University of California, Davis ADVANCE: Institutional Transformation to Build and Sustain a Diverse Community of Innovative STEM Scholars

Institutional Context

With a mission to advance the human condition by improving the quality of life for all, the University of California, Davis is the most comprehensive public university within the UC system. Through four colleges and six professional schools, UC Davis is building upon its land-grant heritage to implement a transformative vision for the 21st century. UC Davis is a STEM-intensive research university (> $750M in extramural funding in 2013-14) with 1,019 ladder-rank STEM faculty (30% women) from 52 STEM departments housed in: the College of Agriculture and Environmental Sciences (15 departments); College of Biological Sciences (5 departments); College of Engineering (7 departments); Divisions of Math and Physical Sciences (6 departments) and Social Sciences (10 departments) within the College of Letters and Sciences; and basic sciences departments within the Schools of Veterinary Medicine (3 departments) and Medicine (6 departments). In 2014, UC Davis ranked ninth among all U.S. public research universities[1] and currently enrolls 27,565 undergraduate students. Of these, 90.6% are from California, an ethnically diverse state in which Latinos are the largest racial and ethnic group at ~ 39%, surpassing non-Hispanic whites. Students from historically underrepresented groups — African American, American Indian and Chicano/Latino — have increased to 23% of total enrollment among citizens and residents of the United States, with Chicano/Latino currently representing 18.7% of all undergraduates and 25% of our 2014 freshman class. **UC Davis aspires to become a Hispanic Serving Institution (>25% Hispanic full-time undergraduate enrollment) by 2018-19. It is critical that the diversity of our faculty reflects the demographics of our students and our state.** Thus, one of the unique aspects of our ADVANCE IT project is a special emphasis on transforming our STEM faculty to include more Latinas, within the overarching goal of increasing recruitment, retention and advancement of all female STEM ladder-rank faculty.

A unique strength of our program is the active personal involvement and leadership of the Principal Investigator, Chancellor Linda Katehi. She is a STEM faculty member in Electrical and Computer Engineering and holds a joint appointment in Women and Gender Studies. Chancellor Katehi has written numerous Op-Ed pieces and articles on the need for diversity in STEM and has participated in national and state outreach to the Hispanic/Latino community. On campus, she has held frequent meetings with ADVANCE Steering Committee members, monthly informal dinners with women faculty at the Chancellor's residence, speaks at campus-wide ADVANCE events, and leads the program at the annual ADVANCE PI meetings, as well as the Systemwide UC ADVANCE PAID roundtables. Chancellor Katehi is a vocal champion of ADVANCE, externally, as well as within the campus community. Provost Ralph Hexter is also a strong supporter of our program, providing substantial resources for ADVANCE programs and activities, participating in the annual ADVANCE PI meeting, leading the ADVANCE team during a visit to University of Texas Pan American to exchange ideas and best practices related to recruitment, retention and advancement of Latina STEM faculty, and participating in ADVANCE activities. **At UC Davis, the office of the Vice Provost for Academic Affairs (VPAA), rather than the Provost, has the primary responsibility for recruitment, appointment, advancement and retention of faculty, and provides leadership in developing and implementing best practices that make all personnel processes more equitable and efficient.** The Vice Provost of Academic Affairs, Maureen Stanton, is a Co-PI, chair of our Steering Committee, and *Ex Officio* member of several of our initiatives. Another unique strength of our program is the UC Davis culture of shared governance; delegation of authority assures **institutionalization of policy changes as they undergo faculty Academic Senate review** and comment before adoption. Shared governance ensures a critical and thorough vetting of new ideas, with detailed documentation of the policy change process, supporting smooth campus-wide implementation. Shared governance in the UC system also supports dissemination of functional policy changes across multiple

---

[1] U.S. News & World Report's 2015 "America's Best Colleges"

campuses. For example, the UC Affirmative Action and Diversity Committee[2] (UCAAD) proposed inclusion of a statement on diversity for faculty review packets that is now incorporated within our Academic Personnel Manual (APM - University of California Academic Advancement Criteria APM 210-1-d). The UCAAD committee brought the new policy forward for systemwide discussion and adoption and worked with each of the 10 UC campuses to finalize policy verbiage. Diversity statements are now included in the faculty review process and have been adopted across the UC system. We are fortunate to have Linda Bisson, former chair of the UC Davis Academic Senate, as Associate Director of ADVANCE and co-Director of the Policies and Practices Review Initiative described below.

Project Goals and Initiatives

The UC Davis ADVANCE Program has five project goals:

1. Build a vibrant, welcoming and diverse STEM research community in part through establishment of the "Center for Advancing Multicultural Perspectives on Science," CAMPOS.
2. Establish an institution-wide, inclusive STEM climate that values diversity
3. Promote equitable career advancement, achievement, and recognition among all STEM faculty
4. Understand barriers and catalysts for Latinas in STEM (Social Sciences Research Initiative)
5. Enhance dual-career hiring (this goal was added with the award of a supplement to the original proposal and so it does not appear in the original proposal)

As shown in the attached Logic model, these goals are mapped to the program activities through six integrated, faculty-driven initiatives whose missions are described below:

I1. Center for the Advancement of Multicultural Perspectives on Science Initiative (CAMPOS): Supports discovery of knowledge by promoting STEM women faculty, with an emphasis on Latina STEM faculty, through an inclusive environment that is diversity driven, mentorship grounded and career success focused.

I2. Social Sciences Research Initiative (SSRI): Conducts integrated empirical studies and on-going data analyses that will inform the UC Davis ADVANCE program activities and interventions aimed at improving the recruitment and retention of diverse STEM faculty with emphasis on Latinas.

I3. Policies and Practices Review Initiative (PPRI): Conducts systematic reviews of policies and procedures that impact recruitment, retention and career progress of faculty and proposes changes to those policies and practices in order to eradicate implicit bias, promote diversity and eliminate inconsistency in implementation.

I4. Inclusive Campus Climate Initiative (ICCI): Designs and implements programs that will generate a more equitable assessment of women and underrepresented groups in STEM fields such as culturally-nuanced, evidence-based programs to a) raise awareness of unconscious and institutional bias (with respect to culture, race/ethnicity, and gender) and b) generate greater understanding of the ways in which STEM research communities can benefit from the contributions of diversity.

I5. Mentorship and Networking Initiative (M&NI): Provides information, guidance and networking opportunities for research and career success for women in STEM fields through informal and formal programs.

I6. Capital Resource Network (CRNI): Supports the recruitment and retention of dual-career faculty by building a regional employment network that will significantly expand the existing UC Davis Partner Opportunities Program by formalizing access to the labor market in the Davis-Sacramento region. This initiative was developed through the competitive supplemental funding received in Year 2.

Progress Toward Goals and Evidence of Impacts of Project Activities

In the first year of the program we established the initiative faculty committees, identified co-directors, and hired program staff. The initiative committees began formal meetings and discussions in the fall of our first year. During the first year the newly formed committees met to discuss and develop tools for implementation and evaluation of ADVANCE activities, such as the theory of change (adapted to our

---

[2] The UCAAD is a University of California systemwide committee that considers general policies concerning affirmative action for academic personnel and academic programs.

programs following Kotter's model of organizational change[3]), logic models and detailed evaluation plans for each initiative, as well as nomination processes and forms for programs described below. They also defined the best mechanisms to implement the steps of the theory of change on campus. We are now operating in full stride and have made significant progress toward achievement of program goals in Years 2 and 3. Details of program activities are provided in our annual and interim progress reports. Below we present some examples of our major accomplishments.

Goal #1: Build a vibrant, welcoming and diverse STEM research community through establishment of the "Center for Advancing Multicultural Perspectives on Science"

We have established the Center for Advancing Multicultural Perspectives on Science including appointing the Founding Director, Dr. Mary Lou de Leon Siantz, developing the process for nomination, review and selection of CAMPOS Faculty Scholars (newly hired women STEM faculty – see definition below), and developing programs to ensure the success of these newly hired STEM faculty.

"CAMPOS Faculty Scholars are exceptional scientists in a STEM discipline and are selected for their transformative thinking, unique perspectives, interdisciplinary approaches and leadership potential to impact their STEM discipline in profound and enduring ways. Their discoveries, innovations, and technological breakthroughs will contribute to the public good, locally, nationally and globally. A CAMPOS Faculty Scholar is a role model for future scientists and scholars who share their vision of diversity and inclusion, as key components of the Academy in the 21st century."

Importantly, the recruitment of CAMPOS Faculty Scholars occurs through normal tenure track search processes led by departmental search committees. Once a promising faculty candidate has been selected to interview for a STEM Academic Senate faculty position by the academic department, the person may be nominated as a CAMPOS Faculty Scholar by the search committee chair and/or department chair. CAMPOS committee members meet with the faculty candidate during the recruitment visit to let them know about the CAMPOS program, ADVANCE initiatives and other campus programs, such as the Work-Life program. The CAMPOS Review Committee discusses nominations and recommends qualified candidates to the Vice Provost of Academic Affairs for final approval. The criteria for selection as a CAMPOS Faculty Scholar is based on the candidate's contributions to diversity (see the University of California Academic Advancement Criteria APM 210-1-d), through research, teaching, mentoring or outreach that addresses underserved communities, particularly Hispanic Women/Latinas. The Provost's office provides $85K/year in salary support for the CAMPOS Faculty Scholar for 5 years. Awardees also receive graduate student support, mentoring through the LAUNCH program (described below), and participate in the Faculty Success Program offered by the National Center for Faculty Development and Diversity (NCFDD), and professional/leadership development and networking through the CAMPOS community.

In 2013-2014, we were successful in recruiting **six** CAMPOS Faculty Scholars, all new STEM women faculty (we hired a total of 22 new women STEM faculty in 2013-2014), with the first CAMPOS Faculty Scholars arriving on campus in fall 2014. This first cohort of CAMPOS Faculty Scholars is very diverse, including five Latinas and one Native American, covers a broad range of STEM disciplines, and includes senior faculty as well as junior faculty. The CAMPOS program has been well received and we have on-going inquiries and/or nominations from all STEM colleges/schools. **The impact has been significant in that the number of Latina STEM faculty increased from 10 to 15 with the addition of the CAMPOS Faculty Scholars, an increase of 50% in one year (AY 2013-2014 recruitment cycle).**

Goal #2: Establish an institution-wide, inclusive STEM climate that values diversity

The Inclusive Campus Climate Initiative has developed and implemented the **Strength Through Equity and Diversity (STEAD) program,** to identify and change biased recruitment and hiring practices to be more inclusive, broaden applicant pools, and ultimately enhance the excellence and diversity among faculty candidates and new faculty hires. This program was modeled after the successful STRIDE program developed through the ADVANCE program at the University of Michigan. It is important to point out that this is a

---

[3] Kotter, John P. "Leading Change: Why Transformation Efforts Fail." Harvard Business Review, March-April 1995, pages 59-67.

faculty-led program. The ten-member STEAD committee (predominantly STEM faculty), met bi-weekly in 2013-2014 and over the summer, using the social science literature related to the effects of unconscious bias and institutional bias on faculty hiring, in combination with their knowledge of our campus culture and external factors (e.g. California Proposition 209 legislation), to inform the development of a training program for UC Davis faculty serving on faculty search committees. The STEAD faculty committee developed all resources for the training program including: the workshop structure; slide presentation; website content and links to supporting literature; interactive activities; the workshop registration process; and email communication templates. **STEAD training of search committees to recognize the role of implicit bias in limiting diversity of faculty hires is particularly important as we are entering a period of campus growth, anticipating an increase of 5,000 undergraduates and <u>300 new tenure track faculty positions by 2020</u>.**

STEAD Workshops began in fall 2014 and we have trained over 207 faculty in 7 workshops held to date. Participant survey results to date indicate that the workshops **will positively impact the recruitment and candidate evaluation process in the following ways**:

- Most attendees (84%) agree or strongly agree with the statement, "As a result of this workshop, I intend to take specific actions in my department to improve our faculty evaluation and recruitment activities."
- In response to the survey item, "How do you think the workshop will affect the search process in your department?" 72% checked the item "More equitable review of candidates"
- In response to the survey item, "Do you think participating in the workshop will affect your behavior when you serve on a search committee?" 52% responded, YES.

Also related to faculty hiring, **the Policies and Practices Review Initiative has conducted a systematic review of current campus policies and practices related to faculty recruitment.** In consultation with the Academic Senate and campus leadership, the committee proposed changes to the faculty recruitment process to ensure diverse pool compositions and best practices in the evaluation of applicants. Most importantly, the committee has developed a process for campus review, consultation, and engagement with the Academic Senate for implementation of PPRI recommendations. **The Revised Recruitment Recommendations dated October 2014 (a total of 18 recommendations including defining responsibilities for implementation) are now undergoing formal Academic Senate consultation.** Draft policy change recommendations to support diversity in the faculty merit and promotion process are currently underway and will be submitted to the Academic Senate using the established review process later in Year 3.

Goal #3: Promote equitable career advancement, achievement, and recognition among all STEM faculty

The Mentorship and Networking Initiative has implemented a pilot mentoring program, the LAUNCH program, modeled after ADVANCE programs developed at Case Western Reserve and University of Michigan. The LAUNCH program supports rapid professional integration and development of new faculty as they begin their careers on the UC Davis campus through a one-year, formal committee-based mentoring program. LAUNCH committees are comprised of faculty members, including (at a minimum) a senior faculty member in the new faculty member's department with related research interests, the department chair, a senior faculty member from outside of the department in a related field, and an ADVANCE faculty member serving as convener of the LAUNCH meetings.

To date we have established 10 LAUNCH committees for STEM faculty members, including seven women, three of whom are CAMPOS Faculty Scholars (one other CAMPOS Faculty Scholar is in a departmentally based mentoring program and one is a senior faculty. **Based on interviews conducted to date with these new faculty, the LAUNCH committees have been extremely helpful as illustrated by this example of feedback from a LAUNCH participant:**

"I like having resources to go to with questions that come up. I had an idea to start a virtual lab and the committee members from outside the department were asking their contacts across campus about this and giving me ideas. Having this outside point of view is helpful. They also talk to the chair about some of the issues that have come up and they provide extra support. It has provided me with more contacts and support."

The LAUNCH program also allows the identification of common barriers and/or roadblocks to faculty success that can then be elevated through the ADVANCE program. For example, one of the recurring issues in several LAUNCH committees is the slow lab renovation process, and lack of transparency and accountability in the renovation process. As a result the M&NI Co-directors and ADVANCE leadership will be meeting with the new campus Chief Financial Officer, Vice Chancellor David Lawlor, to discuss challenges with the lab space renovation process.

Goal #4: Understand barriers and catalysts for Latinas in STEM

The Social Sciences Research Initiative is conducting empirical qualitative research studies using in-depth interviews of University of California President's Postdoctoral Fellowship Program (PPFP) recipients to identify barriers and catalysts for Latinas to help inform the other initiatives and identify appropriate interventions and program activities. Of the 537 total PPFP fellows, 58 are Latina. Of the Latina PPFP fellows, 23 are in STEM. The SSRI team has conducted in-depth interviews (1.5-3 hours in length) with 21 PPFP fellows – including 15 STEM Latinas and 6 Latinas in other fields – on their backgrounds, early education, the PPFP program, career path after the PPFP, work environment, work-life balance, and future goals. Although the interviews and analyses are currently in progress, there are some common themes that have emerged, such as the importance of peer mentoring, the value of structured professional development programs, experiences of racial and gender discrimination, resilience in overcoming significant hardships and adverse childhood events, and feeling that an academic career at a research university is incompatible with having children, that have **helped all of the other initiatives think more broadly about how to structure and implement their programs.**

Goal #5: Enhance dual-career hiring

The Capital Resource Network (CRN) Initiative is developing a regional employment network (modeled after the Tech Valley Connect in upstate New York) to provide confidential career coaching, assistance in identifying off-campus job opportunities, relocation assistance and family services resources to partners of UC Davis target hires. The CRN has hired a permanent director, established an advisory council with representatives from ten of the region's top employers, networked with regional employers and other stakeholders, developed a logo and communication materials, and designed the CRN website. The CRN will have a soft launch with some services in winter 2015, planning for a formal program launch in spring 2015 with full service envisioned for the 2015-16 academic year.

Program Changes, Modification to Program Activities, and Challenges

Initiative timelines for the implementation of proposed activities have been adjusted where necessary. As the first cohort of CAMPOS Faculty Scholars is now arriving on campus, we are beginning to implement several related program activities, such as the CAMPOS seed grants, grant-writing support, the distinguished speaker series and other CAMPOS programming. Development of the CAMPOS Faculty Scholar nomination and award process took more time than anticipated, but with the input of the newly arrived CAMPOS faculty, we are now moving quickly to launch CAMPOS activities. In implementing a few aspects of the Mentorship & Networking Initiative, we concluded that sustainability would be more readily achieved by utilizing existing collaborator expertise and successful external programs rather than building our own. For example, instead of developing a Career Skills Workshop, we have supported faculty participation in the NCFDD Faculty Success Program. We have also encouraged and helped a faculty member prepare a successful application for the Society for Advancement of Hispanics/Chicanos and Native Americans in Science (SACNAS) Summer Leadership Institute. Within the Social Sciences Research Initiative, the survey of Latina doctoral students is just getting started. The Social Sciences Research on PPFP has not yet led to specific interventions or programming through the other initiatives, however, we anticipate that this will occur over the next year.

Although our program goals and activities have not changed, we have made some modifications in our approaches to achieve our goals. For example, we initially proposed that the CAMPOS Faculty Scholars would be cluster hires in specific research areas, but we have broadened that approach. We found, partially based on STEAD training, that an effective approach for increasing faculty diversity in new hires follows an "open" search principle. Therefore, we allowed search committees throughout the STEM departments to

identify the best candidates, regardless of their specific research thrust. The CAMPOS Faculty Scholars will be joining well-established, on-going research teams and the LAUNCH program will help ensure their early engagement with these teams, as well as a mechanism for networking. Secondly, our Internal Advisory Board (IAB) has not met as a group as frequently as proposed. Instead, in the interest of efficient use of their time, members of the ADVANCE Steering Committee have met with IAB members individually at least annually. We have communicated about ADVANCE activities through meetings with the Council of Deans and Vice Chancellors, individual STEM Deans, and STEM Chairs meetings (the latter is in progress). STEM Deans also provide annual funding for ADVANCE programming as well as support for ADVANCE faculty participants with major responsibilities (e.g. Initiative Co-directors). The External Advisory Board (EAB) met during the first year retreat and provided feedback that they would like to be engaged more frequently in specific projects that would utilize the individual expertise of our EAB members so each initiative has identified EAB members to engage in their work.

Some of the challenges that we have faced stem from the size, complexity and dynamic nature of our program and our institution. We have over 40 UC Davis faculty involved in the various initiative committees and stronger mechanisms for cross-initiative working interactions and joint efforts are needed. For example, any policy change will impact the entire campus faculty, not just those in STEM, and will need approval systemwide. Our institution, like any other major research university, is inherently dynamic with changes in deans, department chairs, Academic Senate leadership and committee members, faculty taking sabbaticals, etc., so there is a constant need for communicating and updating new stakeholders. There have also been transitional challenges related to information exchange and learning curves as new faculty and staff have joined the ADVANCE program including a new Faculty Director, Associate Director, Program Coordinator, Manager and Assistant, Initiative Co-Directors and Initiative Committee members. With changes in initiative committee membership there can be an evolution of thought about the best way to implement program goals. Although the vast majority of participating faculty have valued the STEAD training, there have been a few faculty who do not believe that implicit bias exists or see any need for the training. These faculty are part of the local unit power structure so addressing these criticisms will make the program stronger. However, it has taken additional time to collect the information and data needed to address the comments of these individuals. Budgetary issues may also threaten the "best practices" we recommend in the STEAD workshop if: (a) insufficient compensation is offered to faculty to do the added work that needs to be done; (b) insufficient funds are available to fly out additional worthy candidates for interviews; (c) significant efforts and resources are not devoted to both recruiting and retaining excellent and diverse faculty; and (d) there are fiscal counter-incentives to achieving our diversity goal.

Plans for Sustainability

Although we are still in the process of evaluating ADVANCE programs and activities, we are developing plans for sustaining successful programs. We are currently developing funding/staffing models, scalability strategies and identifying organizational responsibilities for ADVANCE programs that appear to be successful. We are planning that CAMPOS will be sustained as a separate organized program though institutional funding, external partnerships with select Hispanic and women's organizations and Foundations, as well as funding agencies to support research projects, programming, social science research, endowed chairs, fellowships/traineeships and community partnerships. STEAD training will be sustained and managed through the VPAA office, with STEAD training faculty supported by the Dean's office (we currently have a commitment for funding from all of the STEM Deans for at least 5 years following the end of the NSF funding). We envision that LAUNCH committees will be set up by faculty search committee chairs, and staff support for LAUNCH meetings will be provided by the VPAA. Revised policies and practices affecting recruitment, faculty advancement and reward, faculty development and career climate, and retention will have been incorporated into the UC Davis APM, systemwide APM, and Directives, with Academic Senate committees providing oversight. The Women Faculty Reception will continue through the VPAA. NCFDD membership dues will be covered by the Provost's office and managed by the VPAA. The Capital Resource Network will be sustained as a fee-for-service nonprofit. Mechanisms for sustaining other ADVANCE programs/activities will be developed as additional evaluation data become available.