

**THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
MEETING AS A COMMITTEE OF THE WHOLE**

October 17, 2001

The Regents of the University of California met on the above date at UCSF-Laurel Heights, San Francisco.

Present: Regents Davies, T. Davis, Hopkinson, O. Johnson, S. Johnson, Lee, Moores, Morrison, Preuss, Sayles, and Seymour

In attendance: Regents-designate Ligot-Gordon, Sainick, and Terrazas, Faculty Representative Viswanathan, Associate Secretary Shaw, General Counsel Holst, Senior Vice President Mullinix, Chancellor Bishop, and Recording Secretary Nietfeld

The meeting convened at 5:25 p.m. with Chairman S. Johnson presiding.

1. UCSF AT MISSION BAY

Chancellor Bishop presented welcoming remarks for the Regents' visit to the San Francisco campus. He informed the Committee that, due to the lateness of the hour, the tour of the Mission Bay site would be postponed to a later date. The Chancellor recalled that the San Francisco campus was founded as a proprietary medical school in 1864. The medical school was donated to the University of California and relocated to Parnassus Heights. UCSF is unique because it is devoted entirely to the health sciences, with accredited schools of dentistry, medicine, nursing, and pharmacy. The campus is the second-largest employer in the City of San Francisco. Its fundraising ability rivals all but the largest universities in the country; the campus is the number one fund raiser among academic health centers nationwide. UCSF faculty inventions account for 75 percent of the patent income to the UC system. Chancellor Bishop displayed a slide which illustrated the fact that the campus has a presence throughout San Francisco. The campus' distributed nature arises from its chronic shortage of physical space. The solution has been found in the form of the Mission Bay campus. The Chancellor then asked his presenters to share their remarks with the Regents.

A. *Academic Overview*

Professor Keith Yamamoto, who chaired the faculty task force that prepared the academic plan for the Mission Bay campus, took the Regents through the planning process for Mission Bay. He outlined the key factors of the process, including the fact that it was faculty driven and needs based. The task force submitted a plan to the administration that it believed would establish thriving research programs at Mission Bay. One product of the process was a set of principles that were enunciated in the academic plan. There would be new programs that would capitalize on emerging opportunities in science. Educational excellence at UCSF would be maintained both during and after the transition to the Mission Bay campus,

and programs would be defined as campuswide regardless of location. Guided by these principles, the task force proposed five program areas for Mission Bay: molecular and cell biology, structural and chemical biology, neuroscience and developmental biology, genetics, and the California Institute for Bioengineering, Biotechnology and Quantitative Biomedical Research (QB3). Professor Yamamoto outlined the features that underlie the Mission Bay academic plan. First is the notion of new interactions that fit the way that science is being done. Members of 13 different departments are slated to move to the new campus. The programs will be organized as Mission Bay programs but none will be located there exclusively. There will be more functional collaboration between researchers and physician scientists. Another purpose of the new campus will be to foster collaborations with industry. The first phase of the Mission Bay development represents the first installment of a bold new undertaking.

Chancellor Bishop discussed how the research of the San Francisco campus had led to major medical breakthroughs, some of which resulted in the receipt of the Nobel Prize and the Lasker Award.

B. *QB3 - The Governor's Science Initiative*

Professor David Agard, director of QB3, recalled that Governor Davis had established the California Institutes for Science and Innovation, one of which is the California Institute for Bioengineering, Biotechnology and Quantitative Biomedical Research. QB3 will be dedicated to the understanding of issues related to human health and disease. The work will stem from advances in molecular genetics, which created the biotechnology industry. There is a belief that the next advances will result from the application of hard sciences to problems in biomedical science. The complexity of biological systems presents a great challenge. Traditional science has sought to understand systems by breaking them down into parts. The result is the lack of understanding of fundamental principles. Recent developments will allow researchers to look at whole systems. The institute will combine the efforts of physicists, mathematicians, and engineers with those of biologists. The mission of the institute is to apply the quantitative sciences to biomedical problems and to develop new technologies that function at the molecular level. The institute also will forge new links with industry. Professor Agard provided a list of the medical problems which the institute will study and described some of the new techniques that will be involved. The institute will unite faculty from the San Francisco, Berkeley, and Santa Cruz campuses in coordinated efforts for future research. Professor Agard stressed that research to be carried out at QB3 could not be accomplished without the space that will be provided at Mission Bay.

C. *Will Protease Inhibitors Cure What Ails Us?*

Professor Charles Craik, a member of the Department of Pharmaceutical Chemistry and Director of the Chemistry and Chemical Biology Graduate Program, reported that researchers at UCSF had been successful in developing HIV protease inhibitors that target specific enzymes in the body. He commented on the high cost of drugs, which on average require \$600 million and ten years to develop. Frequently, by the end of the clinical trials and federal regulatory review, the drug turns out to not be viable. Researchers at UCSF were able to convince drug manufacturers that, in order to treat HIV, attention should be placed on protease inhibitors. The high cost of these drugs results from the fact that so many previous attempts to treat HIV had failed. Professor Craik noted that advances in modern biology now permit the mapping of the entire genome. Researchers have found that two to three percent of the human genome are proteases which may be used to combat disease. He described some of the research that is under way in this area. His laboratory has identified classes of proteases involved in prostate, breast, and ovarian cancer that may prove to be good drug targets and may also serve as diagnostics to screen for cancer. Professor Craik stressed that new medical discoveries are being made in collaboration with scientists such as chemists who are not traditionally involved in medical research. The Mission Bay campus will provide an opportunity to foster this interaction.

D. ***Looking for the Fountain of Youth***

Professor Cynthia Kenyon, Professor of Biochemistry and Biophysics, described her research on the mechanisms that control aging using the roundworm *C. elegans*. She noted that while there is a presumption that everyone ages, mammals have varying life spans. The theory is that the aging process is based on genetics. Professor Kenyon explained that she had chosen to study *C. elegans* because 75 percent of human genes are present in the worm. She reported the discovery that mutations in the *daf-2* gene could double the worm's life span, and she presented a video showing the difference between normal and mutated worms. The goal is to understand how the worm's life span has been altered. A theory is that life span is dependent upon various signals which, in the case of *C. elegans*, are the sense of smell and taste. For example, worms with a reduced sense of smell live longer. Professor Kenyon reported that researchers believe that there are signals in the environment that regulate the release of hormones for the *daf-2* receptor. The intention is to try to understand similar signals for humans.

E. ***Parnassus Heights After Mission Bay***

Professor Don Ganem, a Professor in the Department of Microbiology and Immunology and Director of the Biomedical Sciences Graduate Program, discussed how the Parnassus campus would be configured once a significant number of colleagues have moved to Mission Bay. The intention will be to create a mission

that is complementary to that of Mission Bay rather than to duplicate it. A focus at the Parnassus campus will be disease-related research using the human genome. In order to achieve a forward-looking program, the research structure of the medical school will need to be reorganized. The present structure in the United States assigns clinical care to clinical departments and basic science research to science departments, each with its own budget and its own space. In biotechnology firms, by contrast, physicians and scientists work closely together in a climate of mutual respect. The Parnassus faculty entrusted with the responsibility of drafting a plan for the released space rejected the idea of assigning space to departments based upon a formula. Instead, the faculty asked that the space be held by the Chancellor and used to unite interdisciplinary programs that were chosen based on important scientific themes for biomedicine in the next twenty to fifty years. The faculty were invited to submit proposals for programs to occupy the released space. The proposals were judged on the broadness of their themes and the numbers of schools and departments that could identify something of importance in that theme. Sixteen proposals were received, of which five were chosen in the fields of stem cell biology, human genetics, immunology, asthma research, and microbial pathogenesis. New faculty will be recruited to participate in these research programs.

2. UCSF IN THE CONTEXT OF THE LARGER MISSION BAY COMMUNITY

Vice Chancellor Spaulding presented slides illustrating the location and development of the new campus. The property at Mission Bay was formerly a railroad yard. In 1984, the Santa Fe Railroad created Catellus Corporation to develop the site. The San Francisco campus developed a plan with Catellus for the Mission Bay campus and surrounding uses, including a public school and 6,000 units of housing. An additional 5 million square feet will be devoted to biotechnology and commercial uses. For tax purposes, Catellus conveyed one parcel to The Regents in 1998, and the second will be conveyed in 2004.

3. UPDATE ON SITE DEVELOPMENT AND UCSF HOUSING PLANNING

Due to the lateness of the hour, this presentation was deferred.

The meeting adjourned at 7:00 p.m.

Attest:

Associate Secretary