

May 22, 2014

CP/EVC Alison Galloway  
Chancellor's Office

**Re: Identification of Interdisciplinary Themes and Academic Planning Process**

Dear Alison:

In recent conversations regarding the divisional FTE requests, you asked us to think beyond the current cycle. Rebenching and other favorable budgetary developments, together with numerous faculty retirements anticipated over the next decade, give UCSC a rare opportunity to invest in ambitious initiatives that will advance our academic profile. This letter will sketch our thoughts on how best to seize that opportunity. It complements our recent letter to you regarding the divisional FTE requests for 2014-15. It also complements the letter on Senate Faculty Initiated Group Hires (FIGH) preproposals, culminating a process in which CPB participated actively.

Your call to the divisional deans urged them to propose clusters, defined as comprising two to four faculty hires over two or three years that promise world-class excellence by leveraging existing strength in important areas of teaching and research and which are financially viable. Criteria for FIGH preproposals were similar. The Deans proposed about a dozen clusters, and the FIGH process produced 19 preproposals.

In sorting through all these cluster ideas, we found that a majority fell into broader categories that we will refer to as interdisciplinary (and interdivisional) themes. The logic behind clusters readily extends to these themes, creating a cluster in one specific area can often leverage several adjoining clusters. In some cases, the opportunity to achieve world-class excellence becomes clear only at the interdisciplinary thematic level.

In a series of conversations over the last several months, CPB members identified three interdisciplinary themes that we see as the most promising for UCSC over the next 5-10 years.

**Cultural Crossings.** UCSC is a leading center of the trans-disciplinary work in the Arts, Humanities, and the Social Sciences that has reconfigured how contemporary scholars think about global interactions and connections. The campus is a major source of the conceptual vocabulary and the methods that are inspiring deeper historical work on ancient and modern globalizations, innovative cross-cultural and cross-regional studies, and attention to new, complex objects of global connection (for example, diaspora, borderlands and contact zones, hybrid musical and artistic genres, world literatures, the PacRim, emerging worlds, indigeneity, and nature/culture). "Cultural Crossings" builds on this rich intellectual legacy, on UCSC's web of trans-disciplinary programs, centers, and institutes, and on new research clusters exploring the Atlantic slave trade, Indian Ocean crossings, African diasporas, global China, and cross-cultural archives, memory, musical genres, and visual and narrative metaphors. Through initiatives such as these, we will develop and extend UCSC's reputation as one of the most imaginative centers

for conceptualizing and intervening in the world and the world-crossing connections that compose it.

**Data Science.** UCSC has the opportunity over the next few years to pioneer a unique version of data science. To meet industry's exploding demand for data science, several computer science programs recently launched MS programs that teach how to extract prespecified information from a given large data set. Leveraging existing strengths at UCSC across all divisions (including Bayesian statistics, human-computer interaction, machine learning, text mining, data visualization, databases, data integration, and high-performance computing, as well as areas complementing data science including data storage, data privacy and security, materials science, bioinformatics and astrophysics) we can expand the scope of Data Science to the design of systems that (a) actively collect new sorts of data, experimental as well as naturally occurring, and then (b) extract, distribute and display information that best improves decision-making by individual humans and by organizations. Besides the usual commercial applications, these include education (think of what could be done at UCSC alone to improve undergraduate success!), health, environment, and public policy more generally. Equally important, new and fundamental research questions emerge from this expanded scope, e.g., concerning measuring system performance, and how to integrate cognitive and political constraints with physical and information-theoretic constraints.

**Environment & Sustainability.** This area of campus strength includes climate change, coastal sustainability, agroecology and sustainable food systems, renewable energy, and our award-winning Office of Sustainability. Environmental and sustainability research strives to accurately identify and predict impacts of changing environments (climate, natural resources), agricultural practices, and environmental technologies (energy, water, food) on social and biological systems, and to utilize the most effective scientific, political, and human system adaptations to improve the success of climate and conservation interventions.

We should emphasize that the three interdisciplinary themes do not exclude other priorities. For example, internationalizing our campus and/or expanding into Silicon Valley may turn out to be major developments over the next 5-10 years. We don't see internationalization as a competing theme, indeed Cultural Crossings is very complementary, while Environment & Sustainability will have an important international aspect (at least in terms of the Americas), and Data Science applications include foreign language translation and trans-national data analysis. Expansion into Silicon Valley might affect the hiring schedule and funding of Data Science and (to lesser degrees) the other two themes, but all three themes seem to us compelling with or without a Silicon Valley presence. Moreover, there are some areas relatively distant from the three themes but that are important to UCSC's profile, and it is not our intention to starve them. Our recommendation is to put the largest share of new resources into supporting these three themes, but to use retirements and other resources to maintain excellence (and fund promising smaller initiatives) where that can best serve the campus' long term interests.

Another point deserves emphasis. All three themes are inherently multi-divisional and reach across the divide between STEM (science, technology, engineering and math) and non-STEM fields. The Environmental Studies Department is in the Social Sciences Division and building

capacity for quantitative policy analysis in that Division is a top priority, but we will achieve world-class distinction in Environment & Sustainability only by drawing on the energies and expertise of faculty housed in PBSci and Engineering. Data Science originates primarily in SOE but will build a distinct identity only by drawing on current and future Social Sciences faculty as well as some in Humanities and Arts. Cultural Crossings originates primarily in non-STEM fields but will increase its impact if it can draw on STEM expertise, e.g., to map economic and demographic forces unleashed by ancient and modern globalizations.

We believe that the next step is to develop vision statements for each of the three themes, explaining how each can achieve world-class excellence in research and graduate education, and how each can contribute to undergraduate education and to our service mission. Beyond vision statements, academic plans should assess financial viability, identify specific gaps in our intellectual portfolio, and define initial searches. The vision and planning drafts must be vetted by faculty; broad input surely will help strengthen the statements and plans. Then the recommended FTE hires should begin, preferably as soon as the next recruitment cycle.

We recommend that you appoint working teams this summer for each of the three interdisciplinary themes. You can draw on current CPB members and across the Senate; we will suggest names if you wish. Each team would have a mandate to work with vice provosts, divisional deans, department chairs and the faculty at large to develop vision statements and hiring plans.

Thank you for giving us the opportunity to expand our horizons. We look forward to working with you, with the rest of the administration, and with our fellow Senate members to develop these ideas and bring them to fruition.

Sincerely,



Daniel Friedman, Chair

Committee on Planning and Budget

cc: VC Delaney