

Project Title: UC ADVANCE PAID: Meeting the California Challenge—
Women and Under-represented Minority Faculty in STEM

Duration: July 2011 to June 2014

1.0 Context and data. The University of California (UC) is a powerful academic system of 10 research campuses that has set a national standard for intellectual innovation, comprehensive faculty policy, and shared governance. It prioritizes diversity and access among its student body and produces more PhDs than any other US university. Increasing the diversity of the faculty has long been a goal. A 2002 “President’s Summit on Faculty Gender Equity,” a 2006 President’s “Taskforce on Faculty Diversity,” a 2007 “UC Diverse Faculty Work Team Report,” and a 2008 “Report on Faculty Diversity in the Health Sciences” document the University’s recent commitment. Individual campuses have embraced the challenge with interventions designed to increase diversity, efforts ranging from equity advisors to faculty satisfaction surveys, from diversity training for administrators to childcare initiatives (prior and current UC ADVANCE programs will be detailed below). The University-wide faculty policy manual was recently amended to recognize faculty contributions to diversity goals as a part of formal review. Yet despite such model efforts, UC continues to see low numbers of women and under-represented minority (URM) faculty in STEM disciplines. Our slow progress, of course, resembles that at many of our peer campuses nationally, and is clearly outlined in recent national studies (see “Preparing the Next Generation of STEM Innovators” [2010], “Women of Color in Science, Technology, Engineering, and Mathematics (STEM)” [2009], and *Beyond Bias and Barriers* [2006]). The “California Challenge” is to bring UC faculty numbers closer to the diverse population of our state and lead national progress in such efforts. UC ADVANCE PAID will leverage an established 10-campus structure—with strong networks and rich data sources—to enable our campuses to recruit, retain, and advance more women and URM women faculty in STEM.

1.1. UC data on women and URM STEM faculty. UC has over 9600 ladder-rank faculty, with over 3700 in STEM disciplines (this excludes Health Sciences faculty since headcounts are collected differently). Women are 18.4% of the STEM faculty, and female URM (African-American, Hispanic/Latina, American Indian/Alaskan Native, URM) total 1.1%. These numbers place UC below the national availability in all categories. For example, of tenured STEM women, our 15.4% of the population is below the 17.9% national availability. Of non-tenured URM STEM women, our 3% is below the 3.8% availability (see Table 1). Numbers of African-American, Hispanic/Latina, and American Indian/Alaskan Native women STEM faculty (both tenured and non-tenured) are very low (8, 30, and 4 respectively).

Table 1.**2009 women and URM women in STEM, tenured and non-tenured**

	<i>Number</i>			<i>Percentage</i>		<i>Availabilities</i>	
	<u>TOTAL</u>	<u>Women</u>	<u>URM</u>	<u>Women</u>	<u>URM</u>	<u>Women</u>	<u>URM</u>
			<u>Women</u>		<u>Women</u>		<u>Women</u>
Tenured	3,046	469	22	15.4%	0.7%	17.9%	2.5%
Non-Tenured	659	211	20	32.0%	3.0%	37.0%	3.8%
Total	3,705	680	42	18.4%	1.1%	-	-

Availabilities are based on national doctoral degree recipient data from the Survey of Earned Doctorates; tenured (1989-2003 recipients), non-tenured (2004-2008 recipients). URM refers to underrepresented minorities (African-American, Hispanic/Latina, and American Indian/Alaskan Native).

Although UC, like most public universities, has curtailed hiring in recent years, we have made small advances in increasing the diversity of STEM faculty. Over 1800 faculty have been hired into STEM faculty positions from 1999 to 2009, including 22.6% women and 1.4% URM women. In spite of enlightened recruitment practices in place on campuses, these hiring percentages remain, in the aggregate, below the diversity of the available pool, for both tenured and non-tenured hires (see Table 2).

Table 2.**New hires, 1999-00 to 2008-09 women and URM women in STEM, tenured and non-tenured**

	<i>Number</i>			<i>Percentage</i>		<i>Availabilities</i>	
	<u>TOTAL</u>	<u>Women</u>	<u>URM</u>	<u>Women</u>	<u>URM</u>	<u>Women</u>	<u>URM</u>
			<u>Women</u>		<u>Women</u>		<u>Women</u>
Tenured	609	96	2	15.8%	0.3%	17.9%	2.5%
Non-Tenured	1,239	321	23	25.9%	1.9%	37.0%	3.8%
Total	1,848	417	25	22.6%	1.4%	-	-

While these recruitment challenges are clear, the University has been able to stabilize its diverse STEM population once women are hired. Data on faculty separations from 1999 to 2009 document that women and URM women are more likely than men to stay; in other words, women are leaving the university in percentages below their representation on the faculty (only 13.2% of separations in STEM are women while 18.4% of the STEM faculty are women). See Table 3.

Table 3.

Separations, 1999-00 to 2008-09 women and URM women in STEM, tenured and non-tenured

	<i>Number</i>			<i>Percentage</i>	
	<u>TOTAL</u>	<u>Women</u>	<u>URM Women</u>	<u>Women</u>	<u>URM Women</u>
Tenured	877	92	4	10.5%	0.5%
Non-Tenured	134	41	3	30.6%	2.2%
Total	1,011	133	7	13.2%	0.7%

Thus, while retention of women in STEM continues to be a priority and is addressed in our second initiative, our focus in the first initiative (as well as the second) is on recruitment where the need is most urgent. UC hired 29% of its current faculty over the last five years (2700 women and men hired overall), and over the next five years we have an important opportunity to hire a more diverse STEM faculty. This opportunity to replenish the faculty includes possible replacements for over 400 STEM faculty who are above traditional retirement age.

1.2 UC engagement in issues of faculty diversity. Increasing the diversity of the faculty at UC has long been a goal. While UC shares with other research universities the challenge of recruiting diverse faculty, it has a strong history of efforts to deal directly with faculty demographics. In 2002, then President Atkinson presided over the President’s Summit on Faculty Gender Equity, and then UC Santa Cruz Chancellor MRC Greenwood challenged the UC system to do a better job of hiring and retaining women faculty, outlining goals that have continued to guide system planning: increasing hiring in relation to available pools, improving campus climate, and building diverse leadership. With a 2006 award from the Alfred P. Sloan Foundation to UC Berkeley and UC Davis, these two campuses were able to be leaders in formulating and implementing practices to support family friendly policies and practices. Strong policies (active service-modified duties, stopping the tenure clock, part-time appointments, parental and family leave, childcare and housing assistance) were developed and publicized, and survey data has recorded improvements in campus culture. For example, UC Berkeley recorded gains in use of and satisfaction with family responsive policies and has seen an increase in the number of children among female assistant professors. UC Davis piloted programs to support modified duties for a range of childcare situations and designed a unique network of Family-Friendly Faculty Work Life Advisors.

A 2005-2006 President’s Taskforce on Faculty Diversity was convened by then President Dynes. The Taskforce conducted a comprehensive program review and an in-depth analysis of demographic data, culminating in a President’s Summit on Faculty Diversity. Its reports included a sub-report on “The Representation of Minorities Among Regular Rank Faculty” and its recommendations called for strong leadership, integration of diversity goals into academic planning, accountability, and appropriate

resource allocation (the Taskforce included four of the members of UC ADVANCE PAID's proposed Steering Committee). Such taskforces made recommendations in line with the best advice of national experts (see Moody, Turner). A follow-up Regents Taskforce in 2007 led to a new California Diversity Statement.

The Academic Senate (the governing body for faculty on all 10 campuses) has a long interest in issues of faculty diversity, with consistently committed leadership and an influential standing committee, the University Committee on Affirmative Action and Diversity (UCAAD). Senate engagement led to recent policy changes that now require academic administrators to be evaluated on their demonstrated work to improve climate and diversity.

And finally, President Yudof and the UC Regents have instituted annual Diversity Accountability reports, beginning in 2009, with faculty issues prominently under review. While each campus has its own set of programs to enhance faculty diversity, two multi-campus efforts stand out: The UC President's Postdoctoral Fellowship (with corollary Chancellors' Fellowships at UC Berkeley and UC Riverside) and participation in the California Universities Consortium (CUC), with a key goal of placing diverse graduate students and postdoctoral fellows in California universities.

1.3 Prior UC ADVANCE awards. This UC ADVANCE PAID proposal continues a decade-long partnership with the NSF ADVANCE Program to effect enduring faculty equity and diversity in STEM fields. Since 2001-2002 NSF has awarded two program grants to individual campuses and a third to a campus consortium: an Institutional Transformation (IT) award to the Irvine campus; a Partnership for Adaptation, Implementation and Dissemination (PAID) award to southern California campuses (Irvine, Los Angeles, Riverside, San Diego and Santa Barbara; Berkeley, Davis, and Merced also participated); and, most recently, a Catalyst GROW-STEM award to UC Merced. In funding campus innovation, these awards have augmented the capacity of the entire system by providing models for advancing equity in faculty recruitment and retention, enhancing work-life balance and climate, and fostering diversity in school and campus leadership.

1.3.1. UC Irvine IT and multi-campus PAID. Underlying the UC Irvine Equity Advisor model and the campus consortium Leading through Diversity (PAID) program are three essential components to institutional transformation: data-driven analysis, expanding transparency in academic personnel processes, and direct engagement from faculty, department, school, and campus academic leaders to be change agents.

The school-based Equity Advisor program was the centerpiece of UC Irvine's IT strategy (2001-2008) and remains fully funded by the campus. Animating this program is peer-to-peer engagement. This approach facilitates customized interventions based on the unique characteristics of fields/disciplines—because one size does not fit all. Through its equity advisors, it explicitly equates equity and excellence through faculty leaders who have established research reputations and can model excellence through dedication to equity and diversity. Their formal duties include sharing best practices with search committees and monitoring recruitments, coordinating career advising, serving as a confidential resource for faculty, and advising the dean and campus administration about salary and workload inequities. Their efforts

contributed to significant increases in the percentage of women faculty among new STEM hires as well as a steep decline in gender differences in rates of promotion. UC Berkeley and UC San Diego adopted the departmental and divisional Equity Advisor model at their own campuses.

Complementing peer-to-peer faculty engagement is the promotion of a culture of accountability for institutional transformation among academic leaders. Expanding competencies animates the Leadership through Diversity program. A PAID award (2007-2010) funded the regional UC Partnership for Equity and Diversity to develop and mount this program at annual retreats for chairs of STEM departments and symposia for STEM school deans and campus administrators. The program curriculum was designed to equip department, school, and campus leaders to be more responsive to broadening participation among under-represented populations, including URMs and women. By situating local initiatives in a regional and national context, faculty leaders were encouraged to cooperate in sustaining an inclusive faculty culture. These initiatives range from understanding implicit bias, to de-stigmatizing family accommodation policies, to promoting a healthy department culture. Even as the award comes to a close, the Leading through Diversity program has established a network of campus communication and relations, and a resource for continuing institutional transformation.

1.3.2. UC Merced's ADVANCE /IT Catalyst GROW-STEM award (2010-12). The UC Merced initiative, which began September 1, 2010, includes three aims: 1) collect baseline data to inform the status of women in STEM fields at UC Merced, 2) review policies, procedures and best practices around the country, and 3) develop a data-driven plan for initiatives for institutional transformation.

UC Merced will utilize the expertise of key Merced faculty in data collection and analysis to identify and determine the salient data pieces necessary to pinpoint roadblocks to the successful recruitment, retention and advancement of women and URMs in STEM fields. The collection of data on this young UC campus will be designed to capture changes during the coming decade of growth. UC Merced's findings will inform the proposed UC ADVANCE PAID program with recent climate survey data and the development of faculty workload assessments.

UC Merced's second aim is to collaborate with other campuses to identify best practices in the participation and advancement of women faculty in STEM. The California Challenge Roundtables in the UC ADVANCE PAID proposal will provide system-wide discussions and augment UC Merced's partnerships with other ADVANCE programs around the country.

1.3.3. System-wide participation in ADVANCE. The system-wide significance of these prior ADVANCE programs has been underscored by the involvement of UC System-wide Provosts Robert Grey and Larry Pitts (current Provost), this in addition to the participation of Executive Vice Chancellors/Provosts, and Deans. The two initiatives described in section 2 below capitalize on the particular innovations of the work at Irvine and the southern California consortium and in upcoming work at Merced. We felt it was essential to extend those successes and not to stray to other possible initiatives.

2.0 Project description. UC ADVANCE PAID will consist of two initiatives that take advantage of the unique 10-campus UC structure and that utilize the foundational efforts of prior UC ADVANCE programs and diversity initiatives.

2.1 Recruitment Data Analysis Project. Many, if not most, ADVANCE IT programs have major initiatives focused on faculty recruitment (e.g. see UC Irvine, Case Western, Michigan, Rice, UNC-Charlotte). Many PAID programs have built on these efforts. The vast majority of these programs (both IT and PAID) focus on the recruitment process: implicit bias training, search committee and chair training, campus visits, and outreach. A host of best practices has developed out of these ADVANCE programs, and many of these best practices are established on the 10 UC campuses, including some we have initiated. The Recruitment Data Analysis Project seeks to augment such practices by taking advantage of our 10-campus data protocols, developing a common data bank of search information, and analyzing the compiled data. While data on faculty are regularly compiled system-wide by the Office of the President, UC has never gathered or analyzed comprehensive search data. With new electronic recruitment systems now in place or in development on most of our campuses, we have our first opportunity to gain access to this valuable information.

The purpose of the project is to analyze search activity at key stages to understand more about why women and URMs hired continues to lag PhD availability in the natural and behavioral sciences as well as engineering and computer and information science (see section 1.1). The challenge for the 10-campus system is not one of supply. At a time when women of color are outpacing their male counterparts at critical stages of educational achievements, i.e. secondary and college, they remain under-represented in STEM graduate programs and under-utilized in expanding our national science capacity (Nelson, 2005 and 2007). Nor is the challenge one of institutional commitment, as noted in sections 1.2 and 1.3. UC campuses have piloted and institutionalized search interventions that are designed to broaden participation among under-represented populations: central allocations of FTE to support diversity hires, diversity among search committee membership, inclusive language in position advertisements, and recruitment packages that are tailored to meet personal as well as academic needs of the candidates. While these interventions have yielded steady though small increases in women and URM faculty hired, there is still considerable room for improvement. Indeed, as noted in section 1.1, the dearth of URM women in STEM departments presents a great challenge. At a time when women of color are outpacing their male counterparts at critical stages of educational achievement, i.e. secondary, undergraduate, and graduate education, they remain absent in the vast majority of natural science departments at UC and are under-represented even in the behavioral sciences where their availability is greatest.

A study based on a common set of search data from 10 campuses provides an unparalleled opportunity to equip UC for the next phase of institutional transformation. Scale matters in seeking reliable sample data; over the last five years, the 10 campuses have hired an average of 190 new STEM faculty annually (and even with some slowing in the pace of hiring, upcoming retirements will ensure continued searches). This scale permits the compilation of data on large numbers of searches relatively quickly and the opportunity to track applicant pool characteristics (gender, race, ethnicity) in relation to availability; we will have the chance to evaluate patterns in departmental recommendations for short-listed candidates and hires. The variety of campuses in the system (AAU campuses, campus size from 4000 to 30,000 students, Hispanic serving institutions, established and new campuses) also affords a chance to

measure the potential role of campus culture and priorities in search processes and outcomes. Given the confidential nature of search data, in particular candidate self-identification of gender, race, and ethnicity, our 10 campus/one system structure allows us to aggregate data in a way not possible on 10 unaffiliated campuses. The data to be collected is outlined in Table 4.

Table 4. Faculty search data template information

Reporting periods, definitions, outcomes	
Time frames	Report all searches active during the academic year, whether or not an appointment is made
Hiring department and school/college	Entity where FTE(s) were allocated; in a joint department search, the lead department
Initial search allocation	Was this a newly allocated position or was it a re-listed unfilled position?
Position pool population	Academic Senate positions (professorial series, acting professor-senate, lecturers with security of employment)
Position description breadth	Was this an open or “niche” position?
Rank of position	Full, associate, assistant, LSOE, PSOE (to be reported for both search/job listing and hire, if different)
Search status	Filled, continuing (unfilled), or aborted
Short list	Divided into the following classifications: 1) met minimum qualifications but not interviewed, 2) met minimum qualifications and interviewed

Note: Gender and race/ethnicity will be reported using these classifications: Gender (male, female) and Race/Ethnicity (international, African American [black], American Indian/Alaskan Native, Hispanic/Latino(a), Asian/Pacific Islander, White, Other/Unknown)

Jim Litrownik will serve as the Director of the Recruitment Data Analysis Project. He has been in charge of Office of the President system-wide faculty data collection and analysis for over 25 years, and he works, as well, with national faculty and faculty-availability databases (SED [Survey of Earned Doctorates], AAUP, AAU, etc.). He will work with analysts on all 10 campuses in designing data collection and analysis. The group will be convened at the Office of the President during year one and regularly by phone during the life of the initiative. Since each campus collects recruitment data through different offices, he will work as well with various regularly convened groups who have a hand in collecting and assessing faculty recruitment data: Vice Provosts for Academic Personnel, Academic Personnel Directors, and Academic Diversity Officers. In addition, the first Roundtable (see below) will bring together STEM administrators and faculty with those stewarding the recruitment data; this is a group not convened previously.

The goals of this 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 URM in STEM (this will include analysis of this information in the context of pool availability, using UC's sophisticated and long-term collection of availability data), and 3) to implement recruitment practices that overcome such roadblocks.

2.2 California Challenge Roundtables. The University of California regularly convenes its faculty, administrators, and staff to maintain excellence and by-pass the constraints of single-campus solutions. UC ADVANCE PAID will extend this practice by bringing faculty and administrators from 10 campuses together biennially for Roundtable discussions that draw from individual campus expertise in STEM faculty recruitment and retention. Roundtables will include 40-50 UC attendees for a one-day meeting (avoiding overnight costs), each of five biennial meetings to be held at a different campus. The year one Roundtable "theme" of "Data Development in Recruitment" will dovetail with the first year of the Recruitment Data project. Four later Roundtables will have themes that allow UC to enhance prior and ongoing ADVANCE projects as well as other campus-based diversity initiatives and successes.

Several PAID and IT grantees have undertaken similar efforts to build multi-campus interaction (Oklahoma, Iowa State, Purdue). The design of the California Challenge Roundtables will be unique in two ways: 1) post-meeting follow-up will be more effective since the 10 campuses already have regular interactions, and 2) each Roundtable will be based, in part, on relevant data from all campuses.

For each Roundtable, the host campus will arrange for a keynote speaker as a subject matter expert on the topic covered. The speakers will be drawn from higher education, business, and industry (as appropriate) and will bring a national or regional perspective to the issue. The keynote speaker will set the tone for the Roundtable and speak for approximately the first 30-45 minutes of the session, followed by discussion by attendees on their experiences/strategies (successful and unsuccessful) related to the topic. The Project and Events Manager will put together proceedings as follow-up to be shared with UC faculty and administrators as well as participants.

Roundtable 1: Data development in recruitment (Hosts: UC Berkeley and UC San Francisco)

This first Roundtable will initiate a dialogue about ways to capture and access data from faculty searches in an era of electronic search processing. A key goal in this session will be to gain agreement among the campuses on format for collection of data and on the data system used, likely web-based.

Roundtable 2: Building capacity for institutional transformation in the twenty-first century (Host: UC Irvine)

This Roundtable will focus on women of color in STEM fields in order to coordinate campus and system-wide efforts to broaden participation. The keynote speaker will present data on the participation of women of color in STEM fields over time in the US, to be followed by a moderated discussion of barriers and hurdles at critical stages in careers in academic science (PhD completion, postdoctoral participation, recruitment and retention, advancement, and leadership).

Roundtable 3: Cross-campus mentoring for URM STEM faculty (Host: UC Riverside)

This Roundtable will discuss strategies and models for mentoring that have been shown to be effective for URM STEM faculty. UC Riverside's work in this area, along with the efforts made through a previous NSF/PAID grant awarded to five of the southern UC campuses, will add to the effectiveness of this session.

Roundtable 4: Evaluating and rewarding contributions to diversity in hiring and academic reviews (Host: UC San Diego)

UC San Diego will discuss the use of "Contributions to Diversity" as one of the criterion for applicants for their faculty positions; and all campuses will share their experiences, evaluation, and best practices in evaluating the "Contributions to Diversity" criterion in the academic review process. A panel of current or past chairs of the Committee on Academic Personnel from different UC campuses will share their views on the use of this criterion, and attendee breakout groups will consider case studies developed with the Assistant Provost, Academic Affairs – Office of Faculty Equity (UC Berkeley). The proposed outcome will be more precise vocabulary and language to frame evaluations, as well as possible UC-wide adoption of innovative practices that are working on individual campuses.

Roundtable 5: Assessing climate and community: particular challenges for Hispanic/Latina STEM faculty (Host: UC Davis)

UC Davis will discuss results from a survey of their faculty focused on campus climate and community issues. Of particular interest will be the challenges that Hispanic/Latina faculty perceive impact their success as well as actual "success" data. Attendees from all campuses will discuss the challenges their Hispanic/Latina faculty have faced and share strategies that have worked (or not) to deal with the challenges.

Host campuses will offer significant support for the Roundtables, including meals and local coordination. While our requested budget includes airfare costs for Northern California participants travelling to the south and Southern California participants travelling to the north, campuses have agreed to cover mileage costs for their participants.

Goals of the California Challenge Roundtable initiative are 1) to build a stronger cross-campus community, combining forces to recruit and retain more women overall and URM women in particular in STEM, 2) to establish STEM recruitment and retention as a standard part of University diversity conversations 3) to follow-up on Roundtables with new campus initiatives or practices.

2.3 Connecting to existing networks. In addition to the Roundtables, UC ADVANCE PAID will take project issues and findings to various existing committees and councils at UC. The Academic Senate and its University Committee on Affirmative Action and Diversity (UCAAD) and University Committee on Academic Personnel (UCAP) will receive regular reports on the project, and the chairs of these two committees will sit on the Steering Committee. Annual meetings of the Deans of Natural and Biological Sciences and of Deans of Engineering will include agenda items based on issues and findings in the

initiatives. Dr. Lawrence Pitts, Provost of the UC system, will ensure that Executive Vice Chancellors/Provosts discuss findings at their regular meetings.

3.0. Commitment and sustainability. For the duration of NSF funding (July 2011 to June 2014) significant support will be offered from each of the 10 campuses: time and personnel to undertake the Recruitment Data Analysis Project efforts on each campus (this will involve more than one office on most campuses), commitment of the Steering Committee members to coordinate efforts on campus, and mileage costs for travel in the region. In addition, five of the campuses will support a Roundtable, providing planning and logistical support as well as meals for the single-day events. The UC Office of the President (UCOP) will coordinate the overall project out of the Office of Academic Personnel and will support the time of PI Carlson; it will provide office space, equipment, and technical support for the Recruitment Data Analysis Project and the Project and Events Manager. Both during and after the grant, the Office of Academic Personnel will integrate UC ADVANCE PAID materials and issues into the meetings of the following UC groups: Executive Vice Chancellors/Provosts; Vice Provosts for Academic Personnel; Deans of Natural and Biological Sciences; Deans of Engineering; President's Advisory Committee for Campus Climate, Culture, and Inclusion (and its 10 campus sub-committees). In other words, structures already in place in the UC system will facilitate broad sharing of issues and tracking of progress. Past December 2014 funding from the NSF, UC ADVANCE PAID will be sustained through the Office of Academic Personnel at the Office of the President.

The Academic Senate's involvement in the Steering Committee has been endorsed by the current Senate Chair and the chairs of two key Senate personnel committees: the University Committee on Academic Personnel (UCAP) and the University Committee on Affirmative Action and Diversity (UCAAD); this participation will ensure that the efforts begun in UC ADVANCE PAID will be enhanced through policy review and system-wide faculty input. Since promotion, merit, and tenure reviews will be discussed directly in Roundtables #2, 3, and 4, we believe Senate involvement is particularly important in moving from UC ADVANCE PAID conversations to possible policy and institutional changes. These conversations will reinforce relatively new language in the Academic Policy Manual (operative on all 10 campuses) which acknowledges contributions to diversity in faculty performance and academic administration.

Once the Recruitment Data Analysis Project is instituted as a part of standard data collection during the life of the grant, the University will be able to integrate this data into new system-wide accountability reports (see <http://www.universityofcalifornia.edu/accountability/>). The UC Regents, President Yudof, and Provost Pitts are attentive to the issues of faculty diversity and they will welcome this addition to diversity reporting. With the data collection in place, UC can consider next steps for the data project: for example, surveys of finalist candidates, analysis of specific search interventions and search results, etc. During spring 2014, the Steering Committee will make recommendations to the Office of the President for best ways to sustain progress in recruitment and retention of STEM women faculty.

4.0. Management plan and timeline. PI Carlson will coordinate the two initiatives in this project and supervise the project personnel (Director of the Recruitment Data Analysis Project [Litownik], Evaluator

[Goulden], and the Project and Events Manager). Their work will be directed by the Steering Committee (see Section 5). Carlson, Litrownik, and the Project and Events Manager will be located in the Office of the President in Oakland; Goulden will operate from the UC Berkeley campus, a short distance away. They will report to the Steering Committee and compile annual reports.

Spring 2011	(pre-award) Office of the President will initiate work on the common data set in consultation with campus representatives
Fall 2011	Meeting of data representatives from each campus
Spring 2012	Roundtable #1, and in-person meeting of Steering Committee
Fall 2012	Roundtable #2 and teleconference meeting of Steering Committee
Spring 2013	Roundtable #3 and in-person meeting of Steering Committee
Fall 2013	Roundtable #4 and teleconference meeting of Steering Committee
Spring 2014	Roundtable #5 and in-person meeting of Steering Committee
	Evaluation concludes

5.0. Senior project personnel and their roles.

Dr. Susan Carlson, Vice Provost for Academic Personnel, UC Office of the President. Dr. Carlson will supervise the key UC ADVANCE staff and be responsible for coordinating the overall project. Her prior position as PI on an IT award and as an advisor to other ADVANCE programs will provide relevant experience.

Jim Litrownik, Director, Recruitment Data Analysis Project. A specialist in data synthesis, Litrownik will lead development of a common data tracking system for faculty recruitment processes, devoting 20% of his time during year one and 15% in years 2 and 3.

Dr. Marc Goulden, Evaluator. Nationally known for his work on faculty data and the diversity of the pipeline, Goulden will lead formative and summative evaluation (see section 6). One month annually.

Project and Events Manager. A professional staff person will manage the UC ADVANCE project, including the development and coordination of the Roundtables, materials development in connection with both projects (including the UC publishing of Roundtable proceedings and annual reports), designing and updating of the project web site, management of the budget, travel logistics. One half time, 3 years.

Senior administrators from each of the 10 UC campuses. One academic administrator from each of the 10 UC campuses will serve as the main liaison to the project. Responsibilities will include maintaining UC ADVANCE PAID on the campus by connecting it to the Campus Diversity Committee and the Office of the Executive Vice Chancellor/Provost; recruiting STEM faculty and administrators for the Roundtables; supervising logistics for the Roundtable on campus; and serving on the UC ADVANCE PAID Steering Committee. The Steering Committee will meet twice per year (once by teleconference and once in conjunction with a Roundtable meeting) and will direct major decision-making. The Steering Committee

will ensure that the Recruitment Data Analysis Project findings are distributed to Chancellors and Executive Vice Chancellors/Provosts. During the third year of funding, the Steering Committee will work with PI Carlson to finalize the continuation of UC ADVANCE PAID (see Commitment and Sustainability). The Steering Committee will be led by UC Chancellor Dr. Linda Katehi who has a long record of national leadership in diversity.

UC ADVANCE PAID Steering Committee

Dr. Linda Katehi, Chancellor, UC Davis, Chair

Dr. Jeanne Ferrante, Associate Vice Chancellor, Faculty Equity, UC San Diego

Dr. Douglas Haynes, Director of ADVANCE, UC Irvine

Dr. Maria Herrera-Sobeck, Associate Vice Chancellor of Diversity, Equity, and Academic Policy, UC Santa Barbara

Dr. Barbara Horwitz, Vice Provost for Academic Personnel, UC Davis

Ms. Susan Drange Lee, Director, Faculty Diversity & Development, UCLA

Dr. Herbert Lee, Interim Vice Provost for Academic Affairs and Campus Diversity Officer for Faculty, UC Santa Cruz

Dr. Sally Marshall, Vice Provost for Academic Personnel, UC San Francisco

Dr. Yolanda Moses, Associate Vice Chancellor for Diversity, Excellence, and Equity, UC Riverside

Dr. Maria Pallavicini, Dean of Natural Sciences and PI, UC Merced ADVANCE, UC Merced

Dr. Sheldon Zedeck, Vice Provost for Academic Personnel, UC Berkeley

Faculty Chair, University Committee on Affirmative Action and Diversity (UCAAD)

Faculty Chair, University Committee on Academic Personnel (UCAP)

Ex Officio: PI Carlson, Mr. Jim Litrownik (Director Recruitment Data Analysis Project), Dr. Marc Goulden (evaluator)

6.0. Evaluation. Both the formative and summative evaluation of the project will be designed to assess the short-term and longer-term efficacy of the two separate components of UC ADVANCE PAID, (1) *Recruitment Data Analysis Project*, and (2) *California Challenge Roundtables*; and to identify any unintended outcomes resulting from either of these initiatives.

6.1 Recruitment Data Analysis 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.

6.1.2 Summative analysis. The endpoint goal of the project is to identify specific problem areas and promising practices in regard to current hiring practices and to implement remedies and new approaches based on empirical evidence that will allow UC to increase efforts to diversify faculty in STEM. Over the multi-year course of the project, the evaluator will assess the effectiveness of the implementation of any new hiring practices that result from this effort and conduct longitudinal analysis to determine whether the use of improved methods results in a more diverse UC faculty in STEM.

6.2 California Challenge Roundtables.

6.2.1. Formative analysis. The evaluator will work with the sponsors of the Roundtables to identify short-term and long-term project goals (i.e. to work toward specific logic models in regard to each separate Roundtable event). In association with this process, the evaluator will help to design appropriate participant assessment instruments that can be administered immediately upon the close of the event, and then re-administered with modified design but comparable items a year after the event via a web-based survey. The immediate post-event data can be used to help improve the design of the subsequent Roundtables. The follow-up surveys, administered a year after the event, will be used to determine mid-term effects of the Roundtables and to identify the current state of any uptake in regard to the “best practices” or other information conveyed during the Roundtable events (e.g. they will be designed to identify whether campuses that learned of new practices have begun the process of implementing them in their own setting and their results to date). These instruments will include a combination of scaled and open-ended items to allow for a mixed methods analysis of post-event retrospective data.

6.2.2. Summative analysis. The ultimate goal of the Roundtables is to foment the sharing and implementation of promising institutional practices across the UC system that are designed to increase our effectiveness at both recruiting and retaining women faculty in STEM. The evaluator will identify settings in which new recruitment or retention practices have been implemented in direct response to Roundtable events, and then will assess their longer-term effectiveness through an analysis of longitudinal data related to UC faculty recruitment and retention in STEM or existing climate survey data.

UC ADVANCE PAID will use Dr. Marc Goulden, Director of Data Initiatives of UC Berkeley, to undertake thorough formative and summative evaluation of the project. Dr. Goulden is known for his work analyzing the impact of gender, race, ethnicity, and family on rates of academic advancement from doctoral receipt to full professor rank among U.S. and UC scientists, through sophisticated use of longitudinal data and survey design. He has an established record of analyzing the effectiveness of programs and policies and reporting them out in an objective and utilitarian manner, identifying current limitations to existing processes and recommending viable approaches to improving their effectiveness.

7.0 Intellectual merits. The project works from an assumption of the NSF PAID program: that solutions to the under-representation of women in STEM goes beyond single campuses. This project will harness the strong system networks of UC to design and test faculty search data collection protocols that can serve as models across the nation as well as across campuses. Key partners in the initiative will share the project at ADVANCE PI meetings and other STEM national gatherings. At the Roundtables, involvement of faculty and administrators as well as those active in shared governance will ensure that the Roundtables facilitate conversations across groups, conversations that will lead to effective use of UC's attention to diversity in the peer-review process.

8.0 Broader impacts. The University of California is practiced in conversations about diversity, as noted in 1.2. This UC ADVANCE PAID project will extend prior UC efforts by bringing these conversations fully into STEM cultures at the department, college, and Senate level. The data development and Roundtable conversations at the heart of this proposal will also be integrated into the work of The President's Advisory Council on Campus Climate, Culture, and Inclusion (established in 2010) and 10 campus-level Climate Committees, each chaired by the Chancellor on his/her campus (see <http://www.universityofcalifornia.edu/news/article/24082>). These established committees will reinforce the work of UC ADVANCE PAID, particularly its focus on URM faculty. We believe we can capitalize on the diversity of California in developing a model for integrating women and URM women faculty into our STEM departments. This will directly impact education at one of the nation's most diverse research universities (over half of 170,000 undergraduates are students of color) and the nation's largest graduate and professional student population (over 50,000).

9.0 Results from prior NSF support (PI).

PI: Susan Carlson. **Award information:** #0600399, 8/1/06-7/31/11, \$3,296,157. **Title:** *Comprehensive Institutional Intervention Strategy at Iowa State University*. [Carlson was PI from August 2006 to June 2010.] This award supports the Iowa State University ADVANCE Program, the goal of which is to investigate the effectiveness of a multilevel collaborative effort to produce institutional transformation that results in the full participation of women faculty in science, technology, engineering and math fields in the university. The approach focuses on transforming departmental cultures, practices, and structures as well as university policies through active participation of individuals at all levels of the university.

The program is known for a well-managed network, innovative research, and an integrated approach to change. Important accomplishments during the first four years of the ISU ADVANCE Program are: workshops and a conference focused on the topics of (1) unconscious bias in faculty recruitment and promotion and tenure evaluation, (2) faculty flexibility in STEM faculty careers, and (3) the role of departmental climate in enhancing faculty success. A major part of the program is an extensive research project to work with faculty to assess climate in their departments and to develop mechanisms to modify areas that they identify as barriers to successful faculty careers. The ISU ADVANCE Program is working with women faculty of color to support their research collaborations with eminent scholars outside of Iowa State. Results from the ISU ADVANCE Program have been presented at NSF PI meetings and at several national disciplinary conferences, including Sociology, Philosophy, Engineering Education, Cell Biology, and Ornithology.

PI: Susan Carlson. **Award information:** #0963584, 7/1/10-6/30/13, \$749,786. **Title:** *I3: Strengthening the Professoriate at Iowa State University (SPISU): A Campus Network to Enable Strong Science and Diverse Communities*. This project will create a community of scholars (faculty, postdoctoral scholars, and advanced graduate students) who focus on integrating broader impacts into their research enterprise. University promotion and tenure criteria and reviews will be used to reward broader impact work. Partnerships with Iowa AGEP and other groups will ensure the participation of women and URM. [Carlson was PI at the time of the award, but resigned as PI in June 2010.]