipline(s) of the project?**

The impact RU FAIR ADVANCE has made in year 5 is to strengthen the relationship with Deans who play a role in key decisions in the institution. Another important role for RU FAIR ADVANCE and SciWomen has been to play a catalyst for women in STEM faculty and their needs in a time of transition where they feel disenfranchised from central administration where the focus is the integration of Rutgers University with UMDNJ.

In year 5, in accordance with recommendations made by the External Advisory Board in October 2012 and the Internal Advisory Board (RU FAIR Consortium) in April 2013, the RU FAIR ADVANCE and SciWomen teams worked to institutionalize the OASIS Leadership and Professional Development program, the Data Warehouse, the Mini-grant program and the Women of Color Scholars Initiative (WoCSI). The teams also worked to continue to build and strengthen alliances. Most of these efforts were successful. The OASIS Program received support from several deans in STEM and health science disciplines, WoCSI has a new leader and funding from Academic Affairs for a new year of programming. The Director of the Office for Institutional Research and Planning has expressed continued commitment to providing NSF indicator data beyond the completion of the RU FAIR ADVANCE grant. The Advisory Board emphasized the importance of quantitative and qualitative data that can be relevant to Deans, Chairs, member of the Executive Administration to engage in decision-making that will meet the needs of faculty for greater diversity and inclusion.
In the new organizational structure conceived by the new Rutgers President Robert Barchi, along with other units, SciWomen will be part of the Office for Institutional Diversity and Inclusion. This new structure presents an unique opportunity for continued institutional change and greater diversity and inclusion, while keeping issues to women in STEM as a top agenda item. What remains a question is the form of faculty leadership for SciWomen. The PI of RU FAIR ADVANCE grant Joan W. Bennett was the Associate Vice President of SciWomen. An Associate Vice-Presidency does not fit the new organizational structure. The more likely outcome is that SciWomen will have a faculty director, who will have a revolving three to five year appointment.

The supplement, the RU FAIR ADVANCE program has received to address the dual-career needs at Rutgers, is an important resource and validation for the work the RU FAIR and SciWomen teams do. The dual-career needs of existing and incoming faculty was a major topic of discussion for the ADVANCE Consortium in Spring 2013. In the next academic year, the RU FAIR ADVANCE and SciWomen teams will work with the Deans, who expressed commitment to overcoming the dual-career challenge, to accomplish the goals of the supplemental award.

**What is the impact on other disciplines?**

The Objective Analysis of Self and Institution Seminar (OASIS) program has grown in the past year in particular. The program has also expanded as part of a collaboration among Shippensburg University, and its partners in Central Pennsylvania, as part of their ADVANCE PAID grant titled “STEM-UP PA”. Beginning in Fall 2013, interim Executive Dean of the School of Arts and Science in New Brunswick, Dr. Falk, and Executive Dean of the School of Environmental and Biological Sciences in New Brunswick, Dr. Goodman, have agreed to financially support several female faculty to participate in the Program. In addition, New Jersey Medical School’s Dean Barone, Robert Wood Johnson School’s Dean Amenta and Rutgers School of Engineering’s Dean Farris have agreed to sponsor women STEM faculty in this Program. Combined a total of 20 women faculty in STEM and health sciences will be sponsored by their respective schools to participate in OASIS in the upcoming semester. Thus the impact of this program in human resource development is growing from STEM disciplines to a variety of disciplines in academia.

**What is the impact on the development of human resources?**

The OASIS Professional Development program equips faculty and staff with skills in leadership, advocacy, negotiation and resource management. These skills are relevant to faculty and staff in all disciplines though there are discipline specific skills participants needs, e.g., managing a lab requires different skills than managing a social science project. The OASIS program director, Beth Tracy, works closely with the SciWomen team and faculty mentors to modify the program workshop offerings based on cohort needs. The components that are consistently present are peer-mentoring and individual coaching.

**What is the impact on physical resources that form infrastructure?**

Nothing to report.
What is the impact on institutional resources that form infrastructure?
Nothing to report.

What is the impact on information resources that form infrastructure?
Nothing to report.

What is the impact on technology transfer?
Nothing to report.

What is the impact on society beyond science and technology?
Nothing to report.

Changes

Changes in approach and reason for change

The integration of the University of Medicine and Dentistry of New Jersey (UMDNJ) into Rutgers, the State University of New Jersey, was completed as scheduled on July 1\textsuperscript{st}, 2013. With this integration, the University enters a year of transition. For example, the number of faculty and staff at the university has increased by 50%. This transition will entail the integration of thirteen units and institutes and the creation of a large unit for biomedical and health sciences. An important goal in this year of transition is to develop a startegic plan. President Robert Barchi announced in mid-May that the strategic planning process for the University will be on hold until September 2013. Because the strategic planning process is currently on hiatus, further institutionalization of RU FAIR activities and initiatives cannot proceed until the strategic plan is revived. Importantly, President Barchi has publicly announced that diversity and equity issues are integral components of the strategic planning process, having already appointed Jorge Reina Schement to the newly created position of Vice President of The Office for Institutional Diversity and Inclusion (OIDI), effective July 1, 2013. The Office for the Promotion of Women in Science, Engineering and Mathematics is now part of OIDI. Moreover, Barchi has articulated that one of the goals of the strategic planning process is to build a “cohesive, vibrant, diverse, and inclusive culture,” opening the door for greater opportunities to institutionalize RU FAIR ADVANCE in the near future as the Office for the Promotion of Women in Engineering, Science and Mathematics continues implementing RU FAIR programs, such as OASIS Leadership Program.

Actual or Anticipated problems or delays and actions or plans to resolve them

The RU FAIR ADVANCE team will integrate into its activities, programs and data collection efforts basic science departments from UMDNJ.
Changes that have a significant impact on expenditures

Nothing to report.

Significant changes in use or care of human subjects

Nothing to report.

Significant changes in use or care of vertebrate animals

Nothing to report.

Significant changes in use or care of biohazards

Nothing to report.

Special Requirements

Responses to any special reporting requirements specified in the award terms and conditions, as well as any award specific reporting requirements.

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