The Regents of the University of California

COMMITTEE ON EDUCATIONAL POLICY
May 15, 2002

The Committee on Educational Policy met on the above date at Covel Commons, Los Angeles Campus.

Members present: Regents Atkinson, Davies, T. Davis, Eastin, Johnson, Lansing, Lozano, Marcus, Montoya, Moores, Saban, and Sayles; Advisory members Ligot-Gordon, Sainick, and Terrazas

In attendance: Regents Blum, Hopkinson, Kozberg, Lee, Morrison, Parsky, Pattiz, Preuss, and Seymour, Faculty Representatives Binion and Viswanathan, Secretary Trivette, General Counsel Holst, Treasurer Russ, Provost King, Senior Vice Presidents Darling and Mullinix, Vice Presidents Doby, Drake, Gomes, and McTague, Chancellors Berdahl, Bishop, Carnesale, Cicerone, Dynes, Greenwood, Tomlinson-Keasey, Vanderhoef, and Yang, Acting Chancellor Warren, and Recording Secretary Nietfeld

The meeting convened at 9:21 a.m. with Committee Chair Montoya presiding.

1. **APPROVAL OF MINUTES OF PREVIOUS MEETINGS**

Upon motion duly made and seconded, the minutes of the meetings of January 16-17 and March 12-13, 2002 were approved.

2. **REPORT ON CALIFORNIA STATE SUMMER SCHOOL FOR MATHEMATICS AND SCIENCE (COSMOS)**

President Atkinson called the Committee's particular attention to the presence of former First Lady of California Gayle Wilson, who had played a key role in drafting the legislation that created COSMOS.

Assistant Vice President Polkinghorn informed the Committee that in summer 2000 the California State Summer School for Mathematics and Science chose over 300 academically advanced high school students to participate in a month-long residential experience at the Irvine and Santa Cruz campuses. Modeled after the California State Summer School for the Arts, COSMOS conducts a University-based program for talented and motivated students who are completing grades eight through twelve. The COSMOS mission is to motivate the most creative minds of the new generation of prospective scientists, engineers, and mathematicians who will become leaders for California and the nation, and to foster a community of scholars engaged in intensive academic experience delivered by distinguished educators, scientists, and researchers. In summer 2001, the program expanded to three campuses with the addition of UC Davis, which was selected following a competitive review.

For COSMOS students, academic course work, laboratory time, distinguished lectures, and field experiences are organized into subject matter clusters that address topics not traditionally taught in high school. These may include astronomy, computer science, physics, mechanical engineering, wetlands ecology, ocean science, robotics, biology/neuroscience, cognitive science, game theory, and volcanology. Courses are taught by distinguished university faculty with support from outstanding TransAmerica Teaching Fellows selected from public and private high schools. Graduate and undergraduate students also participate as assistants, mentors, and dormitory supervisors.

With annual State funding for the program set at $2 million, the COSMOS leadership must raise the remaining funds from private sources for operating costs, scholarships, and teacher support. In 2001 and 2002, private donors contributed approximately $805,000 in support of COSMOS.

Assistant Vice President Polkinghorn provided a brief portrait of the students who enroll in COSMOS, noting a substantial increase in student participation as the program enters its third summer and as it has begun to acquire a positive reputation among young people, teachers, and parents in California. Applications for COSMOS exceeded 600 for summer 2002. The participants are among the brightest students in the state, with 31 percent having grade point averages over 4.0. Gender distribution is balanced at 52 percent female and 48 percent male. The ethnic distribution of COSMOS students represents a cross-section of California secondary school students, and the program has participation from nearly 70 percent of the state's 58 counties. Students report that COSMOS pays a variety of dividends, especially in terms of confidence and enhanced social skills. COSMOS administrators have a goal of continuing to support the students' interests and helping them to stay on the pathway to college while maintaining their academic pursuits in mathematics and science.

Assistant Vice President Polkinghorn acknowledged the presence of summer 2001 COSMOS alumnus Jesse Cruz, a student at North Hollywood High School.

Professor Peter Rock, Dean of the Division of Mathematical and Physical Sciences at UC Davis, informed the Committee that he has administrative responsibility for the Davis campus' COSMOS program. He reported that the percentage of first-year college and university students who indicated an intent to major in mathematics and science had fallen from seven percent in 1967 to less than two percent today. One goal of COSMOS is to play a role in reversing this trend. The University's campuses provide an excellent setting and enthusiastic faculty members for the program, which gives students with an interest in science and mathematics an opportunity to share a nurturing environment with other students with similar interests. Dean Rock shared some of the achievements of those enrolled in summer 2001, including the construction and programming of robots, the launching of rockets to test velocity and propulsion theories, and the creation of websites describing their projects. He noted also the high school teaching fellows program, which draws high school

science and mathematics teachers to participate in COSMOS. This program is designed to enhance their high school courses. The 2002 summer program at Davis will offer expanded program clusters in subjects that include the biological sciences, geology, and environmental science.

Mrs. Wilson reported that COSMOS had been envisioned as a special enrichment program for the state's brightest students in mathematics and science. She recalled that such programs had been established in several states as early as 1988. She believed at the time that California should also be able to offer its students the benefits of extracurricular enrichment that would offer opportunities that their high schools could not provide. Such a program would nurture friendships among future science leaders and would provide students with information about other science programs, available scholarships, college opportunities, and internships. Enabling legislation was passed in 1998, and planning funds were appropriated. In January 2000, the University of California accepted the challenge to design and administer the California State Summer School for Mathematics and Science. Mrs. Wilson noted the success to date of the program, giving particular attention to the fact that more than 50 percent of the enrolled students are girls, while society in general is less supportive of girls in science, mathematics, and engineering than it is of boys. She serves as a member of the COSMOS advisory board, which gives guidance to the management council. The membership of the advisory board consists of distinguished California academics, several of whom are members of the National Academy of Science. Mrs. Wilson reported that she had undertaken the task of raising private funds for COSMOS, with the assistance of Mr. Dan Aldrich from the Office of the President. Contributions have been received from corporations and foundations who share the program's goals. In addition, $327,000 in scholarship funding was raised when COSMOS was chosen as the beneficiary of events surrounding California's celebration of the 100th anniversary of the Nobel Prize. COSMOS provides a way for the University to introduce California's top high school students to a resident undergraduate community while they are in the process of considering which college or university they wish to attend.

In response to questions from Regent Lozano, Assistant Vice President Polkinghorn reported that a system had recently been developed to track COSMOS students as part of the program's evaluation component. Internships are envisioned as an opportunity for students to participate in a business, laboratory, or academic setting during a summer subsequent to their enrollment in COSMOS. This component is in the developmental stage.

Regent Montoya asked about outreach to potential COSMOS students. Mr. Polkinghorn explained that during the past year there had been a strong effort to recruit students, using a team of faculty and K-12 teachers who have served as fellows in the program. In addition, organizations and professional associations have been informed about COSMOS. The advisory board members and staff in the Office of the President have also been engaged in this outreach effort. His understanding from the experience of the California State Summer School for the Arts is that four to six years are required to develop a program identity. In response to a further question from Regent Montoya regarding parent participation, Assistant

Vice President Polkinghorn noted that each participating campus has a staff member who is dedicated to providing parents with the vital information they need to feel comfortable about their child's participation in COSMOS. Mrs. Wilson spoke to the importance of each student's having a personalized college counseling session which could include financial aid information for parents.

In response to a question from Regent Lee, Mr. Polkinghorn stated that the cost to the program for each student enrolled is $5,500.

3. **ADMISSIONS TESTING**

Provost King recalled that over the past fifteen months, the Board on Admissions and Relations with Schools (BOARS) had undertaken an intensive study of admissions testing at the University. In its January 2002 discussion paper, BOARS endorsed the continued use of admissions tests at UC and proposed a set of principles on which it believes the University should base its use of admissions tests. The effect of these principles is to endorse the adoption by the University of improved admissions tests that measure academic preparation and the critical thinking skills necessary to succeed in college, in the context of a rigorous college preparatory curriculum.

Faculty Representative Viswanathan recalled that at the Committee's March 2002 meeting he had presented a status report on the Academic Senate's discussions on standardized tests, and Professor Perry, the chair of BOARS, had summarized its recommendations concerning the principles and properties that should form the basis for the selection of tests for use by UC. In addition, a panel of experts discussed the issues that should be considered as the University debates changing its admissions test requirements. Since that meeting, faculty members have discussed the issues related to improved admissions tests in meetings of the Academic Council and both campus divisional and Universitywide faculty committees devoted to admissions and educational policy. In addition, at the suggestion of the Academic Council, campuses have held town-hall meetings on the subject, designed to ensure broad faculty awareness of and participation in the decision-making process related to the adoption of a new admissions testing policy. These conversations have been thoughtful, thorough, and wide-ranging. BOARS has continued its discussions with the ACT and the College Board with respect to tests that may be developed in response to BOARS' recommendations.

Professor Perry reviewed the key points of the BOARS' proposal, the first being that the University should continue to use admissions tests. BOARS is recommending that the University adopt a core examination of fundamental skills, including reading, writing, and mathematics, plus two achievement tests. Professor Perry displayed comparisons of the test proposals put forward by the ACT and the College Board. Both testing agencies have proposed national examinations that would be fully transportable for students applying to UC. In response to comments made at the Committee's March meeting, BOARS has been in contact with admissions officials at the California State University, and they have

expressed interest in the proposal. The faculty are interested in the ability to provide diagnostic feedback to students about their performance on these tests. The ACT currently has a diagnostic feedback system, and the College Board will develop one that is similar to that used for the PSAT. Professor Perry stressed that both the ACT and the College Board have proposed an important writing component for the new test because writing is the strongest predictor of student success at UC. The expectation is that the new tests will undergo development and field testing during 2002-04 and be ready for use by 2004 for students entering in the class of 2006. The faculty have high expectations for UC's applicants; the intention is to test them on the materials and skills that they will need to succeed.

Faculty Representative Viswanathan informed the Committee that the Academic Council, at its meeting on April 24, had approved the following two resolutions:

- BOARS should continue to work with testing agencies to develop improved admissions tests.

- BOARS will bring its recommendation for improved admissions tests to the divisions, the Academic Council, and the Assembly for review and approval.

Professor Viswanathan called upon Mr. Richard Ferguson, President of the ACT, and Ms. Cyndie Schmeiser, Senior Vice President of the ACT, for their presentation. Mr. Ferguson discussed some of the elements that had guided the development of the test since the early 1950s. A key belief is that assessment and instruction should be interwoven. Admission is seen as a process that has an effect on the high schools and the students who attend them. The ACT believes that fairness requires a public disclosure of which skills are valued by the institutions that are administering the admissions process. The ACT is completely transportable on a national level, with nearly 2 million tests administered in 2001. The development of the test is based upon a national curriculum study which is monitored on a annual basis as the curriculum changes. Mr. Ferguson displayed the system known as EPAS (Explore, Plan, Act Assessment), which follows students from the transition to high school through entry into college. EPAS stresses early planning and the continued monitoring of a student's progress. Feedback is provided to schools to enable them to take the steps that are needed to ensure that their students are acquiring appropriate skills. He pointed out that the EPAS system is in place today and available to students who plan to enroll in the class of 2006. With respect to BOARS' recommendations, Mr. Ferguson reported that the ACT would propose the addition of an essay, resulting in a writing test of 70 minutes. The reading and mathematics portions of the ACT meet BOARS' standards and are used throughout the country. The ACT also has the advantage of a science portion which directly addresses the national need for students to have good science skills. The proposed writing test will be scored holistically and also have a standards-based interpretation for students. The ACT is able to translate a student's score on a particular section of the test into a description of the skills this student is capable of, which is vital not only to the college but to the high schools and middle schools as well. In concluding his presentation,

Mr. Ferguson noted that the ACT meets BOARS' recommendations for a test that is curriculum based, is sensitive to gender and racial bias, and is fully transportable.

Faculty Representative Viswanathan then introduced Ms. Linda Bunnell Shade, Senior Vice President for Higher Education of the College Board, and Mr. James Montoya, Vice President for Western Division Operations. Ms. Shade explained that the College Board is a member organization consisting of more than 4,000 colleges, universities, and high schools. It was founded in 1900 by colleges and preparatory schools on the East Coast to develop tests of subjects that were taught in high school and would be studied in college. In 1926, the conclusion was reached that a test of verbal and analytical skills would be helpful to colleges when making admissions decisions. In 1937, achievement tests were added, now known as the SAT IIs. In 1948, the College Board joined with the American Council on Education and the Carnegie Foundation for the Advancement of Teaching and Learning to create the Educational Testing Service (ETS). Since that time, the College Board has contracted with ETS to develop its tests. Ms. Shade reported that College Board trustees would be discussing changes to the examination that address the core competencies that are needed for success in college and reflect the education that a student experiences in high school. The role of the College Board, however, extends beyond testing. Its mission is to prepare, inspire, and connect students to college and opportunity, with a commitment to excellence and quality. One example of this commitment is the advanced placement program, which is designed to enrich the high school curriculum. Last year, nearly 75 percent of California's high schools offered advanced placement courses. The PSAT examination, which is used as the basis for the selection of National Merit Scholars, is another important program of the College Board. The introduction of the diagnostic component of the PSAT has been well received.

Mr. Montoya observed that the success of the PSAT and the SAT I stems from the fact that they have evolved to meet the changing needs of students and educators. These test modifications have included the following goals:

- To ensure that test content is balanced and appropriate for test takers with widely different cultural and educational backgrounds.

- To reduce the influence of speed on test performance.

- To reduce the effects of special coaching on test performance.

- To ensure that test content is consistent with changes in school-based learning.

The last major change to the SAT was in 1994, when improvements were made to the mathematics section of the test and the use of calculators was introduced. In the verbal portion of the test, antonyms were replaced with critical reading passages. The decision was made not to add an essay portion of the test at that time. The current national conversation on a new SAT supports the idea that it be aligned more closely with core academic competencies and with subjects that foster success in college. Mr. Montoya anticipated that the changes to be considered by the trustees of the College Board would include the addition of questions to the analytical section of the test based upon advanced mathematics courses.

The analogies section would be replaced by questions that measure critical reading abilities, and a writing component would be added. The advantages of these changes include transportability across the nation. Colleges and universities will continue to rely on the predictive validity of the test, and students and parents will receive the clear message that the best preparation for the test is the rigorous study of course materials in middle and high schools.

Ms. Shade expressed the appreciation of the College Board to the Regents for their interest and commitment to admissions policies. She stated her intention to continue to work with BOARS and the Office of the President on the details of the proposal.

Provost King invited Mr. Wayne Camara, Vice President of Research and Development for the College Board, to the table to assist in responding to questions from Regents.

Regent-designate Terrazas recalled that Professor Perry had estimated that the new tests would be ready by 2004 for the class of 2006 and asked why the two-year lead time for student preparation was necessary. Professor Perry pointed out that the University would need to communicate with the high schools about the new tests. During this transition, the old testing requirements would still be in place.

In response to a question from Regent Johnson, Mr. Ferguson noted that a concordance table for the ACT and the SAT had been developed nationally by the Association of Admissions and College Registrars.

Regent Johnson asked for more information on the PSAT. Mr. Camara explained that it is a preliminary test that students take in the tenth or eleventh grade in preparation for the SAT. The test provides diagnostic information about each student's performance on the test, indicating areas of strength and weakness. As the PSAT already includes a writing component, the only changes being contemplated by the College Board would be the elimination of analogies in the verbal test and a slight change to the mathematics portion. The new test is expected to be ready by 2004.

Regent-designate Ligot-Gordon asked about the critical reading component of the SAT. Mr. Camara commented that, in addition to the elimination of the analogy items, the proposal would be to introduce paragraph-length reading questions. In response to a further question, Mr. Camara explained that, once the trustees have approved the proposed changes to the SAT, three committees of national experts will be appointed to determine the test content.
He anticipated considerable input from the University of California.

Mr. Ferguson called attention to the considerable amount of research that had gone into the development of each component of the ACT and its value as a diagnostic tool. He believed that the ACT was consistent with the direction of the BOARS' recommendations.

Regent Lansing asked for an explanation of why writing is the best predictor of a student's success in college. Mr. Ferguson observed that research tends to show a high correlation between a student's performance on a writing test and college performance because writing is a significant component of the college experience. Regent Lansing expressed concern about how the new writing portion of the tests would be evaluated, giving the subjective nature of such an examination. Mr. Camara noted that the College Board would basically propose to move the writing portion of the SAT II to the SAT I. Ms. Schmeiser added that the ACT would work with faculty who teach freshman English courses to define the type of writing skills that students require in order to succeed in college. A rubric that defines the desired features of the writing will be used by readers to score the test. Regent Lansing continued to believe that it would be difficult to evaluate the creative aspects of a student's writing sample. Mr. Ferguson assured her that the intention would be to base the grading largely on writing elements such as sentence structure and organizational skills.

Mr. Camara continued that it is the opinion of writing experts that such a test may be scored objectively. Before the test is developed, a panel of experts will determine how elements of the essay will be graded. BOARS clearly values the instructionally relevant assessment that this test will provide.

Regent Lansing suggested that BOARS' reasoning behind delaying the implementation of the new tests until 2006 was flawed. She believed that students who had prepared well should be ready to take the test at any time. Professor Perry emphasized the need to communicate adequately to students what the changes will be. Regent Lansing praised BOARS, the ACT, and the College Board for responding to the need for improvements in admissions testing.

Regent-designate Sainick shared the concerns that had been expressed by Regent-designate Terrazas and Regent Lansing about delaying implementation of the new tests. Mr. Camara observed that BOARS had not yet formulated a recommendation with respect to the subject-matter tests. He mentioned some of the timing issues that would arise if these test requirements were changed too quickly.

Regent Eastin pointed out that the actions of the University of California have a tremendous effect on California's K-12 schools. She recalled that when she became State Superintendent of Instruction, the state had no standards for K-12 schools and no expectations of what its students should learn. She believed that it was critical to establish standards for writing, and she stressed that the ability to write is as important for scientists as it is for those in the liberal arts. Regent Eastin pointed out that the addition of a writing requirement would force the K-12 system to focus on skills that do not receive enough emphasis. The University can help high schools to improve their performance by sending a strong message about the importance of writing. She expressed the opinion that the number of tests required of high schools students should be reduced.

Regent Kozberg requested more information about the diagnostic elements of the PSAT. Mr. Camara explained that every student receives an analysis that identifies three to four areas of weakness on each section of the test. Under a new system that was introduced in October 2001, this information is also provided to the high school. Research currently under way will result in secure web-based reports for all schools that will provide aggregate information for teachers on how their students performed. This service will be previewed by early 2003. The College Board also provides ideas on how to improve students' performance and will assist with teachers' professional development.

Regent Sayles observed that a segment of the U.S. population continues to believe that standardized tests are racially biased. While he does not accept that interpretation, he asked what steps are taken to ensure that they are not. Mr. Camara explained that the College Board has rigorous procedures to guard against bias in its tests. For example, every form of each test must meet the same standards. In addition, committees conduct detailed sensitivity reviews to ensure that no words or items unintentionally give an advantage to students of a particular religious or ethnic background. All of the items must be piloted and field tested to see whether they contribute to the validity of the examination.

Regent Sayles asked what outcomes were intended by the College Board for the revised SAT. Mr. Camara was optimistic that the addition of the writing component would result in a slight increase in the predictive validity of the test. President Atkinson stressed that the core concern in revising the tests will be to send a message to high school students and teachers about the importance of what occurs in the classroom.

Regent Lozano suggested that the administration begin thinking about how to best communicate the changes to the high schools, perhaps through the establishment of a task force that would address these issues. President Atkinson assured Ms. Lozano that the administration was devoting considerable attention to this matter. He stressed that extensive discussions would be required prior to implementation.

Regent Lozano expressed concern about any financial effects that the introduction of a writing test would have and encouraged the representatives of the testing agencies not to pass additional costs on to students. She also encouraged the agencies to appoint experts from California to all of the working groups that are developing the new segments of the tests.

Regent Lee expressed concern that too little attention was being paid to mathematics and science in today's curriculum. He noted that employers are forced to go outside the country to recruit highly skilled workers in fields such as engineering. President Atkinson agreed with this observation, pointing to the establishment of COSMOS as evidence of the state's commitment to these fields. He stated his intention to send to the Regents a recent report on this topic.

Regent Davies recalled that one impetus behind the President's efforts to revamp the SAT was the fact that so much money was being spent on test preparation which did not significantly assist students to improve their scores. He assumed that new test courses would aid in the preparation for college by teaching students how to write. He was optimistic that teachers would expend more effort on writing skills. He asked whether, once the new tests have been developed and implemented, the old versions would continue to be available.

Mr. Ferguson underscored his belief that the ACT already meets the requirements proposed by BOARS, with the exception of the writing sample. The old version will continue to be offered in other states. Mr. Camara stated that, once the new test is implemented, the old SAT would be discontinued. President Atkinson emphasized that this new test will be available nationwide. Mr. Camara stressed that the proposed changes will need to be approved by the board of trustees prior to implementation.

In response to a comment by Regent Pattiz, Mr. Camara confirmed that an ideal test would assess a student's ability to communicate orally and to listen. No large standardized test is designed with this component. Regent Pattiz spoke to the importance of mass communication in the modern world.

Regent Marcus asked what plans were in place if the College Board fails to approve the recommended changes to the SAT. Professor Perry assured the Committee that BOARS would continue to work with the testing agencies; however, she was optimistic that the ideas would be well received. Faculty Representative Viswanathan emphasized the fact that the new SAT would be based upon the principles and policies formulated by BOARS. He was also confident that the College Board would welcome these ideas.

(For speakers' comments, see the minutes of the May 15, 2002 meeting of the Committee of the Whole.)

4. **STATUS REPORT ON IMPLEMENTATION OF THE ELIGIBILITY IN THE LOCAL CONTEXT POLICY**

Provost King presented an overview of the status report on the Eligibility in the Local Context (ELC) program which had been provided to the Regents in advance of the meeting. He recalled that ELC was implemented for fall 2001 admission to the University of California. This new path makes the top four percent of each California high school class eligible for UC if they have completed specific academic course work by the end of the junior year. Both public and private accredited schools may participate in the program. In the first year, 82 percent of public schools and 61 percent of private schools participated; the figures have risen to 98 and 78 percent, respectively, for the second year. In the first year, 11,254 students were identified as being in the top four percent; in the second year, the number rose to 13,496. Provost King explained that each high school designates its top ten percent of students in their junior year and sends their transcripts to the Office of the President, where the evaluation occurs. Students are informed of their eligibility and

encouraged to apply. He stressed that virtually all of the students who were identified became eligible using statewide criteria. In order to gauge the effect of the ELC program, a study was performed to determine how many new applications were generated in response to the program. The study compared the increase in applications from fully participating schools with that from non-participating schools. The study concluded that the program had resulted in the application of an additional 2,000 students. Broken down geographically, it was determined that the largest increase came from those students living in rural and urban areas, with a smaller increase from suburban schools. A similar finding was that these new students came from schools with historically low participation at UC. Broken down by racial and ethnic groups, the percent of Chicano/Latino applications stimulated by the ELC totaled 14 percent and for African Americans 7.5 percent. Students who were eligible in the local context scored well on admissions tests in addition to achieving high grade-point averages.

Regent T. Davis referred to the outreach that had been done in the high schools to increase participation between the first and second year of the program and asked for information on why some schools still chose not to participate. Provost King explained that in general these are schools that already send such a high percentage of their students on to UC that the program is not relevant. For some very small schools, the top four percent of the class is one student. Assistant Vice President Galligani confirmed that the reasons are similar for private schools.

5. **THE UC CENTER IN WASHINGTON: A NEW FACE IN THE NATION'S CAPITAL**

Vice Provost Zelmanowitz reported that the UC Center in Washington, D.C. had recently been inaugurated. The event was attended by current and former Regents, members of the California Congressional delegation, and 700 friends and members of the University community. The building houses the University's Office of Federal Governmental Relations and provides housing for students and faculty participating in the academic program.

Professor Larry Berman, a faculty member at the Davis campus and director of the Center, gave a slide presentation which highlighted the events of the inauguration and the features of the new building. He observed that the Center serves as a model of inter-campus instruction, with courses being taught by resident University faculty. The students work as interns in the capital and engage in major research projects. Director Berman recalled academic programs first began in1990 when students from Davis and UCLA arrived for the fall quarter. The following year UC Santa Barbara became the third campus to expand to Washington. Today, all eight undergraduate campuses have programs at the Center. He reported that groundbreaking for the building occurred in October 1999, and the Center opened in fall 2001. The building, which is 11 stories with two levels of underground parking, is located at Scott Circle. Professor Berman described the living quarters and the amenities that are provided in the building and discussed some of the programs that are

offered for students. He then invited comments from Ms. Zulman Galvan and Mr. Roberto Escobar, members of the pioneering class who arrived at the Center in October 2001.

Ms. Galvan explained that she had been working as an intern for a government agency in Washington when the events of September 11 occurred. She was contacted immediately by Center staff who were concerned about her well being. She spoke of the convenient location of the Center and the familial atmosphere that it provides. She discussed her internship at the National Institutes of Health which encouraged her to continue in the area of public health policy. In addition, the University sponsored her participation at a conference in Puerto Rico. She stated her intention to pursue a medical degree.

Mr. Escobar reported that, as a result of his positive experiences in Washington, he intended to pursue a master's degree. He described his internship at the Heritage Foundation, where he did research on foreign policy in Latin America.

Assistant Vice President Sudduth, the director of the Office of Federal Governmental Relations, spoke of the intangible benefits that have come from the Center's new building. He noted that it has become a gathering place for alumni and for members of the California Congressional delegation. Business and educational interests tend to congregate there as well. Mr. Sudduth observed that his office's location in an academic setting had helped him to become a better advocate for the University.

Regent Montoya expressed concern about the housing rental rates at the Center and asked how they compare with those at the University's campuses in California. Director Berman agreed to provide her with that information.

6. **REPORT ON UC ASTRONOMY**

Provost King introduced Professor Fred Chaffee, the director of the Keck Observatory, and Professor Joe Miller, who is on the faculty at the Santa Cruz campus and serves as the director of the University of California Observatories. Professor Chaffee stressed that the University should be recognized for its foresight 17 years ago in joining with CalTech to invest in what has become the greatest observatory in the world. He presented a brief chronology of the observatory, beginning in the late 1970s when Professor Jerry Nelson proposed a new technology to build telescope mirrors. The University of California and CalTech were successful in obtaining funding from the Keck Foundation to build two ten-meter telescopes. This funding was provided in 1985 and 1991, and the construction of the two telescopes, which are the largest in the world, was completed in 1992 and 1996 respectively. The telescopes are located on the summit of Mauna Kea on the island of Hawaii. Professor Chaffee discussed a major discovery by Professor Andrea Ghez which occurred at the Keck Observatory. Until recently, the images made by earth-based telescopes were blurred by the earth's atmosphere. A new technology known as adaptive optics has provided a major breakthrough in astronomy by largely removing this blurring. He considered this discovery to be the most significant for telescopes since Galileo's time.

The Santa Cruz campus recently received funding from the National Science Foundation to build a center for adaptive optics. Professor Chaffee then presented a brief animation illustrating the process developed by Professor Ghez. He commented on the fact that the Keck Observatory had played an important role in attracting talented young astronomers to the University.

Professor Miller discussed two discoveries by UC scientists that have changed the view of the universe. The first is the fact that planets orbiting other stars are very common. He presented slides which provided some of the details that led to this conclusion. Professor Miller recalled that previously a major question in astronomy had been the rate at which the universe was slowing in its expansion. Research by UC astronomers on super novae at the Keck led to the discovery that, in fact, the universe is accelerating its rate of expansion. Professor Nelson is now proposing the construction of a 30-meter telescope with the expectation of even more profound insights than those provided by the Keck.

In response to a question from Regent Eastin, Professor Chaffee explained that adaptive optics are considered standard equipment on all major new telescopes. They were originally developed for different reasons by the Department of Defense as a part of the Star Wars program. Professor Miller added that the intention of the new center at Santa Cruz will be to develop the technology further. Chancellor Greenwood noted that the center would be officially dedicated on June 20-21, 2002.

7. FUNDRAISING CAMPAIGN EXTENSION AND REVISED GOAL, LOS ANGELES CAMPUS

Chancellor Carnesale recalled that in 1997, the President had approved the proposal of the Los Angeles campus to conduct a comprehensive capital campaign jointly with The UCLA Foundation with a goal of $1.2 billion. This was the largest fundraising campaign ever undertaken by a public university, and its success illustrates the high regard in which the campus is held by the people of the state and of the community. The campaign was planned to conclude on June 30, 2002. He reported that by April 1, 2002, the campaign had received more than $1.7 billion in gifts and pledges. To capture the momentum, the Campaign Cabinet has endorsed an extension of the campaign through the calendar year 2005, with a revised goal of $2.4 billion.

The meeting adjourned at 12:55 p.m.

Attest:

Secretary