# TABLE OF CONTENTS

## SECTION I. EXECUTIVE SUMMARY ............................................................................. 2

## SECTION II. ISU ADVANCE MANAGEMENT AND INFRASTRUCTURE

A. PROGRAM ORGANIZATION ....................................................................................... 4
B. PARTICIPANTS ........................................................................................................... 6

## SECTION III. SUMMARY OF PROJECT ACTIVITIES AND FINDINGS FOR YEAR 5, 2010-2011

A. INTRODUCTION TO PROGRAM ACTIVITIES AND FINDINGS ................................. 20
B. INSTITUTIONAL CHANGE IN DEPARTMENTS, COLLEGES AND UNIVERSITY .......... 21
   1. ASSESSING AND FACILITATING CULTURAL CHANGE IN DEPARTMENTS .......... 21
   2. FACILITATING CHANGE IN CULTURE AND PRACTICES IN THE COLLEGES AND UNIVERSITY ................................................................. 24
   3. WORKSHOPS AND NETWORKING EVENTS ......................................................... 28
   4. MENTORING PROGRAM TO COMBAT ISOLATION .......................................... 30
C. PROGRAM MANAGEMENT AND EVALUATION .......................................................... 32
   1. ADVANCE COUNCIL, CO-PI TEAM, TRANSITION TEAM, AND INTERNAL ADVISORY BOARD LEADERSHIP ......................................................... 32
   2. COMMUNICATION, MARKETING, PUBLICITY AND WEBSITE ......................... 33
   3. FINANCIAL MANAGEMENT ................................................................................. 34
   4. FORMATIVE EVALUATION .................................................................................... 34
      4A. ADVANCE COUNCIL RETREAT, MAY 2010 .................................................. 34
      4B. ADVANCE Council meetings Year 5 ............................................................... 35
      4C. EVALUATION PLAN PROGRESS .................................................................. 36
   5. CONSULTATIONS WITH EXTERNAL ADVISORS ............................................. 39
   6. PATHWAYS TO PROMOTION FROM ASSOCIATE TO FULL PROFESSOR .......... 40
   7. INTERPRETATION OF KEY INDICATORS ......................................................... 41
D. DISSEMINATION (INCLUDING LIST OF PRODUCTS AVAILABLE) ............................ 49

## SECTION IV. PERSONNEL AND FINANCIAL REPORT. .................................................. 57

## SECTION V. REPORT OF KEY INDICATORS ................................................................. 57

A. TABLE 1 Number and percent of women tenured and tenure track faculty by rank, department and discipline, 2010 .......................................................... 58
B. TABLE 2 Number and percent of tenure track and non-tenure track faculty by gender, department and discipline, 2010 ......................................................... 60
C. TABLE 3 Tenure review outcomes by gender, college and discipline, 2010 .......... 62
D. TABLE 4 Promotion review outcomes by gender and discipline: Associate to Full Professor, 2010 .......................................................... 63
SECTION I. EXECUTIVE SUMMARY

Over our five years, ISU ADVANCE has become Iowa State’s most prominent vehicle to recruit, retain, and advance women and women of color in STEM faculty positions. We are known for a well-managed network, innovative research, and an integrated approach to change. We work within departments using a Collaborative Transformation approach to improve the work environment for all faculty members. Our program identifies cultures, practices, and structures that enhance or hinder the careers of ISU faculty, and works with faculty and administrators to transform university policies, practices, and academic culture in pursuit of a diverse and vibrant faculty in STEM disciplines.

The ISU ADVANCE Program’s Comprehensive Institutional Intervention Strategy has four primary goals:

2. Overcome known barriers to women’s advancement across ISU STEM fields, focusing on departmental transparency, isolation, mentoring, and career flexibility.
3. Overcome department-specific barriers to women’s advancement in STEM.
4. Increase overall participation/advancement of women faculty in senior and leadership ranks.
5. Institutionalize positive changes at the university level.

As stated in our original grant proposal, the ISU ADVANCE Program involves both “bottom up” and “top down” approaches. Our “bottom up” activities include department interventions that are part of the Collaborative Transformation project. We also engage in “top down” activities that address
policies and practices at the college and university levels. We seek to illuminate both subtle and overt impediments to equity, and to design strategies to dissolve impediments, thus transforming Iowa State University into an institution that facilitates retention and advancement of women and all underrepresented minorities.

During Year 5, we identified the theme of ISU ADVANCE: building on a solid foundation. We focused on this theme as we prepared for institutionalization of key elements of our programs after NSF funding expires.

Important accomplishments in Year 5 include:

Program organization and evaluation
Several changes in leadership of our program occurred. In June, 2010, the PI, Dr. Susan Carlson, Associate Provost for Academic Advancement and Diversity, resigned from Iowa State to accept a position at the University of California. Dr. Elizabeth Hoffman, Executive Vice President and Provost, became PI in July 2010. Dr. Dawn Bratsch-Prince was appointed Associate Provost for Academic Personnel and Chief Diversity Officer in August 2010 and at that time because a member of the co-PI leadership team. During Year 5 she met regularly with the co-PI Team and the Equity Advisors to plan and monitor the progress of the program. Dr. Bratsch-Prince has provided leadership and institutional perspective during the discussions about institutionalization and sustainability of the ADVANCE Program. In August 2010, Dr. Florence Hamrick, a co-PI in the ISU system and a member of the co-PI Team resigned from Iowa State to accept a position at Rutgers University. In Years 3 and 4 Dr. Hamrick had been the leader of the ADVANCE Scholar program. Those duties were assumed by Executive Director Bowen in Year 5.

We focused on planning for sustaining our accomplishments with internal and external evaluation.
- In September, 2010, the co-PI team and Equity Advisors prepared a white paper: Key Areas for Institutionalization and Sustainability beyond Year 5 of the Program in preparation for a visit from our External Advisors later that month.
- In September we also administered a series of surveys of our stakeholders in preparation for a week-long site visit by our External Evaluators in October, 2010. Both our Advisors and Evaluators provided reports to guide our progress and plan for institutionalization in our final year.
- In February, 2011, the Faculty Fellow prepared a report on Key Areas for Institutionalization and Sustainability beyond Year 5 of the Program that provided guidance on programming, structure, and finances after NSF funding expires.

Addressing barriers in departments through Collaborative Transformation
We completed the Collaborative Transformation process in round 3 departments with finalization of departmental reports, presentation of report findings to the faculty in each respective department, development of strategies for enhancing departmental work cultures, practices and structures based on each department’s CT report, and the implementation of those strategies.

We produced a final synthesis report on Collaborative Transformation, summarizing findings from all 9 focal departments. Findings from the report were shared with department chairs.

Equity Advisors and ADVANCE Professors coordinated the final Council meeting in April 2011, at which they presented their perspectives on the successes of Collaborative Transformation (CT) and recommendations for extending CT to additional departments.
Addressing barriers at the college and university levels:

Transparency

Year 4 administrative fellow gathered data on promotion from associate to full professor and led a workshop for department chairs and deans and another for faculty to discuss data and possible interventions to ensure timely promotion. Four brochures were produced to facilitate discussions about promotion.

Isolation

The ADVANCE lecture series demonstrates the easy connection between eminent scholars and transformation of the academy.

The ADVANCE Scholars program continued peer-mentoring meetings.

Mentoring

The ADVANCE Scholars program continued to support travel for ISU ADVANCE Scholars with external Eminent Scholars.

Institutionalize positive change

The plans presented and conversations that occurred in Year 5 have focused our attention on the most valuable components of ISU ADVANCE for the university. A team of ADVANCE personnel, the Associate Provost, an Equity Advisor, and the Associate Director of Institutional Research will refine the plans in Year 6.

The University was awarded an I3 grant (Innovation through Institutional Integration) from the NSF (PI and co-PIs included ADVANCE personnel). Our I3 initiative, “Strengthening the Professoriate at ISU,” will draw on some of the strengths of ISU ADVANCE (equity advisors, a central council) and help us in designing ways to sustain some of the components of ISU ADVANCE.

Our plans for the sixth year of our award (a no-cost extension year), are to continue to institutionalize important successes of ISU ADVANCE, especially in the areas of faculty recruitment, advancement, and retention for STEM faculty.

SECTION II. ISU ADVANCE MANAGEMENT AND INFRASTRUCTURE

A. PROGRAM ORGANIZATION—ORIGINAL DESIGN AND CHANGES THAT STRENGTHEN THE PROGRAM

The ISU ADVANCE Program draws strength from a multi-level approach to achieving change through Comprehensive Institutional Intervention. In the fifth year, although several changes in leadership of our program occurred, we continued to make progress toward our goals. In June, 2010, the PI, Dr. Susan Carlson, Associate Provost for Academic Advancement and Diversity, resigned from Iowa State to accept a position at the University of California. Dr. Elizabeth Hoffman, Executive Vice President and Provost, became PI in July 2010. Dr. Dawn Bratsch-Prince was appointed Associate Provost for Academic Personnel and Chief Diversity Officer in August 2010 and at that time because a member of the co-PI leadership team. During Year 5 she met regularly with the co-PI Team and the Equity Advisors to plan and monitor the progress of the program. Dr. Bratsch-Prince has provided leadership and institutional perspective during the discussions about institutionalization and sustainability of the ADVANCE Program. In August 2010, Dr. Florence Hamrick, a co-PI in the ISU system and a member of the co-PI Team resigned from Iowa State to accept a position at Rutgers University. In Years 3 and 4 Dr. Hamrick had been the leader of the ADVANCE Scholar program. Those duties were assumed by Executive Director Bowen in Year 5.

The original proposal to NSF specified a management plan that included:

- ADVANCE Co-PI Leadership Team (also referred to as the Co-PI Team and ADVANCE Team) of PI, co-PIs, Senior Personnel, graduate students and program assistant
Activities at three levels of academic structure

- **Executive Vice President and Provost Office** — ADVANCE Council (Associate Provost, Dean/Associate Dean from colleges, ADVANCE Program Director, Program Assistant and ADVANCE Team)

- **STEM Colleges** — Equity Advisor, College Coordinating Council with Dean/Associate Dean, ADVANCE Professors, focal Department Chairs, ADVANCE Program Director

- **Focal Departments** — ADVANCE team led by ADVANCE Professor, with chair, three additional departmental faculty and college Equity Advisor. During the fifth year, all nine focal departments and their ADVANCE Professors participated in the program

- External Advisors

- Diversity Facilitator

- External Evaluators

In Years 2 and 3 we added three components to the management plan that have continued to enhance our program through Year 5. In Year 5 we added two new components (see Equity Advisor Group and Transition Team, below). In addition to those explained above, the components of our program in Year 5 are.

- **Steering Committee** — Added in Year 2, this committee is composed of the PI, Executive Director, Research Director, and one representative from the group of Equity Advisors and ADVANCE Professors. The Steering Committee provides oversight to the program, approves requests for budgetary allocations, and meets twice a month throughout the academic year. In Year 5 the Steering Committee was less active, and more decisions were made by the co-PI Leadership team.

- **Transition Team** — In the late spring of Year 5, a Transition Team was formed to provide make plans and decisions in preparation for the no-cost-extension in Year 6. Members of the Transition Team are Drs. Dawn Bratsch-Prince (co-PI and Associate Provost for Academic Personnel and Chief Diversity Officer), Bonnie Bowen (co-PI and Executive Director), Sharon Bird (co-PI and Research Director), Sandra Gahn (co-PI and Associate Director of Institutional Research), and Lisa Larson (Equity Advisor).

- **Research Director** — Based on formative evaluation during our June 2007 planning retreat and the recommendations of the External Evaluators in January 2008, we created the position of Research Director to recognize the leadership and commitment of the coordinator of the Research Team. Co-PI Dr. Sharon Bird was the Research Director in Years 2-5.

- **Council** — The ADVANCE Council continues to be a valuable group for communicating about activities for those involved in the various aspects of the program, planning and brainstorming, and for communicating with the offices of the Deans of our five STEM colleges. In Year 5 the Council played an important role in planning for institutionalization of some components of the ISU ADVANCE Program. Members of the Council include the co-PI Team, Equity Advisors, ADVANCE Professors, Associate Deans from the five STEM colleges, Faculty Fellows, graduate students and post-docs, program assistant, and partners in various programs on campus that have missions similar to ISU ADVANCE.

- **Equity Advisor/ADVANCE Professor Working Group** — The Equity Advisor/Advance Professor (EA/AP) Working Group, which was formed in Year 2, continued to meet regularly during Year 5. The Equity Advisors and ADVANCE Professors met as a group once a month, and communicated the notes from their meeting to the ADVANCE Co-PI Leadership team. The goal of this group is to promote synergistic efforts among departments, colleges, and the university community at large. During Year 5, one of the major projects of this group was to prepare a presentation focused on the accomplishments of Collaborative Transformation for the final Council meeting in April 2011. Coordinated by co-PI Dr. Diane Debinski, the EA/AP Working Group is composed of college Equity Advisors (Year 5: Dr.
Lisa Larson, Dr. Kristen Constant, and Dr. Susan Lamont (after December 2010), ADVANCE Professors from focal departments in all three rounds of the Collaborative Transformation project, Dr. Debinski and Dr. Bonnie Bowen, who represent the ADVANCE co-PI team. Dr. Sharon Bird, the Research Director, Dr. Carla Fehr and Dr. Lisa Larson also attend as the researchers who are working closely with the ADVANCE Professors in the focal departments. This working group has been very productive and very successful in providing communication with the Program and throughout the campus.

- **Equity Advisors** – In Year 5, the Equity Advisors (EAs) continued to meet with the ADVANCE Professors once a month, as described above, and they also began meeting with the co-PI team (once a month) and as a group of their own (once a month). Because the EAs will continue their work after grant support expires at the end of Year 5, we felt it was important for them to devote time to discussing issues that will be continued in the future. When the EAs met on their own, Executive Director Bowen frequently joined them to serve as a liaison to other ADVANCE activities.

- **Internal Advisory Board** — This group is composed of the Executive Vice President and Provost and the Deans of the five colleges with STEM departments. The members of the Steering Committee met with the Internal Advisory Board twice in Year 5 and the Board provided feedback on ADVANCE activities, including research, programming, data collection and dissemination, training, communications and networking. This group of high level administrators has helped us adjust our resources and prepare to sustain elements of the ADVANCE program when NSF funding ends. Engagement of the Deans and Provost is especially important during these times of economic challenge at the university.

II.B. PARTICIPANTS (ACTIVE IN YEAR 5)

**PI and co-PIs**

**Elizabeth Hoffman**

Dr. Elizabeth Hoffman became PI of the ADVANCE grant in July 2010, following the departure of Dr. Susan Carlson. Dr. Hoffman is the Executive Vice President and Provost of Iowa State University and a former member of the National Science Board. She has been a member since 2007 of the ADVANCE Internal Advisory Board, which meets with the ADVANCE Steering Committee each semester.

**Dawn Bratsch-Prince**

Dr. Dawn Bratsch-Prince became Associate Provost for Academic Personnel and Chief Diversity Officer of Iowa State University in August 2010. At that time she because a member of the co-PI leadership team. During Year 5 she has meet regularly with the co-PI Team and the Equity Advisors to plan and monitor the progress of the program. She has also met individually with members of the co-PI Team. Dr. Bratsch-Prince has provided leadership and institutional perspective during the discussions about institutionalization and sustainability of the ADVANCE Program.

**Sharon Bird**

Dr. Sharon Bird, is a co-PI, ISU ADVANCE Research Director, and member of the ADVANCE Steering Committee, Council, and co-PI Team. During Year 4, Dr. Bird’s efforts include: guiding and presenting results from the ISU Collaborative Transformation (CT) project; updating/modifying and further developing protocols and IRBs for ISU Collaborative Transformation (CT) project; coordinating and participating in the collection and analysis of Round 3 focal department interview and focus group data; working with external focus group/interview facilitator to arrange qualitative data collection; working with on-campus research institute (RISE) to arrange for transcriptions and coding of qualitative interview.
data; preparing template for three new focal department reports (on climate/recruitment/retention/promotion) (with Fehr, Larson); working with Round 1 and 2 focal department ADVANCE Professors to document progress towards department-specific CT goals, ensure confidentiality and appropriate presentation of findings from departmental reports, and prepare presentations for conferences. Dr. Bird also presented findings from her ADVANCE research at the International Gender, Work and Organization conference (June 2010) and at the ADVANCE PI meetings (October 2010), and met with ADVANCE co-PIs from other institutions at professional society meetings. Dr. Bird organized Research Team meetings (or portions of team meetings on research); developed a budget for research activities; guided graduate student Molly Sween; participated in meetings of the ISU ADVANCE Steering Committee, Council, Internal Advisory Board, ADVANCE Professor/Equity Advisor group, and meetings of new focal department chairs and APs. Additionally, serves as an External Advisory Board member for the Ohio State University ADVANCE Program and West Virginia’s ADVANCE Program.

Bonnie Bowen
Dr. Bonnie Bowen is a co-PI and the program Executive Director. Dr. Bowen has monitored all aspects of the project and has devoted time wherever it is needed to assure that we are meeting the requirements of NSF as well as the timeline that our team developed. In Year 3 she was co-chair of the committee that planned the national conference on flexible careers in STEM, which occurred in Ames October 10-11, 2008. She has supervised a graduate student who worked on the conference. Dr. Bowen is responsible for financial and personnel management, as well as communications. In Year 4 she worked extensively with Dr. Kevin Saunders to prepare the Logic Model and Evaluation Plan for the ISU ADVANCE Program and to select External Evaluators who worked with the program in Year 5. In Year 3, she coordinated the NSF Site Visit preparations and the responses from the ISU ADVANCE Program to the Site Visit Team Report. She manages the ADVANCE office and supervises the program assistant. As Executive Director she has provided a supportive structure for the team, the Council, our meetings, and our partners. She meets regularly with diversity partners on campus and is a co-PI in the recently funded I^3 (Innovation through Institutional Integration) award from NSF. Additionally, she has participated with and supported other ADVANCE Council members in presentations to other non-focal departments. Dr. Bowen is a member of the ADVANCE Steering Committee, the ADVANCE Council, and co-PI Team. She meets with the Equity Advisor/ADVANCE Professor group (twice per month) and with the Internal Advisory Board (twice per year). She also participated in the Site Visit Planning Committee. In Year 5, she co-chaired an Organized Poster Session with Diane Debinski for the Ecological Society of America conference (August 2010) entitled “Improving Recruitment and Retention of Women Faculty in Ecology: A Focus on NSF-Funded ADVANCE Programs. She also presented posters about ISU ADVANCE work at the annual meeting of the Society for the Study of Evolution (2008), the American Ornithologists’ Union (August 2009), and she co-chaired a symposium on Women in Ornithology at the COS/AOU/SCO conference (February 2010).

Diane Debinski
Dr. Diane Debinski is a co-PI and served as a leader in college, department, and program development areas. Her primary roles were: 1) leading the Equity Advisor/ADVANCE Professor Working Group meetings (twice per month) and communicating the results of these efforts to the co-PI Team, 2) facilitating the Collaborative Transformation efforts at the focal department and college level, and 3) serving as an active member of the co-PI team (assisting with the management, implementation, dissemination, reporting and evaluation of the program). She led an effort in 2010 with the Equity Advisor/ADVANCE Professor Working Group and ADVANCE Co-PI Team to produce a document for ISU leaders entitled
“Making the Most of Upcoming University Transitions: Perspectives from the ISU ADVANCE Program.” She co-authored a poster about ISU ADVANCE work at the annual meeting of the Society for the Study of Evolution (2008), the American Ornithologists’ Union (August 2009), and she co-chaired an Organized Poster Session with Bonnie Bowen for the Ecological Society of America conference (August 2010) entitled “Improving Recruitment and Retention of Women Faculty in Ecology: A Focus on NSF-Funded ADVANCE Programs.” Dr. Debinski is a member of the ADVANCE Council and co-PI Team.

Carla Fehr
Dr. Carla Fehr is a co-PI and member of the co-PI Team and the ADVANCE Council. She conducts diversity training for new ADVANCE Council members each year. In Years 3, 4 and 5, she was a member of the ADVANCE Research Team, where she works with a focal department and synthesized data from focus group interviews. She also participated on the NSF Site Visit Planning Committee. Dr. Fehr published a book chapter, "Are Smart Men Smarter than Smart Women," on the impact of studies of gender and intelligence on women in science. In Year 3 she presented findings from ADVANCE research at the Feminist Epistemology, Metaphysics, Methodologies and Science Studies Association 2009 Meeting. In Years 4 and 5, she presented findings from ADVANCE at the International Association for Women Philosophers Symposium: Feminism, Science and Values, the Midwest Regional ADVANCE meeting, the University of Waterloo, Ontario, Canada, the University of North Carolina Charlotte, the University of Indiana – Bloomington, the Iowa State PWISE Leadership Conference, the University of North Dakota, at Wellesley College and at Middlebury College.

Susan Carlson
Dr. Susan Carlson, was PI on the ADVANCE grant through June 2010, when she resigned from Iowa State to accept a position at the University of California. During her four years as PI (2006-2010) she kept the program visible in central administration, particularly with the President, the Executive Vice President and Provost (EVPP), the Deans, and academic vice presidents. She made it a priority to work with the Internal Advisory Board (the EVPP and the five STEM deans) to ensure continuing support for the program. She worked closely with the Executive Director on program management, including the development of new partnerships on campus. She supervised the ADVANCE Administrative fellows. She also worked with the co-PIs and others to prioritize dissemination and the recruitment and retention of under-represented minorities. Dr. Carlson was a member of the ADVANCE Steering Committee, the ADVANCE Council, the Internal Advisory Board, and co-PI Team. Dr. Carlson was on advisory boards for ADVANCE programs at North Dakota State University and the University of New Hampshire.

Senior Personnel – Serving on the ADVANCE Team

Sandra Gahn
Dr. Sandra Gahn has been on the ADVANCE Team since August 2006 and is a co-PI in the ISU system from May 2007 forward. She is the Associate Director of the Iowa State University Office of Institutional Research. She develops and updates the database on faculty that has been used to produce the indicator reporting tables. She is also authoring reports, publications and presentations using ADVANCE data. She is a member of the Council, co-PI Team and Research Team and is involved in collecting and analyzing salary, space, start-up costs and survey data. She gave a presentation with graduate research assistant Jason Pontius in March of 2009 about the results of the AAUDE Faculty Satisfaction Survey at ISU. In Year 3 she presented findings from ADVANCE research at the Women in Educational Leadership Conference (Oct 2008), Mid-American Association
for Institutional Research Conference (Nov 2008), our Conference on Faculty Flexibility (Oct 2008), and the Association for Institutional Research Annual Forum (May 2009). In Year 4 she presented findings from ADVANCE research at the Way-Up Conference (Nov 2009). In Year 5 she presented two sessions at the Midwest Regional ADVANCE meeting at Purdue University in June 2010 and co-authored a presentation at the Association for the Study of Higher Education national conference in Indianapolis with ADVANCE graduate assistant Craig Chatriand. The presentation was entitled, “The promotion to full professor, does sex and discipline matter?” and it was presented in November 2010.

Florence Hamrick
Dr. Florence Hamrick was a co-PI in the ISU system and a member of the co-PI Team and ADVANCE Council from September 2006 through July 2010, when she resigned from Iowa State to accept a position at Rutgers University. In Years 1 and 2 Dr. Hamrick was a member of the Research Team and worked with focal departments engaged in the Collaborative Transformation project. Dr. Hamrick became the leader of the ISU ADVANCE Scholar Program (external mentoring program) in April 2008. During Years 3 and 4, she updated the Scholar Program informational materials and met with academic deans and department chairs about the Program. She maintained contact with ISU faculty members who were ADVANCE Scholars, and she worked with the ADVANCE Office and individual ADVANCE Scholars to facilitate scheduling and travel arrangements.

Annette O’Connor
Dr. Annette O’Connor, Associate Professor of Veterinary Diagnostic and Production Animal Medicine, was the Provost’s Administrative Fellow August 2009 – May 2010 and a member of the ADVANCE Council during Year 4. She compiled information on the path to promotion for faculty members, concentrating on the transition from associate to full professor. In March 2010 she presented a workshop to the campus on her findings. In Year 5 she presented two workshops, one for department chairs and deans and one for the faculty at large. She also prepared four brochures to be used by faculty considering promotion to full professor and by their mentors and chairs. She was supported with funds from the Provost’s office.

Equity Advisors in Focal Colleges

Lisa Larson
Dr. Lisa Larson, Equity Advisor in the College of Liberal Arts and Sciences and Professor of Psychology is responsible for leading the College of Liberal Arts and Sciences’ ADVANCE effort. Dr. Larson began serving as Equity Advisor in March 2007. Dr. Larson works with college leadership to plan, coordinate, and implement ADVANCE efforts in the college. She partnered with Dr. Thompson to convene the CALS/LAS Leadership Council, which met several times during Years 3, 4 and 5. She was a member of the ADVANCE Council and participated in the Equity Advisor/ADVANCE Professor group, which meets twice monthly. In Year 5 she began meeting regularly with the Equity Advisor group and the Team. She became a member of the Transition Team in Spring 2011. In addition, Dr. Larson has collected data to clearly define problem areas and strength areas in the college. She has worked with the Office of Equal Opportunity and Diversity to improve access to good data related to the faculty search process. She is also working with LAS deans to integrate LAS and ADVANCE search materials. Moreover, Dr. Larson has presented to the Chair Council and to the Dean’s Leadership Team to share with them information and suggest strategies. Dr. Larson has also served a leadership role in supporting ADVANCE efforts on campus. For example, she has given presentations and participated in the following events: the November 2007 ADVANCE Networking Event “Making a Career in STEM: Three Women’s
Stories," the April 1, 2008 Collaborative Transformation Synthesis Workshop, the December 2008 campus workshop on faculty search resources, the April 2009 Chair’s workshop on departmental transformation, and the April 2011 workshop “On the Path to Transformation: Looking Back and Looking Forward.” She has also led a STEM Advisory group meeting of senior women in STEM disciplines and she is a member of the LAS Diversity Council and the LAS Promotion and Tenure Committee. Additionally, she has participated with other ADVANCE Council members in presentations to other non-focal departments. Dr. Larson has developed and implemented the ADVANCE lectureship program committee, whereby ADVANCE awards two $1,000 awards and ten $300 awards to departments across campus to bring in female speakers and minority speakers. In Years 3, 4 and 5, she participated in the Collaborative Transformation project, where she worked with focal departments in Rounds 2 and 3, and synthesized data from focus group interviews. She is the author of departmental reports and a synthesis report from the Collaborative Transformation project.

Janette Thompson

Dr. Janette Thompson, Equity Advisor in the College of Agriculture and Life Sciences and Associate Professor of Natural Resource Ecology & Management led the College of Agriculture and Life Sciences’ ADVANCE effort from January 2007 through May, 2010. She stepped down from her role as Equity Advisor in September 2010. She served as a member of the ADVANCE Council through May, 2011, and participated in the Equity Advisor/ADVANCE Professor group through December 2010. Dr. Thompson served on the ADVANCE Steering Committee through December, 2010, and continued to meet with the Internal Advisory Board through April, 2011. She convened the College of Agriculture Leadership Council which met twice in 2007, three times in 2008, and then partnered with Dr. Larson to convene the CALS/LAS Leadership Council, which met twice during 2009. Dr. Thompson worked with college leadership to develop programs, policies, and distribute information to improve working environments, serving as a liaison between the College of Agriculture and Life Sciences and ADVANCE, led and provided support for ADVANCE events on campus, and encouraged participation by others in ADVANCE events. She organized and hosted a campus-wide workshop on unintentional bias in October 2007. She was a discussion leader at the campus workshop on faculty search resources in December 2008. She has conducted several informal lunchtime discussions with female faculty members in her college. She also planned the April 2009 ADVANCE Chairs workshop about promotion and tenure. She also played a significant role in developing an all-university workshop in April 2011 to celebrate the five-year accomplishments of the ISU-ADVANCE program. She developed three Reader’s Theater scripts and produced RT-based events using case studies about unintentional bias, equity in faculty work assignments and resource allocation, and work/life balance. She participated with other ADVANCE Council members in presentations for the campus community and to non-focal departments.

Kristen Constant

Dr. Kristen Constant, is currently the Equity Advisor in the College of Engineering and Associate Professor of Materials Science & Engineering (MSE) and has been responsible for coordinating ADVANCE activities in the College of Engineering. She is a member of the ADVANCE Council, College of Engineering Leadership Council, and she participated in the Equity Advisor/ADVANCE Professor group that meets twice monthly. Before becoming Equity Advisor in 2009, Dr. Constant served as ADVANCE Professor for MSE from January 2007-February 2009. Dr. Constant has also participated in several presentations to the university community on the progress of ISU ADVANCE. She continues to have bimonthly conversations with the Dean of Engineering on topics related to ADVANCE, and serves on the college diversity committee which had a year-long focus on faculty searches. Dr.
Constant helped prepare and delivered eight presentations to faculty search committees in the College of Engineering about broadening the search and best practices and served on one of these committees. She also prepared and presented best practices and avoiding unintended bias talks to two chair search committees within the college, and one for a Dean search committee and one for a Vice President for Extension search committee outside the college. She also provided support for all 14 faculty searches within the College of Engineering including reviewing and advising on job announcement content and broad advertising, providing department specific information about the available pools and help developing rubrics for evaluation. Finally, when the searches had concluded, she held a round table discussion with all the search chairs to discuss successes and challenges related to the search process. The results of the efforts with search committees have been compiled in a report. She also has helped coordinate informal lunch and coffee discussions with College of Engineering women faculty. Dr. Constant has given presentations about ISU ADVANCE activities at the conference of the American Society for Engineering Education (ASEE). She has written a manuscript on ADVANCE activities in the COE, which has been submitted to and accepted by the Proceedings of the ASEE. Additionally, she served as a panelist in two sessions at ASEE 2010, one on university support of work-life balance and another on policies and practices for enhancing the success of dual career partners in engineering.

Susan J. Lamont
Dr. Susan J. Lamont, C. F. Curtiss Distinguished Professor of Agriculture and Life Science, and Professor of Animal Science, became Equity Advisor in the College of Agriculture and Life Sciences in December 2010. She is a member of the ADVANCE Council and participates in the LAS-CALS Equity Advisor/ADVANCE Professor group, which meets twice monthly. Dr. Lamont works with CALS college leadership to: plan, coordinate, and implement ADVANCE efforts in the college, serve as a liaison between the College of Agriculture and Life Sciences and ADVANCE, lead and provide support for ADVANCE events on campus, and encourage participation by others in ADVANCE events. She has bimonthly meetings with the Senior Associate Dean of CALS to discuss topics related to ADVANCE, and also participates in the monthly college cabinet meetings. Dr. Lamont serves as a discussant in CALS faculty workshops on Promotion and Tenure. She provided support to a departmental pre-merger workshop. She delivered presentations to two search committees (one for department chair, another for three faculty positions) about best practices in the search process.

ADVANCE Professors in Focal Departments

James Raich
Dr. James Raich, ADVANCE Professor and Associate Professor of Ecology, Evolution & Organismal Biology (EEOB), is responsible for coordinating ADVANCE activities in his department. He joined the ADVANCE Program in January 2009 when Dr. Janzen completed his 2-year term. He is a member of the Equity Advisor/ADVANCE Professor group. In the Collaborative Transformation process, Dr. Raich is working with the Research Team and the ADVANCE co-PI Team to develop and implement strategies to address issues that were illuminated in the EEOB focus groups. He also was involved in the April 2009 ADVANCE Chairs workshop about promotion and tenure and the March 2010 Workshop on Pathways to Advancement: Associate to Full Professor.

Steven Rodermel
Dr. Steven Rodermel is a Professor in the Department of Genetics Development & Cell Biology. He became a representative of Genetics Development & Cell Biology, a first round
focal department, on the ADVANCE Council in the fall of 2009 (Year 4) He replaces Dr. Jo Anne Powell-Coffman in this position. He is a member of the ADVANCE Council and the CALS/LAS Leadership Council, and he participates in the Equity Advisor/ADVANCE Professor group, which meets twice monthly. In the Collaborative Transformation process, Dr. Rodermel is working with the Research Team and the ADVANCE co-PI Team to develop and implement strategies to address issues that were illuminated in the GDCB focus groups.

Ralph Napolitano
Dr. Ralph Napolitano is an Associate Professor in the Department of Materials Science & Engineering. He became a representative of Materials Science & Engineering, a first round focal department, on the ADVANCE Council in the spring of 2009 (Year 3). He replaces Dr. Kristen Constant in this position. He is a member of the ADVANCE Council and the Engineering Leadership Council, and he participates in the Equity Advisor/ADVANCE Professor group, which meets twice monthly. In the Collaborative Transformation process, Dr. Napolitano is working with the Research Team and the ADVANCE co-PI Team to develop and implement strategies to address issues that were illuminated in the MSE focus groups.

Mark Gordon
Dr. Mark Gordon is a Distinguished Professor and the ADVANCE Professor for Chemistry. The Department of Chemistry became a round 2 focal department in the fall of 2008 (Year 3). He is a member of the ADVANCE Council and the CALS/LAS Leadership Council, and he participates in the Equity Advisor/ADVANCE Professor group, which meets twice monthly. In the Collaborative Transformation process, Dr. Gordon is working with the Research Team and his department to implement strategies to address issues that were illuminated in the Chemistry focus groups.

Shauna Hallmark
Dr. Shauna Hallmark is an Associate Professor and the ADVANCE Professor of Civil, Construction & Environmental Engineering (CCCE). CCCE became a round 2 focal department in the fall of 2008 (Year 3). She is a member of the ADVANCE Council and the College of Engineering Leadership Council, and she participates in the Equity Advisor/ADVANCE Professor group, which meets twice monthly. She also has helped coordinate breakfast and lunch informal discussions with College of Engineering women faculty. She participated in presentations to non-focal departments in the College of Engineering. Dr. Hallmark also was involved in the 2009 ADVANCE Chairs workshop about promotion and tenure. In the Collaborative Transformation process, Dr. Gordon is working with the Research Team and his department to implement strategies to address issues that were illuminated in the CCEE focus groups.

Elisabeth Lonergan
Dr. Elisabeth Lonergan is a Professor and the ADVANCE Professor of Animal Science. Animal Science became a round 2 focal department in fall 2008 (Year 3). She is a member of the ADVANCE Council and the CALS/LAS Leadership Council, and she participates in the Equity Advisor/ADVANCE Professor group, which meets twice monthly. In Year 3, she participated in presentations to non-focal departments. In the Collaborative Transformation process, Dr. Gordon is working with the Research Team and his department to implement strategies to address issues that were illuminated in the Animal Science focus groups.

Adam Bogdanove
Dr. Adam Bogdanove is an Associate Professor in the Department of Plant Pathology. He became a representative of Plant Pathology, a third round focal department, on the
ADVANCE Council in the spring of 2009 (Year 3). He became an ADVANCE Professor in the Fall of 2009 (Year 4). He is a member of the ADVANCE Council and the CALS/LAS Leadership Council, and he participates in the Equity Advisor/ADVANCE Professor group, which meets twice monthly.

Alan Goldman
Dr. Alan Goldman is a Distinguished Professor in the Department of Physics & Astronomy. He became an ADVANCE Professor for Physics & Astronomy, a third round focal department, in the spring of 2010 (Year 4). He is a member of the ADVANCE Council and the CALS/LAS Leadership Council, and he participates in the Equity Advisor/ADVANCE Professor group, which meets twice monthly.

Charles Glatz
Dr. Charles Glatz, Professor of Chemical & Biological Engineering, began serving as Equity Advisor in mid-March 2007. He was responsible for leading the College of Engineering's ADVANCE effort and convened the College of Engineering Council. He was a member of the ADVANCE Council and participated in the Equity Advisor/ADVANCE Professor group which meets twice monthly. Dr. Glatz gave a talk on unconscious biases and search committee practices to Search Committee Chairs in the College of Engineering, compiled materials on attracting a diverse candidate pool and interviewing practices for those Search Committees, and organized a workshop for Deans and Chairs on overcoming cognitive errors. He also co-hosted an engineering women’s lunchtime discussion with ADVANCE Professors in his college. He helped prepare materials for a campus workshop on faculty search resources in December 2008. Dr. Glatz resigned from the ADVANCE Council in December 2008. In August of 2009, he became the ADVANCE Professor for his department, which is a round 3 focal department. He is again a member of the ADVANCE Council and the Engineering Leadership Council, and he participates in the Equity Advisor/ADVANCE Professor group, which meets twice monthly.

Deans/Associate Deans/Provost

Wendy Wintersteen
Dr. Wendy Wintersteen is the Dean of the College of Agriculture & Life Sciences. She is a member of the ADVANCE Internal Advisory Board, which meets with the ADVANCE Steering Committee each semester.

John Thomson
Dr. John Thomson was the Dean of the College of Veterinary Medicine through December 2010. He was a member of the ADVANCE Internal Advisory Board, which meets each semester.

Lisa K. Nolan
Dr. Lisa K. Nolan became Dean of the College of Veterinary Medicine in January 2011. In Spring 2011 she is a member of the ADVANCE Internal Advisory Board. Dr. Nolan was the Associate Dean for Academic and Student Affairs in the College of Veterinary Medicine through December 2010. She was a representative on the ADVANCE Council in Years 3, 4, and 5.

Pamela White
Dr. Pamela White is the Dean of the College of Human Sciences. She is a member of the ADVANCE Internal Advisory Board, which meets with the ADVANCE Steering Committee each semester.
Michael Whiteford

Dr. Michael Whiteford is the Dean of the College of Liberal Arts & Sciences. He is a member of the ADVANCE Internal Advisory Board, which meets with the ADVANCE Steering Committee each semester.

Jonathan Wickert

Dr. Jonathan Wickert became the Dean of the College of Engineering in July of 2009. He is a member of the ADVANCE Internal Advisory Board, which meets with the ADVANCE Steering Committee each semester.

Diane Rover

Dr. Diane Rover, was Associate Dean of the College of Engineering, and a member of the ADVANCE Council in Years 2, 3 and 4. She attended Council meetings and coordinated activities in the College of Engineering with Equity Advisor Kristen Constant. She also participated in the College of Engineering Leadership Council. In Year 5, Dr. Rover was a Provost’s Administrative Fellow, with the responsibility for developing a plan for institutionalization of ADVANCE initiatives. She delivered her report to Provost Hoffman, the PI, in February 2011.

David Oliver

Dr. David Oliver, Associate Dean of the College of Liberal Arts & Sciences, is a member of the ADVANCE Council. He works with the Equity Advisor (Larson) and ADVANCE Professors for EEOB (Raich) and GDCB (Rodermel) to coordinate ADVANCE activities in the college. He attends Council meetings and contributes his perspective on ways ADVANCE could be implemented at Iowa State. He attended the Big XII Workshop at Oklahoma in January 2008, and was part of a workshop at ISU, sharing insights on what was learned. He also attends meetings of the CALS/LAS Leadership Council and participated in the 2009 Chairs workshop and the NSF Site Visit Planning Committee.

Joe Colletti

Dr. Joe Colletti, Senior Associate Dean of the College of Agriculture and Life Sciences (CALS) is a member of the ADVANCE Council. He works with the Equity Advisor (Thompson) and ADVANCE Professor in GDCB (Rodermel) to coordinate ADVANCE activities in the college. He attends meetings of the ADVANCE Council and the CALS/LAS Leadership Council and contributes his perspective on ways ADVANCE could be implemented at Iowa State. He also was involved in the planning of the 2009 ADVANCE Chairs workshop about promotion and tenure.

Claire Andreasen

Dr. Claire Andreasen is the Associate Dean for Academic and Student Affairs in the College of Veterinary Medicine. She joined the ADVANCE Council in Year 5.

Carla Peterson

Dr. Carla Peterson is the Associate Dean for Research and Graduate Education in the College of Human Sciences. She became a representative on the ADVANCE Council in the spring of 2009 (Year 3).

Gary Mirka

Dr. Gary Mirka is the Associate Dean for Undergraduate and Graduate Education in the College of Engineering. He joined the ADVANCE Council in Year 5.
**Other Council Partners**

**Connie Hargrave**
Dr. Connie Hargrave is an Associate Professor in Curriculum and Instructional Technology and the Director of Science Bound. Science Bound seeks to increase the numbers of ethnically diverse Iowans who pursue degrees in the STEM fields. She joined the ISU ADVANCE Council in the Spring of 2010 as a Council partner.

**Adin Mann**
Dr. Adin Mann was a member of the ADVANCE Council in Year 4. He resigned from Iowa State University in November 2010, Year 5. While at ISU, he was an Associate Professor in Mechanical Engineering and the Assistant Dean of the Graduate College. In this position he coordinated the recruitment and retention of minority graduate students and collaborated with related programs, including AGEP, McNair, ADVANCE, and academic college programs.

**Eugenio Matibag**
Dr. Eugenio Matibag is a Professor of World Languages & Cultures, and the Director of the Center for American Intercultural Studies. He joined the ISU ADVANCE Council in the Spring of 2010 as a Council partner.

**Karen Zunkel**
Dr. Karen Zunkel is the Director of the Program for the Women in Science and Engineering, which works to increase the participation of women in science, technology, engineering, and math (STEM) fields through a wide range of programs and partnerships. She joined the ISU ADVANCE Council in the Fall of 2009 as a Council partner.

**Graduate Students and Post-Doctoral Research Associate**

**Marilyn Cornish**
Marilyn Cornish is a Doctoral Student in Psychology. In Year 5 she worked with Dr. Bonnie Bowen as a graduate research assistant for program evaluation. She received a stipend and tuition support from the grant.

**Molly Sween**
Molly Sween is a Doctoral Student in Sociology. In Year 5 she worked with Dr. Sharon Bird as a graduate research assistant for the Collaborative Transformation project. She received a stipend and tuition support from the grant.

**Trina Ramirez**
Trina Ramirez is a Doctoral Student in Educational Leadership and Policy Studies. In Year 5, she worked with Dr. Sandra Gahn on the database for the indicator tables and on analysis of the COACHE faculty satisfaction survey. In Year 4, she worked with Dr. Flo Hamrick on designing program elements that enhanced the recruitment and retention of faculty of color in STEM, including the ADVANCE Scholar Program. She helped to develop a workshop on Faculty Diversity in the STEM fields, featuring ISU ADVANCE external advisor Dr. Caroline Turner, in February 2010. Trina is a member of the ADVANCE Council. In Year 5 she received a stipend and tuition support from the grant. In Year 4, she received a stipend and tuition support from the American Recovery & Reinvestment Act.

**Jason Pontius**
Jason Pontius was a Doctoral Student in Educational Leadership and Policy Studies in Year 3 of the program. He worked with Dr. Sandra Gahn on the database for the indicator tables, the Faculty Salary Equity and Faculty Start-up Cost Equity studies, and the AAUDE Faculty Satisfaction and Space surveys. He gave a presentation with ADVANCE co-PI Dr. Sandra Gahn in March of 2009 about the results of the AAUDE Faculty Satisfaction Survey at ISU. Jason was a member of the Council and Research Team. He received a stipend and tuition support from the grant. Jason left ISU ADVANCE for a permanent position in August of 2009. In August 2010, Year 5, he returned to Iowa State to a position in the Office of the Provost and became the internal evaluator for ISU ADVANCE.

Laura Rhoton
Dr. Laura Rhoton joined the ISU ADVANCE Program in August 2008 as a graduate research assistant. Her primary role in Year 3 was to participate in the Collaborative Transformation research in focal departments as a graduate student. She obtained her PhD in May of 2009, and started as a Post-Doctoral Research Associate with ISU ADVANCE in the summer of 2009 (Year 4). Dr. Rhoton was a member of the Council and Research Team in Years 3 and 4.

Program Staff

Nicol E. Jones
Nicol Jones joined the ISU ADVANCE Program in July 2008 as the Program Assistant and resigned in February 2011. She was responsible for correspondence, event preparation, scheduling, book-keeping, production of communications materials, and maintenance of the Web site. She was a member of the committee that planned the national conference on flexible careers in STEM, which occurred in Ames October 10-11, 2008. She also helped to coordinate the Year 3 NSF Site Visit to Iowa State University. She attended the meetings and took minutes for the ADVANCE Council, co-PI Team, Steering Committee, and the Internal Advisory Board. She was supported with funds from the grant.

Diane M. Smith
Diane Smith joined the ISU ADVANCE Program in February 2011 (Year 5), as the Program Assistant. She is responsible for correspondence, event preparation, scheduling, book-keeping, and maintenance of the Web site. She is supported with funds from the grant.

Kevin Saunders
Kevin Saunders served as the Internal Evaluator for the ISU ADVANCE Program in Years 3 and 4. Mr. Saunders was the Coordinator of Continuous Academic Program Improvement in the Office of the Provost until he resigned in July 2010 (Year 4). He helped develop the evaluation plan and logic model for the program.

Undergraduate Students

Abigail Paul
Abigail Paul, an undergraduate majoring in hospitality management, joined the ISU ADVANCE Program in August 2010 (Year 5) as an office assistant. During Nicol Jones’s maternity leave she provided valuable assistance to keep the ADVANCE office running. She helped maintain the Web site, produce communications, and plan events.
Other Organizations and Collaborators

The ISU ADVANCE Program was involved with the following organizations and collaborators during Years 3, 4 and 5. These are organized into two groups, beginning with the organizations and collaborators beyond Iowa State University and followed by the organizations and collaborators within Iowa State University.

**Beyond Iowa State University:**
- 17th annual *C. elegans* Meeting (meeting hosted paper presentation Year 3)
- American Association of Colleges & Universities Conference “Defining the Professoriate for the 21st Century (paper presentation Year 3)
- American Ornithologists’ Union Meeting (poster presentation Year 4)
- American Society for Engineering Education Conference (paper presentation Years 3, 4 and 5)
- Associate for Institutional Research (AIR) Annual Forum (Year 3)
- Association for the Study of Higher Education National Conference (Year 5)
- Big 12 Workshop on Faculty Diversity (Year 4)
- COS/AOU/SCO Meeting (co-chair of Symposium Year 4)
- Ecological Society of America Conference (poster session Year 5)
- Gender, Work and Organization International Conference (Year 5)
- International Association for Women Philosophers (presentation Year 5)
- Middlebury College (presentation Year 5)
- Midwest Regional ADVANCE Meeting (Year 5)
- National Women’s Studies Association Annual Conference (presentation Year 5)
- NSF Joint Annual Meeting (Years 3 and 4)
- NSF PI Meeting (poster presentations Years 3, 4 and 5)
- Pacific Sociological Society (presentation Years 4 and 5)
- Southern Sociological Society Meetings (paper presentation Year 3)
- University of North Dakota, Institute for Philosophy in Public Life (presentation Year 5)
- University of North Carolina, Charlotte (presentation Year 5)
- University of Waterloo Department of Philosophy (presentation Year 5)
- Way Up Conference (panel discussion Year 4)
- Wellesley College (presentation Year 5)
- Western Academic Leadership Forum (paper presentation Year 3)
- Women in Science Conference (Year 4)

**External Advisors:**
- Dr. Jacquelyn Litt, University of Missouri-Columbia and Rutgers University
- Dr. Ronda Callister, Utah State University
- Dr. Caroline Sotello Viernes Turner, Arizona State University and Cal State Sacramento
- Dr. Claire Van Ummersen, American Council on Education

**Discussions with faculty from other campuses during Years 3, 4 and 5**
- Dr. Cindy Anderson, Ohio University
- Dr. Kristi Anseth, University of Colorado-Boulder
- Dr. Diana Billimoria, Case Western Reserve University
- Dr. Suzanne Zurn Birkhimer, Purdue University ADVANCE
- Dr. Barbara Block, Stanford University
- Dr. Dana Britton, University of Kansas
- Dr. Jill Bystydzienski, The Ohio State University
- Dr. Ronda Callister, Utah State University
- Dr. Ellen Damschen, Washington University – St. Louis
- Dr. Henri Darmon, McGill University
- Dr. Mary D. Delany, University of California – Davis
- Dr. Anand Desai, The Ohio State University
Dr. Faye Dong, University of Illinois, Urbana-Champaign
Dr. Christina Falci, University of Nebraska – Lincoln
Dr. Bonnie Fleming, Yale University
Dr. Sarah Fortune, Harvard School of Public Health
Dr. Karie Frasch, UC Berkeley Family Friendly Edge
Dr. Lisa Frehill, Commission on Professionals in Science and Technology
Dr. Sharon Glotzer, University of Michigan
Dr. Caroline Harwood, University of Washington-Seattle
Dr. Joan Herbers, The Ohio State University
Dr. Karen Horton, University of Maine
Dr. Jacqueline Hughes-Oliver, North Carolina State University
Dr. Sheila Innis, Child and Family Research Institute, University of British Columbia
Dr. Barbara Jacak, State University of New York-Stony Brook
Dr. Kasi Jackson, West Virginia University
Dr. Susan Johnson, University of Iowa
Dr. Mary Juhas, The Ohio State University
Dr. Laura Kramer
Dr. Peggy Layne, Virginia Tech
Dr. Gretal Leibnitz, Washington State University
Dr. Margaret Leinen, University of Rhode Island
Dr. Jackie Litt, University of Missouri – Columbia and Rutgers University
Dr. Susan J. Lolle, University of Waterloo
Dr. Bo Lönnerdal, University of California - Davis
Dr. Anne Massaro, The Ohio State University
Dr. Gillian McLellan, University of Wisconsin – Madison
Dr. Julia McQuillan, University of Nebraska – Lincoln
Dr. Carolyn Merry, The Ohio State University
Dr. Michelle Miller, Southern Illinois University
Dr. Nancy Moran, Yale University
Dr. Scott Page, University of Michigan
Dr. Jan Rinehart, Rice University ADVANCE
Dr. Patricia Roos, Rutgers University
Dr. Barbara Ryder, Rutgers University
Dr. Surendra P. Shah, Northwestern University
Dr. Jennifer Sheridan, University of Wisconsin – Madison
Dr. Linda Siebert, University Illinois Chicago ADVANCE
Dr. Caroline Sotello Viernes Turner, Arizona State University and Cal State Sacramento
Dr. Nancy Steffen-Fluhr, New Jersey Institute of Technology
Dr. Bridget Strutchbury, York University in Toronto
Dr. Kim Sullivan, Utah State University
Dr. Timothy M. Swager, Massachusetts Institute of Technology
Dr. Klaas van Breugel, Delft University of Technology
Dr. Richard Webby, St. Jude Children’s Research Hospital
Dr. Kim Weedon, Cornell University
Dr. Amy Wharton, Washington State University
Dr. Susan Williams, The Ohio State University
Dr. Lixia Zhang, University of California - Los Angeles
Dr. Katrina Zippel, Northeastern University

ADVANCE Portal Advisory Committee
Boston University, women of Biology
Lehigh University ADVANCE Program
Within Iowa State University:
College of Agriculture and Life Sciences Chair Search Committee
College of Agriculture and Life Sciences Dean's Cabinet
College of Agriculture and Life Sciences Faculty
College of Agriculture and Life Sciences Faculty Searches
College of Agriculture and Life Sciences – Liberal Arts and Sciences College Leadership Council
College of Agriculture and Life Sciences Strategic Planning Committee
College of Engineering Academic Council
College of Engineering Cabinet
College of Engineering Chair Search Committee
College of Engineering Dean Search Committee
College of Engineering Diversity Committee
College of Engineering Faculty
College of Engineering P&T Committee
College of Engineering Women Faculty Lunch
College of Liberal Arts and Sciences Dean’s Cabinet
College of Liberal Arts and Sciences Dean Search Committee
College of Liberal Arts and Sciences Diversity Committee
College of Liberal Arts and Sciences New Faculty Orientation
College of Liberal Arts and Sciences Promotion & Tenure Committee
Department of Aerospace Engineering Chair Search Committee
Department of Aerospace Engineering Faculty
Department of Agricultural and Biosystems Engineering Chair Search
Department of Agricultural and Biosystems Engineering Faculty
Department of Animal Science Faculty
Department of Biosciences Search Committee
Department of Chemical and Biological Engineering Retreat
Department of Civil, Chemical and Environmental Engineering Search Committee
Department of Educational Leadership and Policy Studies Faculty
Department of Electrical and Computer Engineering Chair Search Committee
Department of Electrical and Computer Engineering Faculty
Departments of Horticulture and Agricultural Education and Studies
Department of Industrial Manufacturing Systems Engineering Faculty
Department of Materials Science and Engineering Retreat
Department of Mechanical Engineering Chair Search Committee
Department of Mechanical Engineering Faculty
Department of Mechanical Engineering Faculty Search Committee
Department of Natural Resource Ecology and Management Faculty
Department of Plant Pathology Faculty
Department of Psychology Faculty
FIRES— Faculty Initiatives to Recruit and Retain Excellence in STEM
George Washington Carver Internship Orientation
Greenlee School of Journalism and Mass Communication
Human Resource Services
Iowa State PWISE Leadership Conference
ISCORE Conference
President and Provost's Chairs Luncheon
SECTION III. SUMMARY OF PROJECT ACTIVITIES AND FINDINGS FOR YEAR 5, 2010-2011

THIS REPORT COVERS THE PERIOD MAY 2010 – APRIL 2011

III.A. INTRODUCTION TO PROGRAM ACTIVITIES AND FINDINGS

The ISU ADVANCE Program’s Comprehensive Institutional Intervention Strategy has four primary goals:

1. Overcome known barriers to women’s advancement across ISU STEM fields by improving perceived levels of departmental transparency, reducing isolation from colleagues, improving quality and quantity of mentoring, and institutionalizing career flexibility.

2. Overcome department-specific barriers to women’s advancement in STEM by working with department chairs and faculty to improve department and university climates for women and members of underrepresented minority (URM) groups and to implement best practices guidelines.

3. Increase overall participation/advancement of women faculty in senior and leadership ranks by increasing the number of women who submit tenure packets, earn tenure and promotion to associate professor and earn promotion to full professor, and by increasing the proportion of women in university leadership roles.

4. Institutionalize positive changes at the university level by increasing awareness among top administrators and the proportion of top administrators actively supporting institutional transformation, with regard to improving faculty work satisfaction and organizational commitment, and reducing work/family conflict.

As stated in our original grant proposal, the ISU ADVANCE Program involves both “bottom up” and “top down” approaches. Our “bottom up” activities include department interventions that are included in the Collaborative Transformation project. We also engage in “top down” activities that address policies and practices at the college and university levels. We seek to illuminate both subtle and overt impediments to equity, and to design strategies to dissolve impediments, thus transforming Iowa State University into an institution that facilitates retention and advancement of women and all underrepresented groups.

During Year 5, we identified the theme of ISU ADVANCE: building on a solid foundation. We focused on this theme as we prepared for institutionalization of key elements of our programs after NSF funding expires. We have organized our reporting on these activities into three components, listed here and detailed in the coming sections of the report. We will begin
with the “bottom up” component of the program, the Collaborative Transformation project at the department level.

Institutional Change in Departments, College, and the University (Report section III.B)

B.1 Assessing and facilitating cultural change in departments: Collaborative Transformation (CT) Project
B.2 Facilitating Change in Culture and Practices in the Colleges and University
B.3 Workshops and Networking Events
B.4 Mentoring Program to Combat Isolation

Program Management and Evaluation (Report section III.C)

C.1 ADVANCE Council and Team Leadership
C.2 Communication, Marketing, Publicity and Website
C.3 Financial Management
C.4 Formative Evaluation
C.5 Consultations with External Advisors
C.6 Pathways to Promotion from Associate to Full Professor
C.7 Interpretation of Key Indicators

Dissemination (Report section III.D)

III.B. INSTITUTIONAL CHANGE IN DEPARTMENTS, COLLEGES AND THE UNIVERSITY

III.B.1. Assessing and Facilitating Cultural Change in Departments: Collaborative Transformation (CT) Project

To meet Goals 2 (Overcome department-specific barriers to women’s advancement in STEM) and 3 (Overcome known barriers to women’s advancement across ISU STEM fields, focusing on departmental transparency, isolation, mentoring, and career flexibility), we are engaged in a variety of activities and interventions that function from the “bottom up” at the level of STEM departments. In Year 5 we continued our intensive work with the Collaborative Transformation (CT) Project, including continuing to work with all three focal department cohorts (for a total of 9 departments) on issues of departmental climate.

CT Project Description

The ISU Collaborative Transformation (CT) project is designed to gather department-level information about workplace climate, and then to use this information to develop collaborative strategies for enhancing aspects of departmental climate that negatively impact faculty recruitment, retention and promotion. Collaborative transformation is a project that respects differences across departments in the kinds of work cultures departments embrace, routine departmental practices, and structures for organizing the faculty members’ work. Climate results, which are based on the analysis of focus group and interview data from each department, are “mirrored back” to faculty in each department. These results encompass both positive and negative aspects of workplace climate in each department and include findings related to departmental recruitment, retention and promotion practices (especially as these affect women and faculty of color). After each department receives the results of the climate study, it develops its own department-specific change strategies. ISU ADVANCE researchers work with the departments throughout this process.
CT Project Leaders

During the fourth year of the ISU ADVANCE grant, CT data-collection, analysis, and implementation activities were led by researchers Sharon Bird (ISU ADVANCE Research Director/Co-PI), Carla Fehr (Co-PI), Lisa Larson (ADVANCE Equity Advisor), focal department ADVANCE Professors Ralph Napolitano (MSE), Jim Raich (EEOB), Steve Rodermel (GDCB), Elisabeth Huff-Lonergan (Animal Science), Mark Gordon (Chemistry), Shauna Hallmark (Civil, Construction and Environmental Engineering), Adam Bogdanove (Plant Pathology), Alan Goldman (Physics), Chuck Glatz (Chemical and Biological Engineering), and graduate research assistant, Molly Sween.

CT Project Objectives

- Collaborate with ADVANCE Professor, department head/chair, and faculty in each focal department to (a) identify barriers to faculty members’ satisfaction and teaching/research productivity, (b) “mirror back” to each department those aspects of departmental climate, recruitment, retention and promotion that faculty find most/least helpful; (c) develop strategies for enhancing departmental climate, recruitment, retention and promotion that faculty find most/least helpful.
- Analyze focus group and interview data across focal departments to identify (a) general barriers to satisfactory work climate, recruitment, retention and promotion, and (b) how best to implement strategies for addressing barriers.
- Disseminate above information across colleges (and departments within colleges).

5th Year (2010-2011) CT Project Activities

- **Round 1 focal department work** led by ADVANCE Professors (in consultation with department chairs, departmental faculty and ISU ADVANCE researchers): These activities focused primarily on the completion of strategies for enhancing departmental cultures, practices and structures to make them more conducive to the recruitment, retention and promotion of the best faculty—with particular emphasis on women and underrepresented groups. Departmental ADVANCE Professors in each of these departments (Ecology, Evolution and Organismal Biology; Genetics, Development and Cell Biology; Materials Science and Engineering) also participated in collaborating with and the mentoring of ADVANCE Professors in other focal departments (especially the 3rd round of departments). Major accomplishments included the development of a set of principles regarding departmental climate issues for use by departments across campus, especially those that are in the process of restructuring, merging with other departments, or dealing with other issues inspired by university budget cuts and related university transitions. Round 1 department ADVANCE Professors also collaborated with Rounds 2 & 3 ADVANCE Professors to prepare a presentation regarding the importance of the Collaborative Transformation process that was presented to focal college Associate Deans.

- **Round 2 focal department work** led by ADVANCE Professors and ADVANCE Researchers (in with department chairs, departmental faculty): These activities focused primarily on the completion of strategies for enhancing departmental cultures, practices and structures to make them more conducive to the recruitment, retention and promotion of the best faculty—with particular emphasis on women and underrepresented groups. Departmental ADVANCE Professors in each of these departments (Animal Science, Chemistry, and Civil Construction and Environmental Engineering) also participated in collaborating with and mentoring of ADVANCE Professors in other focal departments (especially the 3rd round of departments). Major accomplishments included the development of a set of principles regarding departmental climate issues for use by departments across campus, especially those that are in the process of restructuring, merging with other
CT Departmental Climate Study Findings

Results from focal department climate studies are presented first in departmental reports (containing information specific to each individual focal department). Analysis of data for each 1st, 2nd and 3rd round focal department revealed 8-10 key findings per department. Department-specific findings from the climate study are reported back to the faculty in each focal department. Department-specific reports are not part of the public record. However, a synthesis of findings based on the analysis data across all 9 of the ISU ADVANCE focal departments are available in a report entitled, “ISU ADVANCE Collaborative Transformation Project: Final Focal Department Synthesis Report. March 2011.” (Bird, Fehr, Larson and Sween, 2011). (See Appendix 1 for the report and for a listing of these findings). A list of the individual departmental reports is in section III.D, page 41.

The seven major issues that were common across all nine focal departments are summarized as follows: (1) collegiality and the work environment; (2) faculty recruitment and hiring structures and practices; (3) promotion and tenure structures and practices; (4) mentoring; (5) work-life balance; (6) faculty teaching loads, course distribution practices, and rewarding teaching; and (7) facilities, administrative support and technical support.

CT Departmental Change Strategies Findings

1 The primary aim of the ISU ADVANCE CT project is to develop a better understanding for how to positively change department climate. Identifying each department’s strengths and weaknesses, in other words, is a means to an end, not an end in itself.
Following the implementation of change strategies in the nine focal departments under the leadership of the ADVANCE Professors in each of these departments, and after a thorough review of existing literature on departmental climate change in the areas related to the goals of the ISU ADVANCE Program, a summary of useful change strategies was prepared and included in the report entitled “ISU ADVANCE Collaborative Transformation Project: Final Focal Department Synthesis Report. March 2011.” (Bird, Fehr, Larson and Sween, 2011). Change strategies address the seven major issues common across all nine focal departments: (1) collegiality and the work environment; (2) faculty recruitment and hiring structures and practices; (3) promotion and tenure structures and practices; (4) mentoring; (5) work-life balance; (6) faculty teaching loads, course distribution practices, and rewarding teaching; and (7) facilities, administrative support and technical support. These change strategies were presented to department chairs from across the ISU campus at a luncheon hosted by the ISU President and Provost on March 1, 2011. These findings also serve as the basis for a Department Chair Handbook (on enhancing departmental climate and increasing faculty diversity) now in preparation by ISU ADVANCE Research Director, Sharon Bird.

III.B.2. Facilitating Change in Culture and Practices in the Colleges and University

To meet Goal 1 (Overcome known barriers to the advancement of women faculty in STEM disciplines) and Goal 4 (Institutionalize positive change across the university) of our program, we are engaged in a variety of activities and interventions that function from the “top down,” at the college and university levels. In Year 5 we continued many of the programs begun in earlier years and initiated new activities that focused on sustainability and our theme of ISU ADVANCE: building on a solid foundation.

Activities
Our activities were focused in three arenas: the university level, the college level, and the infrastructure for communication among levels.

Activities at the university level

- **Celebrating the accomplishments of ADVANCE**: The President and Executive Vice President and Provost hosted a celebration of the accomplishment of ADVANCE with a reception at The Knoll, the home of President Geoffroy. Council members, department chairs, Deans, and other members of the ADVANCE community were invited to this event at the end of Spring semester (May 2, 2011).

- **Faculty Fellows**: Each year the ISU ADVANCE Program has sponsored a Faculty Fellow (with financial support from the Executive Vice President and Provost) who has addressed a topic related to the theme of the year. In Year 5 the Fellows from both Year 4 and Year 5 were active and presented their work to the campus.

  *Pathways for Promotion from Associate to Full Professor.* Dr. Annette O’Connor, ISU ADVANCE faculty fellow in Year 4 (2009-10), was appointed to consolidate and enhance resources on Promotion from Associate to Full Professor at Iowa State. Dr. O’Connor, Associate Professor of Veterinary Diagnostic & Production Animal Medicine, gathered information from other institutions and analyzed data from ISU to examine the pathways to promotion for men and women in STEM and non-STEM disciplines. In January, 2011, she presented her findings “Pathways to Advancement: Associate to Full Professor” to the President and Provost’s lunch for Department Chairs: She also presented a campus-wide workshop in February, 2011, at which she shared information on the roles of scholarship...
and service in pathways to promotion, based on her research of faculty promotion at Iowa State. Dr. O’Connor prepared brochures for department chairs and for faculty to facilitate communication about the topic of advancement, which are available on our Website (http://www.advance.iastate.edu/resources/resources.shtml) and as Appendices 2-5 in this report. Dr. Connor collaborated with Drs. Gahn and Bowen to submit a manuscript for peer-reviewed publication based on the analyses of this work.

**Sustaining and Institutionalizing Successes of the ISU ADVANCE Program.** Dr. Diane Rover was the faculty fellow in Year 5 (2010-11). During Years 2-4 Dr. Rover was a member of the Council as the Associate Dean from the College of Engineering and she drew on her knowledge of the ISU ADVANCE Program to review our progress and make recommendations for sustaining the program. Dr. Rover contacted several ADVANCE Programs that had made successful transitions to institutionalization (including the University of Washington and Virginia Tech) to determine which of their practices would be appropriate for Iowa State. She delivered her report to Executive Vice President and Provost Hoffman (PI) in early February, 2011. Her recommendations were organized into a Structural Plan, a Programmatic Plan, and a Financial Plan. Dr. Rover’s report has been used by the PI, co-PI Leadership Team, and the Transition Team to make plans for Year 6 and beyond. Dr. Rover’s report is available as Appendix 6 in this report.

- **ISU ADVANCE participation in events for department chairs.** As the program has developed, we have strengthened our participation in workshops presented for department chairs. In Years 3 and 4 we sponsored some events for department chairs. In Year 5, ADVANCE participants gave presentations as workshops that were sponsored by the Offices of the Provost and President. In Year 5, the following activities occurred:
  
  o December 15, 2010: **Department Culture Part 1: What’s Your Department Culture?** Executive Vice President & Provost Office Chairs Workshop. Dr. Sharon Bird, ISU ADVANCE Research Director presented information about department culture based on findings from work in the focal departments engaged in the Collaborative Transformation project.
  
  o January 25, 2011: **Pathways to Advancement: Associate to Full Professor.** Executive Vice President & Provost Office Chairs Workshop. Dr. Annette O’Connor, 2009-10 ISU ADVANCE Faculty Fellow presented findings on her research regarding factors that influence the pathways to promotion from Associate to Full Professor. Brochures were distributed that address advice that chairs, deans and mentors can provide regarding scholarship and service (Appendices 2-5).
  
  o March 1, 2011: **Department Culture: How to Be an Agent of Change Within Your Department.** President’s and Provost’s Luncheon for Department Chairs; Executive Vice President & Provost Office Chairs Workshop series. Dr. Sharon Bird, ISU ADVANCE Research Director presented guidelines for department chairs based on findings from work in the focal departments engaged in the Collaborative Transformation project.

- **ISU ADVANCE met and partnered with diversity partners on campus.** Executive Director Bowen and co-PI Bratsch-Prince meet regularly with the Women’s Leadership Consortium (WLC). Areas of mutual interest between ADVANCE and the WLC are gender balance in leadership and committee positions at Iowa State and the impact of budget reductions on women faculty and programs that support women on campus.
• **Focus on Women in Leadership**
  Progress has occurred on three fronts with respect to women in leadership. There has been an increase in the number of women promoted to Full Professor, there has been an increase in the number of women department chairs, and the taskforce to explore this issue has made progress. These issues are described below:

  o In recent years, the number of women Full Professors has increased at ISU (see Fig. 5 page 31) and in STEM (Fig. 7, page 32). In May, 2011, the President’s office announced the recent promotions. Within STEM disciplines, 9 women were promoted to Full Professor: 3 in the College of Agriculture and Life Sciences, 2 in Engineering, 1 in Human Sciences, 1 in Liberal Arts and Sciences and 1 in Veterinary Medicine. Of these, **5 were leaders in the ISU ADVANCE Program**: 2 were Equity Advisors, 1 was an ADVANCE Professor, 1 was a Faculty Fellow and 1 was an ADVANCE Scholar. In addition to these accomplished women, two male ADVANCE Professors received promotion to Full Professor and one male ADVANCE Professor was named a University Professor.

  o One of the goals in the grant proposal for ISU ADVANCE was to increase the representation of women and underrepresented minorities at senior faculty and leadership ranks. During the first three years of the ISU ADVANCE Program, the number of women department chairs was static—an observation that has been noted by our external advisors and evaluators. In the past two years, there has been a measurable increase in the number of women department chairs—the number has doubled from 4 in 2008 to 8 in 2010 (see Fig. 10 page 34). This increase was due to newly appointment women chairs in the colleges of Engineering (STEM) and Liberal Arts and Sciences (Social and Behavioral Sciences and Humanities).

  o In response to the external site visit and the follow-up agreements developed with NSF-ADVANCE, in Year 4, the Executive Vice President and Provost worked with ISU ADVANCE and the deans to appoint a taskforce charged to: (1) disseminate current data on the significant underrepresentation of women among department chairs at Iowa State, (2) survey the colleges to discover the existing practices for recruiting, reviewing and reappointing department chairs, (3) develop a set of best practices for recruiting, reviewing and reappointing department chairs that would go to the search committees for new chairs. The taskforce began its work in Year 4, but its progress was delayed in Year 5 when Dr. Carlson (PI and Associate Provost) left Iowa State. Dr. Bratch-Prince (new Associate Provost) has recently convened the taskforce and they will continue to work during Year 6.

• **Sustainability through partnerships with other NSF-sponsored programs**
  Executive Director Bowen worked with colleagues to launch the NSF I³ (Innovation through Institutional Integration) award, which began in July 2010. The program, *Strengthening the Professoriate at Iowa State University*, emphasizes the importance of Broader Impacts in the research enterprise, and will expand the role of the Equity Advisors after ADVANCE funding ends. Dr. Bowen, a co-PI on the award, collaborated with the PI, Dr. Sharron Quisenberry, Vice President for Research and Economic Development, following the departures of Dr. Carlson (June 2010; previously PI on both ADVANCE and SP@ISU) and Dr. Adin Mann, SP@ISU Director and co-PI (November 2010). In February 2011, Dr. Diane Rover joined the SP@ISU Program as Director and co-PI. Dr. Rover’s development of the ADVANCE Sustainability plan will be advantageous for ADVANCE as will enhance the partnership between ADVANCE and SP@ISU in the coming year.
Activities at the college level

- In the College of Engineering, the Equity Advisor continued her active and visible role working with chairs of departments and search committees to encourage use of the Resources for Faculty Searches developed by the ADVANCE Program. The Equity Advisor served on the College Diversity Committee, which focused its activities on faculty searches. In early June 2011, the Dean announced that a woman has been recruited to fill one of the open Department Chair positions.

- In the College of Liberal Arts & Sciences the Equity Advisor met with the search committee chairs and provided training regarding best practices of the search process. The Equity Advisor also serves on the LAS College Diversity committee in order to share with them ADVANCE activities and coordinate joint efforts. The Equity Advisor also served on the LAS promotion and tenure committee and has successfully implemented a clear and transparent evaluation form that is in its 3rd year of use by the committee and approved by the committee. The Equity Advisor has been asked to chair the promotion and tenure committee for the next 3 year term. The Equity Advisor also met regularly with the Associate Dean to revise search materials for the college and serve in an advisory role to the Dean regarding diversity issues. For example, currently there are plans to present the collaborative transformation efforts from the three LAS focal departments to the Chair’s Council in the fall. The Equity Advisor served as one of the primary organizers in developing the Advance Professor presentation to the ADVANCE council in the spring. The focus of the presentation was to continue and sustain the collaborative transformation process beyond the ADVANCE grant.

- In the College of Agriculture and Life Sciences (CALS), the position of Equity Advisor was vacant from September through December 2010 while the college searched for a replacement for Dr. Janette Thompson, who stepped down after 3½ years in the position. In December, Dr. Susan J. Lamont, Distinguished Professor in Animal Science, was appointed as the new EA for CALS. She quickly became engaged in the ADVANCE community and her activities during spring semester included reporting to the college on ADVANCE at each monthly meeting of the Dean’s cabinet of department chairs, holding monthly meetings regarding ADVANCE issues with the Executive Associate Dean, giving presentations to search committees, including and participating in workshops held for faculty planning their promotion and tenure activities. Dr. Lamont also served on the CALS Strategic Planning Committee.

Activities in the area of infrastructure for communication among levels

The **Equity Advisor/ADVANCE Professor (EA/AP) Working Group** serves to ensure communication across the three partner colleges included in the ISU ADVANCE program and between the college-level EAs and the focal department APs. It also ensures communication among ADVANCE members and other university groups whose activities might be synergistic. EAs conduct the majority of their work at the college level and represent ADVANCE at events such as college-level cabinet meetings of the deans and departmental chairs. They also participate in organizing college and university-wide activities such as networking events, workshops, and the ADVANCE lectureship series. APs conduct the majority of their work at the departmental level and play leading roles in the Collaborative Transformation activities. These groups all work together and communicate regularly to promote synergistic efforts among departments, colleges, and the university community at large. One of the major activities during the EA/AP Working Group meetings is the time for members to report to the group on successes and challenges in their intervention work.
In Fall semester of Year 5, the EA/AP Working Group continued to meet as it had in Year 4, ~twice per month. As in Year 4, our goal was to have APs meet in subgroups from each round, with a separate subgroup meeting of EAs for the first 30 minutes, followed by a larger group meeting for the final hour. However, our experience in fall semester Year 5 was that APs did not attend regularly, so the size of the working group did not allow breaking into subgroups. As a result, we usually met as a single group and discussed accomplishments in the individual departments. In Spring semester of Year 5, the structure changed somewhat, with the College of Engineering APs and EA meeting separately from those in the College of Agriculture and Life Science and the College of Liberal Arts and Sciences, which continued to meet as a group. Our goal in changing this meeting structure was to begin the transition to the post-award phase where more of these types of activities will occur at the college level facilitated by the Equity Advisors.

The discussions in the EA/AP Working Group in Year 5 focused on accomplishments and institutionalization of the Collaborative Transformation (CT) project. As in previous years, the EA/AP Working Group has continued to be the venue where “grassroots” ADVANCE efforts and ideas are initiated and discussed. As the Team, Steering Committee and faculty fellow were developing plans for institutionalization, based on goals of ADVANCE, best practices, and budgets, the EA/AP group based their suggestions on accomplishments of the CT project within their departments. During the Fall semester, APs discussed accomplishments, with a focus on changes in their governance documents. In the Spring semester, APs and EAs worked within their college-based groups to prepare a presentation on accomplishments and institutionalization of CT for the ADVANCE Council meeting in April, 2011. This presentation led to extensive discussion and strengthened the recognition of the value of CT within departments.

In Year 5, the EA/AP Working Group included ADVANCE Professors from three rounds (a total of nine faculty members), three Equity Advisors, and Diane Debinski, Bonnie Bowen, Sharon Bird, and Carla Fehr. During Fall semester, there were no new members of this group, in contrast to other years, when there were usually new APs. In Spring semester, Dr. Lamont, the new Equity Advisor in CALS joined the meetings.

III.B.3. Workshops and Networking Events

Department Chairs Workshops (see section III.B.2 for descriptions of workshops for Chairs and Deans)

- **December 15, 2010:** Department Culture Part 1: What's Your Department Culture? Executive Vice President & Provost Office Chairs Workshop. Dr. Sharon Bird, associate professor in the Department of Sociology and ISU ADVANCE Research Director.
- **January 25, 2011:** Pathways to Advancement: Associate to Full Professor. Executive Vice President & Provost Office Chairs Workshop. Dr. Annette O'Connor, associate professor in the Department of Veterinary Diagnostic and Production Animal Medicine and 2009-10 ISU ADVANCE Faculty Fellow.
- **March 1, 2011:** Department Culture: How to Be an Agent of Change Within Your Department. Executive Vice President & Provost Office Chairs Workshop. Dr. Sharon Bird, associate professor in the Department of Sociology and ISU ADVANCE Research Director.

Workshops

- **February 23, 2011:** ISU ADVANCE Workshop Pathways to Promotion from Associate to Full. Dr. Annette O'Connor, associate professor in the Department of Veterinary
Diagnostic and Production Animal Medicine and 2009-10 ISU ADVANCE Faculty Fellow, shared information on the roles of scholarship and service in pathways to promotion, based on her research of faculty promotion at Iowa State. Faculty who were considering preparing dossiers for promotion to Full Professor were especially encouraged to attend.

- **April 29, 2011**: ISU ADVANCE Workshop and Lunch: On the Path to Transformation: Looking Back and Looking Forward. Lunchtime workshop to review the accomplishments and future plans of ISU ADVANCE. The workshop included lunch, a brief Reader’s Theatre production, and discussion of the ISU ADVANCE Program.

**Networking Events**

- **April 6, 2011**: Managing Your Time. Dr. Susan R. Johnson, University Ombudsperson for the University of Iowa. She was the Associate Dean for Faculty Affairs in the Carver College of Medicine from 1994 to 2003, and the Associate Provost for Faculty from 2005-2009. Dr. Johnson presented core principles for organizing work and managing time, and described in detail a system for implementing these principles. This workshop was co-sponsored by the Department of Food Science and Human Nutrition, College of Agriculture and Life Sciences, and ISU ADVANCE.

- **April 1, 2011**: Networking Breakfast - Dr. Bridget Stutchbury. Dr. Bridget Stutchbury, professor in the Department of Biology at York University in Toronto, Canada. Dr. Stutchbury met with graduate students and post-docs about her professional career pathway. Her visit to ISU was sponsored by ISU ADVANCE, NREM and the EEB graduate program.

- **November 10, 2010**: Keeping an Eye on the Ball: Juggling clinics, NIH, Twins, Teaching, and Tomatoes - Dr. Gillian McLellan, basic and clinical researcher working in comparative ophthalmology at the Veterinary and Medical Schools at the University of Wisconsin-Madison. Dr. McLellan hosted an informal and informative discussion about balancing a multifaceted profession career, family, life, etc. Co-sponsored by the Neuroscience Program and ISU ADVANCE.

- **September 10, 2010**: College of Engineering - Women’s Brown Bag Lunch Discussion
  This informal lunch discussion was an opportunity for women faculty to get updates on the ISU ADVANCE Program and network with each other. This was hosted by Dr. Kristen Constant, Equity Advisor to the College of Engineering.

**ISU ADVANCE Lectureships**
During Year 5 we continued the ADVANCE Lecture series that was initiated in Year 2. Departments applied for the funds ($1,000 per lecture) to sponsor lectures by prominent women in STEM fields. Lecturers presented disciplinary seminars in the departments and also attended networking events with interested faculty and students (see above). This has brought in several high profile women in STEM fields who have given lectures, met with administrators, and shared insights from their universities and colleges regarding issues such as recruitment and retention of minority undergraduate students.

- Entomology, Interdepartmental Genetics Program, Interdepartmental Microbiology Program, and ISU ADVANCE: “Genomics and Evolution of Symbiosis in Insects,” Dr. Nancy Moran, Professor, Ecology and Evolutionary Biology, Yale University, April 18, 2011.

- Ecology and Evolutionary Biology Symposium Keynote Speaker, EEB Graduate Program, Department of Natural Resource Ecology and Management and ISU ADVANCE: “Silence of the Songbirds,” Dr. Bridget Stutchbury, professor, Department of Biology, York University, Toronto, Canada, March 31, 2011; Frequent Fliers: Tracking Songbird Migration, April 1, 2011.
• College of Veterinary Medicine Ramsey Seminar Series: “A Time for Change: The Mutation Rate of Mycobacterium tuberculosis in Active and Latent Disease,” Sarah M. Fortune, M.D., Assistant Professor of Immunology and Infectious Diseases, Harvard School of Public Health, October 7, 2010.

ISU ADVANCE Lecture Co-sponsorships
In addition to the ADVANCE Lectureships, we co-sponsored (with awards up to $300) lectures/seminars by speakers who addressed topics of interest to ADVANCE. In Year 5 we sponsored 7 presentations, using funds from an account from the Provost’s office.

• Department of Geological and Atmospheric Sciences, “How can we mitigate global change?,” Dr. Margaret Leinen, CEO and Founder, Climate Response Fund and Professor Emeritus and Dean Emeritus, University of Rhode Island, April 29, 2011.
• Department of Statistics, “A Statistician’s Tour of Duty in the World of Drug Discovery,” Dr. Jacqueline Hughes-Oliver, Professor of Statistics, North Carolina State University, April 11, 2011.
• Errington Memorial Lecture, “Tracking Giants Across the Blue Oceans,” Dr. Barbara Block, Charles & Elizabeth Prothro Professor in Marine Sciences at the Hopkins Marine Station at Stanford University, November 11, 2010.
• Fall 2010 Neuroscience Seminar, “Towards structure-function correlations in feline models of degenerative optic nerve disease,” Dr. Gillian McLellan, basic and clinical researcher working in comparative ophthalmology at the Veterinary and Medical Schools at the University of Wisconsin-Madison, November 10, 2010.
• Engineering Diversity Fair Speaker: “A Business Case for Diversity,” Dr. Scott E. Page, Director of the Center for the Study of Complex systems and Leonid Hurwicz Collegiate Professor of Complex Systems, Economics, and Political Science, University of Michigan, October 21, 2010. (This event was co-sponsored by many partners on campus.)
• Genetics Development and Cell Biology Brown Bag Lecture: “A Novel Arabidopsis Thaliana Mutant Capable of Genome Restoration,” Dr. Carina Barth, assistant professor, Department of Biology, University of West Virginia, October 20, 2010.

III.B.4. Mentoring Program to Combat Isolation

ISU ADVANCE Scholar Program
(formerly the ISU ADVANCE External Mentoring Program)

ADVANCE Scholar Program
The ISU ADVANCE Scholar Program is intended to enhance the recruitment, retention and advancement of women faculty of color in STEM disciplines. The objective is to facilitate mentoring and collaborative relationships between ISU STEM women faculty of color and eminent scholars in their fields. In Year 5, the cohort of ADVANCE Scholars that participated in Year 4 continued in the program. The target audiences are ISU tenure-eligible faculty members as well as mid-career (tenured) faculty members who are nearing critical transition points in their careers. The 7 participants included 3 Hispanic Americans, 1 African American and 3 Asian Americans. We recognize that the latter category is not classified as underrepresented minority by NSF. All were U.S. Citizens or permanent residents. Reciprocal campus visits for the ISU Advance Scholars and Eminent Scholars are arranged and funded. Co-PI Dr. Flo Hamrick coordinated the program through July 2010. Following Dr. Hamrick’s resignation from ISU, Bonnie Bowen (Executive
Director) coordinated the program, with the assistance of Program Assistant Nicol Jones (through November 2010).

**Activities in Year 5**

- Following Dr. Florence Hamrick’s departure from ISU in August 2010, we were unable to dedicate as much time to interacting with the ADVANCE Scholars as we had in past years. Executive Director Bowen and Program Assistant Jones contacted all the ISU Scholars in the early fall and confirmed their participation in the program. Welcome letters were sent to new Eminent Scholars as needed. Financial support was provided for Scholars who traveled during the academic year and the academic departments provided logistical support to process travel reimbursements. Several scholars did not travel during the academic year, but indicated their desire to travel in the summer and early fall 2011.
- The ADVANCE office coordinated one luncheon gathering of ISU ADVANCE Scholars to provide opportunities for peer mentoring. They requested another gathering next year.
- Three trips to ISU by Eminent Scholars and three trips by ISU ADVANCE Scholars to confer with Eminent Scholars and present their research. Four Scholars are planning trips during summer 2011.

**Eminent Scholar Lectures at Iowa State University during Year 5:**

**Bioactive Proteins in Breast Milk**  
Delivered as an ISU Food Science and Human Nutrition Seminar, September 1, 2010.  
Eminent Scholar: **Dr. Bo Lönnerdal**, professor of nutrition, University of California, Davis, California.  
(ISU ADVANCE Scholar: **Dr. Manju Reddy** associate professor of Food Science and Human Nutrition)

**Application of Nanotechnology to Advanced Cement-based Materials**  
Delivered as an ISU Civil, Construction and Environmental Engineering Seminar, April 25, 2011.  
Eminent Scholar: **Dr. Surendra P. Shah**, National Academy of Engineering in US, China, India, Emeritus Walter P. Murphy Professor of Civil and Environmental Engineering, Northwestern University.  
(ISU ADVANCE Scholar: **Dr. Kejin Wang**, associate professor of Civil, Construction and Environmental Engineering)

**Role of Virus and Host in Interspecies Transmission of Influenza Viruses**  
Delivered as an ISU Department of Veterinary Microbiology and Preventive Medicine Seminar May 2, 2011.  
Eminent Scholar: **Dr. Richard J. Webby**, Department of Infectious Diseases, St. Jude Children’s Research Hospital.  
(ISU ADVANCE Scholar: **Dr. Jessie Trujillo**, assistant professor of Veterinary Microbiology and Preventive Medicine)

**ISU ADVANCE Scholar Lectures presented during Year 5:**

**Teaching Old Polymers New Tricks: Novel conjugated materials based on Benzobisazoles**  
Delivered as a Program in Polymer Science and Technology Seminar, Massachusetts Institute of Technology, Cambridge Massachusetts, July 12-21, 2010.  
ISU ADVANCE Scholar: **Dr. Malika Jeffries-El**, assistant professor of Chemistry.  
(Eminent Scholar: **Dr. Timothy M. Swager**, professor of Chemistry, Massachusetts Institute of Technology, Cambridge, Massachusetts)
**Do Single Meal Studies Predict Long-Term Effects on Fe Status?**
Delivered as part of the Bioavailability Conference, University of California-Davis, September 26-30 2010.

ISU ADVANCE Scholar: **Dr. Manju Reddy**, associate professor of Food Science and Human Nutrition
(Eminent Scholar: **Dr. Bo Lönnertal**, professor of nutrition, University of California, Davis, California)

ISU ADVANCE Scholar: **Dr. Kejin Wang**, associate professor of Civil, Construction and Environmental Engineering.
Attended and met with Eminent Scholar at the American Concrete Institute Convention in Tampa, Florida, April 2-5, 2011.
(Eminent Scholar: **Dr. Surendra P. Shah**, National Academy of Engineering in US, China, India, Emeritus Walter P. Murphy Professor of Civil and Environmental Engineering, Northwestern University)

**Summer and Fall 2011 trips are planned involving the following Scholar Program pairs:**
- Dr. Susana Goggi, Agronomy
  (Eminent Scholar) Dr. Susan Lolle, University of Waterloo
- Dr. Malika Jeffries-EL, Chemistry
  (Eminent Scholar) Dr. Timothy Swager, MIT
- Dr. Mayly Sanchez, Physics and Astronomy
  (Eminent Scholar) Dr. Maury Goodman, Argonne National Laboratory
- Dr. Jessie Trujillo, Veterinary Microbiology and Preventive Medicine
  (Eminent Scholar) Dr. Richard Webby, St. Jude Children’s Research Hospital

**III.C. Program Management and Evaluation**

**III.C.1. ADVANCE Council, Team, Transition Team and Internal Advisory Board Leadership**

As described in section II (Management and Infrastructure), our ADVANCE Council and ADVANCE Team were initially the primary entities responsible for oversight and implementation of the program. In Year 2 of our program, as our collaborators grew in number, we modified the structure of our groups to promote increased efficiency of meetings. Key changes were the establishment of the Steering Committee and the Internal Advisory Board. In Years 3, 4 and 5, we have continued the structures we implemented in Year 2. The Steering Committee (membership is described in section II.A) met once or twice a month in the fall semester to discuss management of the project, personnel issues and financial decisions. The ADVANCE Co-PI team met twice per month, alternating their discussion topics between Collaborative Transformation Research and Data/Evaluation. The Team continued to discuss progress with respect to implementation of the grant, project administration and roles of personnel. The Steering Committee agendas and minutes were circulated to the co-PI team to keep everyone informed. In the spring semester of Year 5, the Steering Committee discontinued their meetings; the co-PI Team continued meeting twice per month. Once a month the co-PI Team was joined by the Equity Advisors for meetings focused on sustaining and institutionalizing ADVANCE initiative after NSF funding expires. In April 2011, the Transition Team was formed and held its first meeting (membership is described in section II.A). The ADVANCE Council met three times in Year 5. The Council focused on ways to sustain efforts of the ADVANCE Program after funding ends and it provided formative evaluation throughout the year (see sections III.C.4.A and III.C.4.B. in Formative Evaluation for key points). The EA/AP working group and the Equity Advisors also met separately, with one of the co-PIs as the organizer,
and these groups circulated their meeting notes to the co-PI Leadership Team and Equity Advisors. This new subdivision of labor has facilitated management of our increasingly complex program.

The Internal Advisory Board (see section II.A. for composition) provided key leadership in Year 5, as we planned for institutionalization of key efforts of ADVANCE. At our meeting in September, 2010, the Deans from each college shared the key contributions that they valued and wanted to continue. The primary areas identified were: Collaborative Transformation and Search Committee Training. Another topic discussed was the importance of partner accommodation in the recruitment of excellent faculty. The September Internal Advisory Board meeting occurred shortly before the visit from the External Evaluators, which gave this group an opportunity to discuss preparation for this event. Deans asked for talking points and a fact sheet, which were prepared in the following weeks (see Appendix 7). Our second meeting with Internal Advisory Board during Year 5 occurred on May 6, 2011. This meeting provided an opportunity for us to present some of our key accomplishments with the Collaborative Transformation Project, which had just released the synthesis report of findings from all 9 departments (See Appendix 1). The group strategized about ways to extend Collaborative Transformation to new departments. Ideas suggested included including the CT process as part of the self-study that accompanies regular department reviews (approximately every seven years). The Deans also discussed the value of components of ADVANCE, including, Equity Advisors, the Reader’s Theatre, and. Provost Hoffman thanked the board for their work on ADVANCE. The Internal Advisory Board agreed to continue meeting once each semester next year (Year 6).

III.C.2. Communication, Marketing, Publicity, and Website

We have disseminated information about the ISU ADVANCE Program through our website (www.advance.iastate.edu). Through website statistics we are able to determine the needs of our community. Between the months of May 2010 and April 2011, we had an average of 637 different visitors view our website each month, for an average of 883 total visits per month.

Sections of the website that made the top 10 list for viewing each month for the past 12 months, include our conference page (average 81 visits/month in 12 months on the top 10 list), upcoming events (average 80 visits/month in 12 months on the top 10 list), the resources page about people in our program (average 75 visits/month in the 12 months the page was on the top 10 list), and information about the ADVANCE program (average 46 visits/month in 11 months on the top 10 list).

We continue to maintain contact with the campus community through our e-Updates. More than 450 faculty members, partners, and friends of ADVANCE receive reminders of our program services and upcoming events through this initiative. It has been met with positive feedback, and our mailing list continues to expand. An archive of these updates is under “Quick Links” on our homepage www.advance.iastate.edu.

In Year 5, ISU ADVANCE continued to maintain resources for faculty on our webpage by posting current events and workshops, adding brochures and handouts from our events and workshops, and posting news items about people in ADVANCE.

We continue to utilize Web CT as our internal electronic resource. We provide members of the ADVANCE Council access to our documents and materials developed by various individuals and committees, including meeting minutes, presentations, and calendars.

Articles and announcements about ADVANCE have appeared in a weekly publication for faculty and staff (Inside Iowa State), as well as in weekly email newsletters to colleges, including the
Colleges of Agriculture & Life Sciences, Liberal Arts & Sciences, Engineering, Human Sciences, Veterinary Medicine, Design, Business, and the Library.

### III.C.3. Financial Management

We have established sound financial management practices with the assistance of staff in the Office of Sponsored Programs Administration and the Office of the Executive Vice President and Provost. Primary responsibility for day-to-day accounting was the responsibility of our Program Assistant, Nicol Jones (May 2010 – January 2011) and Diane Smith (February – April 2011). Dr. Bonnie Bowen, Executive Director, oversees all financial activity and regularly reports our financial status to the PI, the Steering Committee, and the co-PI Team. Recommendations regarding allocation of funds are made by the Steering Committee (May-August 2010) and the co-PI team (September 2010 – April 2011), and the final responsibility for decisions was held by Dr. Susan Carlson (PI May-June 2010) or Dr. Elizabeth Hoffman (PI July 2010-April 2011).

### III.C.4. Formative Evaluation

#### III.C.4.A. ADVANCE Council retreat, May 2010

For the fifth year, the ISU ADVANCE Council held a half-day planning retreat to establish a theme, goals, and guiding principles for the year. The retreat was conducted with the recognition that a multi-faceted program like ISU ADVANCE needs to update plans and goals regularly and on a comprehensive basis. The retreat included a “review of the year” address from Dr. Carlson (PI). Participants then divided into small groups to discuss key strengths and challenges of our program. We divided into small groups again to discuss the focus of the ADVANCE program for Year 5. The following major themes were discussed: structure of the program, partners, search committee training, chair training (which might be accepted better if it were called “Effective Departmental Leadership Series”), and Collaborative Transformation. Following those discussion, we listed our goals for Year 5 and developed a calendar/timeline of events.

Following the retreat, our discussions were summarized into a Theme and list of Goals for the Year, as follows:

**Theme**  
*ISU ADVANCE: building on a solid foundation.*

**Goals for the Year**

- Prepare a proposal for continuing ADVANCE past year 5, including a version of CT and other program components needed by the ISU community as well as setting measures for continued accountability.

- Fulfill CT plan for nine departments and develop plans for a robust CT to continue the initiative past year 5.

- Design a more efficient EA/AP meeting structure and target activities to parallel year 5 goals. Refine AP and EA roles to meet the needs of year 5 and later.

- Partner with the Executive Vice President and Provost, the colleges, and chairs to design ADVANCE-related professional development opportunities for department chairs. Partner with Departmental Leadership Taskforce as needed to ensure progress in the diversity of departmental leadership.
- Develop and implement effective recruitment and search committee training and support, with a focus on integrating the recruitment of under-represented minorities in all recruitment/search activities.

- Continue successful ADVANCE efforts (i.e. Scholars Program) to ensure that best practices can be integrated into other ISU units after year 5.

- Continue to build partnerships with other on-campus programs, including Strengthening the Professoriate at ISU, with an eye toward sustainability.

### III.C.4.B. ADVANCE Council meetings Year 5

The ADVANCE Council, which now has ~30 members, met three times during Year 5 (in addition to the Retreat mentioned above). Discussions at all three meetings focused on sustainability and institutionalization of progress made in the ADVANCE Program.

- The first meeting, held November 17, 2010, occurred shortly after the visits from our External Advisors (September) and External Evaluators (October). Members of the Council discussed the Institutionalization document (see Appendix 8) that had been prepared by the co-PI team prior to the visit from the External Advisors. The discussion focused on four areas that had been identified for institutionalization: Equity Advisors in the colleges, Professional Development and Training, Collaborative Transformation, and access to data through Institutional Research. All of these components of ADVANCE were acknowledged as valuable contributions to the institutional transformation of the university.

- During the second Council meeting of Year 5, on February 15, 2011, we focused on the report prepared by ADVANCE Fellow Diane Rover: *Recommendations for Sustaining ISU ADVANCE Progress Beyond 2011* (see section III.B.2. and Appendix 6). Following Dr. Rover’s presentation about the report, the Council discussed several topics, including the relationships of ADVANCE goals and accomplishments to University and College strategic plans, the importance of developing and defining appropriate goals, objectives and outcomes, and the value of data from Institutional Research.

- The final Council meeting of Year 5 was held on April 11, 2011. The focus of this Council meeting was to hear from the ADVANCE Professors about the effects of Collaborative Transformation on departments. As noted in section B.2. above, the ADVANCE Professors and Equity Advisors had been developing material and preparing this presentation over the course of the year. Following the presentation, the Council members had a wide-ranging discussion. Four important points the Council discussed were:
  - Continuing to share ADVANCE’s accomplishments with a broader audience is important. To get other departments to get involved in ADVANCE Collaborative Transformation, it could be included as part of regular departmental reviews. ADVANCE should continue to reach out to the university in some way. The conversation fades if not brought up. Due to impending retirements, some departments could lose most of their senior faculty in the next few years. The process of Collaborative Transformation is important and needs to be ongoing. There would be value for departments to engage in the CT process every seven years as part of the regular departmental review. People change roles, get
promoted, or leave, and new junior faculty bring change to the department culture. Issues also change over time.

- Each department may need to go through the CT process due to the differences in departments and colleges. Going through the process itself may be more important than being provided with a checklist of issues as defined by other departments. Those who have gone through the interviews agreed that they were very helpful in getting to know the department. Sometimes junior colleagues won’t speak up at meetings so interviews were a very valuable opportunity for them to be heard. If some departments won’t do interviews, reviewing a checklist of issues is better than nothing. Departments developed ownership in the results because they were involved in the process. Some searches were underway and because of the process of CT the department was able to implement CT techniques.

- What would it take for the ADVANCE Professors to continue and be spread across all departments? All APs got some training in CT. Some have been replaced. We don’t want to lose what has been gained through CT. What motivates senior faculty to be AP? Faculty get to a certain point where they are more able to decide to help. There needs to be some place for APs to get together and discuss issues. There are many committee responsibilities in departments so perhaps the ADVANCE Professor role could be another type of committee responsibility. The opportunity to dialog with other APs is very helpful and provides a good way for them to learn about other departments.

- It could be a recipe for disaster to institute best practices from the original nine ADVANCE departments in all other departments because issues can be so different across departments. This is why self-study is important. There is a wide variety of cultures in different departments even within the same college. Change needs to be relevant and accepted by department. The top down training has empowered lots of people to get involved.

III.C.4.C. Evaluation Plan Progress

**Status of Evaluation Activities:**
During Year 5 the ADVANCE Program made substantial progress toward our summative evaluation in collaboration with our External Evaluators, Laura Kramer and Alice Hogan. Within ISU, the primary contacts were Executive Director Bowen, Program Assistant Jones (through January 2011), and our Internal Evaluator, Dr. Kevin Saunders (through July 2010). There were four major activities involved in fulfillment of the External Evaluation contract with Kramer and Hogan, which were:

- Develop a list of resources about our program and send them to Kramer and Hogan for review during summer 2010. Lists of resources were developed in April and May 2010 by Sanders, Jones and Bowen. Notebooks of materials were sent in June.
- Develop surveys of key stakeholders, including administrators, focal department faculty, and participants in faculty searches to assess their satisfaction and impressions with the ISU ADVANCE program. The surveys were developed in July and August, IRB approval was received in September, and the online surveys were launched in early September. The surveys were summarized by Marilyn Cornish, a graduate student working with Dr. Bowen, and the summaries were sent to Kramer and Hogan.
- Plan a visit to ISU by External Evaluators Kramer and Hogan in October 2010, to include interviews with participants and stakeholders. Planning began in July, IRB approval for interviews was received in October, and the visit occurred October 18-22. Our evaluators met with >70 individuals over 5 days.
Receive the interim report from the External Evaluators and discuss its findings and recommendations with key stakeholders on campus. Kramer and Hogan sent their report to Provost Hoffman (PI) in early February, 2011 (see Appendix 9). It was shared with President Geoffroy, the ADVANCE Internal Advisory Board (Deans) and with the ADVANCE Council.

The first half of Year 5 was active and productive with respect to meeting the goals of our evaluation plan. The second half is still on track to meet the goals of the plan, but it was not as active for several reasons. First, it became clear soon after we received the report from our External Evaluators in February, 2011, that we would request a no-cost extension for Year 6. Therefore, we decided to also request an extension of the final summative report from our External Evaluators, so that we would receive it during the late fall of Year 6 (2011). A second reason for fewer evaluation activities after the visit by the External Evaluators in October was the loss of key members of the evaluation team—Dr. Kevin Saunders, our Internal Evaluator, who resigned from ISU in August 2010, and Nicol Jones, Program Assistant, who took maternity leave in November 2010 and resigned in January 2011. Dr. Bowen is providing updated materials to Kramer and Hogan as they become available. A third reason for the delay in our evaluation activities is the recent appointment of our new Internal Evaluator, Dr. Jason Pontius, Coordinator of Continuous Academic Program Improvement in the Office of the Provost. Dr. Pontius is familiar with the ISU ADVANCE Program, as he was supported as a graduate student during Year 3 of our award. In April 2011, he reviewed the status of our key indicators for the External Evaluators.

Conclusions and recommendations from External Evaluators’ Report, February 2011 (key excerpts from report by Laura Kramer and Alice Hogan (see Appendix 9)):

- The “conversation has changed”
  The meetings during our week in Ames made very clear that the “conversation has changed” in STEM units, regarding gender and practices that affect the pursuit of gender equity in the STEM faculty. This change will be of enormous value as the institution moves forward with ADVANCE-related and ADVANCE-informed initiatives.

- Changing the conversation must be accompanied by changes to practice
  Changing practice involves both the revision of formal rules and the expectation that those revisions will be followed, ensured by effective leadership.

- Institutional change is most notable if it is lead from the top
  The Provost’s move into the PI role is an important indicator to members of the University community of the high priority given to the ADVANCE project. Members of the campus community will be attentive to signs of the importance placed on the particular goals within the transformation agenda, and the University’s broader agenda. Thus far, it appears that the academic administrators of the STEM Colleges have not effectively communicated that the ADVANCE goals are among their highest priorities.

- ADVANCE produced important tools for developing a greater understanding and commitment to factors affecting gender equity
  So far, making full use of these tools appears to be at the discretion of the people doing the work the tools are designed for – particularly departmental leaders, promotion and tenure committee and recruitment committee members. These practices should be supported consistently at each leadership level, whether mandated or not. It is our view that greater topdown accountability is needed to fortify the value of tools, such as search resources, developed through ADVANCE.

- Deans and chairs are crucial to transformation
  The ISU ADVANCE Program, together with the Office of the Provost, has put in place the tools to facilitate more effective recruitment and retention and now there needs to be a
concerted focus by chairs and deans on use of these tools. Expectations of accountability for implementing the policies that the University has worked so hard to implement should be clear at the Chair, Dean and Provost level so that all the key players in implementing these important policies are working together with a common understanding of what is expected. More broadly, professional development that supports chairs’ overall effectiveness will contribute to their ability to lead their colleagues in transformation. With effective formal chair development training, the culture of informal chairs’ groups will be likely to foster rather than impede change.

- **Greater involvement of senior STEM women would strengthen ADVANCE**
  With the early loss to the project of two full professors in engineering there has been only one senior woman STEM faculty member on the co-PI leadership team. This may be a missed opportunity to ensure that the program continues to align fully with the goal of advancing the representation and participation of women in STEM, particularly since there is wide variation in the STEM fields with respect to the numbers of women by field, and thus wide variation in perspective of senior STEM women from various fields. We encourage ISU to seek additional high-impact ways to engage senior STEM women, including through mechanisms such as inviting a group of senior STEM women to serve as advisors to the Provost/PI as the project moves beyond the funding period.

- **Effective roles and processes for transformation exist at ISU.**
  Functions performed by the Equity Advisors are central to transformation. It will be important for ISU to think about how to integrate these functions fully into the institutional context. In order to prioritize for post I-cubed, it will be essential that Deans assess and articulate the value of the work of the EAs with respect to University goals. CT has been shown both to have promise and to be resource intensive. We recommend that for next steps, the ADVANCE team develop a menu of common or frequent problems that would be presented to departments, along with a variety of actions known to be efficacious, as well as a list of approaches that do not work. Developing this list by referring to what is now a significant data base of nine departments should satisfy people’s sense that problems and solutions may be unique to ISU.

- **Ownership of ADVANCE**
  Perhaps as an artifact of its organization around an intense applied research agenda (CT), a small number (relative to some other ADVANCE IT institutions) of individuals have been identified with ADVANCE. This may impede the institutionalization of the program as the external funding comes to an end, and risk loss of the gains made during the five years of programming. Apart from ADVANCE itself, there are few opportunities of the kind provided by ADVANCE to address issues at the faculty level that affect an institution’s ability to compete for and to retain talented faculty. More public and explicit support of the program is needed across the university, since it is the university as a whole that stands to gain from the improved practices and policies identified with the hard work done through the CT process and through the emphasis on data-driven decision making and effective use of policies that support faculty’s work/life needs. If all transformative goals had been achieved, this need would not exist; however, transformation takes more than five years to reach throughout a university. ISU’s potential for transformation is well-evidenced by its change, perhaps as long as a decade ago, into an institution that supports and facilitates interdisciplinarity. Ahead of the curve on this national (or international) development, ISU appears to have surmounted well-known obstacles to interdisciplinary work. There is similar potential to enhance institutional productivity through an ADVANCE-related transformation. ISU’s academic leadership and ADVANCE program are in an excellent position to make this happen.
III.C.5. Consultations with External Advisors

In Year 5, two of our External Advisors, Drs. Ronda Callister and Claire Van Ummersen, visited the ISU campus on September 20-21, 2010. Prior to their visit, the co-PI Team and Equity Advisors prepared an “Overview of Areas of Institutionalization and Sustainability” that identified the strengths, weaknesses, and challenges of institutionalizing key areas of the ADVANCE Program after NSF funding ends. We sent this document to Drs. Callister and Van Ummersen prior to their visit and we also sent it to the evaluators who were unable to come to ISU: Drs. Jackie Litt and Caroline Turner.

During their visit to ISU, Drs. Callister and Van Ummersen met with the new leadership of ADVANCE: Provost Hoffman, who had become the PI in July 2010 and Associate Provost Bratsch-Prince, who had become a co-PI in August 2010. They also met with the other co-PIs, the Equity Advisors, Associate Deans, ADVANCE Professors, and focal department chairs. Their charge was to discuss the perceived strengths and weaknesses of the ISU ADVANCE efforts, while focusing on identifying and addressing opportunities and challenges as we move forward. After their visit, they prepared a report (see Appendix 10) with the following recommendations:

Future Structure

- Responsibility for institutionalizing ADVANCE objectives needs to shift from the team members to academic administrators to ensure that important components are woven into the fabric of the university and, therefore will be sustained over time.
- The locus for this responsibility must remain in the Provost’s Office but should now become part of the responsibility of the newly appointed Associate Provost for Academic Personnel.
- To ensure sustainability there will need to be increased accountability at all levels: Provost to Deans and Deans to Chairs.

Equity Advisors

- The External Advisors recognized the impact of the Equity Advisors and commended the program for expanding the commitment to Equity Advisors to five colleges and ensuring that they will continue for five years.
- They suggested that an Associate Dean in each college to become responsible for the functions of the Equity Advisors.
- The Associate Deans with this function as part of their portfolio will ideally report to and meet with the Associate Provost for Academic Personnel to ensure cross-fertilization and dissemination of the best ideas across colleges.

Institutional Research Office and Reports

- The Institutional Research (IR) Office has produced a number of excellent reports.
- The ADVANCE team reported its concerns that IR had experienced a reduction in its budget during the recent round of university cuts.
- The External Advisors recommended that ADVANCE, IR and the Provost’s Office recognize the reality of the current budget climate and work together with Human Resources to prioritize the most critical data analyses which need to be conducted on an annual basis. Other important, but less critical reports, can be analyzed on a cost/benefit basis to determine how frequently they need to be produced. Some may move to every two, three or five years depending on the cost to develop the reports and the potential impact on the institution.
- The most important data and those data that have changed over time will ideally be presented to Deans, Department Chairs and faculty on an annual basis.
- Some data-based reports suggested were:
  - Hiring By Availability.
Training

- Acknowledging that it is difficult to measure the amount of behavior change that occurs because of the training, the External Advisors recommended that the ADVANCE Program shift much of the effort that has gone into training into greater accountability. By creating responsibility for impact as part of various job descriptions (Associate Provosts, Deans, Associate Deans, etc.) and evaluating these administrators' performance, accountability has the potential for a significantly higher impact on behavior than does training.
- ISU is fortunate to have a high level of commitment of Provost Hoffman and Associate Provost Dawn Bratsch-Prince. They are well positioned to continue to assess and expect improvements in the colleges and departments.
- The ISU ADVANCE team can provide valuable information and support during the transition period.
- Faculty and key committees (particularly search and P&T committees) require on-going training. ISU ADVANCE has developed a CD that could be utilized either by individuals alone or with facilitation.
- The Provost's office should continue to focus on developing effective leadership among deans and department chairs -- especially those who are new. The workshop format that ISU ADVANCE has had success with should be examined and the best ideas continued.

Department Transformation

- The collaborative transformation efforts have been valuable in uncovering the multiple challenges that departments face.
- Now may be the time to focus on the most common challenges that departments face and develop programs in the Provost's Office to help departments better address these challenges such as faculty being unsure and stressed about the requirements for tenure or promotion.

Summary

- The consistent message the advisors heard in terms of what must be preserved was the need for continued transparency, the importance of informing assistant professors of the tenure and promotion criteria, the essential need for training, especially for new chairs, in areas such as effective leadership, budgeting and managing departments, and the continuing value of communication and dissemination of best practices throughout the university.
- As Iowa State University completes its ADVANCE goals, it is in a strong position going forward to effect the transformational changes in culture not only in the focal departments but throughout the entire university.

III.C.6. Pathways to Promotion from Associate to Full Professor

During Year 5, Dr. Annette O'Connor built on the work she had begun in Year 4, while supported by the Office of the Provost as a Faculty Fellow for ADVANCE. Dr. O'Connor prepared four brochures that were distributed during workshops she presented in Year 5 (see section III.B.2). The brochures (see Appendices 2-5) focused on scholarship and service mentoring guidelines for chairs and deans working with Associate Professors as well as scholarship and service advice for faculty considering promotion from Associate to Full. These brochures are available on the Website and
will be distributed at future workshops. Dr. O’Connor also continued her analyses of data on rates of promotion from Associate to Full Professor at Iowa State. In collaboration with Sandra Gahn and Bonnie Bowen, she submitted a paper for publication in a peer-reviewed journal. The paper reported the findings that in univariable analyses, gender (female), field of study (non-STEM) and highest degree (non-doctoral) where all associated with decreased odds of being promoted from Associate to Full Professor. In multivariable analysis, only highest degree and field of study remained significant. The paper concluded that, consistent with other studies, gender is not associated with promotion to full professor after adjustment for other factors. Highest degree earned and field of study were associated with promotion to full professor and departments and institutions may find it helpful to focus on the sub-groups of faculty who do not have doctorates and/or who are in non-STEM fields.

III.C.7. Interpretation of Key Indicators

The ISU ADVANCE program has been using the Frehill, et.al., toolkit recommendations for institutional data going back to fall 2001. Dr. Sandra Gahn, a member of the ADVANCE ISU co-PI Leadership Team, is associate director in the Office of Institutional Research and has been tracking and reporting these indicator data for Iowa State University. Other contributors to analysis of the key indicators are Dr. Bonnie Bowen, graduate students Trina Ramirez and Marilyn Cornish, and undergraduate assistant Abby Paul. The following charts and figures offer insight into the data collected at ISU in Years 1 – 5, which are reported in section V. in more detail. We will continue to monitor these key indicators in the final year (no cost extension Year 6) of the ISU ADVANCE Program.

Tenured and Tenure-Eligible Faculty

The total number of tenured and tenure-eligible faculty at ISU has shown a decrease, from ~1390 in 2001 to ~1300 in 2010 with the lowest point in 2007 (Fig. 1 top). However, the total number of tenured and tenure-eligible STEM faculty has remained constant at just under 800 (Fig. 1 bottom).

**Figure 1. Number of Tenured and Tenure-Eligible Faculty at ISU and in STEM, 2001-2010**
During this time, the percentage of women faculty at ISU has shown a modest increase, from 26% in 2001 to 29.3% in 2010, the highest ever measured (Fig. 2). In STEM departments, the percentage of women increased from 15.6% to 20% and in SBS (Social and Behavioral Science) departments, the percentage of women also increased, from 40.2% to a high of 45.8% in 2007, after which there has been a decline to 43.2% (Fig 2).

**Figure 2. Percentage of Tenured and Tenure-Eligible Women Faculty by Discipline, 2001-2010**

This increase in the percentage of women during a time when the total number of faculty has decreased (Fig. 1) has been accompanied by a slight increase in the total number of women faculty at ISU (from 360 in 2001 to 389 in 2009, followed by a slight decline to 383 in 2010). The number of women in STEM departments is at an all-time high in 2010, having increased from 122 in 2001 to 156 in 2010) (Fig. 3). Note that the number of women in SBS departments declined from 103 to 89 between 2001 and 2010 (Fig. 3).

**Figure 3. Number of Tenured and Tenure-Eligible Women Faculty by Discipline, 2001-2010**
Similarly, both the percent (Fig. 4) and the number (Fig. 5) of full and associate professors at Iowa State who are women has increased. The percent of ISU assistant professors who are women has increased slightly since 2001 and is at an all-time high. The number of ISU assistant professors who are women has decreased slightly, which may indicate that fewer women have been hired as assistant professors while current assistant professors have been promoted (Figs. 4 and 5).

**Figure 4. Percent Tenured and Tenure-Eligible ISU Women Faculty by Rank, 2001-2010**

![Graph showing the percent tenured and tenure-eligible ISU women faculty by rank from 2001 to 2010.](image)

**Figure 5. Number Tenured and Tenure-Eligible ISU Women Faculty by Rank, 2001-2010**

![Graph showing the number tenured and tenure-eligible ISU women faculty by rank from 2001 to 2010.](image)
With respect to women faculty in STEM (Figs. 6 and 7), from 2001-2010, the number and percent of women assistant professors has varied somewhat, but there has not been much change overall. During the same time period, the number and percent of associate professors increased in the early years and has varied somewhat since. The current numbers are among the highest for the 9 year period. The most dramatic change has been in the number and percentage of full professors. The percentage of tenured and tenure-eligible STEM faculty who are women full professors has increased from 7.7% to 13.2% between 2001 and 2010 (Fig. 6). This increase reflects a change from 30 to 54 women—an increase of 80%. It is notable that almost 60% of that change has occurred during the most recent three years.

Figure 6. Percent Tenured and Tenure-Eligible Women Faculty in STEM by Rank, 2001-2010

![Graph showing percentage of tenured and tenure-eligible women faculty in STEM by rank, 2001-2010.]

Figure 7. Number of Tenured and Tenure-Eligible Women Faculty in STEM by Rank, 2001-2010

![Graph showing number of tenured and tenure-eligible women faculty in STEM by rank, 2001-2010.]

Iowa State ADVANCE Program
Year 5 2010-2011 Annual Report - public
With respect to hiring, the number of women new hires has varied, but it peaked for STEM in 2009 when 16 new hires in STEM were women (Fig. 8). In 2010, hiring at Iowa State was very low for all fields (38 hires compared to 81 in 2009) and for STEM (21 hires compared to 44 in 2009). The number of women hired was also lower in 2010 than 2009 (Fig. 8). The percentage women hired for the university increased slightly, but declined for STEM departments from 42% to 33% (Fig. 9). A notable difference for STEM departments between 2009 and 2010 is the pattern of hiring by rank. For Assistant Professors, of the 13 hired in 2010, 46% were women (Table 7), the second highest percentage observed (only 2009 was higher at 58%). For Associate and Full Professors, on the other hand, the percentage of women hired in 2010 was low: 0 of 1 Associate Professors and 1 of 6 (14%) Full Professors. Thus, in a year when only 13 Assistant Professors were hired in STEM, even though 46% were women, the overall percentage of women hired in STEM was 33% because most of the Associate and Full Professors were men.

**Figure 8. Number of Tenured and Tenure-Eligible Women New Hires in STEM and ISU, 2001-2010**

**Figure 9. Percentage of Tenured and Tenure-Eligible Women New Hires in STEM and ISU, 2001-2010**
Our examination of women in leadership is based on data for 2006-2010 and is focused on several categories of leaders. We found that several of these categories did not change appreciably over the past four years (Fig. 10), notably the number of deans and endowed, named, distinguished and university professors. The percentage of women department chairs has increased since 2006 and is now about the same as the percentage women full professors. In comparing these classes of leaders, the percentage of women deans has been consistently higher than the percentage of women full professors. The percentage of women higher administrators (Provost, Associate Provosts, and Vice Presidents) is currently 50%--much higher than the percentage women full professors. Although change has been slow and the increments small, there is evidence of improvement for women in leadership at Iowa State.

**Figure 10. Percent of ISU Women in Leadership Positions 2006-2010.**

Following the third year site visit by NSF, the ISU ADVANCE Program pledged to compile data on the number and percent of underrepresented minority faculty at ISU. We have begun this process by focusing on three ethnic/racial groups in the STEM disciplines: Asians, whites, and underrepresented minorities, as defined by NSF (African Americans, Hispanic Americans and American Indians including Native Alaskans, and Native Pacific Islanders). In the final report, we will provide additional data for these ethnic groups for other disciplines and for all ISU faculty.

Since 2000, the number (Fig. 11) and percent (Fig. 12) of URM STEM women has changed little and remains low—ranging from 5 to 8 women and averaging ~5% of STEM women faculty. There is no consistent improvement in the number or percentage of underrepresented minority women faculty in STEM.

The number and percentage of Asian women is also low (Figs. 11 and 12), ranging from 12 to 19 women and averaging ~12% of STEM women faculty. Although Asian women are not an underrepresented minority, they are nevertheless a low percentage of the total faculty.
When considering URM and Asian women as a percentage of the entire STEM faculty, they represent <1% and ~2.5% respectively (data calculated but not graphed). Many of the issues of isolation facing URM women STEM faculty are similar for Asian women STEM faculty at ISU.

**Figure 11. Number of Asian and underrepresented minority STEM women faculty 2000-2010.**

<table>
<thead>
<tr>
<th>Year</th>
<th>URM</th>
<th>Asian</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
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<tr>
<td>2009</td>
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<td>16</td>
</tr>
</tbody>
</table>

**Figure 12. Percent of Asian and underrepresented minority STEM women faculty 2000-2010.**

<table>
<thead>
<tr>
<th>Year</th>
<th>URM %</th>
<th>Asian %</th>
<th>White %</th>
</tr>
</thead>
<tbody>
<tr>
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<td>10.3%</td>
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</tr>
<tr>
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<td>4.9%</td>
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</tr>
<tr>
<td>2008</td>
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<td>12.4%</td>
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</tr>
<tr>
<td>2009</td>
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<td>11.3%</td>
<td>83.4%</td>
</tr>
<tr>
<td>2010</td>
<td>5.1%</td>
<td>10.3%</td>
<td>84.6%</td>
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</table>
Since 2000, the number (Fig. 13) of URM STEM men has changed little and remains low—ranging from 15 to 20 men and averaging ~2.5% (Fig. 14) of STEM men faculty. The number and percentage of Asian men in STEM, on the other hand, increased between 2000 and 2010 from 87 (13%) to 139 (22%).

**Figure 13. Number of Asian and underrepresented minority STEM men faculty 2000-2010.**

<table>
<thead>
<tr>
<th>Year</th>
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**Figure 14. Percent of Asian and underrepresented minority STEM men faculty 2000-2010.**

<table>
<thead>
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<th>Asian %</th>
<th>White %</th>
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<td>22.4%</td>
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</tr>
<tr>
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<td>2.4%</td>
<td>22.4%</td>
<td>75.2%</td>
</tr>
</tbody>
</table>
III.D. DISSEMINATION (INCLUDING LIST OF PRODUCTS AVAILABLE)

ISU ADVANCE has made significant scholarly and research contributions to various disciplinary communities during Year 5. This section is organized by the following types of dissemination:

- Journal Articles
- Refereed Book Chapters
- Conference Proceedings (available on Websites but not in NSF database)
- Other one-time publications, such as technical reports
- Conference presentations
- ISU ADVANCE poster Displays at Disciplinary and ADVANCE Conferences
- Presentations within Iowa State University
  - Presentations to STEM Departments and Colleges at Iowa State University
  - Deans, college cabinets and other leaders
  - College-level Faculty Networking
  - ISU Diversity Partner Discussions
- Interactions Outside ISU
- List of products available
  - Resources Available on the ADVANCE Web site
  - Reports from the Collaborative Transformation Project
  - Additional Reports Produced for Departments (not available to the public)

**Journal Articles:**

**Author:** Dr. Sharon R. Bird  
**Publication:** Gender, Work and Organization  
**Article Title:** Unsettling Universities’ ‘Incongruous, Gendered Bureaucratic Structures’: A Case Study Approach  
**Publication Date:** 2011 (Vol 18, No. 2, pp 202-230)

**Author:** Drs. Annette J. O’Connor, Sandra W. Gahn, and Bonnie S. Bowen  
**Publication:** International Journal of Gender, Science and Technology  
**Article Title:** The promotion experience of retained associate professors hired as assistant professors at Iowa State University  
**Publication Date:** Submitted April 2011

**Refereed Book Chapters**

**Author:** Drs. Sharon R. Bird and Laura A. Rhoton  
**Publication:** Handbook of Gender, Work and Organization, edited by Emma Jeanes, David Knights, and Patricia Yancey Martin. Wiley-Blackwell Press  
**Article Title:** Women Professionals’ Gender Strategies: Negotiating Gendered Organizational Barriers  
**Publication Date:** 2011

**Author:** Dr. Carla Fehr  
**Publication:** Feminist Epistemology and Philosophy of Science: Power in Knowledge, edited by Heidi Grasswick. Dordrecht: Springer.  
**Article Title:** What is it in it for me? The benefits of diversity in scientific communities  
**Publication Date:** 2011
Conference Proceedings (available on Websites but not in NSF database)

Author: Dr. Kristen P. Constant
Article Title: Transformation across the university hierarchy to enhance recruitment, retention, and advancement of women faculty in engineering
Web access (search for author=Constant): http://www.asee.org/search/proceedings
Publication Date: 2010

Author: Drs. Kristen P. Constant and Sharon R. Bird
Publication: Proceedings of the American Society for Engineering Education (ASEE) Annual Conference
Article Title: Recognizing, Characterizing and Unsettling Unintended Bias in the Faculty Search Process in Engineering: A Case Study
Web access (search for author=Constant): http://www.asee.org/search/proceedings
Publication Date: 2009

Author: Drs. Kristen P. Constant, Sharon R. Bird, and Florence Hamrick
Publication: American Society for Engineering Education (ASEE) Annual Conference
Article Title: Advancing Women Faculty in Engineering through Institutional Transformation: The Iowa State University ADVANCE Program in the College of Engineering
Web access (search for author=Constant): http://www.asee.org/search/proceedings
Publication Date: 2008

Author: Drs. Sharon R. Bird, Florence A. Hamrick, Kristen P. Constant, Fred Janzen, and Jo Anne Powell-Coffman
Publication: National Science Foundation ADVANCE IT and PAID Co-PI Meetings
Article Title: Iowa State University ADVANCE: Collaborative Transformation Project: Enhancing Departmental Cultures, Practices and Structures
Publication Date: 2008

Other one-time publications, such as technical reports

Author: Bird, S. R., Fehr, C., Larson, L. M, and Sween, M.
Title: ISU ADVANCE Collaborative Transformation Project: Final Focal Department Synthesis Report
Date: April 2011
Bibliographic Info: 25 pages, Ames, IA: Iowa State University ADVANCE Institutional Transformation Program
Report available online at: http://www.advance.iastate.edu/resources/resources.shtml.
Status (published, accepted awaiting publication, submitted under review): Published
Is NSF support formally acknowledged in the publication? Yes

Author: Fehr, C.
Title: ISU ADVANCE Focal Department Report: Plant Pathology
Date: 2010
Bibliographic Info: Ames, IA, Iowa State University, ISU ADVANCE Program
Status (published, accepted awaiting publication, submitted under review): Published
Is NSF support formally acknowledged in the publication? Yes
Presentations at Conferences and Universities Outside Iowa State University

Presenters: **Dr. Carla Fehr**
Title of Talk: *The Public Understanding of Science When Scientists are the Public: Research on Women in Science and Engineering*
Date, City/State: March 2011, University of Waterloo, Waterloo, Ontario, Canada

Presenters: **Dr. Carla Fehr**
Title of Talk: *Where Have All The Women Gone? Social Accounts of Science and the Need for Women Scientists*
Date, City/State: February 2011, University of North Dakota, Institute for Philosophy in Public Life, Grand Forks, ND

Presenters: **Dr. Carla Fehr**
Title of Talk: *The Epistemology of Ignorance and Theories of Women’s Intelligence*
Date, City/State: March 2011, University of Waterloo, Waterloo, Ontario, Canada

Presenters: **Drs. Carla Fehr, Trina Ramirez, Sharon R. Bird**
Title of Talk: *Enhancing Strategies for Diversifying the STEM*
Conference: National Science Foundation ADVANCE PI Meeting,
Date, City/State: November 2010, Alexandria, VA

Presenter: **Dr. Sharon R. Bird**
Title of Talk: *Translating Feminism and Appreciating Different Gender Strategies: ISU ADVANCE*
Conference: National Women's Studies Association Annual Conference
Date, City/State: November, 2010; Denver, CO

Presenters: **Dr. Sandra Gahn, Craig Chatriand**
Title of Talk: *The Promotion to Full Professor, Does Sex and Discipline Matter?*
Conference: Association for the Study of Higher Education
Date, City/State: November 18, 2010, Indianapolis, Indiana

Organizers: **Drs. Diane Debinski and Bonnie Bowen**
Poster session: *Improving Recruitment and Retention of Women Faculty in Ecology: A Focus on NSF-Funded ADVANCE Programs.*
Conference: Ecological Society of America Annual Conference
Organized Poster Session, other ADVANCE Programs participating were from University of Michigan and Rice University.

Date, City/State: August 1-6, 2010, Pittsburgh, PA

Presenters: Dr. Carla Fehr
Title of Talk: Warning, Warning Uptake Failure: Epistemology of Ignorance, Liberal Individualism and the Underrepresentation of Women in Science
Conference: International Association for Women Philosophers Symposium: Feminism, Science and Values
Date, City/State: June 2010, University of Western Ontario, London, Ontario, Canada

Presenters: Drs. Carla Fehr, Sandra Gahn
Title of Talk: Creating, Changing and Implementing Policy
Conference: Midwest Regional ADVANCE meeting
Date, City/State: June 2010, Purdue University, West Lafayette, IN

Author: Dr. Kristen P. Constant
Title of Talk: Transformation across the university hierarchy to enhance recruitment, retention, and advancement of women faculty in engineering
Date: June 20-23, 2010

Presenters: Dr. Kristen P. Constant
Title of Talk: Panel Speaker on Work-Life Balance Panels
Conference: American Society of Engineering Education: New Engineering Educators Panel, and Biomedical Engineering Panel
Date, City/State: June 20-23, 2010, Louisville, KY

Presenter: Dr. Sharon R. Bird
Title of Talk: We Can Work it Out: Women Scientists Gender Strategies for Career Success.
Conference: Gender, Work and Organization International Conference
Date, City/State: June, 2010, Keele University, England

Presenters: Dr. Carla Fehr
Title of Talk: The Goodwill Trap
Date: March 2010
Location: Center for Applied and Professional Ethics, University of North Carolina, Charlotte, NC

Presenters: Dr. Carla Fehr
Title of Talk: What Is In It For Me? The Benefits of Diversity in Scientific Communities
Date: March 2010
Location: Center for Applied and Professional Ethics University of North Carolina, Charlotte, NC; February 2010, University of Waterloo Department of Philosophy, Waterloo, Ontario, Canada; April 2010, Middlebury College, Middlebury, VT; October 2010, Wellesley College, Wellesley, MA

ISU ADVANCE Poster Displays at Disciplinary and ADVANCE Conferences

Conference: NSF PI Meeting
Date: November 7-9, 2010

Institutionalization of Progress Made by the Iowa State ADVANCE Program
Conference: Ecological Society of America
Date: August 1-6, 2010
ADVANCE personnel: Bonnie Bowen, Diane Debinski (attended) and Fredric Janzen

Evolution of Institutional Culture to Diversify the Professoriate.
Poster presented at Organized Poster Session: Improving Recruitment and Retention of Women Faculty in Ecology: A Focus on NSF-Funded ADVANCE Programs.

Presentations Inside Iowa State University

A. Presentations to STEM Departments and Colleges at Iowa State University

Presenters: Drs. Elisabeth Lonergan and Susan J. Lamont
Presentation: ADVANCE Activities in Department (including written summary in review document)
Audience: Animal Science Department Faculty and External Review Team
Date: May 19, 2011

Presenters: Dr. Susan J. Lamont
Presentation: Best Practices for Three Faculty Searches in Department
Audience: Agricultural and Biosystems Engineering Department Faculty
Date: March 11, 2011

Presenters: Dr. Kristen P. Constant
Presentation: Best Practices for Faculty Searches
Audience: Aerospace Engineering Search Committee
Date: February 9, 2011

Discussant: Dr. Susan J. Lamont
Presentation: Discussant at full-day workshop regarding merger of Horticulture and Ag Ed and Studies departments
Audience: Horticulture and Agricultural Education and Studies departments
Date: February 4, 2011

Presenters: Dr. Susan J. Lamont
Presentation: Best Practices for Search Committee
Audience: NREM-ENT chair search committee
Date: January 13, 2011

Presenters: Dr. Kristen P. Constant
Presentation: Best Practices for Faculty Searches
Audience: Agricultural and Biosystems Engineering search committee
Date: December 16, 2010

Presenters: Dr. Kristen P. Constant
Presentation: Best Practices for Faculty Searches
Audience: Mechanical Engineering Faculty
Date: December 9, 2010
Presenters: Drs. Kristen P. Constant, Bonnie Bowen and Dawn Bratsch-Prince  
Presentation: Best Practices for Faculty Searches  
Audience: College of Human Sciences Committee on Diversity, Equity and Community  
Date: November 15, 2010

Presenters: Dr. Kristen P. Constant  
Presentation: Best Practices for Faculty Searches  
Audience: Civil, Construction, and Environmental Engineering  
Date: November 9, 2010

Presenters: Dr. Kristen P. Constant  
Presentation: Unintended Bias  
Audience: Mechanical Engineering Faculty Search Committee  
Date: October 11, 2010

Presenters: Dr. Kristen P. Constant  
Presentation: Best Practices for Faculty Searches  
Audience: Mechanical Engineering Faculty Search Committee  
Date: September 28, 2010

Presenters: Dr. Kristen P. Constant  
Presentation: Best Practices for Faculty Searches  
Audience: Biosciences Search Committee  
Date: August 26, 2010

Presenters: Dr. Kristen P. Constant  
Presentation: ADVANCE Inclusion in the Strategic Plan  
Audience: Materials Science and Engineering Faculty Retreat  
Date: August 18, 2010

Presenters: Dr. Kristen P. Constant  
Presentation: Best Practices for Faculty Searches  
Audience: Chemical and Biological Engineering Faculty Retreat  
Date: August 18, 2010

B. Deans, college cabinets and other leaders:

Discussant: Drs. Elisabeth Lonergan and Susan J. Lamont  
Title: ADVANCE Collaborative Transformation process  
Audience: College of Agriculture and Life Sciences Deans Cabinet  
Date: May 20, 2011

Discussant: Dr. Susan J. Lamont  
Title: Promotion and Tenure Workshop  
Audience: College of Agriculture and Life Sciences  

Discussant: Dr. Kristen P. Constant  
Title: Best Practices for Faculty Searches  
Audience: LAS Dean Search Committee  
Date: April 21, 2011
Discussant: **Dr. Susan J. Lamont**  
Title: *New Faculty Orientation*  
Audience: College of Agriculture and Life Sciences  
Date: April 7, 2011

Discussant: **Dr. Susan J. Lamont**  
Audience: College of Agriculture and Life Sciences Strategic Planning Committee  
Dates: February 14, 21 and 28, 2011; March 2, 7, 21 and 28, 2011; April 8, 15, 21 and 26, 2011

Discussant: **Dr. Susan J. Lamont**  
Audience: College of Agriculture and Life Sciences Deans Cabinet  
Dates: December 17, 2010; January 21, February 18, March 25

Discussant: **Dr. Kristen P. Constant**  
Title:  
Audience: Search Committee for Vice President of Extension  
Date: October 20, 2010

Discussant: Prepared by **Dr. Kristen P. Constant**, presented by **Dr. Chuck Glatz**  
Title: *Avoiding Unintended Bias in Promotion and Tenure*  
Audience: College of Engineering Promotion and Tenure Committee  
Date: October 4, 2010

Discussant: **Dr. Kristen P. Constant**  
Title: *ADVANCE Update*  
Audience: College of Engineering Academic Council  
Date: August 3, 2010, October 5, 2010

**C. College-Level Faculty Networking**

Discussant: **Dr. Kristen P. Constant**  
Title: *Search Outcomes*  
Audience: College of Engineering Women Faculty Coffee  
Date: April 12, 2011

Discussant: **Dr. Susan J. Lamont (co-hosted with Ruth McDonald)**  
Title: *Time management presentation by Dr. Susan Johnson, University of Iowa*  
Audience: ISU Faculty and Staff  
Date: April 6, 2011

Discussant: **Dr. Kristen P. Constant**  
Title: *Unspecified Discussion*  
Audience: College of Engineering Women Faculty Lunch  
Date: February 11, 2011

Discussant: **Dr. Kristen P. Constant**  
Title: *Mentoring Experiences*  
Audience: College of Engineering Women Faculty Lunch  
Date: September 10, 2010
D. ISU Diversity Partner Discussions

Discussant: Dr. Susan J. Lamont
Title: Internship orientation (Aurelio Curbelo, Mary De Baca)
Audience: George Washington Carver
Date: May 26, 2011

Discussant: Dr. Bonnie Bowen
Audience: Review team for ISU Program for Women in Science and Engineering
Date: March 31, 2011

Discussant: Dr. Susan J. Lamont
Title: Participant in ISCORE conference
Date: March 4, 2011

Discussant: Dr. Susan J. Lamont
Audience: Meeting with CALS Diversity Leadership Team (Aurelio Curbelo, Mary De Baca, David Acker, Joe Colletti)
Date: December 17, 2010

Discussant: Dr. Kristen P. Constant
Title: Pathways to Advancement – The Role of Mentoring
Audience: College of Engineering Diversity Workshop
Date: October 21, 2010

Discussant: Dr. Kristen P. Constant
Title: Best Practices for Faculty Searches
Audience: College of Engineering Diversity Workshop
Date: October 21, 2010

Discussant: Dr. Kristen P. Constant
Audience: College of Engineering Diversity Committee; focus for 2010-11 was faculty searches
Date: Ten meetings

Discussant: Drs. Bonnie Bowen and Dawn Bratsch-Prince
Audience: ISU Women’s Leadership Consortium
Date: Monthly meetings

Interactions outside ISU

Discussant: Dr. Elizabeth Hoffman
Title: COACHE discussion
Audience: Chief Academic Officers at the APLU Annual Meeting, Dallas, TX
Date: November 16, 2010

List of Products Available
Resources and reports available on the Iowa State University ADVANCE website during Year 5 include resources for associate professors, mentors, deans, and chairs and products from the Collaborative Transformation Project.
Resources available on the ISU ADVANCE website

- O’Connor, A. 2011. Resources for Chairs, Deans, and Mentors: Actively mentoring Associate Professors on the path to Full Professors. (Appendix 2 in Year 5 Annual Report)
- O’Connor, A. 2011. Resources for Chairs, Deans, and Mentors: Providing guidance about service commitments to Associate Professors. (Appendix 3 in Year 5 Annual Report)
- O’Connor, A. 2011. Resources for Associate Professors: Scholarship on the path to Full Professor. (Appendix 4 in Year 5 Annual Report)
- O’Connor, A. 2011. Resources for Associate Professors: Asking for guidance about service commitments. (Appendix 5 in Year 5 Annual Report)

Report from the Collaborative Transformation Project


Additional Reports Produced for Departments (not available to the public)


SECTION IV. PERSONNEL AND FINANCIAL REPORT

IV.A. PERSONNEL — RESPONSIBILITIES OF FACULTY AND STAFF SUPPORTED BY THE GRANT

Iowa State received the ADVANCE-Institutional Transformation award on 28 August 2006. Our year runs from 1 August to 31 July. Detailed financial information was sent to NSF through FastLane, but is not provided in this public version of the report. If you have questions about personnel and financial details, please contact the ADVANCE Program (advance@iastate.edu).

SECTION V: REPORT OF KEY INDICATORS

During Year 5 we continued to monitor the eight key indicators and added to the tables that were created last year. ISU Co-PI Team member, Dr. Sandra Gahn led the effort to compile the data from 2001-2010. Dr. Gahn is Associate Director of Institutional Research and most of the data were available through the Institutional Research database. The tables that follow provide an extension of the data presented in the previous Annual Reports. These key indicators continue to provide valuable data for the assessment of the impact of the institutional transformation being undertaken by the ADVANCE Program.

Below we provide the eight indicator tables. Charts and figures for some of these tables appear in sub-section C.7 of Section III. We continue to divide the ISU departments into three disciplines, STEM (science, technology, engineering and mathematics), SBS (social and behavioral sciences) and HBD (humanities, business, and design). Most tables are aggregated by discipline. We have aggregated data by department, where appropriate. For Tables 3 and 4, dealing with tenure and promotion review, we have aggregated data by colleges and by discipline. Tables that are aggregated by department are not aggregated by college, because of the complexity of departments that are administered jointly by two colleges.
<table>
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<th>Discipline</th>
<th>Women</th>
<th>Men</th>
<th>Percent Women</th>
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<td>3</td>
<td>11.1%</td>
</tr>
<tr>
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<tr>
<td>Electrical &amp; Computer Engineering</td>
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<td>11.1%</td>
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<tr>
<td>Entomology</td>
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<td>Genetics, Development, &amp; Cell Biology</td>
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</tr>
<tr>
<td>Geologic &amp; Atmospheric Science</td>
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<td>Horticulture</td>
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<td>Veterinary Clinical Science</td>
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</tr>
<tr>
<td>Veterinary Microbiology &amp; Preventive Medicine</td>
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<td>11.1%</td>
</tr>
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<td>11.1%</td>
</tr>
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<td>STEM Totals</td>
<td>54</td>
<td>55</td>
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<tr>
<td>Discipline</td>
<td>Women</td>
<td>Men</td>
<td>Percent Women</td>
</tr>
<tr>
<td>------------------------------------------------</td>
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<td><strong>Social &amp; Behavioral Sciences (SBS)</strong></td>
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<tr>
<td>Educational Leadership &amp; Policy Studies</td>
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<td>Human Development &amp; Family Studies</td>
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</tr>
<tr>
<td>Political Science</td>
<td>SBS 0</td>
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<td>Psychology</td>
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<td>SBS 6</td>
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</tr>
<tr>
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## Table 2. Number and Percent of tenure track and non-tenure-eligible faculty by gender, department, and discipline for 2010

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<tr>
<th>Department and Discipline</th>
<th>Tenured &amp; Tenure-Track</th>
<th>Non-tenure-eligible</th>
<th>Non-tenure-eligible Women as % of All Women</th>
<th>Non-tenure-eligible Men as % of All Men</th>
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<td>15.0%</td>
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<tr>
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<tr>
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<tr>
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<tr>
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Iowa State ADVANCE Program
Year 5 2010-2011 Annual Report - public
Table 2. Number and Percent of tenure track and non-tenure-eligible faculty by gender, department, and discipline for 2010-continue

<table>
<thead>
<tr>
<th>Department</th>
<th>Total</th>
<th>Women &amp; Men</th>
<th>%Women</th>
<th>Tenured &amp; Tenure-Track</th>
<th>Non-tenure-eligible</th>
<th>Non-tenure-eligible Women as % All Women</th>
<th>Non-tenure-eligible Men as % All Men</th>
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<tbody>
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<td><strong>Social &amp; Behavioral Sciences (SBS)</strong></td>
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<td>3 100.0%</td>
<td>50.0%</td>
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<td>9</td>
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Iowa State ADVANCE Program
Year 5 2010-2011 Annual Report - public

61
Table 3. Tenure Review Outcomes 2010

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<th></th>
<th># Reviews</th>
<th></th>
<th># Approvals</th>
<th></th>
<th># Denials</th>
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<tr>
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<td></td>
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<table>
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<tr>
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</table>

<table>
<thead>
<tr>
<th></th>
<th># Reviews</th>
<th></th>
<th># Approvals</th>
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<th># Denials</th>
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<tbody>
<tr>
<td></td>
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<td>Male</td>
<td>Total</td>
<td>Female</td>
<td>Male</td>
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</tr>
<tr>
<td>HBD Disciplines</td>
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Note: STEM refers to Science Technology, Engineering & Math; SBS refers to Social & Behavioral Sciences; HBD refers to Humanities, Business & Design

Four faculty members (one in STEM, one in SBS and two in HBD) resigned their positions in lieu of mandatory review.

These numbers reflect tenure review outcomes that were submitted to the Executive Vice President & Provost Office.

Source: Office of Institutional Research
<table>
<thead>
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<th># Denials</th>
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Note: STEM refers to Science Technology, Engineering & Math; SBS refers to Social & Behavioral Sciences; HBD refers to Humanities, Business and Design

These numbers reflect promotion review outcomes that were submitted to the Executive Vice President & Provost Office.

Data Source: Office of Institutional Research
Table 5a. Years in Rank at the Associate Professor Level for Faculty Hired as Assistant Professors
October 2010

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<td>22%</td>
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<td>9%</td>
<td>11</td>
<td>8%</td>
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<td>2%</td>
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<td>4%</td>
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Those 15 and more:
Range                | 15-25 | 15-35 |
Mean                 | 19.6  | 20.9  |
Std. Deviation       | 4.8   | 4.4   |
Median               | 17.0  | 21.0  |

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Those 15 and more:
Range                | 16-25 | 20-34 |
Mean                 | 21.0  | 27.0  |
Std. Deviation       | 4.6   | 9.9   |
Median               | 22.0  | 27.0  |

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Those 15 and more:
Range                | 15-24 | 16-24 |
Mean                 | 18.7  | 21.5  |
Std. Deviation       | 2.7   | 2.9   |
Median               | 18.0  | 21.0  |

STEM = Science, Technology, Engineering, and Mathematics
SBS = Social and Behavioral Sciences
HBD = Humanities, Business and Design
### Table 5b. Years in Rank at the Associate Professor Level for Faculty Hired as Associate Professors
**October 2010**

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<tr>
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| Total         | 8    | 5   | 7   |

**Those 15 and more:**

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**STEM = Science, Technology, Engineering, and Mathematics**

**SBS = Social and Behavioral Sciences**

**HBD = Humanities, Business and Design**
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STEM = Science, Technology, Engineering, Mathematics
SBS = Social & Behavioral Sciences
HBD = Humanities, Business & Design
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STEM = Science, Technology, Engineering, Mathematics
SBS = Social & Behavioral Sciences
HBD = Humanities, Business & Design

Iowa State ADVANCE Program
Year 5 2010-2011 Annual Report - public
Table 8. 2010-2011 Faculty Leadership Positions

<table>
<thead>
<tr>
<th>Leadership Position</th>
<th>All Faculty</th>
<th>Number of Women Faculty</th>
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<tr>
<td></td>
<td>All</td>
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<td>Associate and Assistant Deans</td>
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<tr>
<td>Directors of Centers &amp; Institutes</td>
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<td>President, Vice-Presidents, Provost, Vice-Provosts, Associate Provosts</td>
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<td>Endowed/Named Chairs and Professorships</td>
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<td>Distinguished Professors</td>
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<td>University Professors</td>
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<td>Promotion &amp; Tenure Committees / College Level</td>
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<td>Faculty Senate members</td>
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<td>Chairs of Interdepartmental Graduate Programs (IDGPs)</td>
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STEM = Science, Technology, Engineering and Mathematics
SBS = Social and Behavioral Science
HBD = Humanities, Business and Design
APPENDICES

1. ISU ADVANCE COLLABORATIVE TRANSFORMATION PROJECT: FINAL FOCAL DEPARTMENT SYNTHESIS REPORT (APRIL 2011) ................................. 70

2. RESOURCES FOR CHAIRS, DEANS, AND MENTORS: ACTIVELY MENTORING ASSOCIATE PROFESSORS ON THE PATH TO FULL PROFESSORS (DEC. 2010) ........... 95

3. RESOURCES FOR CHAIRS, DEANS, AND MENTORS: PROVIDING GUIDANCE ABOUT SERVICE COMMITMENTS TO ASSOCIATE PROFESSORS (DEC. 2010) . . . . 97

4. RESOURCES FOR ASSOCIATE PROFESSORS: SCHOLARSHIP ON THE PATH TO FULL PROFESSOR (JANUARY 2011) ......................................................... 99

5. RESOURCES FOR ASSOCIATE PROFESSORS: ASKING FOR GUIDANCE ABOUT SERVICE COMMITMENTS. (JANUARY 2011) ............................. 101

6. RECOMMENDATIONS FOR SUSTAINING ISU ADVANCE PROGRESS BEYOND 2011. (FEBRUARY 2011) ................................................................. 103

7. SCORECARD PREPARED FOR DEANS PRIOR TO EXTERNAL EVALUATORS’ VISIT. (OCTOBER 2010) ................................................................. 126

8. KEY AREAS FOR INSTITUTIONALIZATION AND SUSTAINABILITY BEYOND YEAR 5 OF THE PROGRAM (SEPTEMBER 2010) ................................. 128

9. EXTERNAL EVALUATORS’ REPORT (FEBRUARY 2011) .................. 139

10. EXTERNAL ADVISORS’ REPORT (OCTOBER 2010) ......................... 152
Collaborative Transformation Project

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Final Focal Department Synthesis Report*

Animal Science
Chemistry
Chemical and Biological Engineering
Civil, Construction and Environmental Engineering
Ecology, Evolution, and Organismal Biology
Genetics, Development and Cell Biology
Materials Science Engineering
Physics and Astronomy
Plant Pathology

April 2011

Sharon R. Bird, Carla Fehr, Lisa M. Larson, and Molly Sween


*Contact: sbird@iastate.edu for more information about the ISU ADVANCE Collaborative Transformation Project.

*The research reported here was supported by a grant from the National Science Foundation SBE 0600399. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.
Iowa State University ADVANCE Leadership Team

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Elizabeth Hoffman, Executive Vice President and Provost

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College of Agriculture and Life Sciences EA

ADVANCE Collaborative Transformation****

ADVANCE Professors (APs): Adam Bogdanove (Plant Pathology), Chuck Glatz (Chemical and Biological Engineering), Alan Goldman (Physics and Astronomy), Mark Gordon (Chemistry), Shauna Hallmark (Civil, Construction and Environmental Engineering), Elisabeth Lonergan (Animal Science), Ralph Napolitano (Materials Science and Engineering), Jim Raich (Ecology, Evolution and Organismal Biology), Steve Rodermel (Genetics, Development and Cell Biology)

Research Team: Sharon R. Bird, Carla Fehr, Lisa M. Larson, Molly Sween

Findings
April 2011

Introduction

This report summarizes research from the Iowa State University ADVANCE Collaborative Transformation (CT) project, which is one of many components of ISU’s ADVANCE program. ISU ADVANCE is funded by a 5 year “Institutional Transformation” grant from the National Science Foundation. The National Science Foundation awards ADVANCE Institutional Transformation grants to universities and colleges for the purpose of transforming institutional structures, cultures, and practices in ways that enhance the recruitment, retention, and promotion of women faculty, and when possible, underrepresented faculty of color in STEM disciplines. ISU’s ADVANCE program goals include “top-down” initiatives, such as the creation of college-level “Equity Advisors” (in 3 colleges presently) and the development, implementation and support of university-wide policies for enhancing faculty members’ work-life balance. ISU ADVANCE goals also include “bottom-up” initiatives, such as the Collaborative Transformation project. The CT project focuses explicitly on creating departmental structures, cultures and practices that enhance faculty members’ satisfaction with their careers at ISU; their productivity as scholars; and their contributions to departmental efforts to recruit, retain and promote other excellent faculty members of diverse backgrounds.

The results from the ISU CT project discussed in this document are based on intensive research conducted within nine (9) Science, Technology, Engineering and Mathematics (STEM) focal departments at ISU from fall 2006 thru early spring 2011. The report also provides information about how ISU departments other than the nine focal departments can begin to assess departmental climate and take proactive measures to enhance it. These recommended strategies are based on the outcomes of strategies implemented at ISU as part of the CT project as well as findings from other U.S. ADVANCE institutions and ISU policies that are consistent with the goals of the NSF’s ADVANCE IT program.

The first three departments to participate in the CT project were Ecology, Evolution, and Organismal Biology (EEOB), Genetics, Development and Cell Biology (GDCB), and Materials Science Engineering (MSE). These departments began participation in 2006. The second set of departments to participate in the CT Project was comprised of Animal Science (AN S), Chemistry (CHEM), and Civil, Construction and Environmental Engineering (CCEE). These departments began participation in 2008. The final three departments to participate were Chemical and Biological Engineering (CBE), Physics and Astronomy (PHYSA), and Plant Pathology (PL P). These departments began participation in 2009. The nine focal departments represent three (3) ISU colleges: The College of Liberal Arts and Sciences, the College of Agriculture and Life Sciences, and the College of
Engineering. Each cohort of three departments included one focal department from each of these 3 colleges.

Department Chairs and faculty in each of these departments worked together with researchers (scholars in the fields of organizational studies, women in science and professions, psychology, and higher education) and members of the ISU ADVANCE Co-PI Leadership Team and its partners to help ISU better understand how to ensure positive departmental work environments and to achieve the overall goals of the ADVANCE grant program. These departments were selected, in large part, because of their willingness to contribute to achieving greater understanding of the structures, practices, and cultures most conducive to faculty success at ISU and, collectively, among STEM disciplines. The departments selected for the ADVANCE CT project are home to many nationally prominent graduate programs and world-renowned scholars. Each of these departments and their department Chairs have dedicated considerable time and attention to the ISU ADVANCE project and are to be commended for their efforts.

Departmental climate enhancement efforts were organized by ADVANCE Professors (APs), Department Chairs and a departmental team or advisory group in each respective department. An “ADVANCE Professor” is a tenured faculty member selected by the Chair of each department in consultation with the ISU ADVANCE PI to work with ADVANCE researchers in facilitating departmental transformation efforts. ADVANCE Professors have served as primary instigators of change in their departments throughout the CT process.

The methods for gathering the in-depth qualitative data were focus groups, individualized interviews with faculty and Chairs, and the examination of departmental documents (e.g., governance documents) from each of the nine STEM departments. Average participation among the faculty across all nine departments was 74.34 percent. Departmental response rates ranged from 63 percent to 91 percent. All interviews and focus groups were audio-recorded and then transcribed. Transcriptions of focus group and interview sessions yielded 2,444 1.5-spaced pages of raw data in addition to departmental governance documents and notes from focal departmental web sites. The data were first analyzed separately for each department. Separate reports (executive summary, findings, strategies for addressing salient issues, summary of research methods) were then written for each department so that individual departments could begin the process of addressing issues particular to their own department (Bird and Hamrick 2007a; Hamrick and Bird 2007; Bird and Hamrick 2007b; Bird 2009; Fehr 2009; Larson 2009; Bird 2010; Fehr 2010; Larson 2010; see also Bird, Constant, Janzen and Powell-Coffman 2008; Bird and Hamrick 2008; Bird, Rhoton, Fehr and Larson 2010).

The CT project is designed to “mirror back” to faculty in each department aspects of their own workplace climate that influence how positive their climate is and how effective the department’s recruitment, retention and promotion practices are. Focus group and interview data are used to better understand departmental structures, practices, and cultures. After the nine separate departmental reports were completed (as noted above), the data for all nine departments were then analyzed collectively in order to identify those issues that were salient across the nine departments. Thus, this synthesis report is not a simple merging of all findings from the separate departments, but rather represents only the issues that were
common to all nine departments. For example if an issue was identified as salient in only one or two departments, it was not included in the section on major findings included below. Each major finding outlined in the next section represents an issue that faculty in all nine departments addressed during focus group and interview sessions.

The seven major findings across all nine focal departments are summarized as follows: (1) collegiality and the work environment; (2) faculty recruitment and hiring structures and practices; (3) promotion and tenure structures and practices; (4) mentoring; (5) work-life balance; (6) faculty teaching loads, course distribution practices, and rewarding teaching; and (7) facilities, administrative support and technical support.

Findings

1. COLLEGIALITY AND THE WORK ENVIRONMENT

The term “collegiality” was used by faculty members to describe a wide array of faculty behaviors and practices. These included, for example, being able to express differing viewpoints during faculty meetings, supporting colleagues for award nominations, “pulling one’s weight” on departmental committees, and demonstrating a willingness to fill in for colleagues in cases of emergency or prolonged illness. In some cases, the term “collegiality” was also used to describe the practice of collaborating with other faculty. However, most faculty members distinguished between “collegial” and “collaborative” practices, using the former to refer to levels of respectfulness, civility, professionalism and shared purpose, and using the latter to refer to the act of working together with others on a specific scholarly project or research agenda. To the extent that faculty members across departments were familiar with their colleagues’ scholarly accomplishments, they expressed considerable respect for those accomplishments.

Faculty members, especially newer Assistant professors and Full professors who are nearing retirement, reported having less knowledge than Associate professors about the work and lives of departmental colleagues whose research interests differ from their own. Not all faculty members view a lack of familiarity with colleagues and colleagues’ work as equally problematic. Assistant professors expressed greater concern about low collegiality because, in their view, the fewer the opportunities they have to interact with tenured faculty, the fewer the opportunities to benefit from tenured faculty members’ insights, feedback and support.

Assistant, along with Associate professors, were also more likely to express concerns about the effects of low collegiality on their ability to understand how important departmental decisions are made and to know the criteria for promotion, tenure and pay raises. Low collegiality was associated with less clarity in all of these areas. Low collegiality, however, does not automatically result in less transparency. In departments where formal documented procedures are clearly communicated to all faculty members, issues of transparency were of less concern even if faculty members interacted only infrequently with one another.
The extent to which departmental members were spread across multiple buildings also influenced faculty views on collegiality. Departments that are spread across multiple buildings tended to report lower levels of familiarity with colleagues’ scholarly activities, greater difficulty in establishing mutually agreeable faculty meeting and seminar schedules, less clarity among the faculty about how course loads and distributions are determined, less clarity among the faculty about expected levels of departmental service, and less certainty about how important departmental decisions are made. The size of the department also exacerbated some of these problems, such as finding mutually agreeable meeting and seminar times due to the need to accommodate so many schedules.

**Collegiality may be a concern** when one or more of the following circumstances exist:
- Minimal interaction exists between faculty members and departmental leaders or between junior and senior faculty.
- Only a small portion of the faculty actively participates during faculty meetings or on departmental committees.
- The department experiences low or declining attendance at faculty meetings or departmental seminars and events.
- Only a small subset of the faculty voluntarily accepts departmental committee assignments.
- The membership of departmental committees remains static or rotates only minimally from one year to the next.
- Faculty willingness to assist other faculty members who are temporarily unable to teach a class or fulfill committee responsibilities is low.

**Addressing potential problems.** Departments hoping to enhance collegiality, tap the range of faculty members’ viewpoints and potential contributions, and enhance faculty members’ job satisfaction and job commitment may benefit by implementing the following types of procedures:
- Holding regular faculty meetings that focus on key departmental issues and that enable newer and more junior faculty to better understand departmental operating procedures.
- Holding regular seminars at which faculty members present and discuss their research.
- Regularly reviewing/posting a list of “best practices” for efficient faculty meetings.
- Designating a faculty member at each faculty meeting to facilitate dialogue in a manner that encourages respect for colleagues and equitable opportunities for diverse ideas from the full range of faculty participants.
- Increasing transparency in decision-making regarding teaching assignments and rewards associated with teaching.
- Department Chairs may wish to have discussions with the faculty about the teaching needs of the department in conjunction with faculty input about how to meet departmental teaching needs.
- Clarifying with the faculty the process and criteria regarding tenure and promotion decisions and annual salary increases (see Finding 3 below).
- Increasing transparency in decision-making regarding faculty recruitment, hiring and retention (see Finding 2 below).
- Encouraging faculty members to proactively learn more about colleagues’ research (e.g., review grant proposals, attend research presentations).
- Facilitating the development of collaborations among faculty in the department and across departmental units.
- Encouraging faculty members to schedule meetings during regular working hours so that colleagues who have children at home are able to sufficiently manage work and family/life responsibilities.
- Encouraging faculty members to become more familiar with ISU’s work-life and family-friendly policies.

2. FACULTY RECRUITMENT AND HIRING

Faculty members across all departments stated that recruiting and hiring the very best faculty members is essential to the success of their department and the university. Recruitment processes involve multiple steps, including: (1) appointing a search committee; (2) developing a description of the job position; (3) posting the call for applications in appropriate outlets; and (4) encouraging excellent candidates to apply.

Hiring processes involve many additional steps, including: (5) evaluating applicants and developing an initial list of potential candidates; (6) if appropriate, holding preliminary telephone interviews with potential candidates; (7) narrowing the initial list of potential candidates to only the candidates the department wants to bring to campus for interviews; (8) the on-campus interview; (9) evaluating on-campus interview candidates and ranking the acceptable candidates; (10) extending an offer; (11) and negotiating an acceptable offer with the candidate (including the negotiation of any special circumstances).

Recruitment structures and practices. Most faculty members across departments expressed support for recruiting a diverse range of faculty members, including scholars with differing research interests, women scholars, scholars of color, and international scholars. Faculty in each department discussed the processes by which search committees are appointed, job descriptions are written and posted, and applicant pools are developed. These processes did not vary greatly from one department to the next; all aligned with university guidelines.

Viewpoints among departmental faculty members varied on the topic of how best to create applicant pools. Some of the faculty across departments (the proportion varies) expressed the view that the primary reason for the underrepresentation of women faculty or U.S. faculty of color in their department is that these groups are underrepresented among Ph.D. and post doc applicant pools. Many of these same faculty members embrace the belief that it is desirable to enhance the gender and race/ethnic diversity of applicant pools which would further diversify departmental faculty, but that they do not believe significant changes in the composition of the faculty in their departments will be made until the representation of women and underrepresented race/ethnic minorities (URMs) among the pool of qualified applicants increases.

Some faculty members across departments who support the goal of enhancing diversity among the faculty (again, the proportion varies) explained that they lack the time to engage more proactively in this effort. Other faculty asserted that there was no need to spend extra time searching for diverse applicants for open positions because their disciplinary fields are
so small that the faculty in their department already know who the qualified applicants are and whether there are women and/or URM candidates among them.

Still other faculty members (again, the proportion varies) across departments expressed the view that a “business as usual” approach to diversifying applicant pools is insufficient, and that their departments could do more to enhance the likelihood that women and people of color apply. Many of these same individuals also noted that to become personally involved in efforts to change this situation would require more time than they can spare.

A portion of the faculty in each department (the proportion varies) expressed a concern that efforts aimed specifically at increasing the percentage of women faculty or faculty of color in a department may result in the gender or ethnicity of the candidate being viewed as more important than the quality of the candidate’s scholarship. This sentiment (when expressed) is often framed as a “lowering of standards.” Many of the faculty who subscribe to this view commonly add that faculty position searches should not specifically target the hiring of candidates who fit certain demographic categories because targeted searches may result in hiring individuals who are not as highly qualified (or who are viewed as being less highly qualified even if they are not). These same faculty members commonly express a preference for “gender blind” and “race/ethnicity blind” recruitment strategies.

Faculty members who articulated the belief that targeting women and URMs in hiring processes can result in lowering standards (or the perception of lowered standards) also commonly subscribed to the belief that the proportion of women faculty and faculty of color will increase automatically as the percentages of women and people of color earning advanced degrees in STEM fields increases. Putting more effort into recruiting more women and people of color, from this point of view, will produce little added benefit because there simply aren’t enough highly qualified candidates among these groups.

**Hiring structures and practices.** Multiple commonalities also exist across departments in hiring processes. The topic of the hiring process was discussed at greater length and detail in focal departments that joined the ISU ADVANCE Collaborative Transformation project as part of the first cohort of departments (in late fall, 2006/early January 2007) than in focal departments that joined later in the project. First round focal departments (EEOB, GDCB, MSE), for example, discussed in greater detail how short lists for on-campus interviews are developed, how on-campus interview candidates are evaluated, whether unintentional gender and race/ethnic biases may influence these processes, and whether criteria other than those initially specified in formal job descriptions are invoked by faculty members during deliberations about the qualifications of finalists for faculty positions. Of most concern regarding hiring processes were departmental practices for evaluating on-campus job candidates. In departments where faculty members perceived that their colleagues sometimes used criteria other than those specified in the job description to make their decisions about who to support for hiring, biases were believed to influence the hiring process.

Focal departments in the 2nd and 3rd rounds of participation (beginning in fall 2008 and fall 2009, respectively) discussed hiring processes as well, including the types of practices noted above. The 2nd and 3rd round departments, however, focused less attention (overall)
on the potential effects of unintentional biases or deviations from requisite evaluation practices than on strategies for maximizing the likelihood that top candidates will choose to accept a job offer from ISU.

**Recruitment and hiring practices/processes may be a concern** when one or more of the following circumstances exist:

- The percentage of women faculty or underrepresented faculty of color in a department is much lower than the percentage of available Ph.D.s or post-docs in the discipline or disciplinary sub-field.
- Applicant pools are derived primarily from current faculty members’ networks (without efforts to expand the pool to include candidates who are not likely to be in faculty members’ networks).
- Initial applicant pools are consistently much more diverse by gender, race and ethnicity than are short lists of candidates for on-site interviews.
- Inconsistent criteria are used to evaluate candidates for inclusion on short lists or for determining which candidates to offer a job.
- Faculty members’ rankings of candidates based on the sum total of specific criteria differ from faculty members’ rankings of candidates conducted apart from the use of specific criteria.
- Lacking a rotation of members for departmental search committees from one year to the next (unless the lack of rotation is due simply to the fact that the department is very small).
- Candidates of specific types of backgrounds (e.g., URMs, new parents, women, people who have spouses or partners who also seek jobs in academia) consistently reject offers to come to ISU as new faculty members.
- No options are made available for on-campus interview candidates to obtain information about family-friendly/work-life balance policies, mentoring for new faculty, and university and community climate for faculty of diverse backgrounds.
- The department (and thus, the university) consistently loses top candidates because, according to candidates, competing offers from other universities include better salaries, start-up packages, partner accommodations, parental leave for new parents, etc.

**The attractiveness of ISU to potential job candidates may be a concern** when one or more of the following circumstances exist:

- Top candidates reject job offers or leave the university voluntarily because no accommodations are made for partners or spouses.
- Top candidates reject job offers, citing insufficient start-up packages or salaries as the reason for rejecting the offer.
- Top candidates reject job offers or leave the university voluntarily because they find their departments, the university, or the local community to be unwelcoming.
- Top candidates (including post-docs) reject job offers or leave the university voluntarily because childcare options are insufficient.
- Top candidates (including post-docs) reject job offers or leave the university voluntarily because the university lacks an accessible and adequately funded program for modifying the duties of new parents.
**Addressing potential problems.** In departments where recruiting and hiring problems exist, the following strategies may help to address these problems:

- If applicant pools are derived primarily from current faculty members’ networks and/or initial applicant pools are consistently much more diverse by gender, race and ethnicity than are short lists of candidates for on-site interviews (over the course of multiple searches), the department may wish to expand candidate pools to include candidates who are not likely to be in faculty members’ networks. For more information, the department may wish to review resources for faculty recruitment provided on the ISU Office of the Executive Vice President and Provost website (http://www.provost.iastate.edu/faculty/) or go directly to the ISU EVPP Resource Guide for Recruiting Excellent and Diverse Faculty (http://www.provost.iastate.edu/office/resource/appendix7.html).

- In some cases, inconsistent criteria are being used to evaluate candidates for inclusion on short lists and for determining which candidates to offer a job. In other cases, faculty are asked to provide a rank ordering of candidates for short lists and job offers but are not being asked to provide an assessment of each candidate based on specific criteria and to then justify their overall rankings based on those specified criteria. Under either of these circumstances, the department may wish to:
  - hold faculty meetings that involve the discussion of each candidate’s (or short list of candidates’) strengths as well as weaknesses to help minimize the potential effects of unintended biases;
  - use ranking forms that require each faculty member to rank each candidate’s criteria and to then justify the overall ranking of candidates based on these criteria;
  - review resources for faculty recruitment provided on the ISU Office of the Executive Vice President and Provost website (http://www.provost.iastate.edu/faculty/) or go directly to the ISU EVPP Resource Guide for Recruiting Excellent and Diverse Faculty (http://www.provost.iastate.edu/office/resource/appendix7.html). The Resource Guide for Recruiting Excellent and Diverse Faculty includes examples of Candidate Evaluation Rubric Forms that departments can adapt for their own purposes.

- If the department rarely rotates members of departmental search committees from one year to the next (even though the department is large enough to rotate members of such committees), the department may wish to consider rotating committee members more often.

- Use existing “best practices” for highlighting ISU’s family friendly and work-life balance policies, such as those outlined in the on-line resource “ISU Policies and Guidelines for Flexible Faculty Careers: Resources for Chairs & Deans” (Harris, Carlson and Bowen 2009): http://www.advance.iastate.edu/worklife/worklife.shtml.

- If candidates of specific types of backgrounds (e.g., URMs, etc.) consistently turn down offers to come to ISU as new faculty members, the department, college and university may want to:
  - consider new mechanisms for ensuring that job candidates receive ample information about ISU’s family-friendly/work-life balance policies, mentoring programs for new faculty, and university/community diversity organizations, programs, and activities;
discuss, identify and implement department-level guidelines that might clarify the department’s long-term commitment to a family-friendly workplace.

3. PROMOTION, TENURE AND FACULTY EVALUATION PROCESSES

Across the nine focal departments, faculty members of all ranks discussed promotion and tenure. Untenured tenure-track Assistant professors expressed greater concern about these issues than tenured faculty. Among tenured faculty, Associate professors expressed greater concern than Full professors. The issues discussed by faculty regarding promotion and tenure are outlined below.

Clarity of criteria for promotion and tenure. Some faculty noted that information sharing regarding the criteria for and processes of promotion and tenure is inadequate. Assistant professors were most apt to raise concerns about promotion and tenure, but many Associate professors expressed concerns about the clarity of criteria in promotion processes as well.

- Assistant professors commonly noted that the input that they had received from their departmental, college and university colleagues about the importance of research productivity (publications and grants) for promotion and tenure was clear, but that the importance of teaching and (to a lesser extent) service were less clear.

- Associate professors commonly believe that their understanding about the level of excellence one must achieve in publishing research, obtaining research grants, and teaching to be promoted to Full professor was sufficient. However, Associate professors were less clear in their understanding of the level of service to the institution and the profession and the level of “national and international prominence” that they would need to achieve in order to be promoted to Full professor.

- Some faculty (across ranks) noted that there isn’t enough support for Assistant professors during the promotion and tenure process (e.g., regarding how to package the appropriate materials for P&T dossiers).

- Some Assistant and Associate professors expressed the need for more departmental, college and university mechanisms for faculty to compare personal accomplishments to those of other faculty of the same rank, or of the rank to which they sought promotion.

- Some faculty noted that faculty members who are asked and subsequently accept greater teaching (including advising) and service responsibilities relative to other departmental faculty members are disadvantaged in promotion and tenure processes because they are left with less time to devote to research and to pursuing external funding.

Faculty reviews and evaluations. Assistant professors, on average, reported that department Chairs provided the most helpful and consistent feedback about personal performance and about promotion and tenure expectations and processes, and that they appreciate Chairs’ efforts to support their careers. Assistant professors’ experiences with departmental evaluation committees that are comprised of other faculty members were described as variable (i.e., some were good, some were sufficient, and some were poor). Faculty promotion and tenure (P&T) evaluation committees were viewed as minimally helpful by Assistant professors if they communicated inconsistent expectations regarding promotion and tenure. Promotion and tenure committees were viewed as more supportive if they provided one or more of the following to the Assistant professor: consistent
messages about the expectations for promotion and tenure; feedback on grant applications; tips on managing graduate students; strategies for balancing teaching, research and service obligations; information about family-friendly and work-life balance policies; and tips on how to increase time for research activities.

Associate and Full professors’ concerns about faculty reviews and evaluations centered less on the kinds of feedback that they received from departmental evaluation committees because they only rarely meet with such committees (e.g., for post tenure review). Associate professors spoke about the need to ensure that annual faculty evaluations with the department Chair involve feedback tailored to each faculty member about what she or he is doing well and what she or he needs to do better in order to be promoted or to receive larger salary increases. Full professors also noted a need for annual evaluations with the department Chair that include tailored discussions about what each faculty member needs to achieve in order to receive salary increases.

**Career flexibility policies.** Not all faculty members in all departments are fully aware of family friendly policies as they relate to tenure and promotion (See also Finding 4 below). ISU policy states that faculty members have the right to extend the tenure clock for the birth or adoption of a child or for other personal and/or family-related reasons. Some faculty members, in addition, have successfully negotiated with their departments and/or colleges to modify their teaching duties during the semester or year in which a child is born or adopted into their family.

- Some faculty across departments, however, reported not knowing that the tenure clock can be extended for the birth or adoption of a child or to take care of an ailing family member.
- Among some faculty who are familiar with ISU policies that allow faculty members to extend their tenure clock, there is skepticism about whether using this policy is truly beneficial to the person who delays her/his tenure decision.
- Some faculty reported being confused about how to evaluate faculty members who have delayed their tenure clock.
- Many faculty reported that because successful promotion and tenure often relies on obtaining grant funding, the ability for faculty members to take time off is reduced due to responsibilities surrounding grant-funded research.
- Some faculty note that taking parental leave, especially if it reduces one’s teaching load, places undue burden on other faculty members who may then have a more negative view of the faculty member taking time off, which in turn can impact their promotion and tenure.

**Promotion and tenure structures and practices may be a concern** when one or more of the following circumstances exist:

- Assistant professors express concerns to the department Chair or other tenured faculty members about the clarity of promotion and tenure expectations or processes.
- No departmental mechanisms (e.g., a handbook or orientation session) exists for providing Assistant professors with feedback regarding the relative value placed on teaching, research and service in promotion and tenure processes, and regarding their own performance in each of these areas.
The amount of time that Assistant professors are spending on research, teaching and service activities is inconsistent with the amount of time designated in their Position Responsibility Statements (PRS) for those activities.

The level of research productivity or teaching excellence of Assistant professors consistently falls below expected levels of productivity and excellence.

Departmental records documenting the relative performances of faculty (by rank) or records documenting the criteria used for assessing performance levels are inconsistent or unorganized, or such documents are unavailable or difficult to access.

Communication is lacking between the department Chair and the faculty regarding:
- the purpose of annual evaluations between the Chair and the faculty member;
- the purpose of meetings between annual review committees and Assistant professors; or
- the purpose of meetings between post-tenure review committees and tenured faculty.

The department has never or has irregularly held faculty discussions about ISU’s family friendly policies, how to use them and how to evaluate those who use them.

**Addressing potential problems.** In departments where promotion, tenure and salary adjustment concerns exist, the following strategies may help to address these problems:

- Department Chairs may wish to meet annually/bi-annually with Assistant professors to discuss concerns that Assistant professors express about promotion/tenure processes.
- Departments may wish to hold discussions over criteria and corresponding reward structures used for the evaluation of teaching, research, professional practice and service as these relate specifically to promotion, tenure and annual salary increases.
- Departments may wish to reassess current departmental mechanisms for providing feedback to Assistant professors regarding expectations for tenure and promotion and each faculty members’ progress toward promotion and tenure.
- Departments may wish to discuss annually and perhaps outline in their departmental governance document (or a departmental faculty handbook) department-specific steps involved in, and general expectations for, tenure and promotion (which must be consistent with college and university guidelines), including:
  - minimum criteria for research, teaching, professional practice and service competency for tenure, promotion to Associate, and promotion to Full;
  - relative value placed within the department on research, teaching, professional practice, and service;
  - relative value placed among faculty within the department regarding different publication outlets; and
  - relative value placed within the department on different forms of external funding.
- Department Chairs may wish to evaluate with each faculty member in the department his/her PRS to ensure that it corresponds accurately with each faculty member’s scholarly contributions to teaching, research, service and other forms of professional practice.
- Departments may wish to annually discuss at a faculty meeting current ISU work-life and family friendly policies, how to use them and how to appropriately evaluate those who use them.
Departments may also wish to discuss (or invite an ADVANCE Equity Advisor (see p. 2 for a list) to come and speak about) the potential benefits and costs to the faculty member associated with using these policies (given each faculty member’s current career stage and career goals).

Departments may also wish to discuss the benefits of work-life and family friendly policies to the department itself (e.g., enhancing recruitment and retention of faculty and increasing faculty job satisfaction).

- For more information, see the on-line resource “ISU Policies and Guidelines for Flexible Faculty Careers: Resources for Chairs & Deans” (Harris, Carlson and Bowen 2009): [http://www.provost.iastate.edu/fad/docs/灵活 facultycareersresource.pdf](http://www.provost.iastate.edu/fad/docs/灵活 facultycareersresource.pdf).

Department Chairs may want to develop and implement measures for tracking and comparing faculty members’ annual productivity levels in key performance areas.

- Departmental grids (for comparing relative performance levels) may be developed that include indicators for the number of courses/students taught, number of graduate students/post docs funded/graduated, number/ amount of grants, number of research publications, and number of departmental/college/university committees.

### 4. MENTORING FACULTY

Faculty members across ranks discussed mentoring. Most of these discussions focused on the formal and/or informal mentoring of Assistant professors. Focus groups and interviews revealed that, although mentoring is viewed differently across departments, faculty mentoring practices of some kind exist in each of the nine focal departments. Assistant professors commonly state that they believe mentoring is or would be useful to them. Some Associate professors also expressed a desire for mentoring (regarding promotion to Full professor). Mentoring for Assistant professors is much more common than mentoring for Associate professors. Most tenured faculty in the nine focal departments explained that whether they support formal mentoring or not, they are happy to give advice to Assistant professors in their departments when they are asked.

Although most departments support the participation of Assistant professors in formal mentoring relationships and help new Assistant professors to identify suitable faculty mentors, some department cultures emphasize informal over formal mentoring relationships, and are less consistent in their efforts to nurture formal mentoring arrangements. Current mentoring relationships between Assistant professors and their faculty mentors thus varies considerably across and within departments.

Some Assistant professors and newly tenured Associate professors reported that they had very good mentoring whereas others noted that mentoring—formal or informal—had been generally absent for them. Assistant and newly tenured Associate professors explained also that at least a few excellent and committed mentors exist in every department (though not usually enough of them to go around). Faculty across the nine departments and across ranks (the proportion varies) expressed the belief that mentoring need not be completely structured in order to work.

One reason for inconsistencies in mentoring across and within departments is that faculty offices, labs, and classrooms (in the nine focal departments) are often spread across
multiple buildings on campus. Spatial proximity, in particular, influenced Assistant professors’ experiences with obtaining relevant information about tenure and promotion from senior colleagues. Assistant professors who had consistent and frequent opportunities to interact formally and informally with senior departmental colleagues reported having more opportunities and greater comfort in visiting with senior colleagues about promotion and tenure and other issues pertinent to academic success.

Another reason for the reported inconsistencies in mentoring across and within departments is that departmental cultures and subcultures have different expectations about the level of preparedness of new Assistant professors for career success. Some departmental cultures/subcultures expect that if a department hires only highly qualified faculty members then additional assistance for new faculty in the form of mentoring will not be needed. Other departmental cultures/subcultures, however, embrace the idea that mentoring is necessary to ensure that all new professors understand the expectations for tenure, whom to ask questions of regarding the various aspects of their job, and how to successfully manage their research, classrooms and labs, graduate students and service obligations.

In departments where formal mentoring between tenure-track Assistant professors and tenured faculty members is not emphasized, other mechanisms for helping Assistant professors to understand performance expectations commonly exist. The most consistent form of mentoring across departments is annual performance reviews conducted by the department Chair with each faculty member. Faculty members across ranks report that this practice enables them to better understand departmental performance expectations and, to some extent, the criteria by which salary increases are awarded.

Other practices that help faculty members to understand the criteria by which performance is measured include: (a) sharing departmental promotion and tenure portfolios with anyone who wishes to review them; and (b) appointing a departmental committee (annually) comprised of a large number of the faculty (including Assistant professors) to review the CVs of all departmental faculty members and provide feedback to the department Chair regarding the relative annual accomplishments of departmental faculty. In departments where few or no structured mechanisms for helping the faculty understand the criteria for promotion and tenure exist, faculty members were more likely to state the need for (and support) a formal mentoring program for Assistant professors.

Some Associate professors (the proportion in each department varies) also expressed a desire for mentoring regarding promotion to Full professor. The primary reasons cited by Associate professors for needing mentoring were inconsistent messages (or a complete lack of feedback) from Full professors in the department about whether their professional accomplishments were sufficient for promotion and about when to seek promotion to Full. Some Associate professors also noted that a reasonable alternative to formal mentoring for Associate professors would be for Associate professors to regularly review the CVs and/or dossiers of faculty members recently promoted to Full professor in one’s own department and other disciplinarily-related departments.

The Assistant and Associate professors who are MOST satisfied with the level of mentoring that they received were: (a) those who (by their own accounts) received
consistent messages from senior faculty and the department Chair regarding expectations/requirements for tenure and/or promotion; (b) those who perceived departmental documents regarding tenure and promotion to be transparent; and (c) those whose colleagues had gone through the tenure and/or promotion process and had communicated to other, more junior faculty that the process was transparent and fair.

Full professors reported that that they were not generally involved in the formal mentoring of Associate professors, and that they viewed discussions about promotion and career advancement for Associate professors (with the exception of formal post-tenure review processes) to be a responsibility of the department Chair.

**Mentoring of Assistant professors may be a concern** when one or more of the following circumstances exist:

- The department has no guidelines or orientation procedures in place for helping new faculty to understand basic departmental functions, including:
  - where to obtain support for enhancing teaching skills;
  - procedures by which departmental decisions about teaching assignments and the advising of undergraduates (if applicable) are made;
  - whom to ask about issues pertaining to graduate students;
  - where to direct questions about grant writing;
  - which departmental support personnel are responsible for various support functions; and
  - how to direct requests regarding office, laboratory and classroom space.

- The department has few or no formal mechanisms for enabling faculty members to accurately assess for themselves whether they are meeting performance expectations in key areas of evaluation (e.g., teaching, research, securing grant funding, service, professional practice), or to determine for themselves how well they are performing in their positions relative to other faculty members of the same rank.

- The department has Assistant professors who report that they lack basic information about departmental functions, about how to balance the different areas of job responsibilities, or about the criteria for promotion and tenure.

- The department consistently has Assistant professors who go up for tenure and promotion but fail to obtain tenure and promotion.

- Faculty offices, laboratories and/or classrooms are spread across multiple buildings on campus and departmental faculty gather only infrequently for meetings, colloquia, etc.

- The department widely embraces the notion that as long as a department hires only highly qualified faculty members, no formal mentoring is needed, and is characterized by any of the points previously noted above.

**Mentoring of Associate professors may be a concern** when one or more of the following circumstances exist:

- Associate professors remain in rank as Associate professor more than 6-7 years, AND:
  - the department has few or no formal mechanisms for enabling faculty members to assess for themselves how well they are performing in their positions relative to other faculty members of the same rank;
  - the department has few or no formal mechanisms for enabling faculty members to accurately assess whether they are meeting performance expectations in key areas.
of evaluation (e.g., teaching, research, securing grant funding, service, professional practice).

**Addressing potential problems.** In departments where mentoring concerns exist, the following strategies may help to address these problems:

- If the department has no formal mentoring or uneven/insufficient mentoring for Assistant professors and would like to enhance mentoring practices, the faculty may wish to discuss ISUs “Mentoring Support for New Tenure-Eligible Faculty” document and related documents found on the ISU Office of the Executive Vice President and Provost website:
  - [http://www.provost.iastate.edu/faculty/newfaculty/](http://www.provost.iastate.edu/faculty/newfaculty/)

- If the department has no formal mentoring or uneven/insufficient mentoring for Associate professors and would like to enhance mentoring practices for this group of faculty, the department may wish to explore different options for mentoring Associate professors regarding promotion to Full professor:
  - encourage faculty to attend college and university-sponsored workshops regarding promotion to Full professor (when possible);
  - explore options for developing department-level mentoring groups or pairs specifically for Associate professors (some departments across campus are already engaged in this practice).

- In addition to existing mentoring efforts, departments may wish to make promotion and tenure portfolios available to any faculty member who wishes to examine them; this contributes positively to faculty members’ understandings of criteria for promotion, tenure and annual salary increases.

- Departments may consider appointing a large (6-8 faculty) departmental committee comprised of an annually rotating group of faculty members of all ranks to review the CVs of all departmental tenure-track and tenured faculty members each year. In so doing the department can help to ensure that all faculty gain a firm understanding of departmental expectations for promotion and tenure.
  - The department Chair may, in addition, ask this committee to provide basic feedback regarding faculty members’ performance (e.g., categorizing faculty productivity as relatively ‘above average’, ‘average’, or ‘below average’ each year) making sure that Assistant as well as Associate and Full professors are represented on the committee.

- The department Chair may wish to develop and use a matrix for comparing faculty members’ annual performance and make the matrix available to the all departmental faculty.
  - The matrix would ideally include specific performance criteria based on those areas of performance that influence outcomes including teaching loads, faculty pay raises, promotion, and tenure.

- The department may wish to develop a guide or manual for new faculty members that outlines departmental procedures, the responsibilities of all departmental support staff, and where to obtain support for teaching, grant writing, professional practice, and research.
Departments may also wish to establish annual or bi-annual meetings among departmental mentors to share information about mentoring and mentoring strategies. Departments may also wish to advocate for more college- or university-wide mentoring workshops for Assistant and Associate professors, and college-wide or university-wide training for mentors.

5. WORK-LIFE BALANCE AND FAMILY FRIENDLY POLICIES

Most all faculty (across ranks) support, in principal, the idea that university work cultures and structures should not impede faculty members’ efforts to effectively balance work and other life responsibilities. Much less agreement exists, however, over what constitutes this “balance.” Four primary factors shaped individual faculty members’ notions of appropriate work-life balance in the nine participating STEM departments: (1) managing/seeking on-going grant-funded research; (2) departmental culture; (3) being a primary caretaker of young children/adolescents; and (4) being a primary caregiver to aging or sick relatives.

Faculty members who have on-going, grant-funded research projects (or who are consistently seeking funding and doing research) tend to view the boundaries between “work life” and “home life” as weak and more permeable. This is especially true in departments that embrace long and often irregular work hours as part of their culture. As long as these faculty members are not primarily responsible for the care of small children or have no aging or sick relatives for whom they must provide care, however, they are often quite satisfied with the work-life “balance” that they maintain—even if they are working long and irregular hours. If, however, faculty members who have on-going, grant-funded research and are a part of work culture that supports long hours also have small children or other relatives to care for, they are often dissatisfied with the “balance” between work and family life because they perceive one or the other of these aspects of life to be suffering. Furthermore, even in those departments having a work culture that supports the idea that work hours should not be so extensive that they interfere with faculty members’ abilities to successfully fulfill family responsibilities, some faculty were more satisfied with the level of work-life balance in their lives than others. Faculty with small children and/or aging or sick relatives for whom they must provide care were less satisfied with the level of work-life balance in their lives than were other faculty. Faculty members’ use of ISU’s work-life/family friendly policies helped to moderate negative perceptions of work-life balance; but use of these policies does not appear to completely erase the concerns that some faculty members have about work-life balance.

Iowa State University’s efforts to address work-life balance issues over the past decade have been notable. ISU, for example, has implemented a policy for extending the number of years that an Assistant professor can stay in rank before applying for promotion to Associate professor in the event that the Assistant professor must take time away from her or his academic work to care for children, family members or attend to personal health issues. ISU has also developed a policy for officially modifying the teaching duties of faculty members who must attend to the needs of newly born or adopted children. And although this policy has yet to be approved by the Iowa Board of Regents, ISU colleges and departments continue to try to find ways to accommodate individual faculty members who seek to temporarily modify their teaching duties. ISU also has implemented a part-time
tenure policy for faculty seeking to reduce their appointment to a less-than-full-time position so that they may obtain a better balance between work and family life, and has actively sought to accommodate newly employed faculty members who have spouses or partners who seek employment at the university.

Data from the CT focus groups and interviews reveal that faculty who are familiar with ISU’s family friendly policies believe that Iowa State has made progress on these issues. These faculty members were able to cite examples of using these policies personally or of colleagues successfully using ISU’s family friendly and work-life balance policies.

The CT data also reveal, however, that the extent to which faculty are aware of ISU’s existing work-life/family friendly policies varies considerably across departments, as do levels of support (in practice) for using the policies. A portion of the faculty in most departments was either unaware of ISU’s work-life and family friendly policies, aware of only a portion of ISU’s policies, or unsupportive of these policies. Data further reveal that:

- Many faculty assert that delaying a tenure clock or taking time off of from work is not feasible given the research and travel demands of their academic discipline.
- Some faculty believe that delaying the tenure clock is viewed as “unprofessional” in their department because it places undue burden on other faculty members having to teach for an individual taking time off.
- Some faculty believe that faculty should not be allowed to delay their tenure clock for any reason.
- Some faculty believe that their department has a “workaholic” culture that will never support tenure-clock delays or “special” time off to care for one’s family.
- Many faculty asserted that family leave requests have been handled on a case by case basis and that decisions have been inconsistent. (This was more true, however, among departments that began CT participation in 2006 than in departments that began in 2008 or 2009, however, suggesting that over time, family leave requests are being handled more consistently.)
- Some faculty noted that hiring temporary instructors for faculty on leave is not financially possible for the department (especially given ISU’s recent budget cuts).
- Some faculty expressed concern over how faculty will be evaluated when it comes time for tenure and promotion if they have taken a leave or delayed a tenure clock.
- Some faculty expressed concern that unless the same work-life and family friendly policies are extended to post-docs, ISU will be less competitive with other research-intensive universities in recruiting future faculty.

**Work-life balance and use of ISU’s family friendly policies may be a concern** when one or more of the following circumstances exist:

- ISU work-life and family friendly policies have not been discussed with the faculty at a faculty meeting in recent memory.
- Departmental faculty members rarely or never ask the department Chair for information about or assistance in using ISU’s work-life or family friendly policies.
- The department regularly schedules departmental meetings early in the morning, late in the afternoon, on weekends, or during holidays and faculty members with children living at home or other family care responsibilities irregularly or never attend.
• Departmental promotion and tenure evaluation committees never or irregularly discuss university guidelines for evaluating faculty members who are on part-time faculty appointments, who utilize ISU’s policy for delaying the tenure clock or who negotiate to have their teaching duties modified temporarily so that they can take care of a newly born or adopted child.

• Faculty members who use ISU’s family-friendly policies are denied tenure/promotion.

**Addressing potential problems.** In departments where work-life and family friendly policy concerns exist, the following strategies may help to address these concerns:

• Departments may wish to review annually during faculty meetings the current university procedures for extension of the tenure clock, part-time tenure, modifying teaching duties for faculty who have small children, and partner accommodations. For more information, see the on-line resource “ISU Policies and Guidelines for Flexible Faculty Careers: Resources for Chairs & Deans” (Harris, Carlson and Bowen 2009): [http://www.provost.iastate.edu/fad/docs/flexiblefacultycareersresource.pdf](http://www.provost.iastate.edu/fad/docs/flexiblefacultycareersresource.pdf).

• Departments may wish to hold discussions aimed at developing department-specific guidelines for providing release time during periods of family leave.

• Departments may wish to draft guidelines for providing family leave to faculty within the context of university guidelines.

• Departments may wish to hold faculty discussions about how work-life issues affect faculty members whose parents and other extended family members require care for prolonged illnesses and other life events.

• Departments may wish to hold faculty discussion about ISU’s guidelines for evaluating faculty who utilize ISU’s work-life and family friendly policies, especially those who delay the tenure clock or are on a part-time tenure appointment.

• Departments may wish to avoid scheduling departmental meetings (or meetings of departmental committees) during times that are impossible or extremely difficult for parents of children who are still living at home to attend.

6. **FACULTY TEACHING LOADS, COURSE DISTRIBUTION PRACTICES AND REWARDING TEACHING**

Faculty members across ranks and across all nine focal departments stressed the importance of excellence in teaching and take pride in teaching. Across departments, some faculty of all ranks also stressed the need for greater transparency in:

• The ways in which teaching assignments (courses and loads) are made.

• The criteria by which “excellence” in teaching is determined.

• The extent to which excellence in teaching influences tenure and promotion decisions and annual salary increases.

• How credit for teaching and teaching-related activities (e.g., advising, teaching large vs. small sections, etc.) is allocated.

Faculty members’ perceptions of transparency in teaching assignments, loads, and rewards varied across departments. Perceptions of transparency were greater in some departments than in others. Overall, Assistant, Associate and Lecturer/Adjunct faculty expressed greater concern about teaching-related issues than Full professors.
Faculty perceptions of transparency in how decisions about teaching are made were related to faculty perceptions of *fairness* in the distribution of teaching assignments and teaching-related rewards. The more transparency that faculty members perceived, the more apt they were to believe that teaching assignments, loads, and rewards were fair. Faculty members who have been in their departments longer tended to have a better understanding of how teaching assignments were made. Faculty members who were newer to the department were less likely to have had a clear understanding of these processes.

Faculty concerns about how teaching decisions are made were greater among Round 2 departments than among the other 6 departments. Round 2 focal department members’ concerns about teaching coincided with university announcements about university budget cuts. The university’s reaction to state level cuts in funding to higher education in 2009-2010 included discussions about the need to have faculty teaching more students. This may have led many faculty members in Round 2 focal departments to spend more time in the CT focus groups and interviews discussing the necessity of increased teaching loads and/or course sizes and the processes by which decisions about increased teaching loads/course sizes would be made. Faculty in Round 2 focal departments (as well as those in Round 3) expressed less resistance to the idea that ISU faculty would likely have to teach more students than they were to an anticipated lack of transparency in how decisions about teaching would be made.

Finally, some faculty across departments and across ranks (the proportion varies) expressed concerns about perceived contradictions between ISU’s stated commitment to teaching excellence and a system of faculty evaluation (for merit raises as well as promotion and tenure) that assigns less value to teaching excellence than to excellence in research and grant funding. Some faculty, especially at the Assistant professor rank, explained also that the standards by which teaching “excellence” is assessed in their departments are vague.

**Faculty teaching loads, course distribution practices and rewarding teaching may be a concern** if one or more of the following circumstances exist:

- Faculty members are unaware of the university’s rationales for increasing course loads.
- Procedures for determining course loads and course distribution practices are not discussed regularly with departmental faculty.
- Faculty members in the department do not have Position Responsibility Statements (PRS) that accurately reflect the level of contribution to departmental teaching that they are expected to make.
- Faculty members whose teaching loads are higher than the departmental average receive annual performance evaluations in which the weight given to teaching is less than the faculty member’s PRS indicates that it should be.
- Faculty members in a department have different course loads because their position responsibilities (PRS) are not the same, but the department does not regularly have discussions with the faculty about the fact that different faculty members have different responsibilities.
- The criteria by which “excellence” in teaching is evaluated are neither stated in departmental documents nor communicated verbally to all departmental faculty on a consistent basis.
No mechanisms exist within the department for rewarding excellent teaching or for helping faculty who need to improve their teaching to understand how to do so or where to go for assistance.

Gaps in understanding or differing assumptions exist among departmental faculty members regarding how teaching assignments are made, course loads are determined, and/or the relative value of and reward structures for teaching (especially as they pertain to promotion and tenure or salary decisions).

**Addressing potential problems.** In departments where faculty teaching loads, course distribution practices and/or rewards for teaching are a concern, the following strategies may help to address these problems:

- Departments may benefit from sharing information regarding: average teaching loads for faculty (by rank) within the department, and the number and type of courses taught by each faculty member each year.
- Departments may benefit from rotating faculty through curriculum committees (if departments have such committees).
- Departments that share information regarding faculty teaching responsibilities would be advised to also contextualize work responsibilities of faculty members, keeping the following issues in mind:
  - not all faculty members share the same kind of academic appointment (i.e., Personal Responsibility Statements (PRSs) vary);
  - not all faculty members are supported at the same level by grants and contracts;
  - not all faculty members serve on the same number of university, department and student committees;
  - not all faculty members support/work with the same number of graduate students, or advise undergraduate students;
  - not all courses taught by faculty require the same time and effort investment (e.g., larger vs. smaller enrollment courses, courses with and without lab sections).
- Departments may wish to discuss in a faculty meeting the criteria by which “excellence” in teaching is evaluated.
- Departments may wish to create departmental awards to document and publicly recognize especially meaningful contributions in service or teaching.
- Departments may benefit from the development of a departmental strategic plan, developed with wide faculty participation (to ensure broad ownership of the plan), that describes concretely the values placed on research, teaching, outreach and service.
- Departments may benefit from a review of all faculty position responsibility statements to ensure that they accurately reflect the level of contribution to departmental teaching that each faculty member is expected to make.

In addition, departments may wish to consider implementing strategies that help newer faculty members to establish excellent teaching skills. These strategies may include:

- Assigning newer faculty to teach the same course repeatedly (e.g., 2-3 years) rather than assigning them to new preparations each semester.
- Taking proactive steps to orient new faculty with regard to the processes by which courses and course loads are assigned and how course release time (if applicable) may be acquired.
Communicating low departmental/college/university service expectations during the first few years so that each faculty member has the time to establish their teaching as well as their research program.

7. FACILITIES, ADMINISTRATIVE SUPPORT AND TECHNICAL SUPPORT

While many faculty (the proportion in each department varies) report feeling satisfied with the office, lab, teaching and meeting spaces offered by their departments, others report that improvements in these areas would enhance their teaching, research, and overall job satisfaction. Meeting and socializing spaces were noted as an important aspect of work facilities because of the opportunities that physical building spaces can provide for enhancing collegiality and informal mentoring practices.

- Some faculty noted that the dispersion of faculty across multiple buildings makes the establishment of mutually agreeable meeting times (e.g., for faculty meetings and research colloquia) and the development of intellectual community difficult, which in turn affects information sharing, collaboration, mentoring and socializing.
- Some faculty noted that inadequate classroom space exists for the size and types of classes taught (for example, the need for specialized classrooms).
- Some faculty members reported that lab space in some departments is lacking in quantity and in functionality, that some lab spaces are not up to safety codes, or that there are electrical, plumbing or environmental problems with the space.
- Faculty members who have access to newer research facilities and to Ames Laboratory reported very high levels of satisfaction.
- Faculty members across departments (the proportion varies) reported that the administrative and technical support received by faculty members in their department is uneven.
- Newer faculty members across departments (the proportion varies) reported that they would benefit from an orientation or departmental guide regarding the kinds of support available to departmental faculty and explicit explanations of whom to go to for specific types of support.

Facilities, administrative and technical support may be a concern if one or more of the following circumstances exist:

- Faculty members are dispersed across multiple buildings and the department holds few departmental meetings/seminars.
- Courses offered by the department consistently enroll more students than available (properly equipped) classrooms and laboratories are able to accommodate.
- The department has inadequate mechanisms for ensuring that lab spaces are up to safety codes.
- The department has no mechanisms for ensuring that faculty members understand how decisions about the distribution of office space are made.
- The department does not regularly discuss with the faculty (especially newer faculty members) which administrative and technical support staff are responsible for certain tasks and activities.
**Addressing potential problems.** In departments where facilities, administrative support or technical support are a concern, the following strategies may help to address these problems:

- When departmental faculty members are dispersed across multiple buildings (or floors in buildings), departmental Chairs may wish to take proactive steps to create spaces and time periods for junior faculty and tenured faculty to interact face-to-face with one another. Among the many ways to accomplish this are:
  - department Chairs may wish to organize informal meetings with Assistant professors to discuss issues of departmental norms, policies, and tenure and promotion evaluation processes;
  - department Chairs may wish to organize more regular faculty meetings and seminars;
  - faculty members may wish to hold regular social gatherings;
  - departments may wish to hold faculty retreats so that faculty members can discuss their respective research programs and realize opportunities for collaboration.

- As a routine part of scheduling courses and assigning classrooms and labs, departmental teaching coordinators and/or committees may wish to report back to the faculty as a whole on the process by which room assignments are made (and the limitations to scheduling that result from forces beyond the control of the department).

- Departments may wish to form committees (or empower an existing committee) to work specifically on developing procedures (or for enforcing existing procedures) regarding the allocation, maintenance and safety of facilities for teaching and research.

- The department may wish to annually discuss with the faculty which administrative and technical support staff are responsible for certain tasks and activities.

**REFERENCES:**


Summary

What can Mentors do to help Associate Professors on the path to Full Professor?

1. Discuss the path to Full Professor early after promotion to Associate Professor.
2. Make the discussion about career path part of each annual review.
3. Acknowledge the presence of “bumps” on the road and help identify solutions.

References and Resources


What issues confront Associate Professors on the path to Full Professor?

For many Associate Professors their research, teaching and professional practice paths are clear, and the major issue is finding time for the additional service commitments required of Associate Professors. However, for other faculty there may be bumps in the road and a supportive Mentor/Chair/Dean can help a faculty member stay on track for successful and timely promotion to Full Professor. These materials aim to provide discussion topics and guidance ideas that Mentors, Chairs and Deans may employ to help Associate Professors achieve promotion to Full Professor.

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What bumps in the road can confront the scholarship of an Associate Professor?

- **Stagnation of a research area**
- **Increased interest in other areas of the Position Responsibility Statement**

### Stagnation of a research area

One challenge that faces some faculty is a dramatic change in the viability of their research area. This can occur for many reasons such as changes in funding agency priorities or program elimination. Some faculty may even be a victim of their own success, if their prior work resulted in solutions to prior research questions. Regardless of the cause, Mentors can help mentees by openly discussing this possibility.

The Mentor and mentee should work together to identify new areas of funding or new areas of retraining. Unfortunately, the current approach to a lagging research area may be to encourage the faculty member to take on greater teaching or extension responsibilities. However, this approach potentially establishes a path that makes timely and successful promotion to Full Professor less likely. Further, this may not be the career goal of the faculty member who may want to remain in research.

There are many ways administrators can help faculty revitalize a lagging research area and enable the faculty member to reestablish themselves, such as facilitating a sabbatical visit, purchasing new equipment, or supporting travel to several critical labs or workshops. It may also be possible to apply for mid-career awards to facilitate revitalization of a research program.

### Increased interest in other areas of the Position Responsibility Statement

Another challenge that faces some faculty is a desire to change the focus of their position as their academic career matures. As faculty become more recognized for their expertise, they may wish to play a larger role in teaching, extension/professional practice or service to the institution.

Changing focus mid-career presents special challenges for timely and successful promotion to Full Professor as one basis for promotion to Full Professor is national or international reputation. It may be difficult to achieve the promotion standard in a new area in the same time period that would have been the case if a faculty member stayed in the same area of scholarship. Therefore, if a Mentor notices a change in focus of interest, the implications of the change and the possibility of an extended timeline to promotion to Full Professor should be openly discussed. Similarly, the faculty member may not be as familiar with how to document scholarship in the area of increased emphasis. It may even be necessary to seek out additional Mentors to provide guidance in the new focus area.

### What can Mentors do to help Associate Professors who are interested in significantly changing the distribution of effort in their PRS?

If a faculty member discusses significant shifts in responsibility, take time to ensure this is the result of a genuine desire for refocusing, rather than a reaction to a stagnating scholarship area.

If a faculty member does make significant shifts in responsibility, ensure there is an open and realistic discussion about the impact this change may have on time to promotion to Full Professor.

Consider introducing the faculty member to new Mentors in the new focus area.
Summary: What can Mentors do to help Associate Professors understand institutional service commitments?

1. Carefully consider the implications of any additional service requests on the faculty member's career goal before requesting or accepting a nomination.

2. Actively help faculty members make decisions about committee service by discussing committee workloads and perceived value.

3. Actively help faculty members make decisions about administrative appointments by discussing the workloads and impact of portfolio development.

4. Devote time to discussing institution service commitments, including administrative appointments, in annual reviews.

References and Resources


Resources for Chairs, Deans and Mentors

Providing guidance about service commitments to Associate Professors

Prepared by Annette O’Connor, Faculty Fellow, Office of the Executive Vice President and Provost and the ISU ADVANCE Program

What institutional service issues confront Associate Professors?

Mentors are frequently asked questions such as “What is the right amount of institutional service? How does the P&T committee view institutional service?” These questions are impossible to answer directly. However, the Mentor can provide tangible guidance that helps Associate Professors make informed decisions about institutional service commitments. These materials aim to provide discussion topics and guidance ideas that Mentors, Chairs and Deans may employ to help Associate Professors achieve promotion to Full Professor.
What do we know about the path to promotion to Full Professor?

Evaluations of factors associated with successful and timely promotion to Full Professor have only received attention in recent years, because traditionally institutions have placed greater emphasis on promotion from Assistant to Associate Professor. Further, much of the data available relates to mid-career faculty, a group that contains Associate and Full Professors.

The Mentor and mentee may benefit from serving on a committee outside their main area of scholarship. This may bring the Associate Professor into contact with members of the department, college or university they may not frequently interact with and this interaction may be beneficial. Alternatively, some departments encourage institutional service only in the main area of scholarship to re-enforce that focus area. Discussion of the approaches to picking service appointments will again be useful and help the Associate Professor decide which committee to nominate for.

How does the Promotion and Tenure Committee view institutional service?

Departments have their own culture of institutional service. The Mentor should be aware of this culture and discuss it with the Associate Professor. The Mentor and mentee can discuss how service on particular committees has been reviewed in prior dossiers. The Mentor and mentee should also discuss how institutional service fits with the dossier generally. Some Associate Professors may benefit from serving on a committee outside their main area of scholarship. This may bring the Associate Professor into contact with members of the department, college or university they may not frequently interact with and this interaction may be beneficial. Alternatively, some departments encourage institutional service only in the main area of scholarship to re-enforce that focus area. Discussion of the approaches to picking service appointments will again be useful and help the Associate Professor decide which committee to nominate for.

What are the requirements for institutional service for Associate Professors?

Institutional service is one of the four faculty responsibilities that may be included in the Position Responsibilities Statement: teaching, research/creative activities, extension/professional practice, and institutional service. Promotion from Associate Professor to Full Professor requires “significant institutional service” compared to “satisfactory institutional service” for promotion from Assistant Professor to Associate Professor. This component of an Associate Professor’s role is critical to the academic institution, as departments and colleges often rely upon Associate Professors to serve on committees that form a large part of the governance of the university. Associate Professors from departments that traditionally protect Assistant Professors from institutional service may be most unsure about how to achieve the “significant institutional service” requirement, and still meet teaching, research, and professional practice obligations.

What is the time commitment associated with particular service activities?

Institutional service encompasses a large range of activities and different time commitments. For example, the time commitment for a departmental committee is likely different to the time commitment for a university-wide committee. Similarly, some committees have sub-committees that require substantially more input than others. Chairmanship of a committee can mean the faculty member is automatically a member of other committees therefore increasing the time commitment. These are issues that may be readily apparent to the Mentor, Chair or Dean, however clarification of these issues is useful in helping an Associate Professor decide which committee to nominate for.

What is the impact of administrative appointments on promotion to Full Professor?

Some institution service roles are actually administrative positions that require appointments such as a Director of a Center, Assistant Dean, or Associate Dean. Such positions provide excellent career advancement opportunities for faculty who intend to move into university administration. Mentors need to discuss the impact of such positions on the ability of the candidate to develop a dossier of scholarly work consistent with promotion to Full Professor. It is particularly important that Associate Professors with aspirations for administrative positions are made aware that the majority of universities require Full Professor status for administrative positions above Associate Dean.

Helping Associate Professors document “significant institutional service”?

The promotion dossier will require documentation of “significant institutional service” Mentors and mentees should discuss how to document “significant institutional service” Frequently, in the prior dossier a list of committees may have sufficed as evidence of “satisfactory institutional service” for advancement from Assistant Professor to Associate Professor. However to document “significant institutional service”, different documentation may be required. Encouraging faculty to include in the annual faculty review documentation of dates, locations and outcomes of committee meetings will be helpful when preparing the promotion dossier.
Summary

What can Associate Professors do to chart their path to Full Professor?

- Discuss the path to Full Professor with your Mentor/Chair/Dean early after promotion to Associate Professor.
- Make the discussion about career path part of each annual review.
- Acknowledge the presence of “bumps” in the road and seek help in identifying solutions.

References and Resources


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What bumps in the road can confront the scholarship of an Associate Professors?

- **Stagnation of a research area**
- **Increased interest in other areas of the Position Responsibility Statement**

What do we know about the path to promotion to Full Professor?

Evaluations of factors associated with successful and timely promotion to Full Professor have only received attention in recent years, because traditionally institutions have placed greater emphasis on promotion from assistant to Associate Professor. Further, much of the data available relates to mid-career faculty, a group that contains Associate and Full Professors.

What can Associate Professors do if they feel their an area of scholarship has stagnated?

- If you are finding that your area of research is stagnating, make time in annual reviews to discuss this with your department chair.
- Actively consider prior to those discussions, what steps you could realistically take to revitalize an area of scholarship. Consider mid-career awards, sabbatical, and workshops as ways to make new contacts and develop new skills.
- Be aware that changes made may have an impact on the time to promotion to Full Professor, especially if it means becoming competitive for federal funding in a new area.

Stagnation of a research area

One challenge that faces some faculty is a dramatic change in the viability of their research area. This can occur for many reasons such as changes in funding agency priorities or program elimination. Some faculty may even be a victim of their own success, if their prior work resulted in solutions to prior research questions. Regardless of the cause, if you find yourself in this situation you should openly discuss the situation with your Mentor/Chair/Dean.

Those discussions should include discussing how to identify new areas of funding or new areas of retraining. Unfortunately, the current approach to a lagging research area may be to encourage the faculty member to take on greater teaching or extension responsibilities. However, this approach potentially establishes a path that makes timely and successful promotion to Full Professor less likely. Further, this may not be your career goal.

While it is important to be open to changing focus, consider this option carefully and have an open and frank discussion about options for revitalization.

Increased interest in other areas of the Position Responsibilities Statement

Another challenge that faces some faculty is a desire to change the focus of their position as their academic career matures. As you become more recognized for your expertise, you may wish to play a larger role in teaching, extension/professional practice or service to the institution.

Changing focus mid-career presents special challenges for timely and successful promotion to Full Professor as one basis for promotion to Full Professor is national or international reputation. It may be difficult to achieve the promotion standard in a new area in the same time period that would have been the case if you stayed in the same area of scholarship. Discuss with your department chair the impact that changes in focus may have on the timeline to promotion to Full Professor. Also, you may not be as familiar with how to document scholarship in the area of increased emphasis, so discuss this with a mentor/chair. It may even be necessary to seek out additional mentors to provide guidance in the new focus area.

What can mentors do to help Associate Professors who are interested in significantly changing the distribution of effort in their PRS?

Some faculty may have a genuine desire to refocus their position responsibility, as they grow in their career. Most frequently this is a desire to increase the amount of extension or teaching. It is important to be aware that if a faculty member does make significant shifts in responsibility, this may slow down the path to promotion to Full Professor. Ensure there is an open and realistic discussion with your department chair about the impact this change may have on time to promotion to Full Professor.
Summary: What Associate Professors need to understand about institutional service commitments

- Carefully consider the implications of the service requests you receive on your career goal before requesting or accepting a nomination.
- When making decisions about committee service, enquire about the committee workloads and perceived value.
- When making decisions about administrative appointments include in your deliberations the impact of the change in the appointment or your workload, portfolio development and time to promotion.
- Devote time to discussing institution service commitments, including administrative appointments, with your department chair during annual reviews.

References and Resources


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What do we know about the path to promotion to Full Professor?
Evaluations of factors associated with successful and timely promotion to Full Professor have only received attention in recent years, because traditionally institutions have placed greater emphasis on promotion from Assistant to Associate Professor. Further, much of the data available relates to mid-career faculty, a group that contains Associate and Full Professors.

How does the Promotion and Tenure Committee view institutional service?
Departments have their own culture of institutional service. Your mentor should be aware of this culture and help you understand how service on particular committees has been reviewed in prior dossiers. Your mentor or chair should also discuss with you how institutional service should fit with the dossier generally. Some departments encourage faculty to serve on a committee outside their main area of scholarship. The aim of this may be to bring you into contact with members of the department, college or university that you may not frequently interact with and this interaction may be beneficial. Alternatively, some departments encourage institutional service only in the main area of scholarship to re-enforce that focus area. Discussion of the approaches to picking service appointments will again be useful and help the you decide which committee assignments to seek.

What are the requirements for institutional service for Associate Professors?
Institutional service is one of the four faculty responsibilities that may be included in the Position Responsibilities Statement: teaching, research/creative activities, Extension/professional practice, and institutional service. Promotion from Associate Professor to Full Professor requires “significant institutional service,” compared to “satisfactory institutional service” for promotion from Assistant Professor to Associate Professor. This component of an Associate Professors role is critical to the academic institution, as departments and colleges often rely upon Associate Professors to serve on committees that form a large part of the governance of the university. Associate Professors from departments that traditionally protect Assistant Professors from institutional service may be most unsure about how to achieve the “significant institutional service” requirement, and still meet teaching, research, and professional practice obligations.

What is the time commitment associated with particular service activities?
Institutional service encompasses a large range of activities and different time commitments. For example, the time commitment for a departmental committee is likely different from the time commitment for a university-wide committee. Similarly, some committees have sub-committees that require substantially more input than others. Chairmanship of a committee can mean the faculty member is automatically a member of other committees therefore increasing the time commitment. Make sure that you clarify these issues before deciding which committee assignments to seek. Your mentor or department chair is a good source of this information.

What is the impact of administrative appointments on promotion to Full Professor?
Some institution service roles are actually administrative positions that require appointments such as a Director of a Center, Assistant Dean, or Associate Dean. Such positions provide excellent career advancement opportunities for faculty who intend to move into university administration. If you are considering such a position, you need to discuss the impact of such positions on your ability to develop a dossier of scholarly work consistent with promotion to Full Professor. This is particularly important if you have aspirations for administrative positions, as the majority of universities require Full Professor status for administrative positions above Associate Dean.

Documenting “significant institutional service”?
The promotion dossier will require documentation of “significant institutional service.” You should discuss with your mentor and chair how to document “significant institutional service”. Most likely, in your prior dossier, a list of committees sufficed as evidence of “satisfactory institutional service,” however to document “significant institutional service”, different documentation may be required. It is good practice for Associate Professors to include in the annual faculty review documentation of dates, locations and outcomes of committee meetings will be helpful when preparing the promotion dossier.
Executive Summary

The ISU ADVANCE Program has been funded by the National Science Foundation from 2006-2011. The goals of the program are to eliminate barriers to the advancement of STEM women faculty, to increase the representation of women faculty and faculty of color in senior and leadership ranks, and to institutionalize positive change across the university. There are many indications that program outcomes have positively impacted Iowa State. Progress and potential are highlighted by stakeholders and external evaluators. There is a strong interest in and commitment to continuing the process of change. Through the Office of the Executive Vice President and Provost, an administrative fellow was appointed to review and coalesce various information and to develop a plan to sustain ISU ADVANCE progress beyond 2011. As charged, the plan includes a rationale of the need for and perceived value of the ISU ADVANCE Program, best practices of the program, an approach to sustain these practices, and an evaluation of organizational and financial needs.

This report is organized as follows. Section 1 puts the goals of the ISU ADVANCE Program in the context of strategic priorities of Iowa State. Section 2 describes ISU ADVANCE practices and outcomes from the perspectives of stakeholders and evaluators. This compilation of feedback presents a comprehensive and fairly consistent picture of ISU ADVANCE. Section 3 specifically considers sustainability in relation to four aspects: the context of a program; the continuing goals and practices; the cost of ongoing activities; and the commitment of an institution to change. This section summarizes information about ADVANCE programs at other institutions. It also addresses the larger issue of organizational change. Lastly, section 4 proposes structural, programmatic, and financial plans to transition and sustain ISU ADVANCE progress.

In summary, ISU ADVANCE should continue with a leader who is strongly connected to the provost office. A mixed centralized/de-centralized organizational approach should be continued to achieve global outcomes that require local engagement. Organizational change requires a community-based approach that involves all levels. Cost-effective implementation of ISU ADVANCE practices should consider team and evaluator recommendations, Iowa State’s goals for culture change, and future reviews.
1. Introduction

This report is a culmination of a review conducted through an administrative fellowship for the ISU ADVANCE Program during late fall 2010 and early spring 2011. [1] The charge given to the administrative fellow was to develop a plan to institutionalize and sustain best practices of the ISU ADVANCE Program following the expiration of NSF funding in 2011. The plan is expected to include a rationale of the need for and perceived value of the ADVANCE Program, best practices of the program, an approach to sustain these practices, and an evaluation of organizational and financial needs.

This report is not an evaluation of the ADVANCE Program. The ADVANCE Program has been evaluated by experts on several visits during the past two years. The reports from these visits are available and were consulted as part of this review. This report is not a proposal for new initiatives at Iowa State. However, it may be advantageous and strategic to not only continue selected practices of ADVANCE but to pursue new opportunities to adapt them to support the mission of the institution.

The ISU ADVANCE Program began in 2006 with a $3.3 million, five-year grant from the National Science Foundation ADVANCE Program. Four goals were put forth in the grant proposal:

1) to overcome known barriers to the advancement of women faculty in STEM disciplines;
2) to identify and eliminate department-specific barriers;
3) to increase the representation of women and underrepresented minorities at senior faculty and leadership ranks; and
4) to institutionalize positive change across the university.

The program was designed with coordinated top-down and bottom-up approaches impacting college and university infrastructure as well as the work environment in academic departments for all faculty.

1.1. Strengths of ISU ADVANCE

The strengths of the ISU ADVANCE Program are summarized in a white paper on institutionalization and sustainability prepared by the program for a team of external advisors who visited in fall 2010. [13] Three key areas of strength are identified as the college-level Equity Advisor (EA) role; the collection, analysis, dissemination, and use of Institutional Research (IR) data and related surveys, including monitoring areas for improvement; and departmental collaborative transformation (CT) activities, findings, and applications (e.g., tools to assist department chairs and enhance the departmental workplace). Three key areas involving training include department chair training on issues related to recruitment, retention, and
promotion of women and minority faculty and on departmental climate; search committee training on issues related to recruitment, retention, and promotion; and training to avoid systemic unintended bias.

Activities, recommendations, and challenges associated with these six ISU ADVANCE programmatic areas are outlined in the white paper. A comprehensive report on progress made in these and other areas through the fourth year of the grant is given in the annual report to NSF.

1.2. Institutional Priorities

The leadership and support provided by the Office of the Executive Vice President and Provost and the engagement of the focal colleges and departments have also been strengths of the ISU ADVANCE Program. The goals and programmatic strengths of ISU ADVANCE remain aligned with the strategic goals of the university as set forth in the latest strategic plan for 2010-2015.

The first priority given in the strategic plan is the following:

Iowa State will be a magnet for attracting outstanding faculty and staff who create, share, and apply knowledge to improve the quality of life.

The first two goals listed for this priority are to:

recruit, support, and retain a diverse group of outstanding faculty and staff; and

foster a university culture and work environment that rewards faculty and staff for their contributions, supports a balance between work and life, and inspires individuals to work together to achieve at the highest level of their abilities.

ISU ADVANCE is highly relevant to these strategic priorities of the university.

2. Observations about ISU ADVANCE

The input for this review is drawn from a number of documents and discussions. Various documents and information are maintained at the WebCT site for the ISU ADVANCE Program and at the public website, http://www.advance.iastate.edu/. Information including financial summaries and recently developed proposals were also provided by team members. Documents with special relevance to this report are referenced.

This review included various meetings with ISU ADVANCE Program team members and stakeholders. Since October 2010, one or more meetings were held with each of the following: Dawn Bratsch-Prince (Associate Provost), Bonnie Bowen (executive director of ISU ADVANCE), the ISU ADVANCE PI team, the ISU ADVANCE Council, the external evaluators, the college Equity Advisors (Kristen Constant, Lisa Larson, Sue Lamont, and Jan
Thompson), and individual co-PIs (Sharon Bird and Diane Debinski). Phone meetings were also conducted with leaders of other ADVANCE programs: Peggy Layne, Virginia Polytechnic Institute and State University; Eve Riskin, University of Washington; Cynthia Hudgins and Abigail Stewart, University of Michigan, Doug Haynes, University of California – Irvine, and Ronda Callister, Utah State University. At the time of this report, a meeting was pending with Amy Wendt, University of Wisconsin – Madison. Meetings were also pending with associate deans David Oliver (LAS) and Joe Colletti (CALS), who interacted extensively with the program through the ADVANCE Council and their equity advisors. These individuals were interested in meeting about the program. Focal college associate deans and department chairs have been integral to the program and should be involved in strategic planning as recommended later in this report. In addition, Ann Austin, Michigan State University, and Sandra Laursen, University of Colorado, met by phone with Diane Rover and Bonnie Bowen to share early insights from their analysis of ADVANCE institutions. They have an NSF grant to study change strategies used by the nineteen institutions in Rounds 1 and 2. They recently finished the first year in which they reviewed the strategies used by the institutions. They are now selecting five institutions as case studies to learn about their choice of strategies in relation to their context and, as part of those cases, to learn more about the process of institutionalization. [2]

Four aspects of ADVANCE programs (at ISU and other universities) were explored through review of the documentation and discussions with those listed above.

1. The context of a program, especially in relation to diversity structures, academic units, partners, and related initiatives on campus.
2. The continuing practices and such characteristics as scope, effectiveness, difficulty, impact, etc.
3. The cost of continuing practices, including level of funding, source or type of funding, fee-based programming, and return on investment.
4. The commitment of the institution to continuing practices, especially in relation to changing the culture through leadership, faculty, community (research/practice), and workplace development.

The recommendations in this report are based on a synthesis of the information collected and studied along these aspects. These will be presented in the next sections. However, a number of observations related to program success and sustainability have been made by external advisors and evaluators and the ISU ADVANCE team in the past year. These have been documented by the program and are compiled here to depict the work of ISU ADVANCE.

Early suggestions from the external advisors primarily pertain to leadership and collaboration (May 2010): [12]

- The provost is the key to effective collaborations with the deans and hence with colleges.
• The support from university and college administration is commendable, especially the college commitment of resources for equity advisors. Department chairs should share their perspectives on specific benefits of the program.
• The program should remain cohesive with careful attention given to any separation into colleges.
• The open communication between the Faculty Senate and the ISU ADVANCE Program is a positive to be accentuated.
• Faculty recruitment and promotion data for each college should be shared annually on campus and compared with national data. If hiring has been limited, promotion data may be a better indicator.

The ISU ADVANCE team described the key areas of the program to the external advisors and included a number of observations (September 2010): [13]

Observations about key areas of ISU ADVANCE

• Selected activities of equity advisors should continue after NSF funding ends, especially to sustain the goals of ADVANCE. The EA role provides leadership within a college and facilitates training opportunities. Specific EA duties may vary by college. However consistency across the colleges will maximize efficiency and accountability toward meeting goals. The EA role has continuing support from colleges as well as a new NSF I³ grant SP@ISU (SP, Strengthening the Professoriate). [21]
• Continuing use of data to make informed decisions, especially through provost-level monitoring of faculty hiring and retention trends and resources, is necessary to institutionalize changes.
• Due to the time-scale of changing cultures, practices and structures at an institution, continued analysis of data is needed to determine the long-term impact of ISU ADVANCE. The Office of Institutional Research has the expertise to manage, analyze, and report data. However this key area of the ISU ADVANCE Program has been affected by budget cuts. The data are also important to the success of other research on campus having broader impacts.
• The collaborative transformation process has led to departmental conversations about workplace climate, job satisfaction, work-life balance, and unintentional biases in recruitment and promotion of faculty. It has also resulted in tools such as guides and workshops for department chairs. Continuing the process of departmental change will require a cost-effective approach that maintains expertise, resources, and training based on the needs of the ISU community.
• Department work cultures that are supportive of women and minority faculty should be a continuing emphasis.
• Work-life policies need to be recognized as relevant and useful to individual faculty members.
The ISU ADVANCE Program has met a critical need for training and professional development of department chairs.

Improving the faculty search process has been a major emphasis of the ISU ADVANCE Program. Faculty search committees have access to materials, data, training, procedures, and assistance from equity advisors. However, many challenges remain to effect real improvement in the faculty search process.

The workshops on unintended bias support the activities of equity advisors and department chairs as well as the creation of positive work climates and cultures. Similar to CT, continuing the process of departmental change will require a cost-effective approach that maintains expertise, resources, and training based on the needs of the ISU community.

General observations

- Institutional transformation depends on effective communication across all administrative levels.
- Continuing visibility and coordination of ISU ADVANCE activities and the commitment of the EVPP Office are necessary to achieve institutional transformation.
- Participation of faculty, staff, and administrators is vital to continuing and enhancing the changes initiated through the program beyond the end of the grant.

The external advisors conducted a review in September 2010, and developed a set of recommendations and observations (October 2010): [23], [24]

Recommendations

- The overall recommendation is to begin the process of weaving the primary functions of ISU ADVANCE into the fabric and structure of Iowa State so that progress continues.
- Responsibilities for ISU ADVANCE goals need to shift from team members to academic administrators to be sustained over time. The locus for this should remain in the Provost Office and reside with the associate provost for academic personnel / chief diversity officer.
- The impact of and commitment to equity advisors is evident. A preferred approach to sustain the EA role is to assign responsibility for the functions to associate deans in the colleges. The associate provost and associate deans would then provide administrative oversight for this area.
- The ISU ADVANCE team, IR, and the Provost Office should prioritize the data analysis and reporting frequency that are needed for decision making relative to ISU goals. Important data should be presented and reviewed annually.
- Non-retirement attrition statistics combined with the replacement cost of faculty help make the case for department climate and retention efforts. Recommendations on other useful data are given.
Training has been a key area of ISU ADVANCE, and training is necessary when there is no direct line of authority to influence change. The recommendation is to transition effort from training into greater accountability to achieve results, especially through administrator responsibilities and performance evaluation. Awareness and positive action must be maintained with increased accountability at all levels.

Faculty search and promotion/tenure committees will still require training. There must also be continued development of effective leadership among deans and department chairs. Successful ISU ADVANCE workshops should be continued. Workshops related to ADVANCE goals should be recurring events and address new challenges.

Observations

- Institutional commitment is reflected in the positive engagement of senior leadership in the Provost Office throughout the transformation process.
- Department chairs and faculty involved in the focal departments have a sense of accomplishment and enthusiasm that bode well for a culture of change.
- The careful analysis and report by the Institutional Research Office on the total replacement cost of faculty who leave for other jobs was useful to other universities.
- Collaborative transformation efforts have been valuable but labor intensive. It may be possible to identify common challenges that departments face and develop programs in the Provost Office to help departments.
- There may be tools from other NSF (non-ADVANCE) projects that help faculty and departments in relation to ADVANCE goals.
- ISU is positioned with the expertise and enthusiasm among the faculty and the commitment from senior leadership to realize transformational changes in culture.

A small team of external evaluators visited in October 2010 and conducted a week-long review of the program. A draft report was available at the time of this report. [8] The report gives in-depth feedback on the areas of ISU ADVANCE, and the final report deserves careful consideration as part of the institutionalization process. The following conclusions and recommendations are put forth in the draft report:

- The “conversation has changed” in STEM units regarding practices that affect gender equity in the STEM faculty.
- Changing the conversation must be accompanied by changes to practice.
- Institutional change is most notable if it is led from the top.
- The ISU ADVANCE Program has produced important tools for developing a greater understanding of and commitment to factors affecting gender equity.
- Deans and chairs are crucial to transformation.
- Greater involvement of senior STEM women would strengthen ISU ADVANCE.
• Effective roles and processes for transformation exist at ISU. Functions performed by equity advisors are central to transformation.
• Transformation takes more than five years to reach throughout a university.

Key challenges for each of these are also highlighted in the report.

Three online questionnaires were administered by the ISU ADVANCE Program in September 2010. The surveys collected responses from stakeholder groups on the effectiveness of the ADVANCE program, the satisfaction with various resources created for use by faculty search committees, and the effectiveness of the collaborative transformation project. [17], [18], [19] Among the survey conclusions are the following:

• ISU ADVANCE stakeholders were least satisfied about the goal of increasing the numerical representation of women faculty and faculty of color. In open-ended comments, respondents expressed this was at least partly due to budgetary constraints that limited hiring.
• Respondents characterized the impetus for change in three categories: people/positions, events/processes, and materials/products. Positions such as equity advisors were cited as helpful in promoting change, as were events/processes such as workshops and collaborative transformation.
• Some respondents stated that change due to ISU ADVANCE was too intangible or too early to measure.
• A common theme was the need for continued efforts after NSF sponsorship of the program ends.
• In open-ended comments regarding effective departmental change strategies in relation to collaborative transformation, the most common theme was transparency and open communication.
• Respondents indicated a variety of initiatives were helpful to create a more positive climate and culture for faculty members. Specific areas cited included mentoring, leadership and formal documentation, faculty searches, faculty meetings, and work-family balance.
• A frequency of comments regarding “bigger issues” reinforces the ADVANCE program’s dual approach having both top-down and bottom-up change strategies.

Supporting details for the observations listed above are available in the referenced documents. The various meetings conducted for this review have also led to additional characterizations of the program and its sustainability, and these are presented in the next section.
3. Sustainability Framework

A framework from which to explore sustainability potential of the ISU ADVANCE Program addresses four aspects: the context of a program; the continuing goals and practices; the cost of ongoing activities; and the commitment of an institution to change.

Several ADVANCE programs at other universities were contacted and asked questions related to these aspects of their programs. The following table summarizes common themes expressed by other programs in relation to the four areas of sustainability.

<table>
<thead>
<tr>
<th>Context</th>
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<tbody>
<tr>
<td>• ADVANCE programs often report to the provost level.</td>
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<tr>
<td>• There is a faculty advocacy nature to particular ADVANCE program goals. Consequently, some programs are interested in a degree of independence from the administration. For example, to what extent should a director be affiliated with the provost office? To what extent, should equity advisor roles be part of administrative roles? Programs have various arrangements.</td>
</tr>
<tr>
<td>• Partnering relationships with university diversity structures are important but sometimes difficult because responsibilities may be distinctly defined and separate, or not sufficiently defined for collaboration.</td>
</tr>
<tr>
<td>• Programs typically retain an identity with the ADVANCE name in the near term after the grant ends. An ADVANCE program leader often continues meaningful interactions with senior leadership and faculty government.</td>
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<table>
<thead>
<tr>
<th>Continuing Practices</th>
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<tbody>
<tr>
<td>• Iowa State’s Equity Advisor model is similar to successful models continued at other institutions. There is typically some central coordination of and support for the equity advisors.</td>
</tr>
<tr>
<td>• The general strategies used by programs varies, some oriented to faculty awareness about issues, some to effective and informed leadership at all levels, and others to policies and transparency.</td>
</tr>
<tr>
<td>• Departmental culture change continues to be a goal for several programs. The premise is that long-term institutional change requires culture change, and that must involve the faculty and environment within each department. The University of Michigan has implemented department-level climate assessment activities, leveraging interest by departments following campus-wide climate studies. [22] The climate studies informed faculty about issues, creating faculty interest in departmental change. Today, faculty-led initiatives continue to be supported, in part through an NSF Partnerships for Adaptation, Implementation, and Dissemination (PAID) grant. [20] Faculty teams propose projects to create positive changes in the work environment within academic units.</td>
</tr>
<tr>
<td>• The systematic climate assessment process is available for a fee to UM’s departments, schools, and colleges. Some schools and colleges include departmental climate assessments as part of the self-study review associated with the strategic assessment process adopted by</td>
</tr>
</tbody>
</table>
the university. [9] Approximately eight climate assessment plans are prepared each year, and typically a school/college pays for the plan. Two schools/colleges will conduct strategic assessments each year, with the intent that every school/college assesses itself approximately every ten years. One of the questions to be addressed in the self-assessment is: “Diversity, along many dimensions, remains an important goal of the University. How will your plans enhance the diversity within the unit, the profession, and the University?”

- The University of Washington also implemented department-level activities for cultural change during the grant. [7] Today, the program primarily relies on a leadership development workshop series for department chairs to support departmental efforts. However, the program reports there has been a sea change experienced by the university in the past decade on valuing diversity, contributed in part to and codified by their ADVANCE activities. For example, good practices that were once the ideal or the exception for search committees are now the norm.

- Programming continues to focus on faculty and may be specific to ADVANCE goals or encompass other university priorities. There is often programming exclusively related to women faculty in STEM. There may also be separate programming that benefits all faculty in all disciplines. This may be driven by specific goals or even by budgetary constraints. For example, at the University of Washington, the leadership workshops are offered with provost level support; whereas the recruitment and retention of women in STEM is a special concern of STEM colleges and deans, which support related programming.

Cost

- The primary responsibility for program funding often rests with the provost office. Cost-sharing with other units on campus is typical (e.g., colleges, graduate school, other diversity offices, academic departments).

- Several ADVANCE programs obtained financial commitments in the provost office budget prior to the wave of severe budget reductions. Program budgets have since been affected in varying ways, some decreasing, some maintaining, and some even increasing.

- Minimally, institutions have continued to support a faculty director (full or part time), program assistant (staff and/or graduate student), and programmatic funding of about $50K - $100K annually, some with less and some with more (the highest being the University of Michigan at about $1M annually, primarily through the provost office budget, reflecting the increasing value and responsibility assigned to the program across campus).

- With limits on programmatic funding, ADVANCE programs have selectively scaled back based on cost and interest. Activities with strong interest have ongoing potential for achieving results and institutional change. All agree that changing the climate is expensive because of the integrated effort needed across many levels.

- Several programs have successfully pursued external funding. A faculty director or other team member has the responsibility to prepare requests and write proposals. Two NSF programs are funding grants to several of the ADVANCE institutions contacted for this review: Partnerships for Adaptation, Implementation, and Dissemination (PAID), and Innovation through Institutional Integration (I³).
### Commitment

- Several of the ADVANCE institutions have achieved culture change to some degree and with some credit given to ADVANCE, and these institutions continue to support it. Others are still trying to create change, in some cases, with barriers remaining. Some have accepted limited results.
- ADVANCE-related progress is monitored to varying extents. In most cases, selected data, possibly a subset, continue to be tracked and reported. The data are used by department chairs and deans. The data may be reported to a state board of trustees/visitors, e.g., for annual diversity reporting requirements, and used for benchmarking. Several institutions have prescribed review processes that align well with their ADVANCE goals and thus provide opportunities for systematic evaluation of continuing progress related to ADVANCE. One example is the University of Michigan’s strategic assessment process. [9]

Sustainability was also discussed in one-on-one meetings with the equity advisors. The EAs present a perspective informed by their efforts, experiences and interactions in both the ADVANCE program and the colleges. The following synopsis captures some of the common needs and interests.

### Equity Advisor Role

Administrative and faculty leaders need to continue to work together on ADVANCE goals. An equity advisor needs a network within a college as well as across colleges. This network must be strongly connected to the dean and provost levels while serving as a resource and building community among faculty at the department level. A central hub for communication and coordination facilitates the individual and collective efforts of EAs, reduces redundancy and disseminates good practices.

### Department Engagement

Recurring conversations and active learning and professional development are important for department chairs and faculty committees. Regular interactions among stakeholders help to maintain and share ADVANCE knowledge. Results depend on departments and faculty being willing and interested in change and improvement. The specific benefits must be clear. For example, faculty retention is important to and has real consequences for departments.

The collaborative transformation process helps departments create a positive working environment for faculty. There should be structured opportunities for all departments (not just the focal departments participating in the ADVANCE program) for self-evaluation. Department reviews should involve self-studies that address department culture as it affects an inclusive and effective workplace. Understanding department cultural issues related to ADVANCE data and goals is important not only for department chairs but also emerging leaders in a department. Leaders at all levels need to evaluate results, preferably using a consistent set of criteria, rubrics, resources, and tools.
In addition, the NSF-funded study currently underway by Ann Austin, Michigan State University, and Sandra Laursen, University of Colorado, will shed light on change strategies, the process of institutionalization, and the contextual aspect among ADVANCE institutions. [2] The investigators emphasize that change strategies are not one-size-fits-all. Different institutional environments have different contextual features that lead to various approaches. An institution must understand its own context, on and off campus. For example, what conversations do the faculty already participate in? What are the population demographics and employment options in the area? What are strengths in relation to ADVANCE goals, and what areas need attention? Most ADVANCE programs studied have continued a presence on campus. Programs reside in various places depending on the institution and where there is interest, responsibility, and capacity. The provost office is common, but there are other places, such as a workplace institute or teaching/learning center. Often there is cost-sharing with other units that benefit from the program. Programs also have various associations with the ADVANCE name. Several themes are emerging in the analysis, including the importance of identifying institutional priorities reinforced by an ADVANCE program; having a senior administrative leader who is a strong advocate and who gives the program a voice and a perspective within administration; having mid-level champions within the institution; and creating alliances across campus. ISU’s focal college associate deans are an example of mid-level champions having an impact on program outcomes. Austin and Laursen also cited the importance of messages that are communicated everyday in relation to ADVANCE goals. For example, one institution created a new award called the Chancellor’s ADVANCE Initiative Award, given annually to an academic department. Similarly, the investigators are impressed by the continuing financial commitment of ISU’s STEM colleges to the equity advisors. These are viewed as powerful statements to the campus community.

3.1. Change Strategies

With the above frame of reference to explore sustainability of the key areas of the ISU ADVANCE Program, consider again the goals of the program:

1) to overcome known barriers to the advancement of women faculty in STEM disciplines;
2) to identify and eliminate department-specific barriers;
3) to increase the representation of women and underrepresented minorities at senior faculty and leadership ranks; and
4) to institutionalize positive change across the university.

Based on the fall 2010 survey, ISU ADVANCE stakeholders were least satisfied with program outcomes related to increasing the representation of women faculty and faculty of color.[18] Key indicators related to the representation of women faculty and faculty of color from 2001-2009 are reported in the program’s annual report to NSF, figures 1 - 12. [12] Some positive change is seen
in the data, e.g., women faculty in STEM by rank, figures 5-7. The program has not identified specific targets for these key indicators. As noted by some stakeholders, it may be too early to see real evidence of change.

The ISU ADVANCE Program was well-designed to initiate positive change on campus. The question is how will change be realized moving forward, and to what extent will it impact ISU culture? Of course, the question of change, its cultural impact, and effective strategies to achieve it applies to all ADVANCE programs. The Austin/Laursen study will provide some insights. In general, ADVANCE programs have taken approaches oriented toward

(a) developing leadership and community to cultivate new culture, and/or 
(b) creating, improving and enforcing processes and policies.

Each orientation may be effective depending on the situation. The key areas of ISU ADVANCE also follow these orientations.

In the interests of sustainability, the challenge going forward is to select areas of ISU ADVANCE that are cost-effective. What will yield affordable results? Consider the following illustration of cost versus effectiveness. A practice (or type of practice) is shown as an oval, such as training. Its position in the coordinate space suggests various options having different costs and various situations having different effectiveness. A different type of practice, such as collaborative transformation, drawn as a separate oval, will have its own set of choices. This illustration is a simple abstraction to think about the sustainable implementation (or adaptation) of practices. Where might ISU ADVANCE practices be placed in this space? Is a highly effective practice (implementation) worth the cost? What are alternatives within that practice? Are there other alternatives? How effective does a practice (or combination of practices) need to be to change culture?

These questions are not unique to ISU ADVANCE. The following questions have been posed by the Austin/Laursen study: [2]

What strategies and processes have worked well in creating institutional environments that are conducive to the success of women scholars, especially in STEM fields? Have
some strategies worked particularly well in regard to specific goals? Why have these worked well? Why did some not work well?

How does a university's organizational culture and other institutional characteristics relate to the initial choice and ultimate effectiveness of the strategies and processes used?

In institutions where change strategies and processes have resulted in significant outcomes in terms of creating environments that are conducive to supporting the career progress of STEM women faculty, what can be learned about effective theories of change and effective strategies and processes? That is, what lessons on “best practices” can be learned from ADVANCE programs that have had an impact?

3.2. Iowa State’s Goals

Effectiveness is relative to one’s goals. Results will be achieved through possible implementations and combinations of ISU ADVANCE practices. To what extent will goals be met? To what extent will results impact ISU culture? What is the extent of the positive change that is sought? Those well-versed in organizational change point out that a plan needs to be strategic, not just tactical. It is not simply a matter of selecting cost-effective practices. The goals must be well-understood, which means understanding the current culture and context as well as how much change is sought.

Consider the following illustration of change, thought of conceptually as a return on investment, plotted over time in relation to an investment. Here the investment is the strategic program activity. The graph is not based on actual data; it is a simple abstraction to think about the relationship of program activities to change. Time is given as the five years of the ISU ADVANCE grant and the five years beyond the end of the grant. The solid line is a hypothetical sketch of program activity level during the grant and potential activity over the next three years. The dashed line is a sketch of the degree of change. Each line is sketched to suggest different
scenarios for change based on program activity. Is there a minimum level/type of program activity that will lead to some minimum level of change that is sustainable? Organizational change is not linear. If it is not made permanent, it will decay. It can reach a tipping point and become sustainable under the right conditions.

4. Implementation Recommendations

The recommendations for institutionalizing and sustaining ISU ADVANCE are based on these general assumptions:

(A) ISU ADVANCE team members will be involved and/or expertise applied, as needed, during the transition to establish cost-effective implementations or adaptations of key practices.

(B) A transition plan will be developed by ISU ADVANCE team members and ISU senior leadership that defines specific measurable outcomes for ADVANCE-related ISU goals at all levels. Primary measures must be defined for the goals on diverse faculty and university work environment in the university’s 2010-2015 strategic plan.

(C) Colleges and departments will (have the opportunity/be expected to) review the degree to which they are achieving measurable outcomes.

(D) The university community will think deeply about organizational change, and leaders will be intentional about change while setting expectations for goals and outcomes.

Resource recommendations are based on various information including: ISU ADVANCE program budget for year 4 [6], SP@ISU program budget and college commitments [16], proposed/pending PEDL program support [4], [5], proposed consultancy costs for enhancing university workplaces [3], a continuing funding request by University of Washington ADVANCE [15], and surveys of institutional support for other ADVANCE programs [10], [11]. The funding information for the University of Washington and other schools serves as a reference for benchmarking and comparison.

Iowa State should support a transition period of three years in which the ISU ADVANCE program remains highly visible and continues a subset of practices from its key areas through 2014. Given the assumptions above, a review of program-related goals should be conducted after the transition period and should provide a sound basis for decision-making about the program. Ideally, one or two additional years of funding should be planned for through 2016. This takes Iowa State through the end of its current strategic plan, having goals to recruit, support, and retain a diverse group of outstanding faculty and staff; and to foster a university culture and work environment that rewards faculty and staff for their contributions, supports a balance between work and life, and inspires individuals to work together to achieve at the highest level of their abilities. Program outcomes will help gauge progress and inform subsequent strategic planning related to these goals. In addition, some ADVANCE programs at peer and aspirational
institutions have been (or will be) ongoing for at least ten years. With a similar timeframe, Iowa State can participate in and leverage (e.g., for benchmarking its change processes) the larger ADVANCE community.

The 2014 review should document ISU strategic plan measures and ISU ADVANCE Program key indicators. Colleges should evaluate corresponding data as well as make comparisons with national data and/or peer institutions. Colleges should be able to answer the question: Are we a good place to work, especially for STEM women faculty? The criteria for good should include, among others, attributes emphasized by ISU ADVANCE (transparency, communication, equity, work-life balance, inclusivity, etc.). Departments should evaluate data available at the department level, and in particular, climate assessment data. Departments should be able to answer the question: Is our workplace climate better than it was, especially for STEM women faculty? Faculty need to see and feel the benefits of change through their departmental culture if the positive change of ISU ADVANCE is to be sustained. Faculty also need to see effective leadership at all levels supporting their departmental efforts.

4.1. Structural Plan

Austin and Laursen have observed that sustainability begins with very practical structural questions. Who is involved with the program? Where is it located? Moreover, these are highly specific to an institution and its history. They are essential contextual features that affect sustainability. It is useful to consider the structure of existing successful programs or organizations on campus that have led or appear to be leading to institutional transformation. Since the mid 1990’s, the Center for Excellence in Learning and Teaching and the Learning Communities Program have transformed the learning environment on campus with measurable outcomes related to student retention and graduation. The Faculty Senate (via the Faculty Handbook) has codified the broad meaning of scholarship and standards for promotion and tenure review, impacting all faculty. More recently, the Live Green! Initiative has engaged the campus community in a commitment to environmental sustainability. All have positional leaders that are strongly connected to the provost or president levels. Each has global outcomes that require local engagement, and a mixed centralized/de-centralized organizational approach. These attributes have also characterized the ISU ADVANCE Program and should be retained. The following organizational chart describes the recommended structure for ISU ADVANCE. The labels S1, S2, S3, and S4 are defined in the next paragraph.
The following structural features of ISU ADVANCE, labeled S1-S4 in the chart, should be in place:

S1. Faculty director / campus equity advisor (part-time): leads/manages the ISU ADVANCE Program, coordinates the college equity advisors, interacts with senior leadership and the faculty senate, continues to engage ADVANCE experts, reports to the associate provost, etc.

S2. College equity advisors: role and responsibilities as needed for ISU ADVANCE and SP@ISU programming; may also be college-specific. Resource for faculty and committees. Interact with faculty senators. ISU’s five STEM colleges have already committed to EAs through 2015 (the end of the SP@ISU grant).

S3. Staff assistant (part-time): collaborates with the faculty director to administer the program, plan events, review data, and work with partners on day-to-day matters; contributes to cohesive planning between the program and the provost office.

S4. Graduate assistant (optional, contingent on funding): assists the faculty director and equity advisors.

4.2. Programmatic Plan

The following programmatic features of ISU ADVANCE should be continued, listed with corresponding key areas of strength [13]:

P1. Faculty development workshops, including leadership development workshops for deans, chairs, and emerging leaders; and mentoring workshops for women faculty and faculty of color in STEM.

Refer to Area 4, Department Chair Training; Area 6, Training about Systemic Unintended Bias.

P2. Dissemination and community-building, including participation in conferences. An annual ADVANCE forum for ISU faculty and staff is recommended to share and maintain knowledge about ADVANCE practices and research.

Refer to Area 2, Data Collection and Monitoring Areas of Improvement/Need. In general, this cuts across all areas, as continuing the conversation about ADVANCE goals is equally important to continuing various programming.

P3. College programming and resources managed by EAs, e.g., committee training, professional development, data analysis, broader impacts (SP@ISU), etc.

Refer to Area 1, Equity Advisors; Area 4, Department Chair Training; Area 5, Search Committee Training.

P4. Data reporting to support reviews by the program, provost, deans, and department chairs. Standard datasets and graphs should be developed and available. This should be driven by the review processes noted above.

Refer to Area 2, Data Collection and Monitoring Areas of Improvement/Need.

P5. Department climate assessments (optional). This makes a form of Collaborative Transformation available to any department on campus. Bird’s proposal serves as a starting point. [3] The Michigan ADVANCE model is also a reference point. [20], [22] This would facilitate the review processes noted above. During the first year of the transition, this should be piloted with several non-focal departments.

It would also be interesting to consider a modified proposal that promotes a “positive deviance” community-driven approach to identify successful practices and behaviors already existing in departments at ISU and share these with other departments. This is similar to the observation of the external advisors regarding a CT alternative that would identify common challenges departments face and develop programs applicable to multiple departments. In contrast, though, positive deviance approaches identify unusual successes.

Refer to Area 2, Data Collection and Monitoring Areas of Improvement/Need; Area 3, Collaborative Transformation.
The following table summarizes potential relationships among the structural and programmatic features and key stakeholder groups.

<table>
<thead>
<tr>
<th>Stakeholder Groups</th>
<th>Programmatic Features</th>
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<tbody>
<tr>
<td></td>
<td>P1: Workshops &amp; Training</td>
</tr>
<tr>
<td>Senior Leadership</td>
<td>X</td>
</tr>
<tr>
<td>Department Chairs</td>
<td>X</td>
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<tr>
<td>Faculty Committees</td>
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<tr>
<td>Faculty</td>
<td>X</td>
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<td>STEM Women Faculty</td>
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**ADVANCE Structures**

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<th>ADVANCE Structures</th>
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<tbody>
<tr>
<td>S1: Director</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S2: Equity Advisors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>S3: Staff Assistant</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S4: Grad. Assistant</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADVANCE Experts</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Each of the programmatic features has various possible implementations. The reference implementation is the current model of ISU ADVANCE annotated with this report. The final report from the external evaluators should be given careful consideration. [8]

### 4.3. Financial Plan

The continuing implementation choices also involve financial considerations. A minimum cost approach should be the starting point based on cost estimates for the features. The following steps are recommended, led by the ADVANCE director:

- Iterate on and approve a minimum cost budget.
- Work with team members to identify specific practices and operational details that satisfy the budget. Work with key stakeholders, such as focal college deans and department chairs, to ensure that their needs and specific contexts are being addressed.
- Prepare a plan that is judged to be effective within the cost budget.
- Refine the specific implementation or adaptation of ISU ADVANCE practices during the transition period, especially through ongoing work implied by the assumptions.

A proposed minimum cost budget is estimated in the table below.
<table>
<thead>
<tr>
<th>Feature</th>
<th>Annual Cost (estimate)</th>
<th>Source 11-12</th>
<th>Source 12-13</th>
<th>Source 13-14</th>
<th>Source &gt;2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1: Director</td>
<td>$65,000</td>
<td>NSF (NCE/490)</td>
<td>Provost</td>
<td>Provost</td>
<td>Provost</td>
</tr>
<tr>
<td>S2: Equity Advisors</td>
<td>$175,000</td>
<td>5 STEM colleges</td>
<td>5 STEM colleges</td>
<td>5 STEM colleges</td>
<td>5 STEM colleges (through 2015)</td>
</tr>
<tr>
<td>S3: Staff Assistant</td>
<td>$20,000</td>
<td>NSF (NCE/490)</td>
<td>Provost</td>
<td>Provost</td>
<td>Provost</td>
</tr>
<tr>
<td>S4: Graduate Assistant</td>
<td>$20,000</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>P1: Workshops &amp; Training</td>
<td>$7500</td>
<td>NSF (NCE/490)</td>
<td>Provost</td>
<td>Provost</td>
<td>Provost (Other?)</td>
</tr>
<tr>
<td>P2: Dissemination &amp; Community</td>
<td>$7500</td>
<td>NSF (NCE/490)</td>
<td>Provost</td>
<td>Provost</td>
<td>Provost (Other?)</td>
</tr>
<tr>
<td>P3: College Equity Programming</td>
<td>$7500</td>
<td>NSF (NCE/490)</td>
<td>Provost</td>
<td>Provost</td>
<td>Provost (Other?)</td>
</tr>
<tr>
<td>P4: Data Reporting &amp; Unit Reviews</td>
<td>$7500</td>
<td>NSF (NCE/490), Provost</td>
<td>Provost</td>
<td>Provost</td>
<td>Provost (Other?)</td>
</tr>
<tr>
<td>P5: Department Climate Assessment</td>
<td>$25,000</td>
<td>Provost</td>
<td>Colleges, Departments (based on use)</td>
<td>Colleges, Departments (based on use)</td>
<td>Colleges, Departments (based on use)</td>
</tr>
</tbody>
</table>

| Notes: Assumes ½-time appointment (salary only) plus miscellaneous office support. |
| Notes: Assumes 1/3-time appointments. Commitment specified in SP@ISU grant. |
| Notes: Assumes part-time responsibilities for ISU ADVANCE as part of job description. |
| Notes: Assumes additional funding will be needed in the NCE year to support final NSF reporting (e.g., $5000, or $12,500 total during 2011-12). |

| Provost Subtotal | $30,000 | $115,000 | $115,000 | $115,000 |
| College Subtotal | $175,000 | $175,000 | $175,000 | $175,000 |
| Other Subtotal | $115,000 | | | |
| TOTAL | $320,000 | $290,000 | $290,000 | $290,000 |

The structural features are supported by the provost office and colleges. The programmatic features are supported by the provost office and users of data and/or assessment processes.

During the first transition year, 2011-12, which is a no-cost extension (NCE) year for the ISU ADVANCE Program, there will be approximately $75K available in the NSF grant. There will be an additional $40K in the incentive account for the grant. This would be sufficient to cover...
the minimum costs for structural and programmatic features (S1, S3, P1, P2, P3). Approximate funding from the provost office of $30K would support P4 and P5 as well.

During the three transition years (and through 2015), the five STEM colleges have committed to supporting the EAs (S2). To support a graduate assistant (S4), funds from the Graduate College could be matched with applicable funds from the SP@ISU grant or new grants such as PEDL.

During the second and third transition years, 2012-14, the funding for the minimum costs (i.e., structural and programming, not including EAs, approx. $115K annually) requires a commitment from the provost office (S1, S3, P1, P2, P3). This commitment may be reduced through applicable funds from the SP@ISU grant or new grants such as PEDL.

The recurring annual provost-level commitment to sustain a minimum base level of ADVANCE programming (i.e., the programmatic features) is $30K, not including office support or central funding for P5. With some planning, there are alternatives to using the general fund. In the short-term, $50K is a reasonable target for private/corporate sponsors of programming for institutional change. For example, a workshop series could be named for a sponsor. In the longer term, it might be interesting to create an endowed chair to be held by the faculty director or experts of the program. The annual income from the endowment would sustain a base level of ADVANCE programming. The named chair could be associated with scholarly areas related to institutional change.

4.4. Summary

The structural, programmatic and financial plans outline a course of action to transition ISU ADVANCE outcomes into longer term results to achieve Iowa State’s goals. Continued investment is needed for continuous improvement through organizational change. Dr. Karan Watson, interim provost and executive vice president of Texas A&M University and professor of electrical engineering, has spoken at national meetings about organizational change in an academic enterprise. [25] She often speaks to engineering and STEM education audiences, but her insights about change in engineering education also relate to change in university culture. In her talks, she makes a point to tell stories. She believes that stories are essential to change people’s behavior; data are not sufficient. Dr. Watson began a keynote talk at the 2010 Annual Conference of the American Society for Engineering Education with a story about her truck. She has a favorite old truck that she loves to drive around town. It’s in mint condition, and she’s very proud of it. She describes it as a good truck. But it has its limits. She recognizes that if she’s going to go very far, she needs a better means to get where she plans to go. She says that we need to realize that some areas of university culture are like that truck. They have value, but will only take us so far. The challenge is to collectively choose a better way.
References

[1] Administrative Fellowship, Office of the Executive Vice President and Provost and ISU ADVANCE Program, Fall 2010-Spring 2011.


[10] Institutionalization Benchmarking at other ADVANCE schools, University of Washington ADVANCE, received from E. Riskin, Jan. 31, 2011. For internal use only.


[13] ISU ADVANCE, Key Areas for Institutionalization and Sustainability beyond Year 5 of the Program, prepared for the ISU ADVANCE External Advisors, September 15, 2010.


[15] Multiyear funding request to support the UW ADVANCE Center for Institutional Change, University of Washington ADVANCE, received from E. Riskin, Jan. 28, 2011. For internal use only.
[16] Quisenberry, S., “I3: Strengthening the Professoriate at Iowa State University (SP@ISU): A Campus Network to Enable Strong Science and Diverse Communities,” proposal submitted to NSF Innovation through Institutional Integration (I^3) program, 2010.


[21] Strengthening the Professoriate (SP@ISU), Iowa State University, http://www.spisu.iastate.edu/.

[22] Support for Assessment and Improvement of UM Departmental, School, or College Climates, ADVANCE Program, University of Michigan, August 2010, http://sitemaker.umich.edu/advance/request_a_um_departmental_climate_assessment.


The ISU ADVANCE Program uses a comprehensive approach to improve the recruitment, retention, and advancement of women faculty in Science, Technology, Engineering, and Math (STEM) disciplines. The program identifies cultures, practices and structures that enhance or hinder the careers of ISU faculty and works to transform university policies, practices, and academic culture in pursuit of a diverse and vibrant faculty.

Scorecard of Progress Toward Goals - October 2010

Goal #1: Overcome known barriers to the advancement of women faculty in STEM disciplines.

Faculty Flexibility Policies
The ISU ADVANCE Program has supported increased career flexibility for faculty members, including increased awareness of and support for existing university faculty flexibility policies, such as the tenure clock extension policy.

Use of Tenure-Clock Extension 2003-2009: 31 women, 30 men

Perceptions of Tenure Clock Extension Policy (2008):

- Tenure clock policy helps recruit faculty
- Using the tenure clock policy might hurt chances for tenure

These charts demonstrate that there are still discrepancies between the perceptions of men and women about the tenure clock extension policy. Despite viewing it as an effective tool for recruitment, women are more concerned than are men that using the policy might hurt a chances for tenure.

In addition to supporting existing faculty flexibility policies, ISU ADVANCE supported the proposed Faculty Modified Duties Assignment (FMDA) policy for the arrival of children. This policy was approved by the Faculty Senate, but has not yet been approved by the Board of Regents.

ADVANCE Scholar Program
To help overcome the barrier of inadequate mentoring for STEM women faculty of color, the ISU ADVANCE Scholar Program was launched in 2008. This program is designed to foster mentoring and collaborative relationships between ISU STEM women faculty of color and Eminent Scholars in their fields. ADVANCE supports visits between ISU Scholars and Eminent Scholars, which involve mentoring time, presentations, and research collaboration.

<table>
<thead>
<tr>
<th>Year</th>
<th>ISU Scholars</th>
<th>New ISU Scholars</th>
<th>Visits to Eminent Scholars</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-09</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>2009-10</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

These charts demonstrate that there are still discrepancies between the perceptions of men and women about the tenure clock extension policy. Despite viewing it as an effective tool for recruitment, women are more concerned than are men that using the policy might hurt a chances for tenure.

Events and Informational Materials
Various workshops have been held and an informational CD has been developed to assist in faculty searches. In addition, ISU ADVANCE hosted a national conference in 2008 on faculty flexibility, which had over 150 attendees.

Examples of Workshop Topics:
* Recognizing and reducing unintentional bias
* Faculty flexibility policies
* Enhancing the academic work environment
* Promotion from associate to full professor

Number workshops held: 11
Average number of participants per workshop: 52
Number of CDs on faculty searches distributed: >200

Goal #2: Identify and eliminate department specific barriers to the advancement of women faculty in STEM disciplines.

Collaborative Transformation Project
The Collaborative Transformation (CT) Project has been the primary vehicle through which department specific barriers have been identified and targeted for change. This has been a "bottom-up" process that targets specific departments that will then influence the university as a whole. Focus groups and interviews identified each focal department's barriers. This information was then used to help the department change their structures, cultures, and practices in a way that allows for increased recruitment, retention, and advancement of diverse faculty.

Selected Outcomes of the Collaborative Transformation Project:
- Open communication about work-life balance.
- Clarifying for faculty the departmental expectations and requirements for tenure/promotion.
- Increased attention on mentoring and interaction among faculty.
- Discussion of and steps toward faculty-flexibility policies.
- Attention and understanding of factors during faculty searches.

Progressive Impact of the CT Project in STEM:
2006-2007: 80 participants
2008-2009: 201 participants
2010-current: 278 participants

* The number of faculty currently participating in the CT Project represents approximately 30% of STEM faculty.
Goal #3: Increase the representation of women and underrepresented minorities at senior faculty and leadership ranks.

From 2001 to 2009, the percent of STEM faculty who were women increased at the full and associate ranks, but decreased at the assistant rank for a total increase of 3.3%. Additional analyses are currently being conducted to help explain these changes.

Between 2001 and 2009, there was an increase in the actual number of tenured and tenure-eligible women faculty in STEM during a period when the total number of STEM faculty remained constant (just under 800). There were 122 women in 2001 and 150 women in 2009, for an increase of 28 women.

Top-Level Leadership Changes

ISU ADVANCE is helping to create a critical mass of top administrators who are committed to improving the representation and status of women and under-represented minorities. Since 2005, five high level academic leadership positions have been filled at ISU: 3 by women, 1 by a Hispanic male, and 1 by a white male. Each of these new leaders is committed to the ISU ADVANCE Program goals.

In contrast to STEM departments, there was no change in the percent of women full professors university-wide. Women have been well represented as deans since 2001, but women remain underrepresented as department heads.

There has been good overall representation of women on the graduate council. Representation in the faculty senate and on college P&T committees is similar to the percent of women full professors. There has been a decrease on the university curriculum committee, with no women currently serving as voting members.

Data Source: ADVANCE Year 4 Annual Report and ISU Institutional Research

Goal #4: Institutionalize positive change across the university.

Faculty Satisfaction Improved

The Collaborative on Academic Careers in Higher Education (COACHE) survey was administered in 2005 to identify a baseline of satisfaction for pre-tenure faculty university-wide. It was re-administered in 2009 to determine progress.

Improvements From 2005 to 2009 Survey

- Consistent messages about tenure from tenured colleagues
- Stop-the-clock policies
- Spousal/partner hiring program
- Institution makes having children & tenure-track compatible
- Institution makes raising children & tenure-track compatible

Positive Feedback from COACHE Staff

“[We] were just amazed at your results.... There was not a single item in the survey where your responses were significantly worse than the first administration and the number of areas of concern were generally low.” (email to Provost’s office, received May 13, 2010)

Proposed Areas for Institutionalization

Findings based on ISU ADVANCE research and input received from ISU administrators and key stakeholders point to key areas of strength. A plan is being developed for institutionalization of these components into ISU’s policies, practices and structures when NSF funding ends in July 2011. The areas for institutionalization are:

- Leadership of Equity Advisors in each College
- Partnership with ISU Institutional Research for continuation of data gathering and analysis
- Assistent messages about tenure from tenured colleagues
- Implementation of a modified version of the departmental Collaborative Transformation (CT) Project, including practical applications of CT finding
- Professional development for department chairs, search committees and faculty that includes information on unintended bias, faculty flexibility and diversifying the faculty.

This material is based upon work supported by the National Science Foundation under Grant No. 06003999. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.
Key Areas for Institutionalization and Sustainability beyond Year 5 of the Program

*Prepared for the ISU ADVANCE External Advisors

September 15, 2010

The ISU ADVANCE Program, in the program’s first four years, has taken significant strides towards transforming Iowa State University into an institution where the structures, practices and culture are more conducive to the recruitment, retention and promotion of women faculty in Science, Technology, Engineering and Mathematics (STEM) (see ISU ADVANCE Annual Reports, years 1-4). The success of the program is evident in multiple areas.

Findings based on ISU ADVANCE research and input received from ISU administrators and key stakeholders point to three key areas of strength. The ISU ADVANCE Leadership Team (PI and Co-PIs) recommends institutionalization of these three components along with three additional related activities that have been identified by the ISU ADVANCE Council, the Internal Advisory Board (composed of the Provost and the Deans of the five ISU STEM Colleges), and the ISU ADVANCE Leadership Team as central to making ISU as conducive to the recruitment, retention and promotion of women faculty and faculty of color in STEM. The three areas of strength are:

- the college-level Equity Advisor (EA) role;
- the collection, analysis, dissemination and use of Institutional Research (IR) data and related surveys; and
- a modified version of the departmental Collaborative Transformation (CT) Project, including practical applications of CT findings.

The additional three (related) areas of activity identified as crucial to fulfilling the goals of ISU ADVANCE are:

- department Chair training;
- search committee training regarding gender and underrepresented minorities—and related recruitment, retention and promotion issues; and
- training to avoid systemic unintended bias

The ISU ADVANCE Program has also made impressive progress over the past four years in further institutionalizing a number of work-life balance policies that are crucial to
recruiting, retaining, promoting and ensuring the job satisfaction of women and men faculty.

The 2008 national conference on “Faculty Flexibility”—organized and hosted by the ISU ADVANCE Program—brought together leading scholars, administrators, and practitioners on faculty work-life issues.

The continued effectiveness of institutional transformation, including the implementation of work-life policies, depends not only on the excellent leadership and support provided by the Office of the Executive Vice President and Provost (EVPP), but also on effective communication across all administrative levels. It is also essential that we continue to develop departmental work cultures that are supportive of women faculty and underrepresented minority faculty members. In addition, we need to develop a culture that makes using these work-life policies realistic and desirable from the perspective of the individual faculty member. The six ADVANCE program areas identified for institutionalization all complement and support ISU’s work-life policies and practices. These six key ISU ADVANCE areas noted above are outlined in greater detail below.

**AREA 1: EQUITY ADVISORS IN 5 COLLEGES**

The ISU ADVANCE Program, in consultation with the Deans of three colleges (Agriculture and Life Sciences (CALS), Engineering (ENG), and Liberal Arts and Sciences (LAS)), created the role of “Equity Advisor” (EA) in the first year of the program (2006-07). The ISU ADVANCE Program has partnered with the colleges to provide resources ($20,000-30,000/year from ADVANCE’s NSF grant funds, the remainder from the colleges) to support the Equity Advisors in 1/3-time positions. Four faculty members have held and/or continue to hold EA positions (Kristen Constant (ENG), Chuck Glatz (ENG), Janette Thompson (CALS), and Lisa Larson (LAS)).

Equity Advisors serve as representatives of ADVANCE at the college level. They provide leadership for the institution to create a climate conducive to recruitment, retention, and promotion of women faculty and faculty of color at ISU. Not all of their current activities will continue after NSF funding for ISU ADVANCE has expired, but we hope to maintain those roles that are critical to sustaining the goals of ADVANCE.

As part of an initial agreement with the EVPP Office, the Deans of CALS, LAS, and Engineering approved a plan for continuing (and financially supporting) the EA position for 3 years beyond the funding of the NSF ADVANCE grant (2011-12, 2012-13, 2013-14). Recently (2010), ISU was also awarded an NSF grant in the competition for Integration for Institutional Innovation (I³), which is administered through the program on Research on Gender in Science & Engineering. Funding will support a new initiative at ISU, “Strengthening the Professoriate at Iowa State University” (SP@ISU), which will focus on Broader Impacts (BI) components of the research enterprise. The proposal for this award (SP@ISU) also includes support for the Equity Advisors, and adds activities relating to SP@ISU to the current responsibilities of EAs. SP@ISU also includes the creation of EAs in two additional colleges: Human Sciences and Veterinary Medicine.
The Deans of each of the five colleges noted above express enthusiastic support for the EA role. The specific duties of EAs within each college will necessarily vary somewhat according to the existing culture and mission of the college and the vision/strategic plan of each college. Certain activities led by the EAs across the colleges will be fairly uniform. Consistency across the colleges will help to maximize efficiency and accountability towards meeting the agreed upon goals of both ISU ADVANCE and SP@ISU.

The EA role is crucial to ADVANCE, especially with respect to providing leadership within the college and offering training opportunities on best practices and policies for enhancing the recruitment, retention and promotion of women and underrepresented minority faculty. The EA role is also crucial to SP@ISU, especially with respect to coordinating communication between the colleges and the SP@ISU program.

Challenges:

- Bringing 2 new EAs in Human Sciences and Veterinary Medicine on board and getting them up to speed on ADVANCE goals, strategies and initiatives. These EAs are expected to be appointed by the end of fall 2010 and to begin working with the other Equity Advisors in January 2011.
- Bringing 1 new EA in Agriculture and Life Sciences on board in fall 2010 to replace the EA who has stepped down from this role.
- Coordinating the EAs activities (in the final year of NSF ADVANCE funding and during the 3 years of the I3 grant (2010-11, 2011-12, 2012-13)) so that each college is not “reinventing the wheel” and so that the EA role is a realistic and manageable role for each person who accepts the position. Coordination of EA activities is currently led by ADVANCE Co-PI Diane Debinski and ADVANCE Executive Director and Co-PI Bonnie Bowen.
  - Current EAs already have more work than they can do given the amount of time they are supposed to allocate to ADVANCE activities. Adding the focus on BI could create unreasonable expectations.
    - The Equity Advisors are likely to be asked to help lead workshops and training opportunities, especially training for department chairs and search committee training (see Areas 4 & 5 below).
  - The area of primary activity envisioned by the SP@ISU Leadership group is to provide leadership at the college level and to provide coordination between the college and the SP@ISU program as it develops.

AREA 2: ROLE OF INSTITUTIONAL RESEARCH, CONTINUATION OF DATA COLLECTION, AND MONITORING AREAS OF IMPROVEMENT/NEED

The ISU Office of Institutional Research (ISU IR) collects, analyzes, manages and reports data that are crucial to understanding issues of faculty recruitment, retention and promotion. ISU IR also manages and utilizes databases necessary for assessing the effectiveness of policies pertaining to faculty equity, job satisfaction and work-life policy effectiveness.
Dr. Sandra Gahn, Associate Director of the IR Office, is a Co-PI and member of the ISU ADVANCE Leadership Team. Dr. Gahn’s department, ISU IR, has received a modest allocation each year from ADVANCE funds to acknowledge her participation as a co-PI. These funds partially support Dr. Gahn’s time, but do not cover all the time she spends on ADVANCE. ISU IR has compiled annually the eight key indicator tables required by NSF (which are also used for other purposes on campus) as well as a number of other reports and analyses that are critical to continue to monitor the transformation process begun by ISU ADVANCE. In addition, ISU ADVANCE funds have supported a senior graduate student each year who works with Dr. Gahn in preparation of the tables and reports.

Other ADVANCE analyses/activities conducted under the guidance of or in consultation with the Office of Institutional Research include:

- A cost/benefit analyses of implementing faculty work-life policies, including ongoing monitoring of policy usage;
- faculty retention analyses by gender and race/ethnicity;
- faculty salary analyses by gender and race/ethnicity;
- faculty start-up package analyses by gender and race/ethnicity;
- faculty promotion analyses using longitudinal data sets maintained by the IR Office;
- the development, analysis and reporting of surveys and/or survey items related to faculty satisfaction and department culture (e.g., the COACHE and AAUDE faculty surveys);
- coordinating efforts with the Equal Opportunity and Diversity Office and Human Resources to assess search committee and hiring data; and
- fulfilling requests by ISU ADVANCE Equity Advisors for data pertinent to the achievement of equity-related goals within the colleges of Agriculture and Life Sciences, Engineering, and Liberal Arts and Sciences.

Challenges:

- It is critical for the Executive Vice President and Provost to monitor the hiring and retention trends and distribution of resources for all faculty at ISU. Without data to make informed decisions, the ISU ADVANCE Program will have failed to institutionalize the structural changes that were proposed.
- Many of the reports and indicator tables that have been developed for ADVANCE should continue to be analyzed and monitored in order to determine the long-term impact of the ISU ADVANCE grant. Changing cultures, practices and structures takes time. It will be important to continue to assess whether these efforts have resulted in long-term changes to the recruitment, retention and promotion of women faculty and faculty of color, especially underrepresented minorities, at Iowa State. The IR Office is centrally-funded and has the expertise and data management skills to continue to provide these data to the leadership team at Iowa State.
- Recent budget cuts (2011-2012 fiscal year) to the ISU IR Office will necessitate a reduction in the amount of time spent by Dr. Gahn on managing, analyzing and reporting data relevant to the goals of ISU ADVANCE. Decisions will have to be
made about whether to fund someone to do this work or to reduce the kinds of reporting that supports the work of ISU Equity Advisors and the overall goals of the ISU ADVANCE Program.

- The “broader impacts” requirement by NSF and other federal funding agencies requires researchers to discuss how a proposed activity broadens the participation of underrepresented groups. The data that have been collected and will continue to be collected and analyzed by the IR Office will be critical to the successful funding of future research projects by ISU faculty.

**Area 3: Collaborative Transformation**

Collaborative Transformation projects have been implemented in 9 focal STEM departments. Three of these departments are in the College of Agriculture and Life Sciences (Animal Science; Genetics, Development and Cell Biology; and Plant Pathology); three are in the College of Engineering (Chemical and Biological Engineering; Civil, Construction and Environmental Engineering; and Materials Science and Engineering); and three departments are in the College of Liberal Arts and Sciences (Chemistry; Ecology, Evolution and Organismal Biology; and Physics and Astronomy).

The full departmental CT process, implemented under the leadership of ADVANCE Research Director (and Co-PI) Sharon Bird and the CT Research Team (Co-PI Carla Fehr, Equity Advisor and Researcher, Lisa Larson), involves the collection of data from focal department faculty members and the Chair for use in the development of projects aimed at increasing faculty job satisfaction, commitment, and productivity and for improving the recruitment, retention and promotion of women faculty in STEM fields. Focal department data (from focus groups, 1-on-1 interviews with departmental faculty and the Chair, and departmental documents/resources including governance documents and web sites) are analyzed by members of the ISU ADVANCE CT Research Team (Bird, Fehr, Larson). ISU ADVANCE CT Researchers then draft a report based on the analyzed focal department data. CT reports are tailored to each department. The reports focus on areas of strength and need for ensuring that departmental work climates are as conducive as possible to faculty productivity and the recruitment, retention and promotion of excellent faculty—with a particular emphasis on women faculty and underrepresented minority faculty.

Each of the 9 focal departments has an “ADVANCE Professor” (AP)—a faculty member appointed by the department Chair in consultation with the ISU ADVANCE Program. The AP works closely with a member of the ISU ADVANCE CT Research Team to develop an action plan based on the departmental CT report and to determine the best format for presenting departmental findings to departmental faculty.

Departmental APs also solicit input from the department chair and a small departmental advisory group (selected by the AP in consultation with the department Chair) regarding how best to present CT report findings to the rest of the department’s faculty. Departmental CT reports are then finalized and findings are presented by the departmental ADVANCE Professor to the faculty. Departmental faculty, including the department Chair, discuss CT report findings and provide feedback to the AP.
ADVANCE Professors then work with their departmental CT advisory groups and a member of the ADVANCE CT Research Team to draft an action for addressing areas of improvement. Once action plans are finalized, they are implemented under the leadership of APs and/or the department Chair (or, where appropriate, an existing departmental committee).

Based on the extensive data collected and analyses conducted on the 9 initial ISU ADVANCE focal departments, CT Researchers have also prepared multiple synthesis reports:

- **ISU ADVANCE Collaborative Transformation Synthesis Report of Year 1 Department-Level Findings (2008)** by Bird and Hamrick, 33 pages;

Two additional synthesis reports—one summarizing the key issues of strength and need across all 9 focal departments, and one summarizing the successful strategies for enhancing departmental work climate and enhancing the recruitment, retention and promotion of highly qualified women faculty and underrepresented minority faculty—are currently being prepared.

Findings based on the ISU departmental Collaborative Transformation project are also being used to develop practical tools for training and assisting Department Chairs across all ISU colleges and academic departments in enhancing departmental work climate and enhancing the recruitment, retention and promotion of highly qualified faculty—including strategies particular to the recruitment, retention and promotion of women faculty and underrepresented minority faculty. The menu of tools being developed (or being considered for development) for training and assisting Department Chairs includes:

- Department Chair’s Guide to Enhancing Departmental Work Climate & the Recruitment, Retention and Promotion of Excellent Faculty
- Collaborative Transformation as a Model for Enhancing Departmental Work Climate & the Recruitment, Retention and Promotion of Excellent Faculty – Departmental Retreat Version
- Collaborative Transformation as Model for Enhancing Departmental Work Climate & the Recruitment, Retention and Promotion of Excellent Faculty – Departmental Faculty Meeting Version (series of 3-4 departmental faculty meetings)
- Department Chair Training Guide: Enhancing Departmental Work Climate & The Recruitment, Retention and Promotion of Excellent Faculty

**Challenges:**

- Department Chairs and ADVANCE Professors of the 9 focal CT departments (along with the CT Researchers) emphasize that the Collaborative Transformation
process itself has been crucial to the success of transforming departmental structures, cultures and practices. Faculty members in the focal departments note that CT focus groups and interviews led to discussions that faculty do not ordinarily have regarding workplace climate, unconscious gender and race biases in recruitment and promotion of faculty, job satisfaction, and work-life balance. The time and resource investment in the extensive process that has led to these departmental conversations (and, in many cases, subsequent changes in departmental climate) cannot be sustained in the post-grant period. Thus, the menu of options for sustaining CT (so that it can be used in non-focal colleges and departments) include more succinct methods that economize the program but that may also reduce its effectiveness.

- The Department Chair’s Guide to Enhancing Departmental Work Climate & the Recruitment, Retention and Promotion of Excellent Faculty will be piloted at (2) workshops for new ISU Department Chairs in the 2010-2011 academic year.
- Department Chairs/departments seeking to engage in the CT process will need assistance in determining which of the options from the menu of CT tools best meets their needs and in coordinating and implementing the chosen option(s).
- Implementing the menu of CT tools that are currently being developed will require the leadership and time of experienced experts.
- Finding and supporting personnel with the expertise, skill and time to conduct this work is critical. It is also essential to keep resources and training models up to date based on the needs of the ISU community and coordinate these efforts with current related research findings.

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In consultation with the ISU ADVANCE Council (an internal advisory group comprised of the ISU ADVANCE Co-PIs and other members of the Leadership team, EAs, APs, Associate Deans of five STEM colleges, and partners in STEM and diversity programs related to ISU ADVANCE) and the Deans of the five ISU STEM Colleges, the ISU ADVANCE Leadership Team has also identified three key areas of training:

- Department Chair Training on issues pertaining to the recruitment, retention, and promotion of women faculty and underrepresented minorities—including training on departmental climate (departmental structures, culture and practices); and
- Search committee training and related training on recruitment/retention/promotion issues.
- Systemic unintended bias training

AREA 4: DEPARTMENT CHAIR TRAINING

In collaboration with the Office of the Executive Vice President and Provost, ISU ADVANCE has provided training workshops for all department chairs on issues pertaining to the recruitment, retention, and promotion of women faculty and faculty of color. During the past three years, training has been provided to department chairs in the three focal colleges (CALS, LAS, and ENG) on the topics of unintentional bias,
mentoring, and preparation of candidates for promotion and tenure. This training has complemented the chairs workshops that ISU already has in place, namely a one-day orientation for new chairs and administrators and two annual lunches with the president and provost that highlight a relevant topic (e.g., resource management model for budgeting, conducting effective searches, etc.). ISU senior leadership recognizes that the role of department chairs has become more complex in the past decade while the training and professional development opportunities afforded department chairs has been thin at best. ISU ADVANCE has filled a critical role in its development of chairs training and workshops that provide needed professional development to department chairs in the area of recruitment, retention and advancement of excellent faculty, particularly women and faculty of color.

Our institutional focus has largely been on new chairs, but as part of ADVANCE we will be extending our workshops to all chairs as part of an Effective Leadership Series. This series will be initiated in 2010-11 and a full schedule will be developed in the near future.

**AREA 5: SEARCH COMMITTEE TRAINING AND RELATED TRAINING ON RECRUITMENT/RETENTION/PROMOTION ISSUES**

The ISU ADVANCE program has engaged in a number of activities focused on educating faculty search committees about best practices. Collecting, preparing and disseminating resources for optimizing the faculty search process was the focus of the Year 3 faculty fellow. The result is an extensive set of resources to aid faculty search committees in planning and executing an effective, efficient and fair faculty search. In addition to links to literature and other information, this includes 20 short documents, with guidelines and suggestions for the search process, sample evaluation forms, and ideas for discussions to have with departmental faculty. These resources are available on a DVD, which has been broadly disseminated, and via the ISU ADVANCE website (www.advance.iastate.edu). In addition to these resources, ISU ADVANCE Equity Advisors have given presentations to search committees and department chairs. These short training sessions include discussion of unintended bias, best practices for broadening the pool and evaluating candidates, and information on additional resources. Continued work in this area includes:

- Revising existing web and electronic resources to be more inclusive of recruiting underrepresented minorities.
- Reviewing current national data and literature related to best practices for faculty searches.
- Working with Equity Advisors to develop strategies for reaching all faculty search committees.
- Developing and delivering a curriculum to get best practices on recruiting underrepresented minorities in STEM to search committees and department leadership.
- Using newly developed materials to train a select number of search committees as a pilot study
- Designing an assessment plan for the pilot process and adapting it for inclusion in standard search procedures
• Planning and delivering a department chair/senior faculty workshop on best practices in recruiting a diverse faculty.

Challenges
• Choosing who to train is problematic. The structure of search committees varies by department and sometimes by the individual search. Some departments have standing search committees; others constitute a new committee for every search. It is possible that we can train a cadre of people to become ‘trainers,’ but this would require resources to initiate and maintain.
• Some departments or individuals have long standing practices and procedures that may be inconsistent with the best practices we are trying to promote. It is reasonable to anticipate resistance to change. For this reason it will be necessary to motivate change by providing data regarding the success of the proposed approaches. These data are difficult to obtain. Additionally, it is unclear whether training can be or even should be made mandatory.
• It is difficult to determine the most effective and efficient mechanism by which to deliver training. Options include DVD-based productions (similar to a reader’s theater with appropriate discussion), interactive online training programs that can be completed individually, personal (face-to-face) training and discussions led by a trained facilitator, or a combination of approaches.
• Our efforts to capture data related to ongoing searches (candidates, finalists, interviewees) is made very difficult by the fact that information on ethnicity and gender are self-reported and are voluntary, which results in a low rate of reporting.
• Data on the number of available women and/or underrepresented minorities in sub-disciplines are often very difficult, if not impossible, to extract from general data. This makes it difficult for committees to know whether their applicant pool is representative of the available population.
• In general, there is a lack of accountability of search committee members with regard to broadening the pool or applying best practices. There is also a lack of continuity from year to year.
• Partnering with existing university structures (e.g. Human Resources and Equal Opportunity and Diversity) is complicated by the fact that there is currently an ongoing reorganization effort.

AREA 6: TRAINING ABOUT SYSTEMIC UNINTENDED BIAS

ISU ADVANCE has provided training for all ADVANCE personnel on systemic unintended bias. Systemic unintended bias is at the heart of challenges creating work cultures that promote the satisfaction and success of women and underrepresented minority faculty members. It involves the unintentional and often overlooked ways that job satisfaction and career success of women and underrepresented minority faculty are negatively impacted by biases at individual, interpersonal and institutional levels of the organization. These workshops introduce participants to national and institutional data on the status of women and underrepresented minorities and to the latest research on how systemic unintended bias influences the practices, cultures and structures that affect the job satisfaction and success of women and underrepresented minority faculty. Workshop
participants use this information to work through case studies on topics that participants are likely to face including mentoring, recruiting and hiring, and promotion and tenure. The need for continuing this training is threefold:

1) Support for ADVANCE Personnel
   a. These workshops support EA activities. EA’s are likely senior faculty members whose areas of research expertise do not include gender and institutional structure or gender and STEM. ADVANCE facilitates their success by offering them training in this research area. In particular, these workshops provide EA’s with the background to successfully conduct chair and search committee training.
   b. These workshops support CT efforts in departments by training ADVANCE professors and department chairs, who then use this knowledge to implement strategies for improving department climates.

2) Support effective implementation and use of flexible career policies
   a. Create buy-in regarding the need, intent and viability of flexible career policies.
   b. Enable departments to effectively employ flexible career policies and leverage these policies to recruit, retain and promoted excellent faculty rather than minimally following the letter of the law.

3) Support the creation of positive work climates, by working through case studies demonstrating the impact of gender and race at personal, interpersonal and institutional levels of organization within work cultures.

Challenges:

- Finding and supporting personnel with the expertise, skill and time to conduct these trainings and keep trainings up to date based on the needs of the ISU community and with current related research findings.

LEADERSHIP OF FUTURE ADVANCE EFFORTS

It is also important to recognize that all of the aforementioned activities occurred based upon leadership and collaboration at multiple levels, including the PI, the Executive Director, the Director of Research, the Steering Committee and the ADVANCE Co-PI team. The ADVANCE Program has office space in the Office and Lab Building and a program assistant, Nicol Jones. An office space with campus visibility, and a director serving the role of the campus contact for these efforts and leading the day-to-day activities of the program is essential for continued success, even for a scaled-down version of ISU ADVANCE. Continuing leadership of ADVANCE activities could be the responsibility a person (director) who also provides leadership for other programs and efforts with similar goals. A strong long-term commitment from the Executive Vice President and Provost’s office is essential to providing the credibility needed for these efforts of institutional transformation to be accomplished.
Challenges:

- Financial Resources for Future Efforts: NSF funds that supported the ISU ADVANCE Program were used primarily for salaries and benefits for faculty, staff, and students. Of $2.2 million direct costs, $1.9 million (85%) was spent on salaries and benefits. In addition to salaries for the Executive Director and Program Assistant, the ISU ADVANCE Program provided course releases for the Research Director, Collaborative Transformation researchers, Equity Advisors, ADVANCE Professors, and co-PI Team members, including the co-PI in Institutional Research. Colleges have pledged to support the Equity Advisors, but support for many of these roles will not continue when grant funding ends. Nevertheless, participation of faculty, staff, and administrators is vital to continuing and enhancing the institutional transformation that has occurred in the past 5 years. As a funding plan develops for future support of ADVANCE efforts, it will be necessary to recognize that the people who have contributed to the success of the ISU ADVANCE Program have been able to do so, in part, because the allocation of their time has been acknowledged with financial resources. If those resources are not available in the future, the work may not get done. Undoubtedly choices will need to be made about where to allocate resources, which is why the discussions that develop from this document are so important.
ISU ADVANCE PROGRAM

EXTERNAL EVALUATORS' REPORT

FEBRUARY 12, 2011

PREPARED BY

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Introduction and Context

Now in its fifth year of NSF funding, the Iowa State University ADVANCE Program has arranged for us to prepare a summative external evaluation of the Program. This report, based on materials available as of October 2010 and on our week-long visit to campus, will be followed in spring of 2011 with a review of materials being collected, internally, in the final months of the award.

Our preparation for the visit included review of annual reports, materials presented to the ISU community, and reports on the various ADVANCE initiatives. In addition we selectively reviewed faculty websites in preparing the list of people with whom meetings might be arranged.

We were in Ames from Sunday evening, October 17, until the end of day on Friday, October 22. A dinner meeting with the NSF ADVANCE Program Director was followed by five full days of interviews and focus groups with ADVANCE team members, organizational partners, leaders and faculty in focal departments and colleges. In total, we met (either together or individually) with almost ninety members of the ISU faculty, administration, and professional staff. The ADVANCE Office is to be commended for providing us full exposure to the ADVANCE project and its organizational context. We also note with appreciation the cooperation of so many people, with busy professional lives, who took the time to meet with us.

The University and transformative policies

Policy outcomes defined by the ISU ADVANCE Program focus on increasing the use of existing and new career flexibility policies, including extensions of the probationary period, part-time appointments for tenured and tenure eligible faculty, and modified duties policy. The emphasis of policy in this context is highly pragmatic and geared to institutional goals for effective recruiting and retention (defined by ISU as a university priority). The clarity of why these policies are important is supported by the important work done to assess and compare the relative cost of retention approaches with costs of faculty replacement, and by presentations such as Administrative Fellow Dr. Mary Harris’ overview of work/life balance and the ISU resources available to support work-life flexibility in pursuit of recruiting the best faculty. The collaboration between the ADVANCE Office and Sandra Gahn of Institutional Resources has yielded remarkably valuable cost/benefit analyses of implementing faculty work-life policies, including the critical function of monitoring usage. These resources could be highly effective in transforming the way in which the University presents itself in recruitment efforts and valuable tools for retention of faculty.

Comprehensive resources have been developed for chairs, deans, and faculty that detail policies and guidelines, identify where more information is available, and generally facilitate use of this hard-won set of policies supporting career flexibility. This impressive focus on equipping the academic leadership with tools for implementing career flexibility policies appears to not be fully embraced by some department chairs. It was also hard to determine the extent of commitment by the Deans to advancing the full utilization of these University policies. This
is unfortunate: policy changes and usage have little impact if these academic leaders are not fully and consistently on board. Even within focal or Collaborative Transformation (CT), departments, we found practices that are inconsistent with the University’s goals for a family-friendly environment. It was particularly troublesome, for example, to learn of cases where department chairs actively discouraged faculty (both male and female) from using tenure extension policies, or to learn that some women faculty in CT focus departments didn’t know tenure extensions were possible.

The proposal also included policy goals with respect to recruitment. This element centers on informing the community about existing practices and beliefs that result unintentionally in lower rates of appointments of women relative to their availability. A well regarded body of materials has been developed, including printed and electronic matter and trainings aimed at participants in searches. We understand, for example, that the CD developed by ADVANCE, together with short presentations by Equity Advisors for various groups, have substantially increased awareness of how standard approaches to recruiting may interfere with diversifying the faculty. Individuals who had attended such presentations spoke highly of them, while others had heard positive comments about them.

However, there is a perception that accountability is limited for those conducting searches to fully integrate the materials from these presentations. For example, despite the evidence that it is unnecessarily limiting (and tends to disproportionately exclude candidates from underrepresented groups), one Dean limited the faculty candidates his office would approve to those earning doctorates in the very highest tier of programs. More generally, it seems that discussions take place in which people may become (more) aware of the shortcomings of common practices for achieving gender equitable search outcomes, and the existence of tools for overcoming that pattern is known - but there is little sense that using these tools and insights is a high priority from the point of view of administrative leaders. Thus there is not a universal expectation that national pool data will be used to evaluate the representativeness of the applicant pool. Of course, there are numerous participants in searches who are glad to become aware of better practices for successful and open searches. The recruitment emphasis of the proposal has also been short-circuited by the serious economic conditions that arose by the third year of the project, significantly affecting the total number of authorized positions at all levels. This will make evidence of the extent of ADVANCE-related impact with respect to recruitment outcomes difficult to assess, although this is one of the indicators of transformation that can be most difficult to show significant change given the slowness with which overall faculty demographics typically change.

It is also clear that there is a wide variety of approaches to recruitment and a general ambivalence about top-down mandates. In this context, the work ADVANCE has done is likely to be less effective unless there is a decision to make effective recruitment practices more uniformly part of the institutional culture. ADVANCE has considerable insight into practices for effective searches and should continue to explore ways to provide more hands-on help to departments that wish to improve their searches. This could help avoid the perception voiced at different times that ‘ISU won’t set rules but will quickly tell you what you did wrong’.
The resources and training events produced by ADVANCE should also be helpful as recruitment expands with a change in the funding climate and the inevitable departure of senior faculty in the coming years. We will assess the impact of these materials and trainings on the searches done in our final report, drawing upon data on recruitment and retention to be available in early spring.

Concerning the potential impact of important contributions of ADVANCE, such as developing the tools for more effective University recruiting practices, we heard many comments that suggest a widespread belief that the University culture is intolerant of required practice imposed from the top. In this view, it would simply be unacceptable for the Provost to require the adoption of a single set of practices to address an academic challenge. For example, it was predicted that there would be active resistance if attendance at search committee training (or other kinds of training) were required by the Provost’s office.

However, we found important instances of required practices successfully initiated from the upper levels of central administration. Despite the many contextual constraints on transforming approaches to recruitment and retention, from budgetary issues to satisfaction with current practice, we found encouraging evidence that central policies and accountability can work well, as evidenced by the university-wide third year reviews mandated by the Office of the Provost. This practice is universally seen as helpful and a marked improvement over prior practice. Selective initiatives involving a mandated process are indeed possible.

Transformation through focal units and positions

ISU’s Collaborative Transformation (CT) initiative engages nine focal departments in an interactive, highly focused process of in-depth interviews, data analyses and presentation of findings. The premise is that departments are key structural elements in defining and maintaining culture and practice, and any goals held by the institution in terms of the recruitment, retention, and advancement of women in STEM fields must engage faculty and departmental leadership in the departmental context.

It is clear that this process has had substantial impact in focal departments. Almost uniformly, faculty agreed that the process was conducted professionally, contributed to improving departmental climate, and provided an unprecedented opportunity for reflection on department dynamics, goals, and challenges. The CT process was described as ‘civilizing’ and as having provided faculty with the language to engage in discussions of important issues related to the diversification of the faculty.

It is important to recognize that a willingness to engage in frank discussion of the issues of underrepresented faculty requires moving out of a traditional comfort zone for many, particularly for senior faculty who have had little opportunity and no feeling of comfort in participating in such discussions. For junior faculty, the CT process seems to have been validating, contributing to a sense that their voices and opinions were welcome in the department.
Participants generally praised the process, some saying that there had been ‘immeasurable positive impact’ and agreed (with only one exception) that their opinions were reflected appropriately and their identity protected. In one case, a faculty member indicated that the detailed transcript that was circulated did not adequately protect a particular individual’s identity. Finally, some senior faculty simply said they were unfamiliar with the outcomes of the CT process.

Within CT departments, a faculty member is selected to be the ADVANCE Professor by the department, and leads the transformation process. This includes guiding the early stages of the process and being the department’s point person for leading discussions and activities related to the CT process. This function was effective in tailoring information to the specific interests of the department and in legitimizing discussion in the department of issues of diversity that might otherwise not have surfaced. It is clear that faculty believed that having someone designated in this role was helpful. Commitment and understanding of the issues are important, as is respect from colleagues. In some departments, the ADVANCE Professor has a working committee of colleagues, while in others the ADVANCE Professor works solo. Because ADVANCE Professors guide their departments’ review of issues raised in the CT process, they sometimes raise contentious issues. This can be difficult to do in a department context where colleagues may find discussions of challenging issues unpleasant and resist discussions. Whatever shape the departmental-level change initiative may take after the end of ADVANCE funding, it will be important to continue to provide training and guidance to the leaders of any departmental-level efforts, equipping faculty in this role with knowledge and tools to effectively move forward.

While the CT process was effective in the early stage of opening up dialogue and identifying concerns among department members, it is not clear what its longer-term outcomes will be. Most respondents said that department discourse will never revert to what it was before the CT process, and a number of departments are incorporating changes in departmental practice and policy into departmental governance documents. This aspect of more open dialogue was most evident with respect to faculty expectations of how searches are conducted. To the extent that departmental search practices have changed and those changes are now codified in governance documents, the CT process has clearly laid the groundwork for substantial impact in focal departments. However, the outcomes are uneven across departments. In extreme cases, despite interest and enthusiasm among the faculty there was too little (in one case no) time allotted on departmental meeting agendas for the essential collective consideration of results and next steps. This resulted in frustration and a more aggrieved faculty. It also appears that when departments choose which of the identified issues to work on, there is a tendency to target the less threatening ones (e.g., working towards a mentoring program turned out to be a popular choice, where other, more charged issues were not chosen).

It was difficult to discern whether there were ‘top-down’ expectations of the focal departments that would ensure that all focal departments reported out through Chairs to Deans and onward to the Provost. A number of faculty expressed concern that there was no obvious accountability for outcomes of the CT process. One noted ‘it’s not what a Chair says, it’s what they do’. No metrics were evident at the college level for assessing what actions a department has taken and
how well the chair has incorporated the findings of the CT process into departmental policy and practice. Given the resource intensive nature of the CT work, clearer institutional expectations of focal departments and colleges should be articulated; the substantial investment of Federal funds in this process does not appear to have earned a commensurate level of interest in CT outcomes among college leaders.

Chairs of most CT departments shared many of the beliefs of faculty with respect to the importance of more open dialogue about key issues related to hiring, promotion and tenure. A number also expressed interest in peer learning opportunities that could facilitate exchange of information among chairs across the university about effective practices. Given that there seem to be focal departments where the chair has taken little interest in the outcomes of the CT process, engaging the focal department chairs who have found important ways in which the process can advance their departments to show the way for other chairs makes sense. One such panel presentation by CT chairs was well-received by the chairs in attendance.

While the CT initiative has provided a great deal of useful information, and opened up atmosphere for conversation, it seems that the performance of CT department chairs (particularly in the CT process) has not been factored into their evaluation (and decisions about their continuing service).

Finally, on the CT process, the question of sustainability looms large. As a resource intensive process, it is unlikely to continue in the same form once Federal funding ends. The process, while focused on the particular characteristics of individual departments, revealed a set of issues that cross departmental lines and are generally shared to some degree by all focal departments. Indeed, the intent of the CT approach was to disseminate outcomes widely across campus. The process has clearly had valuable impact with respect to the ability of faculty in the focal departments to discuss issues of communication and lack of transparency within their departments, and mechanisms to continue to support department-based reflection and self-learning would likely be useful. We learned, for example, that the reader’s theater exercise helped participants recognize similar challenges across departments. Continued focus on the particular characteristics of individual departments seems necessary, but it is also clear that there are many issues that are common to academic departments and that faculty are interested in discussing. In any case, the value of the CT process has not yet permeated widely enough across the University to yield truly institutionally transformative results, although a promising groundwork is in place.

The Equity Advisors (EA) feature of the project is widely viewed as a success. Faculty, appointed as Equity Advisors by the Deans, have been working in the office of the Dean of each of the three focal colleges (Engineering, Liberal Arts and Sciences, and Agriculture and Life Sciences). The Equity Advisors have worked closely with the Associate Deans who represent the focal colleges on the ADVANCE Internal Advisory Board. The Engineering and CALS Equity Advisors are regular attendees at the meetings of department chairs in their colleges; the LAS Equity Advisor visits department chairs’ meetings a few times each semester. The Equity Advisors have been the lead individuals in their Colleges for the departmental and
search committee trainings offered through ADVANCE. They work closely with the ADVANCE Professor in each of the focal departments in their colleges, as the departments move through the data collection, reporting, action planning and implementation stages of the CT process. Equity Advisors have also played key roles in disseminating information about the policies and procedures regarding flexible careers that have been developed in the last several years. In the I-cubed proposal, which is now funded by NSF, the Equity Advisor role has been continued, and expanded to include all five STEM colleges.

External funding enabled the development of the Equity Advisor role, which gives focus to the work needed to improve the ability of the colleges to attract and retain talented and diverse faculty. After two years of full funding from the NSF award, the positions were continued with a combination of external (2/3) and internal (1/3) funding from the ADVANCE colleges. During the period of the I-cubed award, Equity Advisors will be fully supported with internal funds from their colleges. Associate Deans, who have often been responsible for the work now done by Equity Advisors, find that Equity Advisors are valuable colleagues in the Dean’s offices. However, it is not clear that Deans will place the work of Equity Advisors as a high enough priority to justify continued funding once the I-cubed award has ended.

One indication of the value that an individual college attaches to the EA role is the extent to which EAs participate in regular meetings of college leadership. In two of three STEM colleges participating in ADVANCE, EAs do attend meetings of department chairs. Regular contact with department chairs can provide opportunities for EAs, and the College, to detect and address ADVANCE-related issues before they become intractable, as well as to identify opportunities where ADVANCE can assist departments with search processes, for example.

ISU’s organizational restructuring and budgetary constraints are viewed as all-consuming of administrative and faculty attention and effort, and it seemed that under these circumstances, ADVANCE related initiatives are viewed as unlikely to garner time, effort, and goodwill. We found a lack of appreciation of how ADVANCE-related insights and changes might actually contribute significantly to the successful weathering of this challenging period. For example, the ADVANCE focus on increasing transparency would be of particular value at a time when many faculty feel vulnerable. There may be a significant loss of high quality faculty who seek work elsewhere because of inadequate information about planning that will affect their job security and satisfaction. Similarly, the establishment of more effective mentoring programs for faculty at all levels would contribute to enhanced productivity of individuals and academic units of various kinds. The contributions of Equity Advisors in these matters could yield a significant return on investment.

Institutional transformation beyond focal units

While the proposal focuses on changing the representation of women faculty in the focal Colleges and departments, resources and workshops initially developed by people in focal roles (e.g., co-PI Team members, Equity Advisors, ADVANCE Fellows and, to some extent, ADVANCE Professors) have been offered to a broadening audience of administrators and
faculty from other ISU units. These instances of outreach bring important insights and tools to others whose actions affect women’s recruitment, retention, and advancement. However, as noted in the case of focal units themselves, the individuals with whom we spoke did not perceive participants and invitees, more widely, as accountable for making use of the ADVANCE-linked knowledge, or even for attending events where it is presented. There is no ensuring that departmental search committees have an in-depth understanding of the questions that are permissible and those that aren’t, or an informed perspective on the flexible career and family-friendly policies available at ISU.

Department chair training:

Current approaches to department chair development appear to be not fully adequate to support the many roles that chairs must handle. For example, there seems to be a need for better training in fostering effective mentoring for colleagues at all levels, more effective orientation to the policy priorities of the institution’s leadership regarding faculty recruitment, retention, and diversification, and an enhanced understanding of the factors associated with open dialog and decreasing individual isolation. Programs for chair professional development do not currently include training on leadership and the research on the different ways male and female leaders, as well as leaders from underrepresented minority groups, are perceived. Interestingly, in the stakeholder survey conducted in 2010, a large proportion of the responding chairs and college administrators did not know if junior faculty were finding the mentoring program effective – suggesting that chairs need enhanced training about the importance of and the tools for successful communication with junior faculty.

Peer training and support among department chairs are powerful tools, and can engage chairs in new ways of thinking about their leadership roles. The practice of informal gatherings by chairs suggests that there is considerable appeal to engaging with others in the same role, especially a role as complex as department chair. While groups of chairs find such informal gatherings helpful, there is a danger that this approach might undermine change if such gatherings are solely ‘gripe sessions’. Further, the culture of such informal groups may have some characteristics which unintentionally make members of underrepresented groups feel more like outsiders. Even within formal settings, the culture of overwhelmingly male groups was noted by some attendees to typically include comments that would not be seen as appropriate in well integrated groups.

It seems evident that expanded or more effective department chair development would help support the use of policies that have been developed and endorsed by top institutional leadership, and that have transformative potential for the institution. As noted in guidelines from the Provost’s Office on salary support for recruiting and retaining tenured and tenure eligible faculty, ‘recruiting and retaining a talented, innovative and diverse faculty remains the university’s top priority.’ Each leadership level of the University should be equipped with the tools and perspectives to implement this institutional priority. Fortunately ISU is not the first ADVANCE institution to face the challenge of providing support for chairs that facilitates engagement with ADVANCE goals, and there is a well-developed set of approaches that could
be used in Ames.

The low proportion of department chairs who are women has been noted repeatedly by the external advisors and evaluators. While a leadership task force was announced in the spring of 2010, there were no meetings between the first meeting in May and its second in late October. We understand that this reflects the changes in the Provost’s office with PI Carlson’s departure, but it suggests that solving this problem is a relatively low priority.

**Supporting women’s retention and advancement**

Factors known to contribute to women faculty’s retention include a positive departmental climate (particularly related to sense of inclusion, transparency in the allocation of resources and responsibilities) and mentoring as well as practices contributing to women’s professional development as researchers, educators, and active members of their profession (as editors, reviewers, and organizational leaders). The CT approach is intended to improve the departmental climate, as discussed above. While there is an institutional expectation that mentoring of non-tenured tenure-track faculty exists in all departments, the meaning of the term and thus the actual practice of mentoring varies widely. At one extreme, in some departments the mentor is to submit a report each year on the performance of the “mentee.” This version of mentoring is understood in the literature to have a chilling effect on the protégé’s use of the mentor for advice and guidance in a difficult circumstance (whether related to teaching, research, work-life balance, or any other sphere). There are other departments in which this review and reporting role is explicitly excluded from the responsibilities of the mentor.

Often there is an assumption that a mentor should be expert in the area of the protégé’s research specialization. As such, the mentor is likely to be in the best position to assess the protégé’s performance. If, instead, a professor has a research area mentor and another colleague who mentors about other areas of professional life, this problem is mitigated or even eliminated. Another widespread assumption is that individuals know how to be effective mentors; the variant on this assumption is that individuals who are not skilled as mentors cannot become skilled as mentors. In the former case, little attention is paid to making effective matches, and no training is provided to mentors. In the latter case, the burden for mentoring is not shared equitably, and individuals of good will who might contribute to their colleagues’ experiences are not tapped. The issue of identifying and training mentors is likely to become more acute as retirements proceed and the proportion of faculty available to mentor decreases and the proportion eligible for being mentored increases.

The shortcomings of the mentoring situation as we encountered it appear to stem directly from the more or less complete autonomy granted to the leadership of academic departments in how they meet the requirement that some mentoring be provided. Departments are free to treat this any way they consider appropriate. In departments where there is some sense that mentoring might be done more effectively, there is no (at least no well known) resource on campus that would provide information on promising practices in establishing a department level mentoring program.
Mentoring beyond the tenure decision is entirely at the discretion of the department; some faculty indicated that they’ve continued a successful pre-tenure relationship even after promotion.

Formal mentoring of full professors is nonexistent. This is a missed opportunity for strengthening the academic achievements of full professors, helping them to develop previously less well developed skills (e.g., their ability to serve as effective mentors), and to explore leadership possibilities, both within the University and within their professional organizations. This lack certainly contributes to the low level of women’s representation among departmental chairs.

One initiative of the ADVANCE program aimed specifically at STEM faculty women of color provides funding for development of external mentoring relationships, a significant contribution in a community where few women colleagues of color are available. The number of individuals who have participated thus far is small, and the decision about future funding should await a report on the outcomes of the total awardee group. Regardless of its effectiveness for the awardees, we note that the difficulty of fostering community among the very small population of faculty women of color on campus remains a challenge for the University.

Conclusions and recommendations:

The ADVANCE project at ISU has undertaken an impressive breadth of work. We highlight the achievements below, along with recommendations for more effectively fulfilling their potential. ADVANCE at ISU has benefited from the significant efforts of many members of the community and from considerable funding. This report, and the report to be written at the project’s end, are intended to assist in strengthening the post-Federal funding impact of ISU ADVANCE and its organizational legacy.

● The “conversation has changed”

The meetings during our week in Ames made very clear that the “conversation has changed” in STEM units, regarding gender and practices that affect the pursuit of gender equity in the STEM faculty. This change will be of enormous value as the institution moves forward with ADVANCE-related and ADVANCE-informed initiatives. Further change may be needed as ISU addresses the notable dearth of women as department chairs; there may be unexamined cultural assumptions about professional behavior and discourse that impede the entrance and retention of women into all leadership roles.

● Changing the conversation must be accompanied by changes to practice

Changing practice involves both the revision of formal rules (e.g., as we noted above, some departments have revised or are now revising their governance documents) and the expectation that those revisions will be followed, ensured by effective leadership.
● Institutional change is most notable if it is lead from the top

The Provost’s move into the PI role is an important indicator to members of the University community of the high priority given to the ADVANCE project. As of yet, however, there has been a missed opportunity of placing a Presidential imprimatur on ADVANCE. We rarely heard mention of President Geoffroy in the context of ADVANCE or its transformative agenda. One way to make the President’s support clear would be for him to host a reception to celebrate the completion of the ADVANCE grant, as suggested by the External Advisory Board.

Members of the campus community will be attentive to signs of the importance placed on the particular goals within the transformation agenda, and the University’s broader agenda. Thus far, it appears that the academic administrators of the STEM Colleges have not effectively communicated that the ADVANCE goals are among their highest priorities.

● ADVANCE produced Important tools for developing a greater understanding and commitment to factors affecting gender equity

So far, making full use of these tools appears to be at the discretion of the people doing the work the tools are designed for – particularly departmental leaders, promotion and tenure committee and recruitment committee members. These practices should be supported consistently at each leadership level, whether mandated or not. It is our view that greater top-down accountability is needed to fortify the value of tools developed through ADVANCE. For example, searches should always include pool data and describe ways in which departments actively sought out excellent candidates found in diverse populations. Tools such as pool data should be developed by ADVANCE as feasible, perhaps in cooperation with other ADVANCE institutions.

● Deans and chairs are crucial to transformation

The ISU ADVANCE Program, together with the Office of the Provost, has put in place the tools to facilitate more effective recruitment and retention and now there needs to be a concerted focus by chairs and deans on use of these tools. Expectations of accountability for implementing the policies that the University has worked so hard to implement should be clear at the Chair, Dean and Provost level so that all the key players in implementing these important policies are working together with a common understanding of what is expected. More broadly, professional development that supports chairs’ overall effectiveness will contribute to their ability to lead their colleagues in transformation. With effective formal chair development training, the culture of informal chairs’ groups will be likely to foster rather than impede change.

The academic leadership of the ADVANCE colleges and departments have, for the most part, spoken enthusiastically about ADVANCE’s goals and initiatives. It is vital to appreciate, however, that “actions speak louder than words.” People (whether they are less than enthusiastic themselves about changes or they are simply loaded down with competing
demands for time and resources) will look carefully to see if leaders’ actions fully match the level of commitment that is found in their statements. If actions do not seem to show an equally serious commitment as the messages, there will be less attention to making the changes that have been called for.

Most fundamentally, leadership effectiveness in the transformation work should be factored into evaluations and decisions about administrators’ appointment and reappointment. If transformative practices are important to ISU, there should be a clear way of assessing the effectiveness of department chairs in supporting the work of transforming their departmental practices. It would be a clear signal of institutional commitment to the goals articulated by the University if department chairs who were not active supporters of the CT process and outcomes were not reappointed.

In addition to the leaders of academic departments, the University’s vibrant community of interdisciplinary centers and institutes provides another population of leaders who would benefit from training and who could be looked to for leadership of transformation processes.

- **Greater involvement of senior STEM women would strengthen ADVANCE**

With the early loss to the project of two full professors in engineering there has been only one senior woman STEM faculty member on the co-PI leadership team. This may be a missed opportunity to ensure that the program continues to align fully with the goal of advancing the representation and participation of women in STEM, particularly since there is wide variation in the STEM fields with respect to the numbers of women by field, and thus wide variation in perspective of senior STEM women from various fields.

The goal of ADVANCE is not to create more administrative work for STEM women but rather to ensure that their institutional environment supports their productivity and advancement. At ISU, women in STEM are a small, but crucial, segment of the faculty, and while recruitment of STEM faculty with active research programs is often difficult, it would be eased by developing a greater variety of high impact, efficient ways for faculty involvement. Senior STEM women can be particularly effective at leading change if they are able to do so without jeopardizing their research programs. The recent appointment of Distinguished Professor Lamont as the new CALS EA indicates a significant achievement on this dimension. We encourage ISU to seek additional high-impact ways to engage senior STEM women, including through mechanisms such as inviting a group of senior STEM women to serve as advisors to the Provost/PI as the project moves beyond the funding period.

- **Effective roles and processes for transformation exist at ISU.**

Functions performed by the Equity Advisors are central to transformation. It will be important for ISU to think about how to integrate these functions fully into the institutional context. In order to prioritize for post I-cubed, it will be essential that Deans assess and articulate the value of the work of the EAs with respect to University goals.
CT has been shown both to have promise and to be resource intensive. We recommend that for next steps, the ADVANCE team develop a menu of common or frequent problems that would be presented to departments, along with a variety of actions known to be efficacious, as well as a list of approaches that do not work. Developing this list by referring to what is now a significant data base of nine departments should satisfy people’s sense that problems and solutions may be unique to ISU.

- **Ownership of ADVANCE**

Perhaps as an artifact of its organization around an intense applied research agenda (CT), a small number (relative to some other ADVANCE IT institutions) of individuals have been identified with ADVANCE. This may impede the institutionalization of the program as the external funding comes to an end, and risk loss of the gains made during the five years of programming. Apart from ADVANCE itself, there are few opportunities of the kind provided by ADVANCE to address issues at the faculty level that affect an institution’s ability to compete for and to retain talented faculty. More public and explicit support of the program is needed across the university, since it is the university as a whole that stands to gain from the improved practices and policies identified with the hard work done through the CT process and through the emphasis on data-driven decision making and effective use of policies that support faculty’s work/life needs.

If all transformative goals had been achieved, this need would not exist; however, transformation takes more than five years to reach throughout a university. ISU’s potential for transformation is well-evidenced by its change, perhaps as long as a decade ago, into an institution that supports and facilitates interdisciplinarity. Ahead of the curve on this national (or international) development, ISU appears to have surmounted well-known obstacles to interdisciplinary work. There is similar potential to enhance institutional productivity through an ADVANCE-related transformation. ISU’s academic leadership and ADVANCE program are in an excellent position to make this happen.
The primary purpose of this report is to examine the sustainability of the ADVANCE teams’ accomplishments at Iowa State University. As external advisors our overall recommendation is to begin the process of weaving the primary functions of the ADVANCE team into the fabric and structure of Iowa State University so that the progress the ADVANCE team has accomplished thus far can be perpetuated. We follow this with several more specific suggestions. To make these recommendations we reviewed multiple reports provided by the ISU ADVANCE team including the most recent annual report, the most recent scorecard, the document outlining key areas for institutionalization and sustainability, the Collaborative Transformation Project: Rounds 1 & 2 – Focal Department Synthesis Report and the ISU summary and response to the NSF site visit team.

In addition we spent September 21, 2010 on the ISU campus meeting with and interviewing key people connected to the ADVANCE project. These included: the Equity Advisors and one Associate Dean, The ADVANCE team, the ADVANCE steering committee, Advance professors, three focal department chairs, the ADVANCE research team, the Provost and the Associate Provost for Academic Affairs and Diversity.

Based on our assessment of the written documents and our site visit we find the ISU ADVANCE project is to be commended for the positive engagement of senior leadership throughout this important transformation process. The Provost’s Office has served as the locus for the principal investigator - early in the course of the project, the Associate Vice Provost held this position and presently the Provost herself serves in that role. This in itself sends a strong message of institutional commitment to achieving a sound outcome for the project.

The whole ADVANCE team is to be commended for their work. We heard great enthusiasm from department chairs in the focal departments, advance professors and equity advisors. Numerous comments were made about the level of conversations about important topics such as implicit bias. All of those we talked to seemed very familiar with this construct and its potential for damaging impact. There was a pervasive sense among those we talked to that much has been accomplished – the campus can now have new conversations with heightened awareness of how they treat each other at all levels from department chairs to the entire campus; they have established training programs for department chairs, search committees, new faculty, T&P committees etc. and they are observing subtle changes in attitudes of Deans and department chairs that result in more women being hired in focal departments. Furthermore the focal
department chairs have served as facilitators for campus-wide chair workshops to share their enthusiasm and knowledge of successful models. Numerous other activities and opportunities to disseminate the learning from focal departments across campus are slowly changing both people’s attitudes and embedding a culture of acceptance. All of this effort and nascent change bodes well for the future.

FUTURE STRUCTURE
As the ADVANCE team completes its final projects and identifies the most critical components to recommend for continuance, responsibility for these objectives needs to shift from the team members to academic administrators to ensure that these important components are woven into the fabric of the university and, therefore will be sustained over time. The locus for this responsibility must remain in the Provosts Office but should now become part of the responsibility of the newly appointed Associate Provost for Academic Affairs and Diversity. Much has been accomplished – new tools, training programs, various types of workshops – but to continue progress, awareness and positive action must be maintained. To ensure sustainability there will need to be increased accountability at all levels. The Provost indicates that as a part of the Deans’ responsibilities she holds them accountable for increasing women and underrepresented minorities among faculty hires to better reflect the student diversity and the research needs of the campus. In addition, the Deans will need to hold Department Chairs accountable for recruiting, retaining and advancing both women and underrepresented minority faculty to continue to make progress on agreed upon goals.

Equity Advisors
Among the numerous aspects of ADVANCE that have had impact are the Equity Advisors. The ADVANCE team has done an excellent job of expanding the commitment to Equity Advisors to five colleges and ensuring that they will continue for five years from now by negotiating agreements with the deans that they fund them as part of the NSF grants (ADVANCE and I³). Now is the time to consider how their functions will continue after the five years pass. We consider the most sustainable efforts and programs to be those where there is accountability as part of someone’s job description. One preferred way to weave their functions into the fabric and structure of the university is to make plans for an Associate Dean in each college to become responsible for the functions of the Equity Advisors. The Equity Advisors will ideally identify and pass on the most impactful efforts during the course of their terms. The Associate Deans with this function as part of their portfolio will ideally report on their efforts and accomplishments to the Associate Provost for Academic Affairs and Diversity. This Associate Provost would ideally then meet with this group of associate deans periodically to ensure cross-fertilization and dissemination of the best ideas across colleges.
Institutional Research Office and Reports
The Institutional Research (IR) Office has produced a number of excellent reports that have been invaluable in providing the data that the ADVANCE program needed to plan how to most effectively utilize their resources and determine impact. One report, in particular, was useful to other universities outside of Iowa State and that was their careful analysis of the total replacement cost of faculty who leave for other jobs.

The ADVANCE team reported its concerns that IR had experienced a reduction in its budget during the recent round of university cuts and that when ISU ADVANCE funding ended its subsidy to IR, together these cuts would significantly reduce the ability of IR to continue to produce the data that is critical to continued tracking of the improvement (or setbacks) in the recruitment, retention and advancement of women and underrepresented minority faculty at Iowa State University.

Our recommendation is that ADVANCE, IR and the Provost’s Office recognize the reality of the current budget climate and work together with Human Resources to prioritize the most critical data analyses which need to be conducted on an annual basis. Other important, but less critical reports, can be analyzed on a cost/benefit basis to determine how frequently they need to be produced. Some may move to every two, three or five years depending on the cost to develop the reports and the potential impact on the institution. Those reports that are labor intensive but which have not uncovered any negative impact on women or underrepresented minorities should be retained to ensure that there has been no new deterioration in the numbers, but are prime candidates for moving to reporting less frequently. IR reports that Iowa State has determined impacted faculty and administrator decision making should be considered for high frequency reporting including reports that are broken down by college (and where feasible and useful by department). Where numbers are small rolling three to five year averages work well. Some possibilities are suggested below:

**Hiring By Availability.** Availability data can be purchased already compiled by department or it can be assembled by ISU from various disciplinary databases. We expect that the purchased data would save significant investment in time, but there must be enough detail to answer administrator and faculty questions on the sources of the data.

**Non-Retirement Attrition -- as a Percent of Total Faculty and Gender Ratios.** This data can be useful if compared at different points in time – for example to show the impact of ADVANCE during the 3-5 years prior to its startup compared to the five years of ISU ADVANCE. These reports might be used to assess impact – particularly in focal colleges or departments. If HR collects this data they may have used several categories of attrition to compile this indicator. Ratios or raw attrition numbers combined with ISU’s
replacement cost of faculty can help units see the importance of department climate and retention efforts.

**Tenure and Promotion by Gender.** Comparisons by college by gender with three to five year rolling averages can help to highlight any areas of potential problems.

**Women in Leadership by College as a Percentage of Full Professors.** National data and ISU data could be compared to see if there are differences. Leadership can be defined as department chairs and deans or much more broadly depending on the institution’s objectives.

**Usage of Family Policies Paired with and Tenure/Promotion Outcomes by Gender.** University of Washington graduate Kate Quinn analyzed tenure clock extension data on the UW campus as part of the ACE-Sloan Balance@UW initiative. Her findings showed comparable usage rates for men and women, with no significant impact on tenure with one use of the policy, but a significant increase in tenure denials when two tenure clock extensions are used. With a very small dataset accumulated to date, Utah State data appears to parallel the UW findings. These data can be used both to provide data to faculty about usage and outcomes and possibly to investigate whether bias was a factor in the decisions.

Visual representations of the data have the highest impact. Graphs showing the variance across campus and with the past, both good and bad, can have a significant impact on campus decision makers – including faculty. The most important data and those data that have changed over time will ideally be presented to Deans, Department Chairs and faculty on an annual basis. The positive data can be used to congratulate and encourage more of the efforts that led to these results and the negative data can be used to encourage and motivate giving more attention to these areas in the future. Presenting data can also be a way of offering assistance to those department chairs who realize that their department has room for improvement.

**TRAINING**
The ISU ADVANCE has identified several areas where they would like to continue training. While training can clearly have positive impact, one of the challenges of training is that it is difficult to measure the amount of behavior change that occurs because of the training. Training efforts were important efforts for ISU ADVANCE to engage in because they most often did not have direct line authority to influence change. The learning and impact that has occurred will not be lost. However, results are the ultimate goal. Our recommendation going forward is to shift much of the effort that has gone into training into greater accountability. By creating responsibility for impact as part of various job descriptions (Associate Provosts, Deans,
Associate Deans, etc.) and evaluating these administrators’ performance, accountability has the potential for a significantly higher impact on behavior than does training. ISU is fortunate to have a high level of commitment of Provost Hoffman and Associate Provost Dawn Bratsch-Prince. They are well positioned to continue to assess and expect improvements in the colleges and departments. The ISU ADVANCE team can provide valuable information and support during the transition period.

In addition to line authority accountability -- faculty and key committees (particularly search and P&T committees) require on-going training. ISU ADVANCE has developed a CD that could be utilized either by individuals alone or with facilitation. This will be an appropriate area to give significant attention as the ADVANCE efforts wind down. Ideally ISU ADVANCE and the Provost’s Office will work together to determine how best to disseminate important information to search committees regarding the ways that unintended bias can negatively impact search and T&P decisions.

The Provost’s office should continue to focus on developing effective leadership among deans and department chairs -- especially those who are new. The workshop format that ISU ADVANCE has had success with should be examined and the best ideas continued.

**DEPARTMENT TRANSFORMATION**

ISU ADVANCE has worked hard on very labor intensive efforts in the collaborative transformation efforts. This work has been valuable in uncovering the multiple challenges that departments face. Many of these challenges are common across many of the departments. Now may be the time to focus on the most common challenges that department face and develop programs in the Provost office to help departments better address these challenges such as faculty being unsure and stressed about the requirements for tenure or promotion.

Two areas with which Utah State University has had success addressing some of these common issues include: annual third year review dossier workshops and biennial promotion to full professor workshops. The formats used are generally to invite faculty who have recently successfully completed the review process to serve on a panel (with multiple college deans or associate deans recommending the faculty that will represent their college). The Vice Provost for Faculty Affairs and Diversity facilitates the workshops. Faculty in attendance have the opportunity to ask questions and at the third year review workshop to physically examine the dossiers. These workshops have been well attended and appear to have been a valuable forum for gaining additional insight about the process from a cross-college perspective.
SUMMARY
As we interviewed the various groups and individuals, the consistent message we heard in terms of what must be preserved was the need for continued transparency, the importance of informing assistant professors of the tenure and promotion criteria, the essential need for training, especially for new chairs, in areas such as effective leadership, budgeting and managing departments, and the continuing value of communication and dissemination of best practices throughout the university. As Iowa State University completes its ADVANCE goals, it is in a strong position going forward to effect the transformational changes in culture not only in the focal departments but throughout the entire university. ISU has the knowledge, the enthusiasm of the focal departments’ faculty and administrators, the senior leadership commitment and support and the will to succeed. We know they will.