

Lighting the Way to the Public Research University of the Future Report from the Working Group for Signature Initiative 6

November 2019

The charge to the SI6 Working Group was *How will Berkeley thrive as the model public research university of the future?* During discussions among Working Group members, with campus leaders, and with other stakeholders in Berkeley's future, we both developed and heard a variety of proposals that could address the charge. We were also cognizant of many important and on-going campus activities and plans, including those recently developed through the Signature Initiative 1-5 working groups, the topics underpinning "cluster faculty hires," and the work underway to expand discovery experiences for undergraduates.

Based on our observations of Signature Initiatives 1-5, the SI6 Working Group decided that the most valuable outcome of our effort would be a clear, actionable, and broad initiative, which would seek resources in the coming capital campaign, and which would make a significant difference in enabling Berkeley's core mission, across the campus, for decades.

We intend for our proposal to serve as a model for other public research universities, who share our challenge of providing sufficient resources to support their missions of teaching, research, and service on impactful scales for diverse communities. We also recognize that there are many aspects to consider regarding how public research universities can increase their relevance and communicate their value, so they can contribute and thrive. This will require continued thought and discussion going forward.

Here, we present our proposal for the implementation of Signature Initiative 6, as well as Additional Proposals that could be given consideration in the future, and abridged versions of Additional Themes that were identified during co-chair conversations with stakeholders and/or by Working Group members.

I. Signature Initiative 6

We propose that a major fundraising focus of the capital campaign be development of an endowment for a large-scale ***Berkeley Graduate Scholar Fellowship Program***. The goal of this *Fellowship Program* would be to recruit large-scale cohorts of the most talented, diverse, and sought-after graduate students to join our world-leading research and educational programs across the campus, so that Berkeley continues to light the way as the world's preeminent public research university.

Berkeley excels as the leading public research university through its comprehensive excellence, dedication to a public mission, and focus on creating

new knowledge and enabling learning. Throughout our 150-year history we have attracted top scholars who have made historic contributions to understanding the natural world, addressed societal challenges, and expanded our knowledge of cultures, art, and human experience. Our dedication to increasing access and fostering social mobility and the passion of our faculty and students for developing and sharing new knowledge have always been palpable on our campus.

It is important to note that Berkeley's research and teaching excellence and leadership as a public university is grounded in the efforts of exceptional graduate students, whom we mentor and collaborate with to advance discovery and learning.

Benefits of the *Berkeley Graduate Scholar Fellowship Program*

A significantly sized, sustainably funded, and campus wide *Graduate Scholar Fellowship Program* will enhance Berkeley's core missions of teaching, discovery and scholarship, and service to the public, at the scale expected from UC's flagship. While fellowship funding is a customary ask in capital campaigns, Berkeley has never requested support designed, on a large scale, to make a transformative difference in graduate education and our core missions. The proposed Graduate Scholar Fellowship Program will enhance Berkeley's powerful new initiatives, including advancing health and well being, the future of democracy, and quantum information and data sciences, while building on our historic and broad strengths in arts and humanities, sciences and engineering, and professional schools. It will help recruit top faculty by providing university-based support for exceptional graduate students who will join them in research activities. It will enrich the learning and discovery experiences of undergraduates through expanded teaching and mentorship. And it will significantly strengthen and advance the campus' efforts to attract a diverse student body. Berkeley is challenged to recruit sought-after students every year because our funding packages are not always competitive. The *Graduate Scholar Fellowship Program* will go a significant distance in closing this gap.

Features of the *Berkeley Graduate Scholar Fellowship Program*

Key components include:

- recruitment of a diverse cohort of exceptional students - international, national, and local - who will prosper as scholars and leaders
- inclusion of all disciplines and advanced degrees, with strong encouragement of multidisciplinary projects
- development of a community of scholars who regularly interact with each other across disciplines and experience the program as a "home base"

- multiple opportunities for fellows to teach and mentor undergraduates
- support for career development within and beyond academia
- competitive admissions that explore applicants' motivations, skills, and novel ideas for graduate work that would be enabled by Berkeley's strong academic programs
- an opportunity for motivated graduate students to independently pursue outstanding projects for their degree without the constraints of the normal, faculty-controlled model of research
- full support for tuition and living expenses
- serve as a model for rethinking graduate education and research.

A major endowment for funding graduate students has widespread support from faculty, chairs, deans, and senate and campus leadership. There are opportunities in this program for all units to identify new ways to engage graduate students in compelling and future-oriented activities, and to define and focus on important problems in particular fields. A compelling framework is a **cohort model**, which links graduate students' experiences and research across schools and fields, thereby encouraging cross-disciplinary collaboration. Cohorts could be selected by a campus-wide committee, to focus on particular themes, or they could be recruited by individual department, and would be periodically convened as a group. Other desirable options include offering first-year graduate students a rotation model, to allow them to experience several research groups before choosing a PhD advisor, and crafted experiences in the private sector, local communities, and internationally.

Given constraints of state, federal, and philanthropic funding, it is increasingly important to have the flexibility to offer graduate students multiple funding options for degree programs. It may be important to "top off" offers to prospective graduate students by augmenting teaching assistant positions with research opportunities, and to more effectively meet local living costs. Also, it may be beneficial to support students working on cutting-edge projects that might be too risky for more conventional funding sources, allowing Berkeley to expand its research portfolio. Importantly, we need to make competitive offers to recruit a diverse group of graduate students, who will thrive under this program and serve as role models for undergraduates.

Fellows will help bridge the gap between formal courses and research opportunities for undergraduates by providing innovative classroom instruction as well as mentorship for discovery experiences beyond the classroom. This

Fellowship Program also dovetails with another campaign priority, Berkeley Connect, which partially addresses such issues.

Fellows will not only interact with each other during their graduate studies at Berkeley, but will remain connected throughout their future careers as members of a distinguished cohort. The program's administrative structure will be designed to help recruit students, sustain cohorts of fellows, promote alumni fellow and donor interactions, and engage recipients in lifelong mentoring and learning opportunities.

In order for this signature program to be transformational for Berkeley and the world, we seek to support 100 new graduate students each year, with an eventual total enrollment of 500 students in the program. To accomplish this goal, an endowment of several hundred million dollars will be necessary. To be successful, the program will need a central administrative structure to conduct outreach and selection, curate and coordinate the cohorts, and organize a program of events throughout the year to bring fellows and their mentors together.

Although raising funds for graduate fellowships is traditionally considered to be challenging, especially when done one-by-one, attracting one or two significant donors to seed this innovative and visible program at a high level, and possibly establish a match option to build the endowment, is an attractive proposition.

As sophisticated and leadership donors recognize that excellent graduate students in large part define research universities, and are the heart of Berkeley's role as the world's leading public research university, we are confident that donors will be eager to help create the *Berkeley Graduate Scholar Fellowship Program*.

II. Additional Proposals

Five additional proposals emerged from our Working Group discussions. While these proposals are exciting, they either (1) did not meet our criteria for an initiative that was clear and actionable, and spanned campus research and teaching activities, or (2) require broader consultation with campus stakeholders outside of the expertise of our committee. We include them for future consideration.

1) Research Hubs

The establishment of "research hubs," focused groups that would address problems or issues of far reaching consequence, and be designed to bring together currently disparate groups within the campus, and beyond, for the purposes of research, teaching and service. An important goal would be to make the significance of the work we do more obvious beyond the walls of our campus.

Examples of topics that could be phrased as grand challenges include:

- Addressing climate change
- Solving homelessness
- Making education accessible to all
- Healing the divide in our nation.
- Fixing immigration
- Solving the healthcare crisis
- Addressing a plague that has no cure
- Confronting “AI” versus “us”

A hub would not require its own infrastructure and would be focused on a problem or issue, not a discipline or profession. It would differ from a graduate program in that it would not primarily be concerned with graduate student education. Individuals could belong to more than one hub, and membership could be open to others, including alumni, high schoolers and interested members of the community.

Setup cost would be minimal, as hubs would involve bringing together already existing programs and people. Without fixed infrastructure, hubs could easily be sunsetted/established as interest dictates. A faculty member could take the lead for each topic, and funding could be sought later as a unit grows. Members could be encouraged to assist in the organizational work, including fundraising, to minimize the burden on faculty and staff. By highlighting relevance to big issues, hubs might also help attract funding for individual programs in both teaching and in research in addition to helping campus efforts to raise general funds.

2) Efficient Organizational Structures

Shared governance requires input from faculty on matters of significance to the operation of the university, and our campus committees might take the lead in helping to streamline campus bureaucracy. For example, chairs of committees, as well as the Committee on Committees, could be asked to identify procedures within their purview that consume faculty time and find ways of streamlining them. Examples might include (1) changing the requirement that the Budget Committee be involved in the review of hiring of professional scientists who work entirely on soft money, and (2) rather than requiring 700U forms be filled out every time faculty apply for a grant, provide a master form to cover such disclosures. Not only faculty, but the administration might similarly revisit time-consuming requirements and procedures that could be reduced without negatively impacting desired outcomes.

3) Communicating Berkeley's Excellence

A divide exists between Berkeley's internal understanding of itself and what it offers through research, instruction, and service, and how Berkeley is viewed by various stakeholders, including parents, citizens, legislators, alumni, and potential students. Sometimes this is expressed as a failure to communicate Berkeley's brand, and the divide between the considerable accomplishments and dividends of the campus, and the lack of public awareness of Berkeley's value, limits our capacity on several fronts, including fund-raising, state funding, recruitment, and lifelong identification with Cal.

The responsibility to communicate Berkeley's excellence rests with everyone, but especially with our development, communication, and public affairs offices. We need to be better equipped to communicate what is unique about Berkeley, and encourage all campus units to be newly vested in how to communicate our history and role as a public university clearly, as well as our values and accomplishments. For example, Berkeley's founding and continuing role in UC's outreach arm, [UC Agricultural and Natural Resources](#), is critical to efforts to communicate research to stakeholders. These considerations include the value we place on education, research, and service, and our impact on society broadly. SI6 members, as well as most of the stakeholders we met with, are highly motivated to participate in expanded communication efforts.

4) Becoming an Agile University

The structure and culture of the UC Berkeley campus should enable new networks and knowledge to emerge on an ongoing basis so that the University will be a leader in exploring and spawning new ways of addressing the most complex and timely societal challenges. Currently, Berkeley, like most organizations, is better at exploiting strengths than exploring new areas or linking disparate units, even though innovation may be greatest at the intersections between units. While our organized research units are meant to be interdisciplinary, collaborative, agile, and "ambidextrous" (see [O'Reilly & Tushman, 2004](#)), they are not currently fueling innovations per se. Nor do we end or sunset initiatives well. Academic, business and administrative support is needed to launch, support, and sunset new and existing ventures in academic, student and administrative domains. Structures should enhance our openness and access to new ideas, where faculty, staff, and students from diverse disciplines can think, plan, and act together. One structure to consider is "incubators," where faculty or staff entrepreneurs can gather the right resources to learn and generate new ideas.

5) The Berkeley Institute for Advanced Research

Our society flourishes when we foster creative ideas and thoughtful study among the most knowledgeable and inventive people in the world, people who can help us synthesize what we already know and lead toward a meaningful future. We now have an opportunity to anchor a think tank of the caliber that only UC Berkeley could make possible. A *Berkeley Institute for Advanced Research (BIFAR)* would

draw on the exemplary Berkeley faculty across many disciplines to anticipate the problems of tomorrow (that is, not just work on those we already know about). BIFAR would integrate Berkeley's expertise, drive, and creativity with its public mission to accomplish all of this for the common good. With this big goal in mind, there are at least three key drivers for considering an independent BIFAR: "comprehensive curiosity-driven research," "research infrastructure," and "nimble bureaucracy." The BIFAR proposal could include faculty from all disciplines, and would be created using best practices from institutes like the Howard Hughes Medical Institute and Innovative Genomics Institute.

6) Recommitment to Regional Impact

Although many major research universities are concerned with global rankings (e.g., [ARWU](#)) as indexed by scholarship in internationally recognized journals, an argument can be made for a reinvestment in public universities' original purpose as regional actors—defined as the anchor institutions in regional economics and as vehicles there for socio-economic mobility. A recommitment to and affirmation of regional service and impact could be a powerful way to assert Berkeley's relevancy as a public university. This would include:

Focusing admissions outreach and recruitment on the greater Bay Area to bring in more local low-income students to boost socio-economic mobility and to add to our efforts to be a Hispanic Serving Institution;

Promoting/expanding civic engagement among students, faculty and staff;

Collaborating with other Bay Area higher education institutes to improve regional educational attainment and to meet labor shortages, especially in high tech fields;

Targeting social science research and programs toward regional social problems (such as homelessness, poverty, health issues, labor shortages);

The message of such efforts, newly coordinated and publicized as well as newly created, would be that the best-known public research university in the world believes that its locality matters.

III. Additional Themes

Many common themes emerged from our Working Group discussions and conversations with stakeholders about how Berkeley can be sustained as the leading public research university. These are listed below (no priorities implied).

- Remove barriers between fundamental and applied work, show how they are connected, and explain the need for both to flourish at Berkeley.

- Rebuild the trust of the Legislature, Regents, and people of California in Berkeley's competency and vision, through enhanced efforts of campus leaders, advocacy groups, and distinguished outside advocates who articulate our exciting and important research, our contributions to innovation, and our ability to develop tomorrow's leaders. Berkeley's image can be improved by strengthening communication with all stakeholders.
- Balance on-line and on-campus education, develop the most effective types of degree programs, and lead and adapt to changes in education such as the use of artificial intelligence.
- Provide the necessary financial and mentoring support for underrepresented students, so that they flourish at Berkeley.
- Articulate the narrative of UC as lifting up all citizens and creating knowledge.
- Support the important role of creative arts and design - where the making of work is central - within the context of a research university where inquiry and discovery are valued.
- Emphasize that comprehensive excellence, improved access, and broad diversity, at the scale of a large public university, are all achievable goals.
- Address existential threats, including health care, climate change, global security, and economic and social disparities.
- Articulate and support career pathways for students in all academic fields, including the humanities.
- Demonstrate reduced bureaucracy and effective decision-making on campus, while maintaining our academic values.
- Rebuild a productive relationship with the Alumni Association that engages our alumni, and makes them feel invested in Berkeley's future.
- Support the education of K-12 students, the future students of the University.
- Appropriately balance the use of central and local functions in campus infrastructure.
- Encourage innovation and entrepreneurial activities for students in the context of social benefits.

- Give students bandwidth with respect to academic requirements, to explore, discover, interact, and create.
- Create an independent “Berkeley Institute for Advanced Research” that would facilitate the work of faculty across STEM fields
- Support a “universe initiative” to understand the origin, structure, and evolution of our cosmos, including the physical, chemical, and biological processes that enable life
- Build a “changemaker” curriculum to support undergraduates in learning to design and implement projects with local, national, and global impact
- Take advantage of entities and features that are unique to Berkeley, including the Berkeley Lab (LBNL), research museums and field stations, a portfolio of dynamic organized research units (ORUs), and the abundant resources associated with the Bay Area.

Working Group Membership

Co-Chairs

Roger Falcone, Professor Physics

Glynda Hull, Professor Education

Members

Alice Agogino, Professor Mechanical Engineering

Jennifer Chatman, Professor Haas School of Business

Serena Chen, Professor Psychology, Director Berkeley Collegium

John Douglass, Senior Research Fellow Goldman School of Public Policy

Suzanne Fleiszig, Professor Optometry

Grace Lavery, Assistant Professor English

Stephen Leone, Professor Chemistry and Physics

Diana Lizarraga, Student Equity and Success STEM Leader, Cal NERDS

Rodolfo Mendoz Denton, Professor Psychology

Jasper Rine, Professor Molecular and Cell Biology

George Roderick,, Professor Environmental Science Policy Management

Kim Shelton, Associate Professor Classics

Rhonda Shrader, Executive Director Berkeley-Haas Entrepreneurship

Sandra Smith, Professor Sociology

Estelle Tarica, Associate Professor Spanish and Portuguese

Ashley Dawn, Administrative Coordinator

Maria Hjelm, Development Advisor

Katherine Mitchell, Planning and Engagement Partner