

**UC BERKELEY STRATEGIC PLANNING**

**SIGNATURE INITIATIVES WORKING GROUP**

**SPRING 2018 REPORT**

**FINAL VERSION - DECEMBER 2018**

**I. BACKGROUND AND APPROACH**

UC Berkeley's Strategic Planning process began in the fall of 2017. On November 21, 2017, Chancellor Christ and EVCP Alivisatos hosted a retreat attended by members of the Chancellor's Cabinet, the Council of Deans, and the leadership of the Academic Senate and the undergraduate and graduate student governments. At that meeting, the Chancellor suggested the campus might want to identify a small set of "Grand Challenges" that Berkeley is well suited to address and that might serve both as catalysts for interdisciplinary research and teaching and as inspiring examples for external audiences of the kinds of work the campus takes on and the value to society of that work. At the conclusion of that meeting, the group recommended charging four small working groups to conduct the initial phase of the planning process; one of these would identify a proposed set of "Grand Challenges" the campus might take on. (The title "Grand Challenges" was later changed to "Signature Initiatives," which the Strategic Planning Steering Committee felt better described the nature and goals of the kinds of challenges the campus wished to take on. The original term "Grand Challenges" has been replaced with "Signature Initiatives" throughout this report, although the word "challenge" is often invoked to describe the kind of problem confronting the initiatives.)

In December 2017, the Chancellor appointed Goldman School of Public Policy Dean Henry Brady and Academic Senate Vice Chair Barbara Spackman to co-chair the Working Group. Nominations for membership were received and reviewed in December and early January 2018. The Signature Initiatives Working Group held its first meeting on January 19, 2018 and met five additional times from January through April.

The Working Group was charged with considering the following question: "**What are the critical issues and challenges facing our state, our nation, and our world that Berkeley is particularly suited to address?**" Topics to be addressed by the working group included: "identification of Signature Initiatives that Berkeley is uniquely suited to address; options for differential growth to support pursuit of these challenges; opportunities for increasing and leveraging interdisciplinarity; role and evolution of comprehensive excellence."

In its early meetings, the Working Group focused on (1) defining and articulating what a "Signature Initiative" means, in the Berkeley context; and (2) soliciting ideas for those Signature Initiatives that would be most appropriate for Berkeley to pursue. Short descriptions of these were shared with the campus in multiple fora beginning in May 2018. Comments were solicited in meetings and

presentations and via the Strategic Planning website. In addition, the Academic Senate provided lengthy comments which are also available on the Senate website.

## **DEFINING A “SIGNATURE INITIATIVE” IN THE BERKELEY CONTEXT**

Generally speaking, the members of the Working Group identified a “Signature Initiative” as a major challenge or issue facing society and the world where the breadth of Berkeley’s research capabilities and the expertise and talents of its faculty, students, and staff could make an important and distinctive contribution. These were not conceived as “moon shots” that society can “solve” or “answer” and move on, but rather as ongoing challenges that we as a society must better understand in order to address.

Nor was the effort to identify a set of Signature Initiatives on which to focus seen as an exercise in applied or policy-focused research at the expense of basic research. Rather, the members of the Working Group returned consistently to the idea that ***basic research and the work of individual contributors pursuing research questions whose implications may not be understood for many years must remain the foundation of our work.*** Basic research in STEM and the foundational discovery-based physical and biological sciences is fundamental to the campus’s ability to pursue initiatives in these and all topics, as well as to our broad-based comprehensive excellence.

In addition, the Working Group agreed that while some Signature Initiatives may appear primarily scientific or technical at first, the contributions of the Humanities and the Arts are critical to our ability to understand, articulate, and solve the major challenges facing our society and our world and, as such, are integral to each of the Signature Initiatives.

Finally, the Working Group affirmed that a great deal of work is already being done on campus in all of these areas—the ability to build on this ongoing work is a critically important strength the campus brings to each of these initiatives. Thus we see the Signature Initiatives as complements to, and extensions of, work already being done in existing departments, schools and colleges, and research institutes—with the added benefit that they are expressly designed to build bridges among existing organizations and structures.

The Working Group codified its understanding of what constitutes a Signature Initiative in the Berkeley context in the following principles:

*SIGNATURE INITIATIVES SHOULD SIT AT THE INTERSECTION OF OUR CORE VALUE OF COMPREHENSIVE ACADEMIC EXCELLENCE AND OUR PUBLIC MISSION.*

Berkeley’s distinctiveness lies in our unique combination of vibrancy in all domains of inquiry and our commitment to the public good. Both of these considerations should guide our selection of candidates for “Signature Initiatives:” they should draw on our excellence in a breadth of disciplines that other institutions cannot bring to the issue and they should have a dimension that serves society.

*SIGNATURE INITIATIVES SHOULD BOLDLY ADDRESS SOCIETAL ISSUES, ENGAGE MULTIPLE DISCIPLINES, AND CUT ACROSS THE AREAS OF RESEARCH, TEACHING, SERVICE, AND DIVERSITY.*

Given its comprehensive excellence, Berkeley is uniquely situated to approach research, teaching, service, and diversity through a cross-disciplinary lens. In defining the Signature Initiatives we seek to address, we should be mindful of and articulate the ways in which each of these can inform not only research and scholarship but also our instructional and public service activities. And we must be able to articulate how each has the potential to enhance and support diversity at Berkeley and/or serve underrepresented (broadly defined) populations and communities across the globe.

*SIGNATURE INITIATIVES SHOULD BE OUTWARD LOOKING, BUT MAY ALSO ELEVATE AND EXEMPLIFY UC BERKELEY.*

As the premiere public research university in the world, Berkeley should light the way to what the public university should look like in the twentieth-first century. We should approach the pursuit of Signature Initiatives in a way that positions us as a leader nationally and internationally and makes Berkeley, as well as the world, better.

*WE SHOULD BE ABLE TO ARTICULATE THE WAYS IN WHICH UC BERKELEY IS PARTICULARLY WELL SUITED TO ADDRESS THESE SIGNATURE INITIATIVES.*

We are not the only university to aspire to address the challenges facing the world today, but we are leaders in the areas we have identified in each of our six Signature Initiatives, and the cross-disciplinary synergies imagined in the suggested projects are possible only at Berkeley. Put another way, if another university has the resources to tackle a challenge as well or better than we can, then that issue is not the best choice for us.

*WE SHOULD BE ABLE TO ARTICULATE THE EXPECTED IMPACT IN TEN YEARS ON STUDENTS, FACULTY, STAFF, SOCIETY, THE NATION, THE WORLD, AND THE PLANET, AS APPROPRIATE.*

In order to measure our success or failure, we must have specific goals, targets, and timetables associated with the specific research and other projects associated with a particular topic.

## **PROCESS FOR IDENTIFYING SIGNATURE INITIATIVES BERKELEY SHOULD PURSUE**

The Working Group solicited input from across the campus community as to which Signature Initiatives would be most appropriate for the campus to pursue. Participants at a retreat with campus deans and department chairs in early February 2018 proposed dozens of ideas. Suggestions were also submitted at two campus Town Hall meetings in early February, via a campus website set up for this purpose, and through meetings with numerous campus groups including the Divisional Council and Committee on Academic Planning and Resources of the Academic Senate; the

undergraduate and graduate student governments; the Department Chairs Forum; the directors of the campus's Organized Research Units; the Board of Visitors; and the Executive Committee of the Board of Trustees of the Berkeley Foundation. The co-chairs and various individual members of the Working Group also held individual meetings with numerous faculty members and groups interested in specific topics. Finally, the Working Group compiled and reviewed information on the specific campus-wide research areas being pursued by twenty of Berkeley's international peers, in order to ensure that our proposals met the criteria described above: that is, that Berkeley brought to each topic a particular approach or combination of resources and strengths that no other institution could match.

The Working Group found that despite the large number of ideas suggested, many could be combined into umbrella categories (e.g., "climate and the environment," "inequality") on which there was substantial consensus from campus constituencies. In some cases, these were areas where the campus is already acknowledged as an international leader. In others, the particularly strong combination of resources—not found at the same level of distinction in any other institution—we can bring to an issue made it a compelling choice. In a few cases, ideas did not move forward because as compelling as they might be, we felt other institutions could also address the topic and Berkeley had nothing unique to contribute.

## **II. SIGNATURE INITIATIVES RECOMMENDED BY THE WORKING GROUP**

Based on the principles, criteria, and process described above, the Working Group recommends the following six broad topics for preliminary discussion as Signature Initiatives the campus should consider pursuing. Note that the titles and descriptions of these are likely to change based on campus feedback and that new initiatives may be suggested or added while some of these may not move forward. (Indeed, we recommend some form of annual or semi-annual process for reviewing the progress of these initiatives and nominating new topics.) Each of these six initiatives is described in greater detail in the Appendix.

### **INCLUSIVE INTELLIGENCE**

A new approach to artificial intelligence and Data Science that is: 1) inclusive of individuals from all backgrounds to benefit the greater good; 2) inclusive of a broad community of scholars from engineering, business, the arts, humanities, psychology, neuroscience, sociology, politics, philosophy, history, and other disciplines; 3) inclusive of developing a broad array of related approaches and technologies such as data science, artificial intelligence, robotics, sensing, machine learning, etc.; and 4) inclusive of both human and artificial intelligence and the way they interact with, complement, and enhance each other. This initiative will promote both continued technological innovation and a broad investigation of the societal and ethical implications of artificial intelligence, robotics, and data sciences.

### **ENVIRONMENTAL CHANGE, SUSTAINABILITY, AND JUSTICE**

Many of the greatest economic, societal, and political challenges of our century revolve around environmental issues, including energy, climate change, water, land use and scarcity, food

production, resource extraction, biodiversity loss, diseases, and human health. This initiative proposes a wide coordination of units—stretching from the humanities and social sciences to STEM and the professional schools—to examine, predict, and mitigate these challenges, and in the process become an international leader in solution-based scholarship that fosters societal change.

#### **DEMOCRACY, VALUES, GOVERNANCE, AND FREEDOM OF EXPRESSION**

Now is the time for a broad reflection on the values and conditions that enable democracy to flourish. All aspects of democratization must be considered in an age in which technology, wealth, globalization, political polarization, mass immigration, and inequality pose challenges to democracy. Berkeley will lead in clarifying the future of democracy, its paths of evolution, and ways to preserve and enhance it.

#### **INEQUALITY AND OPPORTUNITY**

Inequality is a defining issue of our time; it affects democratic participation and access to education, health, and wellbeing. As a world leader in studying the multiple dimensions of inequality, Berkeley's faculty, departments, and centers are uniquely equipped to develop policies to diminish inequality and broaden opportunity.

#### **CHARTING A NEW COURSE TO HEALTH AND WELLBEING**

Health is so much more than the absence of disease. While 20% of the determinants of health are based on clinical interventions, the other 80% of influential forces include our social and economic contexts, time and place, our own behaviors, and the physical environment around us. Berkeley will chart a course to optimal wellbeing by maximizing innovation in life science discovery, accelerating the technological developments to bring these insights to practical application, and minimizing the social barriers to equal access to health. Our aim is to bring the broad and deep expertise of the Berkeley community together around points of innovation to approach the full spectrum—the full 100%—of the factors that influence human health.

#### **LIGHTING THE WAY TO THE PUBLIC RESEARCH UNIVERSITY OF THE FUTURE**

Berkeley—in its 150th year—will devote itself to serving as an international model for the public research university of the future. This includes being the best we can be in all our endeavors; continuing to expand access and opportunity; creating new art, knowledge and understanding of our society, planet, and universe; communicating that knowledge to the world; telling the story of the value of public institutions in a time when the meaning and value of “public” has become tarnished; and helping to develop policies that will sustain public research universities and the knowledge and technological advances they create into the future.

For additional detail on each of these, please refer to the Appendix. Note that the descriptions of each of the Signature Initiatives are still considered preliminary drafts. Final versions will be developed during the implementation phase, based on campus responses and interests and the insights of the teams created to lead them.

### **III. NEXT STEPS AND IMPLEMENTATION**

While the Working Group employed a comprehensive process to solicit and refine the ideas listed above, we do not conceive of this list as either final or exhaustive. Rather we expect that some of these might not move forward, others may be added, and that efforts on those the campus does pursue will not proceed at the same rate or on the same scale. Similarly, some of these can be pursued—or at least initiated—with existing resources while others cannot move forward without philanthropic or other support. It is our goal that these initiatives draw resources to the campus, for the most part augmenting rather than redirecting existing resources. We strongly welcome and invite input on these and other possible initiatives.

The single most important criterion for success on any of these projects is faculty enthusiasm and commitment. As an implementation strategy, we recommend that the campus solicit and identify faculty who can serve as leaders and sponsors of these initiatives and vest considerable authority in those faculty to refine the ideas and develop plans for identifying and pursuing various research, instructional, and service projects they might include. In keeping with the interdisciplinary focus of the Signature Initiatives, the project teams developed to lead each initiative should be broadly representative of STEM, the social sciences, arts and humanities, and the professional schools. We also anticipate that dedicated staff will be required in many cases to monitor activities and keep implementation on track.

#### **APPENDIX: DETAILED WRITE UPS OF SPECIFIC SIGNATURE INITIATIVES**

- A1: Inclusive Intelligence**
- A2: Environmental Change, Sustainability, and Justice**
- A3: Democracy, Values, Governance, and Freedom of Expression**
- A4: Inequality and Opportunity**
- A5: Charting a New Course to Health and Wellbeing**
- A6: Lighting the Way to the Public Research University of the Future**