

Building Our Own Pipeline to the STEM Professoriate at UC Irvine

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As a metaphor in education, the term pipeline has long described the process of the social production of faculty. The links that make up the faculty pipeline usually refer to the credentials of educational achievement that culminate in the doctorate in a field of specialization. These credentials or milestones—undergraduate and graduate as well as postdoctoral experiences—also offer a lens through which to understand where and why under-utilization occurs for some populations—the difference between individuals with the requisite credentials and their actual participation—and not for others. These “leaks” as they are known, refer to points where individuals exit from

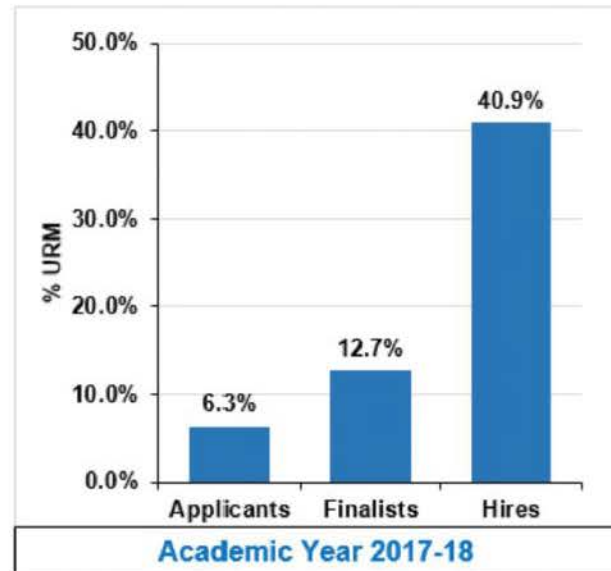
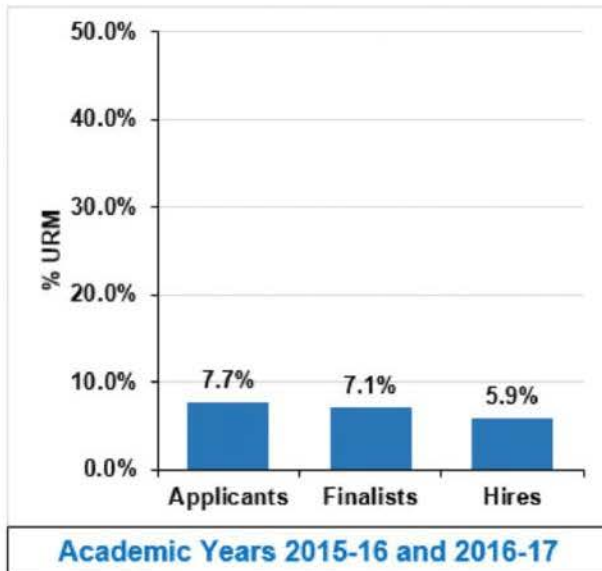
the pipeline. “Leaks” are not accidents. A vast and growing body of scholarship has documented the differential experiences of and informed interventions to improve the presence and success of white women as well as women and men of color from historically under-represented racial minorities (URM) in the science, technology, engineering, and mathematics (STEM) fields. Translating these insights into practice is indispensable in order to transform the STEM professoriate of the future. It is simply not enough to be personally committed to diversity.

This imperative animated the Building Our Pipeline to the STEM Professoriate in 2017-2018 at the University

of California, Irvine (UCI). The goal was to hire eight former University of California (UC) President’s/UC Irvine Chancellor’s Postdoctoral Fellows into four STEM schools (biological sciences, engineering, information and computer sciences, and physical sciences). This program ultimately yielded five faculty in the biological sciences, two in information and computer sciences, and one in engineering. These early career scientists not only added to the research and teaching capacity of the campus but also changed the compositional diversity of the faculty. Five of the eight new faculty are women (three in biological sciences, one in information and computer sciences, and one

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Percentage (%) of Underrepresented Group Ladder Rank Faculty and Equivalent by Hiring Stage



in engineering). Five of the eight are from URM (three African Americans and two Hispanic/Latinx). Two of the eight are women of color—a population that is severely under-represented in STEM faculties across the United States—representing one African American woman in engineering and one Hispanic/Latinx in biological sciences. The impact of the pilot program also contributed to dramatic improvements in the racial and ethnic diversity of regular hires. The overall percentage of URM hires increased from 5.9% during a combined period of 2015-2016 and 2016-2017 to 40.9% in 2017-2018.

These outcomes were not an accident. As a Minority Serving Institution, inclusive excellence animates UCI's strategic plan for a Bright Past. Brilliant Future. Launched in 2015-2016, this plan calls for hiring 250 net new faculty in five years. To ensure a diverse faculty, the campus has adopted a comprehensive recruitment strategy. It consists of hiring to national availability, engaging the broadest cross section of talented

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This strategy is fortified in three key ways. All applicants for faculty positions are required to submit a statement on contributions to diversity. When deans outreach to national peers, they draw particular attention to the campus commitment to inclusive excellence. School-based Equity Advisors provide operational accountability. They share best practices with committees while monitoring searches at key milestones. They have the authority to pause any search in which there is a divergence between field national availability and the characteristics of the applicant pool and proposed short-list.

On top of this foundation, a \$450,000 California state employment grant for Advancing Faculty Diversity enabled the campus to combine existing programs into a coherent two-part strategy known as Building Our Own Pipeline to the STEM Professoriate. It incentivized the hiring of former

fellows and invested directly in their future career success as an explicit part of the recruitment process. The first part relied on the salary incentive program associated with the UC President's Postdoctoral Fellowship Program. For over three decades, this fellowship program has cultivated a diverse pool of scholars and scientists for faculty careers inside and outside the University of California. Identified through a very competitive application process, selected fellows are mentored by a senior faculty mentor and hosted by a department for one to two years at one of the ten campuses in the UC and three national laboratories. This experience affords fellows time to advance their research programs. Mentors facilitate access of postdoctoral scholars to professional networks and to career development opportunities. Beginning in 2003, the UC Office of the President incentivized the hiring of former fellows by subsidizing the salary and benefits (up to \$85,000) for the first five years

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of their UC employment. To promote utilization, the campus offered each school a fully-funded, full-time employee line to hire a second former fellow.

Incentives do not work without a plan for execution. The second part of the strategy involved the adoption of a concierge recruitment strategy. This strategy explicitly connected the pool of former UC President’s and UCI Chancellor’s fellows to departments through school-wide committees and/or direct communications from the dean. From here each dean’s Equity Advisor played a critical role in mediating the recruitment process. As a trusted guide about the recruitment procedures and campus work-life balance resources, Equity Advisors introduced transparency and support into an experience that can be opaque and capricious. Moreover, the campus underscored its commitment to the career success of these former fellows in critical ways. As new faculty members, each received a \$62,500 augmentation to their start up budgets and grants for the tuition (valued at \$3,450) to participate in the

Faculty Success Program, a featured work-life balance program of the National Center for Faculty Development and Diversity. Finally, we know that a sense of belonging for faculty from under-represented groups is critical to diminishing the effects of hyper-visibility and -invisibility. To this end, the campus established a Society of Inclusive Excellence Fellows to foster a robust community among the approximately 40 former fellows now on the UCI faculty. The society also will serve as a quarterly venue for new postdoctoral fellows who are hosted by departments. This fall, the campus will welcome five UC President’s Postdoctoral Fellows and five UCI Chancellor’s Postdoctoral Fellows.

The test of any pipeline is in its structural integrity. This involves assessing the environment to strengthen it. This is no different when comes to diversifying the faculty in STEM fields. The Building Our Pipeline to the STEM Professoriate program demonstrates that it is possible to diversify the faculty. But, it is not enough to hire diverse faculty; it is essential to support their advancement. It is for this reason that an affirmative and supportive work environment is so important – for all faculty. This ranges

from equity in salary and start-up packages, parity in promotion expectations and review, and consistency in service and teaching work-loads to mentoring resources that align with the career continuum, and, school cultures which not only expects civility, but also are free of bias and harassment. The integrity of our pipeline will enable departments to successfully recruit and retain women as well as men and women of color in STEM fields. ✚



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Irvine. In this role, he leads the campus aspiration to be a national leader and global model of inclusive excellence. A professor of history, his most recent book is titled *Fit to Practice: Empire, Race, Gender, and the Making of British Medicine, 1850-1980 (Rochester Studies in Medical History, 2017)* and examines the making of the modern British medical profession amidst national and imperial interests.