UNIVERSITY OF CALIFORNIA

ADVANCE PAID
Program

ANNUAL REPORT: YEAR 1

JULY 2011 – AUGUST 2012

MEETING THE CALIFORNIA CHALLENGE:
WOMEN AND UNDER-REPRESENTED MINORITY FACULTY IN STEM

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A. PROJECT PARTICIPANTS

1.0   Program Personnel

Susan Carlson, **Principal Investigator (PI).** Vice Provost – Academic Personnel, University of California Office of the President (UCOP) and Professor, English, UC Davis. In addition to serving as PI for the ADVANCE PAID project for the UC system, Dr. Carlson served as PI on an ADVANCE Institutional Transformation Grant at Iowa State University and also serves on advisory boards for other ADVANCE programs. At UCOP, Carlson collaborates with campus faculty and administrators to ensure that the quality of UC faculty remains high; she and her colleagues in UCOP Academic Personnel support faculty recruitment and retention on campuses by coordinating faculty policy, compensation and data. Support for her time is provided by UCOP.

Marc Goulden, **Program Evaluator.** Director of Data Initiatives, Academic Affairs, UC Berkeley. Nationally known for his work on faculty data and the diversity of the faculty pipeline, Goulden leads formative and summative evaluation. Grant supports one month's salary.

Matthew Xavier, **Director of Data Initiative.** Data Coordinator, Academic Personnel, UCOP. A specialist in data synthesis, Xavier leads development of a common data tracking system for faculty recruitment processes, devoting 20% of his time during year one and 15% of his time in years two and three. Xavier joined UCOP in January 2012. Support for his time is provided by UCOP.

Kevin O'Neal, **Program Coordinator.** Senior Administrative Analyst, Academic Personnel, UCOP. Manages the UC ADVANCE PAID project including development and coordination of Roundtables, materials development in connection with UC's publication of Roundtable proceedings and annual reports, design and update of the project website and management the budget and travel logistics. O'Neal joined UCOP in January 2012. Grant supports 50% of his time; 30% additional time is provided by UCOP.

2.0   Program Committees

In addition to the key program personnel named above, five (5) committees supported the work of the grant in the first year. Each committee includes science, technology, engineering and mathematics (STEM) faculty, academic administrators and staff; each collaboratively extends the ADVANCE network throughout the UC system.

2.1   Steering Committee

The Steering Committee is responsible for maintaining UC ADVANCE PAID on each campus by connecting it to campus diversity committees/offices, as well as campus Offices of the Executive Vice Chancellor/Provost. Committee members are responsible for recruiting STEM faculty and administrators for Roundtable participation as well as ensuring the oversight of logistics when hosting Roundtables. The committee undertakes significant decision-making responsibilities; during the final year of funding, it will work with Steering Committee Chair Chancellor Katehi and Principal Investigator Vice Provost Carlson to ensure the continuation of UC ADVANCE PAID. The Committee met five times during the first year, which included one in-person meeting.

Steering Committee Chair:

Linda Katehi, Chancellor, UC Davis

Steering Committee Members:

Margaret Conkey, Professor Emerita, Anthropology; UCAAD Faculty Chair, UC Berkeley
- *Term ends August 31, 2012*

Susan M. Drange Lee, Director, Faculty Diversity and Development, UC Los Angeles

Jeanne Ferrante, Associate Vice Chancellor for Faculty Equity, Associate Dean of the Jacobs School of Engineering, and Professor, Computer Science and Engineering, UC San Diego

Douglas Haynes, Director, UCI ADVANCE Program and Associate Professor, History, UC Irvine

Maria Herrera-Sobek, Associate Vice Chancellor of Diversity, Equity and Academic Policy, and Professor, History and Chicano Studies, UC Santa Barbara

Herbert Lee, Vice Provost for Academic Affairs, Campus Diversity Officer for Faculty, and Professor, Applied Mathematics & Statistics, UC Santa Cruz

Katja Lindenberg, Distinguished Professor, Chemistry and Biochemistry; UCAP Faculty Chair, UC San Diego
- *Term ends August 31, 2012*

Juan Meza, Dean, School of Natural Sciences, UC Merced

Sally Marshall, Vice Provost, Academic Affairs, and Director, Office of Faculty Development and Advancement, and Professor, Preventive and Restorative Dental Sciences, UC San Francisco

Mary Ann Mason, Professor, Social Welfare and Faculty Co-Director of the Berkeley Center on Health, Economic & Family Security (CEFS), UC Berkeley

Yolanda Moses, Associate Vice Chancellor for Diversity, Excellence & Equity, and Professor, Anthropology, UC Riverside

Angelica Stacy, Associate Vice Provost for the Faculty, and Professor, Chemistry, UC Berkeley

Maureen Stanton, Vice Provost, Academic Affairs, and Professor, Evolution & Ecology, UC Davis

Joan Tenma, Assistant Vice Chancellor, Academic Personnel, UC Irvine

2.2   Research Scholars Advisory Board (RSAB)

RSAB was developed to advise the UC ADVANCE PAID program on best practices based on current research which will contribute to future scholarship on gender, race, ethnicity and faculty recruitment and retention in STEM disciplines. The Board is comprised of UC faculty members from STEM fields as well as UC faculty members with expertise in varying disciplines including education, law, anthropology, sociology and public policy. The Board met five times during the first year, including one in-person meeting.

RSAB Chair:

Judith Stepan-Norris, Professor, Sociology, UC Irvine

RSAB Members:

Catherine Albiston, Professor, Law & Sociology, UC Berkeley

Kimberlee Shauman, Associate Professor, Sociology, UC Davis

Truman Young, Professor and Restoration Ecologist, Plant Sciences, UC Davis

Cynthia Feliciano, Associate Professor, Sociology and Chicano/Latino Studies, UC Irvine

Linda Sax, Professor, Education, Graduate School of Education & Information Studies, UC Los Angeles

Patricia Li Wang, Professor, School of Natural Sciences, UC Merced

Leah Haimo, Associate Dean, Graduate Division, and Professor, Biology, UC Riverside

Wendy Ashmore, Professor, Anthropology, UC Riverside

Mary Blair-Loy, Director, Center for Research on Gender in the Professions, and Associate Professor of Sociology, UC San Diego

Sharmila Majumdar, Professor in Residence, Radiology and Biomedical Imaging, UC San Francisco

Ram Seshadri, Professor, Department of Chemistry and Biochemistry, UC Santa Barbara

John Mohr, Professor, Sociology, UC Santa Barbara

Sri Kurniawan, Associate Professor, Computer Engineering, UC Santa Cruz

2.3 February 8, 2012 Data Seminar Planning Committee

The Planning Committee met regularly from November 2011 through February 2012 to prepare the agenda, data and materials for the February 2012 meeting.

February 8, 2012 Data Seminar Planning Committee Members:

Susan Carlson, Vice Provost – Academic Personnel, UCOP

Nancy Tanaka, Executive Director – Academic Personnel, UCOP

Joan Tenma, Assistant Vice Chancellor, Academic Personnel, UC Irvine

Max Garrick, Programmer/Analyst, Office of Information Technology, UC Irvine

Jo Agustin, Policy & Compensation Analyst, Academic Personnel, UCOP

Sharon Thomas, Policy & Compensation Analyst, Academic Personnel, UCOP

Marc Goulden, Director of Data Initiatives, Academic Affairs, UC Berkeley

Matthew Xavier, Data Coordinator, Academic Personnel, UCOP

Kevin O'Neal, UC ADVANCE PAID Program Coordinator, Academic Personnel, UCOP

2.4 April 11, 2012 Roundtable 1 Planning Committee

The Planning Committee met from January through April 2012 to plan for the April 11th Roundtable at UC Berkeley, which was jointly hosted by UC Berkeley and UC San Francisco.

April 11, 2012 Roundtable 1 Planning Committee Members:

Susan Carlson, Vice Provost – Academic Personnel, UCOP

Kevin O'Neal, UC ADVANCE PAID Program Coordinator, Academic Personnel, UCOP

Karie Frasch, Director, Faculty Equity and Welfare, UC Berkeley

Angelica Stacy, Associate Vice Provost for the Faculty, and Professor, Chemistry, UC Berkeley

Marc Goulden, Director of Data Initiatives, Academic Affairs, UC Berkeley

Sally Marshall, Vice Provost, Academic Affairs, and Director, Office of Faculty Development and Advancement, and Professor, Preventive and Restorative Dental Sciences, UC San Francisco

Renee Navarro, Vice Chancellor, Diversity and Outreach, UC San Francisco

2.5 October 17, 2012 Roundtable 2 Planning Committee

The Planning Committee initially convened in June 2012 to begin planning for the October 2012 Roundtable at UC Irvine.

October 17, 2012 Roundtable 2 Planning Committee Members:

Susan Carlson, Vice Provost – Academic Personnel, UCOP

Kevin O'Neal, UC ADVANCE PAID Program Coordinator, Academic Personnel, UCOP

Matt Xavier, Data Coordinator, Academic Personnel, UCOP

Douglas Haynes, Director, UCI ADVANCE Program and Associate Professor, History, UC Irvine

Dina Jankowski, Program Coordinator, UCI ADVANCE program, UC Irvine

Carroll Seron, Department Chair and Professor, Department of Criminology, Law and Society, and Professor, Sociology and Law, UC Irvine

Judith Stepan-Norris, Professor, Sociology, UC Irvine

Yolanda Moses, Associate Vice Chancellor for Diversity, Excellence & Equity, and Professor, Anthropology, UC Riverside

Joan Tenma, Assistant Vice Chancellor, Academic Personnel, UC Irvine

Gwen Kuhns-Black, Associate Director, Office of Equal Opportunity and Diversity, UC Irvine

Marc Goulden, Director of Data Initiatives, Academic Affairs, UC Berkeley

Frances Leslie, Dean, Graduate Division, and Professor, Pharmacology, UC Irvine

Belinda Robnett-Olsen, Associate Professor, Sociology, UC Irvine

UC ADVANCE PAID leverages an established 10-campus structure at the University of California (UC) to enable campuses to recruit, retain and advance more women and under-represented minority (URM) women faculty in science, technology, engineering and mathematics (STEM) disciplines. UC ADVANCE PAID is directed by a Steering Committee composed of senior faculty and administrators and advised by a Research Scholars Advisory Board (RSAB), also consisting of senior faculty and administrators from the 10 UC campuses. It has two initiatives: a) the Recruitment Data Analysis Project and b) the California Challenge Roundtables.

UC Office of the President (UCOP) was informed of the grant award of $322,107.00 for three years of funding beginning in September 2011; program operations began in October 2011.

1.0 Recruitment Data Analysis Project

As outlined in the grant proposal, the goals of the Recruitment Data Analysis Project are 1) to design ways to collect and aggregate data that are transportable not only across 10 campuses, but potentially across broader subsets of universities or disciplines, 2) to use these data to pinpoint roadblocks to recruitment of women and URMs in STEM, and 3) to implement recruitment practices that overcome such roadblocks. Data Coordinator Matthew Xavier was hired by UCOP Academic Personnel in January 2012 and, as one component of his position, immediately assumed duties as director of the UC ADVANCE PAID Data Analysis Project. In Year 1, the focus of the Data Analysis Project was on the February 8, 2012 seminar, on development of data elements for system-wide data collection and on building the UC Recruit web-based recruitment system.

1.1 Data Collection and Analysis

In anticipation of the grant award, UCOP Academic Personnel began data collection on tenure-line faculty recruitment activities for all 10 campuses, beginning the work with campuses in late 2010 to enable collection of data for fiscal year 2011. Data was collected both on the demographic composition of search committees (Gender and Race/Ethnicity, Charts 1 and 2, pp. 9-10) and on the demographics of the candidate pool, finalists and hires (Gender and Race/Ethnicity, Charts 3-5, pp. 10-11).

During Year 2, the Data Analysis Project will focus on collecting data for fiscal year 2012 and on constructing a protocol to enable a study of the effectiveness of particular interventions (e.g., a diverse search committee, search committee training, diversity-related language in the position announcement, etc.) on hiring outcomes. See discussion of Roundtable 1 (Section 2.1) for additional details on this process.

1.2 Data Project Seminar, "Designing, Collecting and Analyzing Data on the Faculty Recruitment Process"

On February 8, 2012, UC ADVANCE PAID and UCOP Academic Personnel sponsored a full-day seminar entitled "Designing, Collecting and Analyzing Data on the Faculty Recruitment Process" in Oakland, California. Seventy faculty and staff attendees from across the UC's 10 campuses participated in the proceedings; attendees included faculty, deans, vice provosts, department chairs, affirmative action/equal opportunity and diversity officers, information technology experts, institutional research experts and others. System-wide Provost Lawrence Pitts also attended as a reflection of Presidential and Provostial support for the project. The purpose of the seminar was to strengthen the collaborative processes for the Data Analysis Project, a major grant objective.

The goals of the seminar included developing future direction of the project, including data collection protocols as well as methods of future communication among the diverse group of attendees. Discussion also included specific revision recommendations relating to UC Recruit, a web-based recruitment tool that expedites the faculty recruitment process and tracks gender and ethnicity, as well as other necessary elements used to analyze progress in hiring a more diverse faculty. See Section 1.4.

The convener, Principal Investigator (PI) & Vice Provost Susan Carlson, led the interactive seminar proceedings, organized by an agenda that included presentations on the utility and future of the UC Recruit system, campus reports on unique campus recruitment practices, and data results of the most recent faculty search process gender and ethnicity report.

The data presentation included (for the first time at UC) a system-wide compilation of gender and ethnicity of faculty search committee members. These are crucial elements to track since research indicates a greater likelihood of hiring a woman or URM into a faculty position if there is at least one woman or URM on the search committee. Also collected for the first time on a system-wide basis was data on the gender and ethnicity of applicants, interviewees and hires for faculty positions. In the STEM fields, women comprised approximately 19.4% of the applicant pool and 22.1% of the interviewee pool; that percentage rose to 22.7% at the hire stage. URM representation was a percent of total ethnicity and grew as the recruitment stages progressed, with 5.15% of the applicant pool, 5.05% of the interviewee pool, and 6.13 at the hire stage. For a graphical summary of the data, please refer to Charts 1-5 (pp. 9-11).

The seminar provided a foundation to move forward. For example, a data group was created to provide recommendations for change by examining issues around the definition of STEM disciplines, ethnicity categories and waivers to recruitment.

Marc Goulden, the UC ADVANCE PAID program evaluator, provided a comprehensive and formative analysis documenting the proceedings. This evaluation is included as **Appendix A**.

As the seminar proved highly successful in meeting project goals in Year 1, UC Provost Pitts committed funds for the continuance of seminar meetings for three additional years. This will enhance the NSF-funded segments of the data project.

Chart 1. University of California Systemwide
Faculty Search Committee Members by Gender
for Open STEM Positions in FY 2010-11
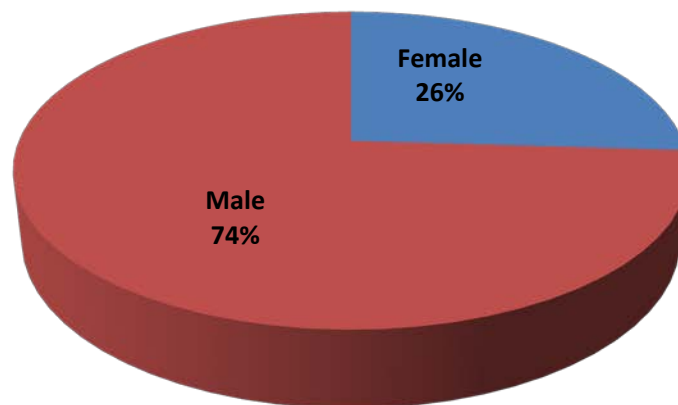
Source: UC Offices of Academic Personnel

Chart 2. University of California Systemwide
Faculty Search Committee Members by Ethnicity
for Open STEM Positions in FY 2010-11

Unknown/Other
3.19%

Asian
15.57%

American Indian
0.30%

African American
1.10%

Hispanic
4.09%

White
75.75%
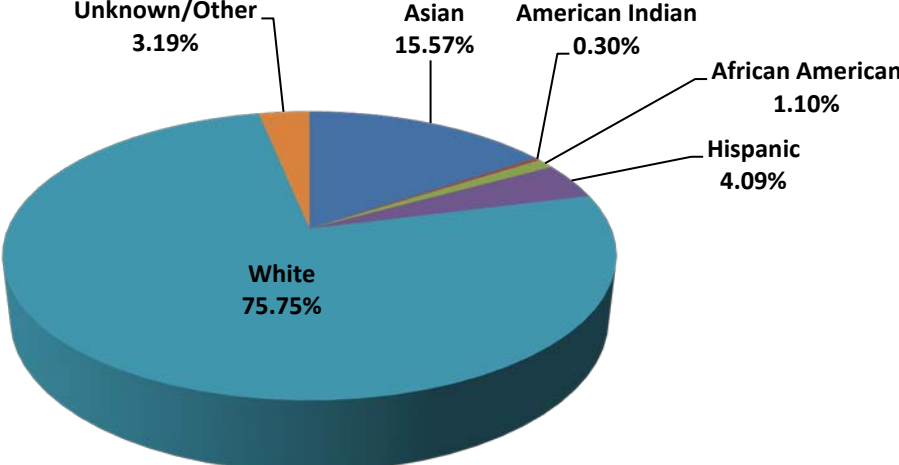
Chart 3. University of California Systemwide
STEM Faculty Search Process by Gender by Stage in FY 2010-11

■ Female   ■ Male   ■ Unknown/not reported

	Applications	Interviewees	Hires
Unknown/not reported	19.6%	18.5%	5.5%
Male	61.0%	59.4%	71.8%
Female	19.4%	22.1%	22.7%
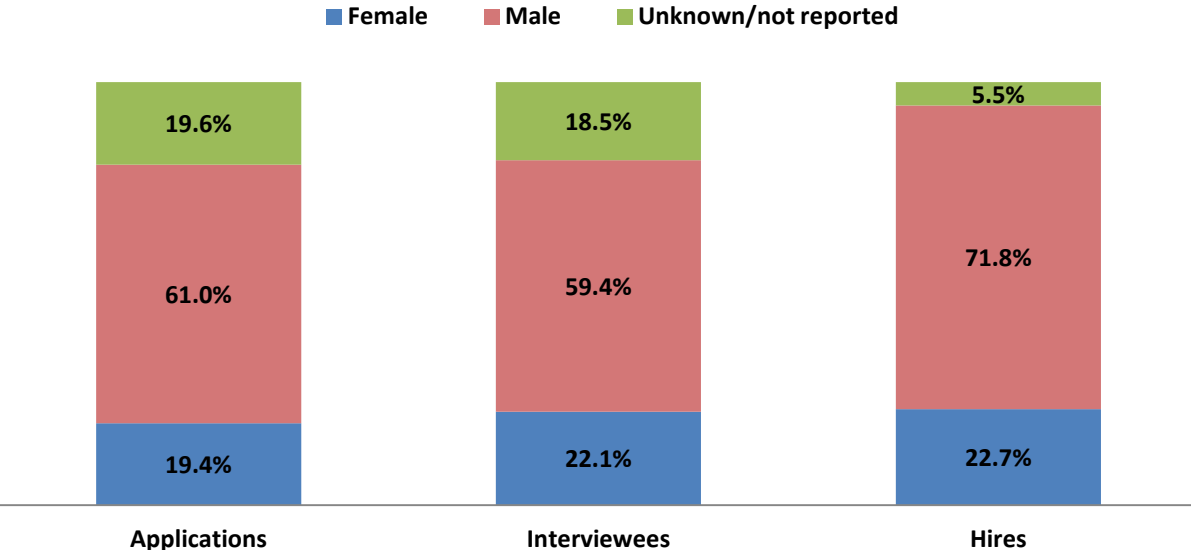
Chart 4. University of California Systemwide STEM Faculty Search Process
White/Asian /Unknown Ethnicity by Stage in FY 2010-11

■ Asian   ■ White   ■ Unknown/not reported

	Applications	Interviewees	Hires
Unknown/not reported	22.45%	31.48%	14.11%
White	41.86%	38.89%	66.87%
Asian	30.53%	24.58%	12.88%
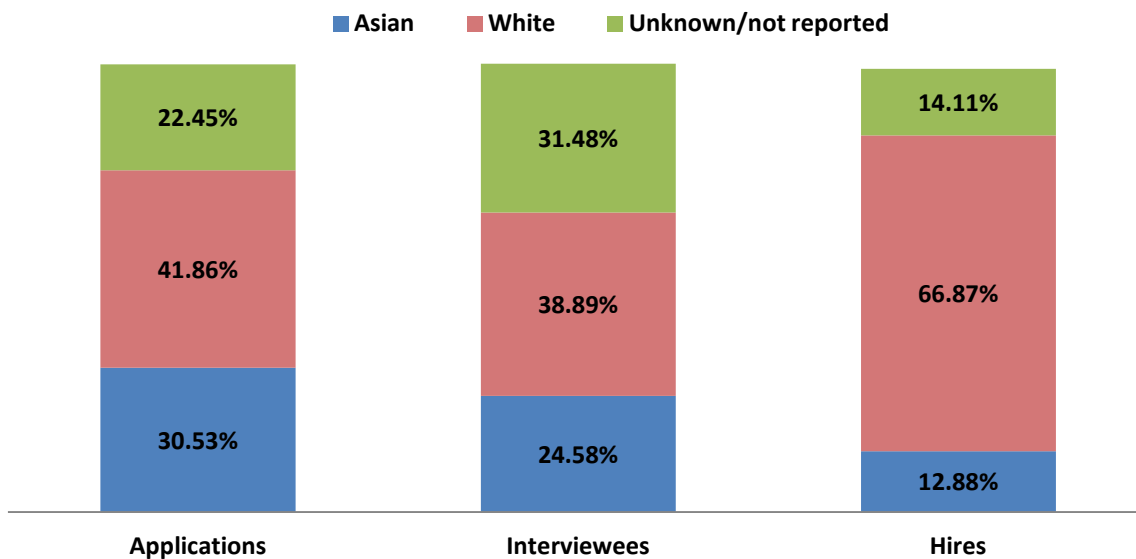
Source: UC Offices of Academic Personnel

Chart 5. University of California Systemwide STEM Faculty Search Process
Under-Represented Minority Ethnicity by Stage in FY 2010-11

■ Amer.-Indian   ■ African-Amer.   ■ Hispanic

	Applications	Interviewees	Hires
Hispanic	3.87%	4.04%	4.91%
African-Amer.	1.11%	0.67%	0.61%
Amer.-Indian	0.17%	0.34%	0.61%
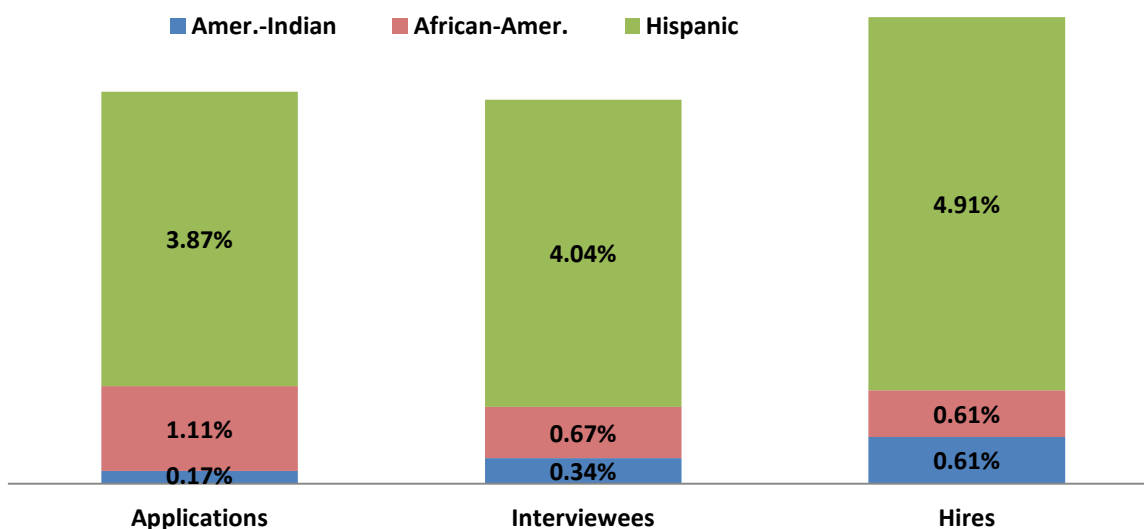
Source: UC Offices of Academic Personnel

1.3 Sub-committee on Defining Data Elements

As a follow-up to the Seminar, Data Coordinator Xavier convened a subgroup of faculty and analysts as a means of continuing conversations relating to best practices for collection and analyses of faculty search data on an ongoing basis. Discussions will continue through Fall 2012 and will also serve to inform the Year 2 Data Seminar, scheduled for February 6, 2013.

1.3.1 Data Work Group

The Data Work Group will research issues involving the faculty recruitment process throughout UC. The group is currently focused on 1) defining a broader set of ethnicity categories, 2) developing a standard group of STEM fields for use in analysis and reporting, 3) managing the impact of waivers, and 4) determining the impact of international versus domestic statuses. The Data Work Group has met twice by conference call and it will continue to meet on a monthly basis; meeting minutes are being maintained. The membership of the group includes Marc Goulden, Janet Lockwood, Matt Xavier, Everett Wilson, Herbert Lee, Joan Tenma, Yolanda Moses and Max Garrick.

1.4 Collaboration on UC Recruit

Subsequent to the grant submission in November 2010, UCOP and the Executive Vice Chancellor/Provosts from all 10 campuses agreed to collaborate on a single web-based system for faculty recruitment. Named UC Recruit, the system was developed at UC Irvine and is being adopted by all 10 campuses, with a final implementation date of June 2013. UC Recruit significantly streamlines both the faculty recruitment and application processes by automating a historically labor-intensive and manual procedure. As of June 2012, six UC campuses use a campus-branded UC Recruit tool for their faculty application systems. To date, UC Recruit has hosted over 800 faculty searches, with more than 43,000 faculty applying online. In 2011-12, over 15,000 applicants applied for 274 faculty positions, with approximately 46,000 reference letters being collected by UC Recruit. UC Recruit aids campus equal opportunity employment efforts and annual affirmative action reporting by providing a consistent process to request, collect and report demographic survey information of faculty applicants (e.g., sex, race, ethnicity, etc.), resulting in more reliable and accurate data for analyses. The system also will enable more robust research on UC faculty recruitment processes.

2.0 California Challenge Roundtables

The second main component of the UC ADVANCE PAID project is a series of five Roundtables to be hosted on different campuses. As summarized in the grant proposal, the goals of the California Challenge Roundtables are 1) to build a stronger cross-campus community, combining forces to recruit and retain in STEM disciplines more women overall and URM women in particular, 2) to establish STEM recruitment and retention as a standard component of University diversity conversations, and 3) to follow-up on Roundtables with new campus initiatives and/or practices.

2.1 Roundtable One: "Using Research and Data to Improve the Faculty Search Process"

On April 11, 2012, UC ADVANCE PAID hosted the first Roundtable on the UC Berkeley campus, jointly sponsored by UC Berkeley and UC San Francisco. The campuses worked together with the PI and those UCOP Academic Personnel staff members on the Planning Committee (see Section A) and covered meal costs. The Roundtable, "Using Research and Data to Improve the Faculty Search Process," included 60 participants composed of faculty, administrators (including Chancellors, UC's system-wide Provost, Deans and Department Chairs), as well as staff from all ten UC campuses. Participants gathered to address best practices for improving diversity outcomes in faculty searches. The goals for the day were as follows:

- To learn how academic leadership can support efforts to diversify STEM faculty
- To learn about empirically-based research on search practices
- To examine and evaluate a list of search practices from the time of the specification of the position to the point of assembling a "short list" and eventually a finalist

- To create a research plan to gather empirically-based evidence of best practices to improve search outcomes throughout the UC system
- To return key elements of these discussions to campuses

The April 2012 Roundtable consisted of four sessions. Please see **Appendix B** for the Agenda.
See http://www.ucop.edu/ucadvance/documents/april2012-agenda.pdf for all April 11 Roundtable materials.

2.1.1 Session 1: "Leadership and Accountability: How Can UC Build a More Diverse Faculty?"

PI and Vice Provost Carlson convened the Roundtable with a welcome and an outline of goals for the day. Session 1, a panel discussion moderated by Dr. Sally Marshall, Vice Provost, Academic Affairs and Distinguished Professor, Division of Biomaterials and Bioengineering, UC San Francisco, immediately followed, which featured:

- Linda Katehi, *Chancellor and Professor, Electrical and Computer Science and Women's and Gender Studies, UC Davis and Chair of the UC ADVANCE PAID Steering Committee*
- Susan Desmond-Hellmann, *Chancellor and Arthur and Toni Rembe Rock Distinguished Professor, UC San Francisco*
- Lawrence Pitts, *Provost and Executive Vice President, UCOP*

The panelists answered three questions:

Question #1: "What role did diversity play in your career path?"

Chancellor Katehi responded by stating that she was raised in a small community and never felt gender discrimination, adding that she was proficient in math and science. Her first encounter with discrimination was within a Greek university, where she majored in engineering. She was approached by a university official about the reason she selected the engineering field; the official went on to add that by selecting to work in this field, she was taking away an opportunity for someone (a man) who deserved it. Although she graduated five years later, she never received a diploma and never felt welcome. In an effort to pursue a career in engineering, she moved to the United States and served as one of 10 women on the engineering faculty at a major Midwestern university. She still encountered discrimination in the US and finally left that university in 2002 as the most senior woman faculty member. Following this, she entered administration at Purdue University as the Dean of Engineering. Chancellor Katehi chose to ignore the discrimination she encountered, but acknowledged the difference that it can make for young faculty in need of positive feedback and development of self-esteem.

Chancellor Desmond-Hellmann also felt no discrimination in her early life, and her affinity for science and math was attributed more to her supportive family environment, in which there was no fear of failure and a belief that "anything is possible." Arriving at UCSF first as an intern, and then as chief resident, she felt that there were no barriers for her as a woman. Moving to Uganda to study HIV, however, was her first encounter with gender-based discrimination, where she was referred to as "Dr. Mrs. Hellmann" and viewed as trailing her husband. For a variety of reasons, she overcame some of those obstacles, and went on to Genentech, where she was treated well, and her evaluations were merit-based. Asked at this time to work on women's issues, she initially declined, but recognized that other women were experiencing both overt and covert discrimination and changed her stance. She feels that taking leadership roles as a young woman helped her tremendously, and is honored when women approach her to say that when they see her, they can imagine themselves in a leadership role, as well.

Provost Pitts grew up in the southern United States and attended MIT where women comprised only 5% of the undergraduate population. While in the Navy, he encountered women in the roles of nurses, and in medical school, women comprised only about 8% of the student population. His residency at UCSF revealed a more diverse environment, and he began to understand how diversity influenced interrelationships with patients and colleagues. Although the UC system has placed a priority on diversity, there is still much work to be done, especially in the UC business schools. Provost Pitts feels that diversity has independent positive value in its

inherent ability to help manage relationships with constituents, and states that faculty should add positive value to diversity.

Question #2: "Diversity. What works best: carrots or sticks?"

Chancellor Katehi believes in the "carrots first" outlook when asking others to embrace diversity, and then holding them accountable in achieving it. Many may serve as recruiters, but they forget the importance of retaining. Training, commitment, funds, resources and incentives all play an important role in both recruitment and retention, and also provide an opportunity for reporting the success of one's efforts.

Chancellor Desmond-Hellmann also believes in "carrots", and in creating a culturally-sensitive environment that not only provides childcare and family-friendly policies/support, but also rewards those who make efforts towards diversity: promoting and visibly celebrating accomplishments. She believes in the importance of mentoring, as mentors and mentees have different backgrounds to share in the achievement of common goals.

Provost Pitts thinks that "carrots" may help but data is important and useful at the front end. He believes that deans should encourage their faculty members to embrace diversity, and deans should only be rewarded with additional faculty if they are making positive progress with diversity efforts; deans with low diversity numbers should also be held accountable.

Question #3: "Faculty Search Process Success Stories."

Chancellor Katehi noted that the UC Davis College of Engineering ranks third in the country for women faculty numbers. Ten years ago, the college was composed of 22% women faculty; that number has since increased to 41%, which proves that change can happen if administrators and faculty are committed to and focused on diversity responsibility. UC Davis Vice Provost Maureen Stanton made a commitment to scrutinize every search process in order to increase diversity.

Chancellor Desmond-Hellmann said that UCSF is proud to have a Department of Medicine chair (Talmadge E. King, Jr., MD) who is African-American. She feels that having women and URMs in visible leadership positions has a positive impact both on students and in the hiring process. She noted that during the past three years, the UCSF Biochemistry/Physics lunchtime talks – traditionally male-dominated -- have recruited a very strong pool of young women faculty members.

Provost Pitts said that Gene Washington (dean of the David Geffen School of Medicine, UCLA) recognized the importance of increasing gender and ethnic diversity, and like Provost Pitts, felt that it is a leadership or "top down" issue. Provost Pitts also feels that it is important to have the right policies in place, such as APM – 210.

2.1.2. Session 2: "What Scholars Can Tell Us: Empirically-Based Research on Search Practices"

Session 2, a panel presentation featuring three faculty members of the RSAB, was moderated by Dr. Renee Navarro, Vice Chancellor of Diversity and Outreach & Professor of Anesthesia and Perioperative Care, UCSF. The panel included:

- Kimberlee Shauman, *Associate Professor of Sociology, UC Davis*
- Catherine Albiston, *Professor of Law/Professor of Sociology, UC Berkeley*
- Leah Haimo, *Professor of Biology/Associate Dean of the Graduate Division, UC Riverside*

The panel's PowerPoint presentations are available for viewing on the UC ADVANCE PAID website, http://www.ucop.edu/ucadvance/roundtable-april-2012.html. The website also includes two bibliographies of research referenced in these presentations.

2.1.2.1. Dr. Shauman reviewed the research on structural causes that leads to a lack of diversity in hiring. Of these, she focused on three:

- Diversity in the pipeline and applicant pool
- Geographic and family constraints
- Network position and connections

Diversity in the pipeline and applicant pool. Evidence from the research shows an increase in diversity amongst STEM PhDs, with an upward trend in URMs (7.2% as of 2008). Despite this increase, recruitment into applicant pools is lagging in STEM hiring. She discussed the following factors:

- Image problem of academic science; women are likely to downgrade their aspirations from an academic career, perceiving it as incompatible with family roles (including an inflexible tenure clock)
- Competitive and chilly climate; perhaps easier to focus on independent research rather than collaborative research
- Dual career conflicts; time expected to publish coincides with childbearing years
- Regional preferences for URMs
- Reliance on traditional advertisements that do not reach into diverse networks
- Competition from non-academic fields that offer career track flexibility and competitive pay

Geographic and family constraints. Researchers at Stanford suggest that women are more likely than men to occupy dual career couples, and also tend to be younger than their male partners who also may be at more advanced stages in their careers. Possible results:

- Women may limit themselves geographically
- Women are more likely to have a series of postdoctoral positions
- A combination of these factors makes it more complicated to hire women

Network position and connections. Social networks tend to be segregated by gender and race/ethnicity. Network connections for men are usually denser, while networks for women and minorities are more peripheral and less connected. Additionally, women do not have the same high profile mentors, and women and URMs have different access to hiring committees. This data highlighted the importance of having diverse workgroups to create more innovative solutions.

2.1.2.2. Dr. Albiston focused her research findings on bias, specifically cognitive bias which operates unconsciously and is both persistent and constant. As an example, she used the Goldin/Rouse study, which revealed that blind auditions for female musicians (where a screen is used to hide the identity of the person without blocking any sound) actually benefitted the women who were auditioning for spots in orchestras. The research she shared with the group focused on examining different aspects of how a candidate may be evaluated for a position, specifically how the same qualities could be evaluated positively for men, yet at the same time negatively for women. She reviewed a) qualifications of the candidate both in education and common sense, b) the wording of the job advertisement, and c) how mothers were evaluated as compared to how fathers were evaluated.

Research shows that when evaluating criteria in a job for a particular candidate, there is often "constructed criteria" which are ambiguous, such as credentials rated more important when possessed by a male, yet less important when possessed by a female. Not surprisingly, perhaps, is that men and women fared well when they assumed traditionally gender-based roles. She also noted that gender-based wording in job advertisements is a big factor, particularly in the sciences, where more masculine words may be used, causing women to worry about fitting in and thus discouraging them from even applying for the position. When mothers were evaluated, they were perceived as less committed and competent, yet fathers were not perceived in the same way.

While all of these research findings suggest that unconscious forms of bias work to exclude women with families, the research also reveals that there is more bias among evaluators who perceived themselves as being objective.

2.1.2.3. Dr. Haimo discussed research on bias that exists in the actual selection process, which shows that women statistically seem to get lost in the pipeline, not making it to professorships at the same rate as men. Women are particularly under-represented among UC faculty in STEM fields:

- Less than 20% in computer science and engineering
- Less than 30% in life sciences
- Less than 20% in physical sciences

In examining whether this is a result of the search process, Dr. Haimo discussed a study which showed that women were less likely to be hired for a mechanical engineering internship than men. The bias against women in this case was derived from female, and not male, participants. Similarly, a faculty psychology position study showed that both male and female reviewers were more likely to hire a male applicant than a female applicant with the same credentials. In these cases, women were more likely than men to be biased against other women.

2.1.3. Session #3: "Search Practices and UC Hiring"

The third session of the day began with a brief presentation of data collected system-wide from UC searches in fiscal year 2011, as well as several data slides from UC Berkeley research examining the correlation between search practices and outcomes. The session was moderated by Dr. Angelica Stacy, Associate Vice Provost for Faculty & Professor of Chemistry, UC Berkeley.

Following the presentation, participant breakout groups examined and evaluated a list of search practices used from the time the position was posted, to choosing a "short list", to selecting a finalist. The breakout groups raised many questions, including:

- What type of training is given to search committee members?
- How do faculty prioritize job criteria and how are criteria applied?
- Are job descriptions created in a way that avoids problematic wording or language?
- Is diversity merely a perception?

Link to Dr. Stacy's PowerPoint presentation: http://www.ucop.edu/ucadvance/roundtable-april-2012.html

2.1.4. Session #4: "Research Proposal: Filling the Gaps"

The day's final session focused on what questions remained regarding the efficacy of search practices and was moderated by Dr. Maureen Stanton, Vice Provost, Academic Affairs &Professor of Evolution and Ecology, UC Davis. Equal parts presentation and group discussion, this session sought to gather empirically-based evidence of best practices with the goal of carrying these messages back to campuses throughout the 10-campus UC system.

In discussions of what participants wanted to take from the Roundtable back to their campuses, consensus was that UC needs to communicate more with faculty and deans on faculty search issues. UC can influence the national debate in key ways and also has a responsibility to spread the word beyond UC. The *Chronicle of Higher Education* is a commonly used job posting vehicle for search committees, yet there was debate as to whether *Chronicle* placement of ads is voluntary or mandatory. As part of the group discussion, different campuses shared training practices, including the following:

- UCLA conducts training in person, does special training by department and includes meals. UCLA also asks equity advisors to review job postings prior to placement
- UCSD refers to training as "orientation" and invites deans and others to attend
- UCSD also asks for diversity statements from all applicants
- UCSF is moving toward the "equity advisor" model

The session culminated with a discussion of what tools should be included for search committees in order to increase diversity. While there were many suggestions, such as concise data, implicit bias data studies, search pool

prioritization and statement of contributions to diversity, the practices of other universities also were mentioned, such as University of Virginia's online certification which is required of anyone who wishes to participate on a search committee. Cornell University also was mentioned, as they "stop the clock" for both new mothers and new fathers. With UC Recruit (a web-based application for faculty searches) emerging as a key tool, there also was discussion concerning the following:

- What key data do we need to collect?
- What is the meaning of "supplementary" data collection?
- What other types of information do we want to extract?
- Can we collect data that measure the effect of implicit bias?
- How can we collect data that will be easily "updatable"?
- How can we collect data that allow us to look at issues of gender and race and their intersection?

The session concluded with the consensus that UC needs additional training and documents that can be utilized system-wide. The UC ADVANCE PAID program also was asked to collect data on the effectiveness of various "best practices" on diversifying the faculty; data was requested which would reflect the effect of particular interventions. After a discussion of how to take this conversation back to campuses, the meeting adjourned. See **Appendix C** for the "Taking the Conversation Back to Campus" document.

Participants completed evaluation forms and were informed of the second Roundtable at UC Irvine to be held October 17, 2012. As an additional evaluation, a representative from each campus will complete a questionnaire on how these issues are currently handled on their campus. See Section 4.0 on evaluation.

2.2. Roundtable 2. During Year 1, planning began on Roundtable 2, "Building Capacity for Institutional Transformation in the 21st Century: Women of Color in STEM and SBS Fields." The Planning Committee for Roundtable 2 at UC Irvine has been active since June 2012. See "Participants" for list of faculty and staff planning Roundtable 2 on October 17, 2012.

2.3. Future Roundtables. Roundtable 3 has been scheduled for April 10, 2013 at UC Riverside. A planning committee will be formed during fall 2012.

3.0. Committees and Boards

The project is supported by a Steering Committee which holds responsibility for advising the entire project, the RSAB, which brings research expertise to project planning and products, and a series of ad hoc planning committees to design events. The PI and the Program Coordinator work with all groups to provide comprehensive background to each. UCOP Academic Personnel provides additional program support on UC funding.

3.1 Steering Committee
The Steering Committee advises the PI and is responsible for maintaining UC ADVANCE PAID on each campus by connecting it to campus diversity committees and the Offices of the Executive Vice Chancellor/Provost. UC Davis Chancellor Linda Katehi chairs the committee. Members are also responsible for recruiting STEM faculty and administrators for Roundtables and supervising logistics if hosting a Roundtable on their campus. The committee also directs significant decision-making and during the final year of funding will work with Principal Investigator Carlson to ensure the continuation of UC ADVANCE PAID.

To date, the UC ADVANCE PAID Steering Committee has convened 5 times: December 1, 2011; February 23, 2012; March 22, 2012; April 11, 2012 (in-person meeting at Roundtable 1); and May 11, 2012. See Section A.2.1 for committee membership.

3.2 Research Scholars Advisory Board (RSAB)
The RSAB was assembled to advise the UC ADVANCE PAID program on best practices to draw from current research and contribute to future scholarship on gender, race, ethnicity and faculty recruitment and retention in the STEM disciplines. The Board was appointed by the Steering Committee and is comprised of UC faculty

members from STEM fields, as well as UC faculty members with expertise in varied disciplines such as education, law, anthropology, sociology and public policy. See Section A.2.2 for board membership.

RSAB meetings included two planning meetings, as well as three formal meetings: December 26, 2011 (planning meeting); February 22, 2012 (planning meeting); March 16, 2012; April 11, 2012 (in-person meeting at Roundtable 1); and July 23, 2012.

3.3 Planning Committees
To ensure the quality and relevance of events, regular planning committee meetings were held for the February 8, 2012 Data Seminar (7 meetings), the April 11, 2012 Roundtable 1 (3 meetings) and the October 17, 2012 Roundtable 2 (meetings commenced in June 2012).

4.0. Program Evaluation

To date, evaluator Dr. Marc Goulden has participated in all of the Steering Committee meetings, most of the Roundtable 1 planning meetings, the Data Seminar held February 8, 2012 in Oakland, and the first Roundtable held on the UC Berkeley campus April 11, 2012. In these settings, he has provided direct formative evaluation on a wide range of existing and planned project activities, periodically directing the conversation to focus on the longer-term goals of the project and seeking to ascertain from participants how any proposed interventions might support desired outcomes (particularly in regard to increasing the diversity of UC's faculty hires in STEM fields). Additionally, as a content expert in relation to many of the salient issues, Dr. Goulden has offered direct advice on study design, possible efficacy of proposed interventions, human subject research, approaches to data design and appropriate analytical methodologies.

4.1. February 8, 2012 Data Project Seminar. Beyond these ongoing direct interactions, the evaluator provided a detailed written evaluation of the Data Seminar held in Oakland (see **Appendix A**). This event served as a platform upon which a number of important data and research efforts will be developed in support of the UC ADVANCE PAID project. The evaluation assessed in detail the potential value of linking the UC ADVANCE PAID project with those of other ongoing campus efforts, particularly the deployment of UC Recruit on all UC campuses. The written summary also discussed possible difficulties that might beset these various efforts and ways in which they might be mitigated.

4.2. April 11, 2012 Roundtable. In advance of the first UC Roundtable, the evaluator worked with the Planning Committee to develop logic models regarding the proposed outcomes of the event (see **Appendix D**). To directly assess the longer-term impact of this event, the evaluator developed a baseline assessment instrument that was sent to each of the campuses to ascertain current practices in relation to faculty search committees, and their use of scholarly findings and best practices in efforts to diversify faculty hiring, among other things (see **Appendix E**). The baseline assessment will be followed up with a similar evaluation instrument to determine whether campuses have instituted any new initiatives as a direct result of the first Roundtable. Planning for the second Roundtable is underway and in the next few months the evaluator will seek to develop with this particular committee appropriate logic models and assessment instruments.

4.2.1. Post Roundtable 1 Participant Evaluation. Following Roundtable 1, participants were asked to complete a brief evaluation of the event. Thirty-eight percent of the 60 registered participants responded. When asked, "How informative was panel discussion #2: What Scholars Can Tell Us: Empirically-Based Research on Search Practices?" 83% of respondents rated the research-based panel as "above average" or "excellent", sharing comments such as, "Very enlightening. Panelists were particularly interesting. Compelling argument for validity of research," and "For attendees like me who were not as familiar with the literature, this was extremely valuable." When asked, "What was your overall opinion of today's Roundtable program?", 91% of these same respondents rated the event as "above average" or "excellent" and included comments such as, "Great opportunity to discuss the issues, review data, identify new data needs and opportunities to analyze information," and "There is clearly a strong need for more discussions like these." See **Appendix F** for Participant Evaluation Form.

C. OPPORTUNITIES FOR TRAINING, DEVELOPMENT AND MENTORING

The California Challenge Roundtables are designed to provide networking and training opportunities by bringing together faculty and academic leaders in events that focus on the barriers and successes for women and URM women in STEM disciplines. As a follow-up to the April 11, 2012 Roundtable, the project is developing materials to assist campus departments with such efforts. The Spring 2013 Roundtable will focus on mentoring opportunities for URM women in STEM.

D. OUTREACH ACTIVITIES OF THE PROJECT, COMMUNICATIONS AND OUTREACH

1.0. Website and SharePoint Site

To help support the project and ensure that key participants have access to research, findings and documents generated from our events, we have created the official UC ADVANCE PAID website as well as a SharePoint document-sharing website. A more detailed description of the website can be found in the "Publications and Products" section. SharePoint sites serve as online, internal communications tools for UC, with password-protected access provided to appropriate individuals and groups (i.e., members of the Steering Committee and members of the RSAB). Through this portal, members are able to efficiently access, share and edit documents and communications relevant to their particular group(s).

2.0. Communications

As the first year of our project unfolded, communications continue to develop, although at this time many remain in beginning stages. In particular, a "UC Friends" list is being compiled that includes contact information for individuals who have expressed an interest in our research. The list continues to grow each month and in the future will serve to deliver the tools and messages that continue to be generated by the UC ADVANCE PAID program.

3.0. Media Communications

The UC ADVANCE PAID program was featured in the January 12, 2012 issue of "Our University," a monthly newsletter which is distributed to the entire UC community. An online edition of the feature can be viewed here: http://www.universityofcalifornia.edu/news/article/26987. The program also was announced and promoted in the UC San Diego Guardian (2/23/12), as well as in the Fall 2012 issue of the UC Santa Barbara Diversity Forum.

4.0 Internal Meetings/Briefings

Chairs of system-wide faculty senate committees – the University Committee on Academic Personnel (UCAP) and the University Committee of Affirmative Action and Diversity (UCAAD) – have provided a direct connection to faculty leaders throughout the year. In addition, the following groups have been briefed about the work of UC ADVANCE PAID: the President's Council on Culture, Climate, and Inclusion; the Council of Chancellors; the Council of Executive Vice Chancellors/Provosts; the Letters and Sciences Deans; and the Engineering Deans. Also, Steering Committee members have taken the work of the grant back to their individual campuses for additional discussion.

5.0 Other UC ADVANCE Programs

Currently, in addition to UC ADVANCE PAID, there are five additional ADVANCE programs in existence throughout the UC system. As the core mission of each program is closely related to UC ADVANCE PAID, a representative from each of the five other ADVANCE programs serves as a member of our Steering Committee, providing an avenue for mutual reporting and integration of shared research.

The additional programs are:

- Tools for CHANGE: Stepping Up Retention of Women in the Academic STEM Pipeline
  Location: UC Berkeley and UC Hastings; PIs: *Drs. Mary Ann Mason and Joan Williams*

- UCI ADVANCE Program for Equity and Diversity
  Location: UC Irvine; Director: *Dr. Douglas M. Haynes*

- Catalyst GROW-STEM: Gaining Representation of Women (GROW) – Systematically Transforming Excellence in Merced (STEM)
  Location: UC Merced; PI: *Dr. David Ojcius*

- Moving Forward for Women in STEM Fields at UCR and Beyond
  Location: UC Riverside; PI: *Dr. Yolanda Moses*

- Different Trajectories: A Longitudinal Study of Organizational and Departmental Factors Leading to Gender and Race Differences in STEM Faculty Advancement, Pay and Persistence
  Location: UC San Diego; PIs: *Drs. Mary Blair-Loy and Jeanne Ferrante*

E. PUBLICATIONS AND PRODUCTS

1.0 UC ADVANCE PAID Website

As a tool of modern communication, an informative website has become essential. Though still a work in progress, the current UC ADVANCE PAID website focuses on key areas of the project including leadership, other UC ADVANCE programs, events and news/updates. The "Leadership" section contains detailed information about our Steering Committee and Research Scholars Advisory Board (RSAB), while the "Events" section highlights past and upcoming events specifically related to the "California Challenge" project. Other related UC systemwide events can be found in the "News and Updates" section. The University of California, Office of the President parent website, under which the UC ADVANCE PAID website is located, is currently undergoing a major upgrade with full migration to an enhanced website scheduled for Fall 2012. Following migration, the UC ADVANCE website will be updated and enhanced, providing a more thorough image of the work being done on this project, including videos taken during Roundtable 2 and following Roundtables. The current UC ADVANCE PAID website can be accessed at the following URL: http://www.ucop.edu/ucadvance/

2.0 Bibliographies

For our first Roundtable, "Using Research and Data to Improve the Faculty Search Process in STEM," held on April 11, 2012, three members of the RSAB gave presentations analyzing research on search practices, based on representative research articles. To supplement the presentations, a brief bibliography of the articles referenced in the presentations was created, organized by presenter (see **Appendix G**). Additionally, a comprehensive bibliography of articles relating to current research on search practices was also created with advice from the RSAB (see **Appendix H**). Both bibliographies were included as handout materials for participants and are available on the Roundtable website at http://www.ucop.edu/ucadvance/roundtable-april-2012.html. The goal in creating these documents was twofold: 1) to provide participants with access to information referenced by presenters, and 2) to provide participants with a categorized list of current research being conducted in the field of search practices to enhance conversations following the Roundtable.

F. CONTRIBUTIONS

1.0 Contributions to Human Resources Development

This project works from the assumption that solutions to the under-representation of women in STEM go beyond single campuses. The primary goal of the "Recruitment Data Analysis Project" (the first part of this program) is to design ways to collect and aggregate data on faculty recruitment that are transportable not only across the 10 UC campuses, but potentially across broader subsets of universities or disciplines. In the first year of the program, we have made considerable progress in meeting this goal, and the kind of data we collected are summarized in the charts in the PDF attachment. With the adoption of a web-based recruitment system for all 10 UC campuses and with an initial year of data, we are positioned to further refine the collection and analysis in year 2. During year 2, we will develop research tools that will allow us to inventory various search practices (committee membership, training, language in job positions, etc.) and compare their use with hiring outcomes. The analysis of data will allow us to contribute to research on the faculty recruitment process with a more robust data set than currently exists among research Universities.

2.0 Contributions to Research and Education

Two key products of the Roundtable 1 (April 2012) are multi-disciplinary bibliographies of research relevant to the faculty recruitment process. These organize the information in a user-friendly way, by topic, so that faculty and administrators conducting searches have easy access to relevant research findings. Those conducting research in the field also have web access. These products are posted on-line at http://www.ucop.edu/ucadvance/roundtable-april-2012.html. These activities contribute to conversations in higher education about diversifying the faculty and advance our goal of building a more diverse STEM workforce.

G. APPENDICES

Appendix A: **Evaluator's Report on February 8, 2012 Data Seminar**

Appendix B: **April 11, 2012 Roundtable 1 Agenda**

Appendix C: **April 11, 2012 Taking the Conversation Back to Campus**

Appendix D: **Logic Model for April 11, 2012 Roundtable**

Appendix E: **Campus Baseline Assessment as Follow-Up to Roundtable 1**

Appendix F: **Participant Evaluation Form, Roundtable 1**

Appendix G: **Selected Articles from Research Scholars**

Appendix H: **Full Bibliography from Research Scholars**

APPENDIX A

Evaluator's Report on February 8, 2012 Data Seminar

Designing, Collecting, and Analyzing Data on the Faculty Recruitment Process
Seminar: Formative Analysis by Marc Goulden (evaluator to the project)

February 16, 2012

Background: On February 8th, 2012, a group of campus representatives convened for a one day meeting at the CSU East Bay Oakland Conference Facility, Suite 109, in support of the *Data Analysis Project*, part of the NSF Funded *UC ADVANCE PAID, Meeting the California Challenge—Women and Under-represented Minority Faculty in STEM project*. The meeting included two or more representatives from each of the campuses, and a number of individuals from UCOP who are working in association with the larger project and/or data-related issues. The meeting was convened and moderated by Susan Carlson, UC Vice Provost of Academic Personnel, and PI to the UC ADVANCE PAID grant.

Summary: Overall, the meeting appeared to be effective at pushing the goals of the Data Analysis Project forward, benefiting particularly from: (1) a diversity of different attendees, particularly in regard to functional job roles; and (2) a detailed demonstration and discussion of UC Recruit and its possible role in enhancing the data collection phase of the project, and how it can help to ensure consistency of data across the campuses for the duration of this project and beyond. Not surprisingly, given the magnitude of this effort, a number of potential challenges were also identified that are important to consider as the project unfolds.

The purpose of this formative analysis report is to discuss the topical areas focused on in the seminar, and provide observations and comments that can serve to inform future efforts during the course of the project (see the original grant proposal summary description at the end of this document for more information). My analysis is based on the knowledge I have accrued over time working extensively with faculty applicant diversity data, affirmative action plans, large campus IT systems, academic scholarship in diversity related fields, web-based data collection systems and HTML/CGI programming, survey design, and a wide-range of different institutional research efforts. I am also drawing upon my more limited knowledge of campus business practices in regard to faculty recruitment and advancement.

General Observations about the Seminar

Participant Diversity and Engagement: The meeting was in large part effective because of the wide diversity of participants, particularly in regard to functional roles including: the UC Provost (who attended a portion of the meeting), Vice Provosts for Academic Affairs, a Dean, faculty members, Affirmative Action compliance officers, Information Technology staff, Institutional Researchers, Academic Personnel Officers, staff with expertise in different aspects of diversity

issues and data collection, and so forth. In this way, many different *parts of the elephant* were discussed and examined. There was a high degree of engagement throughout most of the sessions, and most of the attendees actively participated in the conversation. Susan Carlson was a very effective moderator; helping the group to maintain its focus on tangible outcomes, without unnecessarily quashing some of the more creative albeit less pragmatic areas of discussion.

UC Recruit and UC ADVANCE Synergy: As Vice Provost Carlson described at the onset of the meeting, the UC ADVANCE project—specifically the *Data Analysis* portion of the project— is likely to benefit from the commitment of the UC Provost and the campuses to share a single system developed at UC Irvine to manage faculty recruitment and applicant data collection, now referred to as *UC Recruit*. This system evolved in a local unit on the UCI campus, was subsequently modified to support recruitments across the campus, was redesigned to support UC San Diego in faculty hiring, and is now being redesigned to support deployment throughout the 10 campus system. Given this development, a large portion of the meeting was directed toward examining various functional aspects of UC Recruit, and to discussions regarding how it might benefit the UC ADVANCE project. What follows are specific observations I made throughout the day in regard to the value of and possible difficulties associated with aligning these efforts.

Specific observations about UC ADVANCE and UC Recruit-- potential value and possible difficulties

- *The value of aligning these efforts clearly outweighs the disadvantages of doing so.* The first year of UCOP attempting to collect data from the campuses on faculty applicant pools, offers, and acceptances, revealed the complexity and difficulty of trying to retrofit campus data to uniform standards. The earlier that this uniformity is imposed in regard to the business process and collection of data (presumably in this case through a shared UC wide IT interface), the less cumbersome the process of aggregating and systematizing data will be and the greater likelihood of eventual success.

- *Scaling IT systems that developed in local setting to larger more universal and yet disparate settings is typically a nontrivial endeavor.* As tempting as it is to take successful prototypes that developed in unique settings and then modify them and deploy them in more universal/varied settings, the challenges of doing so and the tendency to carry over artifacts from the past can be readily overlooked. Localized systems are rarely built to scale effectively to larger-scale settings. They are designed to cater to the specific needs of the localized users. As it stands, UC Recruit has undergone two periods of rescaling—(1) from local unit to campus level; and (2) from campus level to multi-campus level, when UCSD was added—and is now undergoing a third rescaling, as it is deployed throughout the entire 10 campus

system. In all likelihood, the system would not have been built the way it was if it was designed at the beginning with an understanding that it would be deployed throughout the entire UC system. As this project unfolds, campus collaborators and UC administrators need to be sensitive to complexities of rescaling IT systems, and reexamine any artifacts that remain from its earlier evolution.

- ***UC Recruit needs to both allow campus customization and ensure uniformity of data collection.*** Given the importance of faculty recruiting to the campuses and their unique cultures, UC Recruit needs to allow campuses to customize communication with both faculty applicants and individuals who provide references to applicants. As it stands, the adopted language of the "Diversity Survey" and other electronic communications are not likely to satisfy the needs/preferences of all the local campuses. The system should accommodate customization of communications of this type. So, too, the current diversity survey is a highly stripped down variation of the range of possible types of applicant surveys. It collects race/ethnic data at the broadest level of aggregation (thus minimizing its utility), and allows respondents no possibility of supplying verbatim responses (or check-all-that-apply responses). Campuses should be able to customize the applicant survey, while still consistently collecting the necessary data to support the UC ADVANCE project and its data analysis goals. Lastly, the subsets of salient job title codes for hiring committee membership needs to be alignment with individual campuses' business practices. Some campuses include graduate students and other non-faculty on their hiring committees.

  Of course, this customization should not come at the expense of the Irvine campus or unduly undermine the effectiveness of UCOP's financial contribution to this effort. A costing model that is equitable to all will allow the campuses to determine how much they would be willing to pay to support various customizations options. *PeopleAdmin* (http://www.peopleadmin.com/), the most popular commercial product in higher education settings that performs similar functions to UC Recruit, allows for a high degree of customization. UC Recruit should offer similar customization.

- ***Data coming out of UC Recruit is not likely to include the total universe of faculty searches.*** As much as it would be ideal to be able to push a single button (one for the entire UC system, or even one for each campus) and have all of the necessary data on faculty searches to support UC ADVANCE dynamically populate an excel file or similar application, UC Recruit is not likely to ever include the entire universe of faculty searches. During the meeting, two specific cases of possible missing data from UC Recruit were referenced: (1) faculty hiring cases where search waivers are granted; and (2) specific departments that elect to use other systems (e.g., the

department of mathematics at UC Irvine?). UC Recruit is never likely to include the entire universe of faculty searches. On the campuses, mandatory search reports will have to be checked against data from UC Recruit to assure all cases are captured.

- ***We are looking in the black box of the faculty search process in an attempt to better understand broader time-series data trends in regard to faculty hiring, particularly in regard to women and URM in the sciences.*** As Provost Pitts made clear, the overarching goal of this larger effort is to better understand why UC faculty hiring patterns in regard to women and URM in the sciences (and probably the University as a whole) seem to change so slowly, particularly given our availability pool estimates. Accordingly, this effort is attempting to look in the black box of the faculty hiring search process to better understand the underlying dynamics at work. As much as UC Recruit and ancillary efforts can be designed to support this ultimate goal, the higher the likelihood that our eventual summative evaluations of the UC ADVANCE project will be favorable.

  There are four important sub-points to make in this regard:

    (1) From a pragmatic perspective, *UC Recruit cannot meet every imaginable need* of local campus administrators/departments in regard to case tracking and other business-related practices. It is expressly designed to support faculty applications, and the survey of faculty applicants regarding their demographic characteristics and other related issues. *Other ancillary systems* and efforts *should be developed and modified* to support the ultimate goals of UC ADVANCE: e.g., identifying effective search practices, etc.

    (2) Unless we *collect data on how searches are conducted* in detail, from the framing of positions to the eventual acceptance or decline of offers; we are unlikely to learn much from examining the data coming out of UC Recruit. Ultimately, I believe we are trying to find empirical evidence to support different types of approaches to faculty hiring, and their net positive impact on hiring diverse faculty, particularly in STEM. For one such example of this type of approach, please see Slide 10 and the discussion that follows in this capacity survey: http://ucfamilyedge.berkeley.edu/IARU%20Capacity%20Survey.html.

    (3) Most national pool data drawn from NSF's Survey of Earned Doctorates (SED), administered by NORC, focuses on US Citizens and Permanent Residents (and only US PhD recipients). As was discussed at the meeting, *the globalization of faculty applicant pools* and the large number of internationals who apply to our positions *makes interpreting availability pool data* relative to faculty applicant

pool data *difficult*. Unless UC Recruit captures data on residency and location of PhD, these types of analysis may not be hugely useful. Since race/ethnic categories are understood in different ways in various global setting, this adds an additional complexity to how the Diversity Survey should be designed.

(4) *By electing to build our current analysis/approach upon* data collected specifically to fulfill our obligations as federal contractor in regard to EEOC and *Affirmative Action compliance, we may sacrifice some degree of flexibility in* regard to how we craft our *instruments and* the eventual *data* that we derive from them. Of course the great advantage to this approach is that most of the business practices are already in place to support this data collection effort.

- *Human Subjects related concerns are relevant.* Given the research focus of the UC PAID grant, the UCB Office for the Protection of Human Subjects (OPHS) has determined that we need to submit a protocol to them in regard to this project. Thus issues such as voluntary response and privacy concerns may be relevant. It is conceivable that the current approach to the Diversity Survey (and attempts to compel applicants to respond through clever design and visual site clues regarding application status) may come under review.

- *Electronic interfaces and hiring processes can be tricky and may have unintended consequences.* A couple of the features of the current structure of UC Recruit seem potentially problematic in regard to how members of search committees might use them. First, the potential sharing of comments by committee members in advance of all members reviewing the applications seems likely to lead to some degree of contamination in the evaluation of candidates, or perhaps even promote group think among reviewers. Comments should not be shared in advance of committee members' review of the actual job applications; thus reviewers should have the opportunity to evaluate independently applicants in advance of learning their peers' evaluation of various candidates. Second, the detailed tables on the race/ethnicity and gender of job finalists should not be shared with committee members in advance of the close of the hiring process. Since these cell counts are so low in these tables, the voluntary self-identification of the race/ethnicity and gender of individual applicants can be discerned in many if not most cases. This raises both potential legal and privacy concerns.

- *The timing of faculty searches can be confusing.* The timing of faculty searches can be surprisingly complex. Some searches begin, fail, and then begin again. So, too, some searches can begin with a single position, and then one or more candidates can be hired into one or more positions. Thus careful attention to timing issues and what

constitutes a single faculty search are important to consider. As with almost all business practices, one-to-many relationships can make data analysis unexpectedly complex.

- **A Final General Observation: The Relationship between Campus Best Hiring Practices and the Data Analysis Project Is Not Yet Clear.** The afternoon session on campus best hiring practices seemed more typical of these types of multi-university meetings focused on complex issues of this type (e.g., hiring and diversity-related concerns). During this session, each of the campuses provided a relatively brief summary of what they considered to be some of their "best practices." Absent from much of this conversation was reference to either existing literature that supports the designation of "best practices," or systematic empirical evidence in support of the referenced "best practices." In the long run, the summative analysis of this project will seek to examine how much of a difference the various grant-related activities make in regard to proposed goals of the project, particularly the focus on maximizing the hiring of women and URM into UC's faculty ranks in the sciences. Undoubtedly, this project will benefit from moving the conversation from generalized assertions of the possible efficacy of various practices (that frequently depend on intuitive appeal), to direct attempts to measure the efficacy of different interventions/approaches. Given the large amount of progress that was made in this first meeting, the first roundtable, expressly designed to focus on the faculty hiring process, is now well-positioned to continue to propel UC ADVANCE forward in taking on these challenging but important issues.

Excerpt from the Original Grant Proposal Regarding Formative Analysis of the *Recruitment Data Analysis Project, part of the NSF Funded* UC ADVANCE PAID, Meeting the California Challenge—Women and Under-represented Minority Faculty in STEM project.

6.1.1. Formative analysis. The assessment will involve an ongoing analysis and tracking of the implementation of the project goal of creating a common UC-wide recruitment data set that will enhance UC ability to recruit women to faculty ranks in the sciences, particularly URM women. Data templates, database design, and analysis of recruitment data will be assessed on a range of different issues, including methodological appropriateness, completeness and consistency of data, identification of possible barriers to campus participation, appropriate interpretation of data results, and long-term sustainability. Since an important goal of this project is to identify practices that increase the diversity of UC faculty in the sciences, the assessment will include a careful review of study instruments designed to solicit information regarding current departmental/unit hiring practices; and then the subsequent linking of this data to availability pool data and transition point data associated with the hiring process, from application, to interview, to offer, to acceptance of offer, including the role of start-up packages. The evaluator will work closely with the PI, the Steering Committee, and Director Litrownik to assure that the necessary data is collected to fulfill the project goals of creating a systematic UC data set that can be used to enhance diversity hiring practices in STEM.

APPENDIX B

April 11, 2012 Roundtable Agenda

Using Research and Data to Improve the Faculty Search Process in STEM Disciplines
UC ADVANCE PAID Roundtable 1
UC Berkeley Faculty Club, Heyns Room
Wednesday, April 11, 2012

Goals of the Roundtable: (1) to learn how academic leadership can support efforts to diversify the STEM faculty; (2) to learn about empirically-based research on search practices; (3) to examine and evaluate a list of search practices from the time of the specification of the position to choosing a short list and a finalist; (4) to create a research plan to gather empirically-based evidence of best practices to improve search outcomes throughout the UC system; and (5) to take the key elements of the discussion back to campuses.

9:30 - 9:45 a.m.	Coffee & tea service available
9:45 - 10:00 a.m.	**Welcome and goals for the day** *Susan Carlson,* Vice Provost, Academic Personnel, UCOP
10:00 - 11:00 a.m.	**Leadership and accountability:** **How can UC build a more diverse faculty?** *Linda Katehi,* Chancellor & Professor of Electrical & Computer Science and Women's & Gender Studies, UC Davis *Susan Desmond-Hellmann,* Chancellor & Arthur and Toni Rembe Rock Distinguished Professor, UC San Francisco *Lawrence Pitts,* Provost and Executive Vice President, UCOP Panel moderator: *Sally Marshall,* Vice Provost, Academic Affairs & Distinguished Professor, Division of Biomaterials and Bioengineering, UC San Francisco A panel of three UC leaders will discuss best ways to promote effective practices among other senior leaders on campus (i.e., deans and chairs, vice provost, etc), lessons learned from specific efforts, and keys to progress.
11:00 - 11:15 a.m.	Break
11:15 a.m. - 12:30 p.m.	**What scholars can tell us:** **Empirically-based research on search practices** *Kimberlee Shauman,* Associate Professor of Sociology, UC Davis *Catherine Albiston,* Professor of Law & Professor of Sociology, UC Berkeley *Leah Haimo,* Professor of Biology & Associate Dean of the Graduate Division, UC Riverside Panel moderator: *Renee Navarro,* Vice Chancellor of Diversity and Outreach & Professor of Anesthesia and Perioperative Care, UC San Francisco

Panel presentation from three members of the Scholars Advisory Board analyzing research on search practices. Panelists will cover representative research articles. This will be followed by a group discussion of implications for UC and gaps in the knowledge base.

12:30 - 1:30 p.m.	Lunch, Attendees will continue discussion over lunch

Concurrent meeting of UC ADVANCE PAID Steering Committee (Lauderback Room)

1:30 - 2:45 p.m.   **Search practices and UC faculty hiring**

Moderator: *Angelica Stacy,* Associate Vice Provost for the Faculty & Professor of Chemistry, UC Berkeley

This session will begin with a brief presentation of outcomes of UC searches from the data collected systemwide last year, and several data slides from Berkeley research examining the correlation between search practices and outcomes. Breakout groups will examine and evaluate a list of search practices from the time of the specification of the position to choosing a short list and a finalist.

2:45 - 3:00 p.m.   Break

3:00 - 4:00 p.m.   **Research proposal: Filling the gaps**

Moderator: *Maureen Stanton,* Vice Provost for Academic Affairs & Professor of Evolution and Ecology, UC Davis

This session will include a group discussion on what questions remain regarding the efficacy of search practices. This will lead to a research proposal for gathering system-wide data to correlate search practices with hiring outcomes. The goal is to gather empirically-based evidence of best practices to improve search outcomes throughout the UC system.

4:00 - 5:00 p.m.   Research Scholars Advisory Board meeting/conference call
                                    (Lauderback Room)

Roundtable 2:   **Wednesday, October 17, 2012, UC Irvine**
                                "Building Capacity for Institutional transformation in the 21st Century: Women of Color in STEM and SBS fields"

Roundtable 3:   April 2013, UC Riverside

Roundtable 4:   Fall 2013, UC San Diego

Roundtable 5:   Spring 2014, UC Davis

APPENDIX C

Taking the Conversation Back to Campus

Using research and data to improve the faculty search process in STEM disciplines:
Taking the conversation back to campus

A key goal of this roundtable is to build on today's conversation, both through collaborative projects designed during the day and through further efforts to engage each campus in the conversation. In the coming weeks, materials from the April 11, 2012 meeting will be available on the UC ADVANCE PAID website for easy access (http://www.ucop.edu/ucadvance/). The UC ADVANCE PAID Steering Committee encourages today's attendees to consider further participation in these issues as follows:

Continue the roundtable dialogue on faculty searches--with a focus on key research as well as possible training efforts--with key campus constituents:
- Search committee chairs for 2012-13
- Department chairs, deans and administrators in STEM disciplines
- Committee on Academic Personnel (CAP)
- Diversity committees and commissions

Plan best use of future roundtables and related meetings to advance campus goals:
- "Diversity Research Conference: Beyond Counting," UCLA, June 22, 2012
- "Building Capacity for Institutional Transformation in the 21st Century: Women of Color in STEM and SBS fields," UC ADVANCE PAID Roundtable 2, UC Irvine, October 17, 2012
- UC ADVANCE PAID Data Project: Year 2 seminar on data collection and analysis, UCOP, February 2013
- UC ADVANCE PAID Roundtable 3, "Cross Mentoring for URM STEM Faculty," UC Riverside, April 2013
- UC ADVANCE PAID Roundtable 4, "Evaluating and Rewarding contributions to Diversity in Hiring and Academic reviews," UC San Diego, Fall 2013
- UC ADVANCE PAID Roundtable 5, "Assessing Climate and Community: Particular Challenges for Hispanic/Latina STEM Faculty," UC Davis, Spring 2014

Contribute to the research being coordinated in conjunction with UC ADVANCE PAID:
- Contact PI Susan Carlson, susan.carlson@ucop.edu

Work with your Steering Committee representative in coordinating this conversation:

Angy Stacey, UCB	Juan Meza, UCM	Maria Herrera Sobek, UCSB
Mau Stanton, UCD	Yolanda Moses, UCR	Herbie Lee, UCSC
Doug Haynes, UCI	Jeanne Ferrante, UCSD	
Susan Drange Lee, UCLA	Sally Marshall, UCSF	

April 11, 2012

APPENDIX D

Logic Model for April 11, 2012 Roundtable

Logic Models for UC ADVANCE PAID Roundtable 1: *Using Research and Data to Improve the Faculty Search Process in STEM Disciplines, UC Berkeley Faculty Club, Wednesday, April 11, 2012*

Marc Goulden, April 2, 2012.

Intervention/ Roundtable Event	Activities (inputs)	Short-Term Outputs	Mid-Term Outputs	Long-Term Outputs (ultimate goal)
"The role of leadership in increasing the diversity of faculty"	Moderated discussion w. two Chancellors and UC Provost re. effective leadership and its impact on faculty diversity.	Enhanced understanding among roundtable participants of the role of leadership and what constitutes effective leadership in re. to faculty diversity.	Transmission of new awareness to campus environments, with increases in campus-level leadership effectiveness.	Highly effective UC leadership that helps increase the diversity of our faculty, spec. in regard to STEM.
"Empirically-based research on search practices"	Three members of the Scholars Advisory Board present selected findings from academic research on effective faculty search practices in re. to diversity-related issues.	Enhanced understanding among roundtable participants of the existing academic literature regarding what search practices are associated with increased diversity of faculty applicant pools and new appointments.	Transmission of new understanding regarding existing academic findings to local campuses and eventually to departmental search committees, faculty, and academic administrators.	Highly effective UC search practices informed by academic literature that helps increase the diversity of our faculty, spec. STEM.
"Search practices and UC faculty hiring"	A direct call to the importance of examining the correlation between search practices and outcomes. Groups will examine/evaluate a list of search practices.	Shared commitment to explore the association between search practices and faculty diversity, and to the development of a list of practices most appropriate to test for effectiveness.	Trial-testing of new research study on one or two "volunteer" campuses, informed by a UC system perspective, with deliberate coordination with other campuses which are potentially interested in adopting similar research instruments/approaches to empirically examining the efficacy of different promising search practices.	Highly efficacious UC search practices that are informed by a collective understanding of what works and supported by empirical data that we routinely collect and analyze and that ultimately helps increase the diversity of our faculty, spec. STEM.
"Research proposal: filling the gaps"	A discussion regarding a research proposal for gathering system-wide data to correlate search practices with hiring outcomes, with the focus on faculty diversity.	Shared commitment to trial-test a research study on one or two "volunteer" UC campuses to begin to develop the empirical data necessary to ascertain the efficacy of different search practices.		

Campus Baseline Assessment as Follow-Up to Roundtable 1

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UNIVERSITY OF CALIFORNIA

ADVANCE PAID Program

UC ADVANCE PAID, Roundtable 1 (April 11, 2012), Follow-Up Survey

As a member of the UC ADVANCE PAID Steering Committee and a point person for your campus, we would appreciate it if you would be willing to coordinate the responses of your campus to this follow-up survey regarding some of the issues raised at the first roundtable, "Using Research and Data to Improve the Faculty Search Process in STEM Disciplines." Please note: We understand that the responses of your campus to the below questions may be largely impressionistic. Our intention is to use the responses to this survey as a base-line for a more detailed assessment that will occur several years out from this initial event.

A. *Knowledge of the Research on Faculty Recruitment*

(1) On a scale of 0 to 10 (with 10 representing the highest possible degree of knowledge and 0 representing no knowledge about the area), how knowledgeable do you believe that most faculty hiring committees on your campus are in regard to major findings from the academic literature that examines the impact of different search practices on diversifying applicant pools and the hiring of diverse faculty candidates?

Please provide a rating, from 0 to 10: _____

If you would like *(optional)*, please provide us with any information that will help us better understand this particular rating:

(2) Have you identified any promising practices in regard to increasing the knowledge of faculty search committee members? If yes, what are they?

(3) Have you identified any possible impediments to increasing the knowledge of faculty search committee members? If yes, what are they?

(4) Any other comments about this issue?

B. *Campus Efforts to Engage in Education about the Faculty Search Process*

(1) On a scale of 0 to 10 (with 10 representing the highest possible degree of engagement and 0 representing no active engagement), to what extent is your campus currently engaged in examining/studying which faculty search practices are associated with diversifying your faculty applicant pools and hiring diverse faculty applicants?

Please provide a rating, from 0 to 10: _____

If you would like *(optional)*, please provide us with any information that will help us better understand this particular rating:

(2) Have you developed any promising methods for studying these issues? If yes, what are they and what have you discovered so far?

(3) Have you identified any possible impediments to achieving a better understanding of the effectiveness of different search practices on your campus? If yes, please describe the impediments:

(4) Any other comments regarding this issue?

C. *Current Search Practices*

(1) On a scale of 0 to 10 (with 10 representing the highest possible degree of implementation and 0 representing no implementation), to what extent do faculty search committees on your campus currently implement/use search practices that have been identified either by existing academic literature or campus studies to be effective at diversifying faculty hiring pools and hiring diverse faculty?

Please provide a rating, from 0 to 10: _____

If you would like *(optional)*, please provide us with any information that will help us better understand this particular rating:

(2) Have you identified effective ways to encourage search committees to implement these promising practices? If yes, what has been effective?

(3) Have you identified any possible impediments to implementing promising search practices? If yes, what are they?

(4) Any other comments about this issue?

D. *Role of Leadership in the Faculty Recruitment Process*

(1) Have you identified effective ways at engaging the multiple layers of campus leadership (e.g., chancellors, EVCs, deans, department chairs, search committee chairs, etc.) in diversifying faculty applicant pools and new faculty hires? If yes, what approaches have you used? Why do you think they have been successful?

(2) Any other comments about this issue?

E. *Contact Information*

(1) Please list the names, titles, and email addresses below of any individual who participated in developing the responses of your campus to this survey:

Thank you for your time! Your responses will help us throughout the course of this project and beyond.

Participant Evaluation Form, Roundtable 1

Evaluation Form

UNIVERSITY OF CALIFORNIA   ADVANCE PAID Program

April 11th Roundtable "Using Research and Data to Improve the Faculty Search Process in STEM Disciplines"

Type of position you hold. (check all that apply) ☐ **Administrator**   ☐ **Faculty**   ☐ **AA/EEO Director**

☐ **Staff**   ☐ **Diversity Officer**

1. How informative was the panel discussion #1, "Leadership and Accountability: How can UC build a more diverse faculty?"

☐ Excellent   ☐ Above Average   ☐ Average   ☐ Below Average   ☐ No opinion/Decline to state

Comments

2. How informative was the panel discussion #2, "What scholars can tell us: Empirically-based research on search practices"?

☐ Excellent   ☐ Above Average   ☐ Average   ☐ Below Average   ☐ No opinion/Decline to state

Comments

3. How informative was the first afternoon session, "Search practices and UC faculty hiring"?

☐ Excellent   ☐ Above Average   ☐ Average   ☐ Below Average   ☐ No opinion/Decline to state

Comments

4. How informative was the second afternoon session, "Research Proposal: filling the gaps"?

☐ Excellent ☐ Above Average ☐ Average ☐ Below Average ☐ No opinion/Decline to state

Comments

5. The information shared today will help in improving the faculty recruitment process on your campus.

☐ Strongly Agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐ No opinion/Decline to state

Comments

6. What is your overall opinion of today's Roundtable program?

☐ Excellent ☐ Above Average ☐ Average ☐ Below Average ☐ No opinion/Decline to state

Comments

Thank you for your participation in today's program!

APPENDIX G

Selected Articles from Research Scholars

What scholars can tell us: Empirically based research on search practices (4-11-12)

Kimberlee Shauman, Associate Professor of Sociology, UC Davis
Focus: Structural causes of inequities in STEM hiring and promising strategies for increasing diversity

Ceci, S. J., & Williams, W. M. (2011). Understanding current causes of women's underrepresentation in science. *Proceedings of the National Academy of Sciences of the USA*, 108, 3157-3162.

McDonald, S. (2011). "What's in the 'old boys' network? Accessing social capital in gendered and racialized networks?" *Social Networks,* 33, 317-330.

Schiebinger, L., Henderson, A. D., & Gilmartin, S. K. (2008). *Dual-career academic couples: What universities need to know.* Michelle R. Cayman Institute for Gender Research, Stanford University. www.stanford.edu/group/gender/ResearchPrograms/DualCareer/DualCareerFinal.pdf.

Sears, A. W. (2003). Image problems deplete the number of women in academic applicant pools. *Journal of Women and Minorities in Science and Engineering*, 9, 169-81.

Smith, D. G., Turner, C. S., Osei-Kofi, N. & Richards, S. (2004). Interrupting the usual: Successful strategies for hiring diverse faculty. *Journal of Higher Education,* 75, 133-160.

Sturm, S. (2007). Gender equity as institutional transformation: The pivotal role of "organizational catalysts." In A. J. Stewart, J. E. Malley, & D. LaVague-Manty (Eds), *Transforming science and engineering: Advancing academic women* (262-280). Ann Arbor: University of Michigan Press.

Catherine Albiston, Professor of Law & Professor of Sociology, UC Berkeley
Focus: Dynamics of bias - bias against mothers, bias based on how the job ad is written, or how the evaluation process is structured.

Correll, S.J., Benard, S. & Paik, I. (2007). Getting a job: Is there a motherhood penalty? *The American Journal of Sociology,* 112, 1297-1338.

Gauscher, D, Friesen, J. & Kay, A. C. (2011) Evidence that gendered wording in job advertisements exists and sustains gender inequality. *Journal of Personality and Social Psychology,* 101, 109-128.

Goldin, C. & Rouse, C. (2000) Orchestrating impartiality: The impact of "blind" auditions on female musicians. *The American Economic Review*, 90, 715-741.

Uhlmann, E. L., & Cohen , G. L. (2005) Constructed criteria: Redefining merit to justify discrimination. *Psychological Science*, 16, 474-480.

Leah Haimo, Professor of Biology and Associate Dean of the Graduate Division, UC Riverside
Focus: Is there evidence for bias in the selection/appointment process?

Biernat, M, & Fuegen, K. (2001). Shifting standards and the evaluation of competence: Complexity in gender-based judgment and decision making. *Journal of Social Issues*, 57, 707-724.

Bilimoria, D., & Buch, K. K. (2010). The search is on: Engendering faculty diversity through moiré effective search and recruitment. *Change: The Magazine of Higher Learning,* 42, 27-32.

Budden, A. E., Tregenza, T., Aarssen, L., Koricheva, J., Leimu, R., & Lortie, C. J. (2008). Double-Blind review favours increased representation of female authors. *Trends in Ecology and Evolution,* 2, 4-6.

Carnes, M., Geller, S., Fine, E., Sheridan, J., & Handelsman, J. (2005). NIH director's pioneer awards: Could the selection process be biased against women? *Journal of Women's Health,* 14, 684-691.

Glass, C. & Minnotte, K. L. (2010). Recruiting and hiring women in STEM fields. *Journal of Diversity in Higher Education,* 3, 218-229.

Steinpreis, R. E., Anders, L. A. & Ritzke, D. (1999). The impact of gender on the review of the curricula vitae of job applicants and tenure candidates: A national empirical study. *Sex Roles,* 41, 509-528.

Full Bibliography from Research Scholars

The Faculty Search Process: A Bibliography of Current Research

Note: The citations have been grouped according to different stages or particular issues in the hiring process. Some citations may be listed under more than one section.

Recruitment. *This section includes research relevant to assembling the initial applicant pool, including the importance of social and professional networks, how to frame recruitment materials, and the placement of recruitment materials.*

Barnett, E., Gibson, M., & Black, P. (2003). Proactive steps to successfully recruit, retain, and mentor minority educators: Issues in Education. *Journal of Early Education and Family Review*, *10*, 18-28.

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Chubin, D. E., May, G. S., & Babco, E. L. (2005). Diversifying the engineering workforce. *Journal of Engineering Education*, January, 73-86.

Committee on Gender Differences in the Careers of Science, Engineering, and Mathematics Faculty, Committee on Women in Science, Engineering, and Medicine, Committee on National Statistics, & National Research Council. (2010). *Gender differences at critical transitions in the careers of science, engineering, and mathematics faculty.* Washington, DC: National Academies Press.

Delgado-Romero, E. A., Manlove, A. N., Manlove, J.D., & Hernandez, C. A. (2007). Controversial issues in the recruitment and retention of Latino/a faculty. *Journal of Hispanic Higher Education*, *6*, 34-51.

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Realff, M. L., Colatrella, C., & Fox, M. F. (2007). Interconnected networks for advancement in science and engineering: Theory, practices, and implementation. In A. J. Stewart, J.E. Malley, & D. LaVaque-Manty (Eds.), *Transforming science and engineering: Advancing academic women* (62-78). Ann Arbor, MI: University of Michigan Press.

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Understanding Diversity/Diversity Initiatives. *This section includes research relevant to understanding the concept of diversity itself and certain diversity initiatives, including fostering an inclusive climate and peer-education strategies.*

Alex-Assensoh, Y. M. (2003). Race in the academy: Moving beyond diversity and toward the incorporation of faculty of color in predominantly white colleges and universities. *Journal of Black Studies*, *34*, 5-11.

Kayes, P. E. (2006). New paradigms for diversifying faculty and staff in higher education: Uncovering cultural biases in the search and hiring process. *Multicultural Education*, *14*, 65-69.

Price, E. G., Gozu, A., Kern, D. E., Power, N. R., Wand, G. S., Golden, S., & Cooper L. A. (2005). The role of cultural diversity climate in recruitment, promotion, and retention of faculty in academic medicine. *Journal of General Internal Medicine*, *20*, 565-571.

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Perceptions of Job Applicants—Initial Screening & Ultimate Decisions. *This section includes research relevant to how and under what conditions social identities can impact the way in which candidates are perceived and evaluated during the hiring process, including perceptions of competence, commitment, and job suitability.*

Allen, T. D., Eby, L. T., Douthitt, S. S., & Noble, C. L. (2002). Applicant gender and family structure: Effects on perceived relocation commitment and spouse resistance. *Sex Roles*. *47*, 543-552.

Bertrand, M., & Mullainathan, S. (2004). Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination. *The American Economic Review*, *94*, 991-1013.

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Valian, V. (1999). *Why so slow? The advancement of women*. Cambridge: MIT Press.

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The Search Committee. *This section includes research relevant to the composition of the search committee and its role in the hiring process.*

Committee on Gender Differences in the Careers of Science, Engineering, and Mathematics Faculty, Committee on Women in Science, Engineering, and Medicine, Committee on National Statistics, & National Research Council. (2010). *Gender differences at critical transitions in the careers of science, engineering, and mathematics faculty.* Washington, DC: National Academies Press.

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Grant no. HRD 1106712
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Glass, C., & Minnotte, K. L. (2010). Recruiting and hiring women in STEM fields. *Journal of Diversity in Higher Education*, *3*, 218-229.

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Turner, C.S.V. (2002) *Diversifying the faculty: A guidebook for search committees.* Washington, DC: American Association of Colleges and Universities.

The Review/Selection Process. *This section includes research relevant to how the review process itself is structured, including alternatives to a traditional search process (e.g., dual hires, interdisciplinary hiring, & targeted hires).*

Budden, A. E., Tregenza, T., Aarssen, L., Koricheva, J., Leimu, R., & Lortie, C. J. (2008). Double-Blind review favours increased representation of female authors. *Trends in Ecology and Evolution*, *23*, 4-6.

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Webb, T. J., O'Hara, B., & Freckleton, R. P. (2008). Does double-blind review benefit female authors? *Trends in Ecology and Evolution, 23*, 351-353.

Putting Together an Offer. *This section includes research relevant to issues around constructing and negotiating faculty offers.*

Babcock, L., Gelfand, M., Small, D., & Stayn, H. (2006). Gender differences in the propensity to initiate negotiations. In D. D. Cremer, M. Zeelenberg, & J. K. Murnighan (Eds.), *Social psychology and economics* (239-259). Mahwah, HJ: Lawrence Erlbaum Associates.

Pfirman, S. L., Collins, J. P., Lowes, S., & Michaels, A. F. (2005). Collaborative learning efforts: Promoting interdisciplinary scholars. *Chronicle of Higher Education*, *51*, B15-B16.

Schiebinger, L., Henderson, A. D., & Gilmartin. S. K. (2008). *Dual-career academic couples: What universities need to know.* Michelle R. Cayman Institute for Gender Research, Stanford University. www.stanford.edu/group/gender/ResearchPrograms/DualCareer/DualCareerFinal.pdf.

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Turner, C.S.V. (2002) *Diversifying the faculty: A guidebook for search committees.* Washington, DC: American Association of Colleges and Universities.

Institutional Policies. *This section includes research evaluating how institutional policies (e.g., family-friendly programs) and job expectations can either attract or detract certain candidates from applying to academic positions and from being successful once in those positions.*

Ceci, S. J., & Williams, W. M. (2011). Understanding current causes of women's underrepresentation in science. *Proceedings of the National Academy of Sciences of the USA*, *108*, 3157-3162.

Olsen, D., Maple, S. A., & Stage,F. K. (1995). Women and minority faculty job satisfaction: Professional role interests, professional satisfactions, and institutional fit. *The Journal of Higher Education*, *66*, 267-293.

Sears, A. W. (2003). Image problems deplete the number of women in academic applicant pools*. Journal of Women and Minorities in Science and Engineering, 9*, 169-81.

Committee on Gender Differences in the Careers of Science, Engineering, and Mathematics Faculty, Committee on Women in Science, Engineering, and Medicine, Committee on National Statistics, & National Research Council. (2010). *Gender differences at critical transitions in the careers of science, engineering, and mathematics faculty.* Washington, DC: National Academies Press.

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Sturm, S. (2007). Gender equity as institutional transformation: The pivotal role of "organizational catalysts." In A. J. Stewart, J. E. Malley, & D. LaVague-Manty (Eds.), *Transforming science and engineering: Advancing academic women* (262-280). Ann Arbor, MI: University of Michigan Press.

Williams, J. C. (2000). How the tenure track discriminates against women. *Chronicle of Higher Education*, October 27.

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April 11, 2012