Anticipating the Future:
Annual Financial Report, 1999

University of California, San Diego
I am happy to present the UC San Diego 1999 Annual Financial Report, containing an overview of the ways the campus is anticipating the future as it prepares to enter the third millennium, along with a summary of the financial statements for fiscal 1999, and a review of the significant impact the university is having on the economy of the region, the state, and beyond.

Sincerely,

Steven W. Relyea
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An Interdisciplinary and Global Future

As UC San Diego prepares to celebrate its fortieth anniversary next year, the campus finds itself buoyed by two complementary moods: self-assurance as a consequence of having accomplished so much in such a relatively short period of time and eager anticipation of an equally successful future.

What began as a science school has developed into a full university with strengths in the arts and humanities, the social sciences, the natural sciences, engineering sciences, and health sciences. Success in all these areas has put UC San Diego in an excellent position to educate the youth of California as their numbers continue to rise over the next decade or two.

From the time it was founded, UC San Diego has been on a steep trajectory, and now it's time to turn on the booster rockets. As this report indicates, our journey will take us further into the realm of interdisciplinary and global research where, for instance, what used to be called the life sciences will be integrated, from the basic molecular level to discovering the way systems function and continuing on to the social context within which those systems behave.

We will tackle environmental studies in the same integrated way. Because we live in a very complex ecosystem upon which people have a major impact, we cannot study the science, medicine, or engineering of the environment without taking into account the results of research in the arts and humanities and social sciences. Environmental sciences are not only global and local; they are also everything else in between. Climate changes on a global scale affect details such as the survivability of individual species and the local quality of life in San Diego.

It's not that I expect any one faculty member or student to work on the entire spectrum of disciplines in any of those areas, but working together, I know we can be much more effective. UC San Diego is in a unique position to provide the leadership required for this development.
Our challenge is to prepare students for a very complex and highly interactive world. This will require UC San Diego to serve as an educational hub that will continue throughout people's lives, all the way from K-12 into and through retirement.

As we move into a new century, our challenge will be to manage our growth without compromising our quality. We must take advantage of that growth to become even better. And as we grow, we must enhance the diversity of the university community so that this campus, faculty, staff, and student body will reflect the population of California.

And, in the course of achieving these goals, we will redefine the nature and breadth of research and also redefine how a university interacts with education from K through 12. These are goals we are determined to achieve.

Sincerely,

Robert C. Dynes
Chancellor, UC San Diego
After years of shrinking budgets, UC San Diego has begun a period of extensive enrollment growth and opportunity. In order to ensure the future excellence of the university, Chancellor Dynes has encouraged each vice chancellor to look ahead and plan for taking maximum advantage of these opportunities.

“Charting the Course” is the process that Senior Vice Chancellor Marsha Chandler initiated to set the General Campus thinking about the future. “The challenge,” Chandler noted, “is to build an academic future that is even more remarkable than our past, and to ensure that our students and faculty are beneficiaries of the projected growth.”

The process was not one of centralization or top-down planning; instead a multiyear framework was established to stimulate divisional planning and facilitate interdisciplinary initiatives. Divisions, departments, and programs were asked to put forward plans that:

1. distinguish their areas of established strength
2. propose new initiatives that build on existing strengths.

Any plans for new programs or structural changes that emerged from the process would then be developed in collaboration with the Academic Senate.

Over the next three years, anticipated enrollment growth of approximately 500 to 700 additional students each year will be coupled with new university resources. Over 100 new faculty appointments are projected during this period. Three-fourths of these appointments will be new positions, while the remainder will be replacements for retirements and departures. Over the next ten years, “our student and professorial numbers will continue to grow,” Chandler said.

“It is important for our established areas of strength to maintain their cutting-edge quality. But as disciplines evolve and transcend existing campus divisions, we must be flexible—building on and developing existing strengths in our nationally ranked departments, while having the capability to expand into new fields that will be the areas of future excellence. In striving to become not just bigger, but better, we realize that the disciplines we recognize today are not necessarily the categories that will exist even a few years from now.” An interdisciplinary approach to teaching and research, always important at the San Diego campus, will become even more so, as new fields emerge.

While the majority of the new faculty appointments will be utilized to strengthen existing campus disciplines, some positions have been designated for fields that cross divisions, such as computational science, the environment, human development, international studies, and materials science. Recruitment for these positions will be coordinated across divisions to achieve critical mass in targeted interdisciplinary fields.

UC San Diego’s new Center for Environmental Research and Training (CERT) focuses on the complex interactive nature of global and regional environmental issues. CERT coordinates the broad range of environmental research and policy activities across the university, with participants from the Natural Sciences, the Irwin and Joan Jacobs School of Engineering, Scripps Institution of Oceanography, the Social Sciences, the Graduate School of International Relations and Pacific Studies, the School of Medicine, and Arts and Humanities. A new undergraduate major in environmental systems will draw its strengths from involvement of faculty from all of these areas.

Bioinformatics is another growth area for the university. This emerging field, which applies new computer and information technology to the study of biological and biomedical problems engages faculty from the Jacobs School of Engineering, the Natural Sciences, the School of Medicine, Scripps Institution of Oceanography, and the San Diego Supercomputer Center. Bioinformatics research will be reflected in the undergraduate curriculum when, beginning this year, the Departments of Biology and Bioengineering plan to offer a joint bachelor of science degree in biotechnology and bioinformatics.
“In the twenty-first century, globalization will have an impact on many disciplines,” Chandler said, citing the Project on Culture, Modernity and Globalization as an illustration of the impact that phenomenon has on the humanities and social sciences. Formed in 1998-99, the collaborative research group includes faculty from the Departments of Anthropology, Communication, Ethnic Studies, Literature, and Sociology, who study culture in a comparative global context. Likewise, the new Center for Comparative Immigration will bring together political scientists, anthropologists, economists, historians, and health-care specialists to probe immigration trends that will impact California and its future.

In the last decade, UC San Diego garnered accolades for its stature as a research university, being ranked as one of the top ten research institutions in the country. “As our research enterprise flourishes and continues to excel, one of the challenges for the next decade is to bring that sense of wonder and discovery into the undergraduate classroom,” Chandler said. “More and more, we will be seeking ways to ensure that all our students share in the outstanding research that distinguishes this university.”

“Charting the Course,” with its emphasis on multiyear planning and collegial discussions of “where we want to go as a university focuses resources and yet allows for flexibility and change,” Chandler said. Terming it “a process and a broad framework,” she said the overall objective is to effectively marshal new resources to build excellence, thereby enabling each of the divisions to pursue its academic objectives and allowing for coordination and cooperation across divisions.

Chandler envisions a UC San Diego that will grow and can nimbly respond to social and scientific change while further enhancing the academic standing of the university’s scholars and centers of excellence. This is a challenge currently facing many world-class academic institutions, and one this university’s faculty, administration, staff, and students are ready to embrace.

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**UCSD Libraries**

**Refitting Galbraith Hall with New Technology**

The expansion and remodeling of the library facility at Galbraith Hall will provide the campus with an opportunity to enhance the traditional values of scholarship and critical thinking in a highly wired world.

Jointly managed by UCSD Libraries, Academic Computing, and the Media Center, the new “cyberlibrary” will be an outstanding combination of library and information resources integrated with the latest technology.

While technology can reach out to bring people together in unique and interesting ways, college should also provide a personal and social experience and, therefore, library outreach activities will ensure that students continue to have opportunities to meet and learn in a community environment.
When Richard Attiyeh looks at the present state of research and graduate studies at UC San Diego, he sees a campus with a graduate studies program that is counted among the top ten in the nation and a research and development program that is fifth in line in the amount of federal funding it attracts.

And when Attiyeh is asked how this came about, he says, “It’s a combination of faculty excellence and the campus’s traditional emphasis on interdisciplinary research. This probably began with Scripps Institution of Oceanography, out of which we have grown as a campus, and which has had outstanding researchers and been interdisciplinary in character from the beginning.”

So, when Attiyeh, vice chancellor for Research and dean of Graduate Studies, looks to the future, he is justifiably optimistic that UC San Diego’s reputation will be maintained and enhanced because “so many of the exciting and important emerging areas of research are interdisciplinary by nature.”

As an example, Attiyeh cites environmental science and policy, a vast area that is the focus of the recently organized Center for Environmental Research and Training. “This is critically important to the future of California and the nation, as population growth and economic activity create ever-increasing impacts on the natural environment,” Attiyeh, who is also a professor in the Department of Economics, says.

Computational science is a second area that UC San Diego will be emphasizing in the coming years. “The applications of this research range from bioinformatics, which uses computational methods to understand the structure and function of animal, plant, and human genomes, to climate modeling and weather forecasting,” he said. The presence on the campus of the San Diego Supercomputer Center will be a great asset in building excellence in this field.

And, thirdly, there’s human development, the study of how factors such as prenatal care, family structure, day care, and K-12 education influence the way children develop. “There are many fundamental research issues in this area that need to be studied so that we can help children become effectively functioning adults. The Preuss Model School on campus and the new partnerships that UC San Diego has developed with several school clusters in the San Diego region provide a natural source of information that will inform many of our faculty members’ research activities.”

“Graduate students are important presence is critically important...
Experts from the fields of health science, oceanography, engineering, natural science, sociology, international studies, and the arts and humanities, are coming together at UC San Diego to study global environmental issues.

The center is led by Mark Thiemens, a cosmo-chemist and chair of the UC San Diego Department of Chemistry and Biochemistry. By combining theory with practical experience, students who complete the CERT major will be trained in science and decision-making processes.

When Attiyeh turns his attention to graduate education he finds an interesting paradox: The quality is high, but the ratio of graduate to undergraduate students is near the threshold below which it is difficult to sustain the intellectual atmosphere required by an outstanding research university. Part of the reason for this, he says, is that UC San Diego does not have the financial resources to attract the number of graduate students that other leading graduate schools do. “That is why,” he says, “we have established the enhancement of the pool of fellowship funds that we award to outstanding graduate students as a high priority for the campus fund-raising efforts.”

It’s an endeavor that Attiyeh hopes will bear fruit. “Graduate students are important to the academic enterprise. For a university like ours, their presence is critically important for maintaining outstanding teaching and research programs.”

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Experts from the fields of health science, oceanography, engineering, natural science, sociology, international studies, and the arts and humanities, are coming together at UC San Diego and bringing their individual expertise to bear on a long-range study of the environment. While the Interdisciplinary Center for Environmental Research and Training (CERT) may be global in scope, it is also local and particular in its concerns and applications.

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for maintaining outstanding teaching and research programs.”
The future of student affairs at UC San Diego can be summed up in one word: growth.

By the year 2010, our student population is expected to grow by 5,000 from its current number of 19,918 to over 24,000 students. The university faces two challenges in its efforts to accommodate that growth. We must have in place expanded facilities and core programs to serve our students well. And we must have the flexibility to respond to changing student needs and interests, many of which are impossible to anticipate.

As our student population grows, maintaining the quality of student life will be an issue of paramount importance. Student Affairs is seeking to enlarge the University Center, which traditionally serves as our students’ on-campus living room. Since the Price Center opened ten years ago as a hub of student activity, it has dramatically enhanced the quality of student life, in large part by creating a strong sense of community. But it is clear that the Price Center is already inadequate in size for the current student population, and it will be far too small when the population increases.

As we seek to enlarge campus facilities, we will work to enrich student life by expanding the number and variety of student activities. The student climate survey conducted by Student Affairs and the Associated Students (AS) two years ago gave students an opportunity to voice their views about campus life. In response to their feedback, Student Affairs and the AS leadership have substantially increased the number and quality of campus events. Each quarter boasts a major campus festival: the Fall Festival, Winterfest, and the Sun God Festival in the spring. And the lineup of cultural events brings in literary giants like Maya Angelou and top performing artists like Carrottop, to name just two of this past year’s featured guests.

In the year 2000, UC San Diego will move to Division II of the NCAA, and Triton athletics programs will take on a new excitement. The catalyst for this was the overwhelming desire of the students themselves, 85 percent of whom expressed their support in a campus survey.

A final word about the future of student affairs: Our future students are now attending elementary and secondary schools, and we want them to know that a UC San Diego education provides an extraordinary opportunity that they should prepare for. Outreach to our potential future students and their families is and will remain a top priority well into the next millennium.
Chancellor Dynes signed two formal partnership agreements in 1998: one with Southwestern College and the Sweetwater Union High School District in San Diego’s South Bay area, and the other with East Los Angeles College and participating Los Angeles high schools. In the years to come, these partnerships will help hundreds of underrepresented students fulfill the requirements they need for admission to UC San Diego.

UC San Diego students launched two new programs this year: "Eyes on the Elderly," a program that reaches out to senior citizens, and "Active Students for Teens," a mentorship program for at-risk high school students.

In July 1998, more than 750 friends and supporters of UC San Diego raised more than $500,000 for UC San Diego undergraduate scholarships at the second annual "Celebrate the Champions," marking the opening of the Del Mar Thoroughbred Club’s 1998 season.

UC San Diego received 37,452 undergraduate applications, the highest number ever, for the fall 1999 quarter; freshman applications were the second highest number in the UC system, just behind UCLA and ahead of UC Berkeley. These students constitute the most academically prepared group of entering freshmen ever, with a mean high school grade-point average of 3.97 and an average composite Scholastic Assessment Test score of 1256.

Under the auspices of UC San Diego’s innovative College Advocates Program, thirty students from underrepresented groups visited ninety-six middle schools and high schools throughout San Diego County to talk about the importance of college preparedness.

As a direct result of a new—and first of its kind—UC San Diego policy guaranteeing admission to all UC-eligible seniors in the top 4 percent of their graduating high school classes in San Diego and Imperial Counties, fifty-five students entered the fall 1999 freshman class.

The third annual Chancellor’s Challenge 5K Run raised more than $100,000 for undergraduate scholarships, including a $10,000 donation from event chair, San Diego philanthropist Charlie Robins.

The most popular item in the Price Center’s Food Court is the hamburger. During peak hours, Wendy’s serves six customers a minute.

In an attempt to lower the cost of education for UC San Diego students, the course materials department at the UCSD Bookstore has initiated a Help Students Save-A-Million Textbook Campaign. The goal of this program is to save UCSD students $1 million in textbook costs in the 1999-2000 academic year.

The department plans to reach this goal by paying more to students for used books, offering more used books at 25 percent discounts, and—by placing orders sooner—making more new textbooks available at discounted prices.

The UCSD Bookstore ranks among the top twenty larger college stores serving research universities across the nation. It is ninth in sales per student; eleventh in general book sales, eleventh in computer sales, and fifteenth in overall sales.

UCSD Bookstore: Helping Students Save Money
When James M. Langley, vice chancellor for External Relations at UC San Diego, looks into the future he sees a landscape awash in challenges and opportunities, a scenario that he welcomes wholeheartedly, but for which, he insists, the campus better be prepared.

And among the greatest of those challenges, Langley says, is to recognize that, although UC San Diego became great with the help of well-deserved federal funding, it must diversify its sources of income in the years to come. “We will always be piecing together federal, state, and private funds,” he says, “but I would argue that we will become much more reliant on private dollars in the future.”

That’s where the opportunity kicks in. Working with the private sector, he says, will involve the university with a select group of opinion leaders, people who can add to its vision and reinforce its strengths in a context where everybody wins. “The very process of securing private funds enriches the community and makes us more responsive to the people who constitute it,” he says.

Another challenge will be to engage the rising numbers of successful alumni in the life of the university. Unfortunately, however, this challenge arises at a time when people—though no less committed—seem to be associating less and attending fewer meetings. “We will have an opportunity to engage our alumni as never before, and employ strategies that have never been used before,” he says. “In the future, we will not try to emulate traditional universities, but create a model for alumni associations that may not look like anything we’ve seen anywhere else in the country.”

Another trend that the campus must take stock of, Langley says, is the tendency for donors to have stronger sets of ideas about what they want to fund and why. They also want greater accountability. “We see, therefore, a greater need to treat donors like investors and report back to them on the progress we’re making with their gifts,” he says.

Among the areas that Langley says will require special attention at UC San Diego are community outreach that will better reveal the university’s strengths in art, social science, and the humanities; new initiatives in basic science that underpin research in cardiology and cancer; biology, because of the worldwide interest in genomics; engineering, partly because of the successes the campus has already achieved in this area; the international dimension of research in general, because new markets and opportunities must be sought out; and environmental studies, “because they integrate so much of our scientific capability and respond to one of the most pressing concerns in terms of both the scientific community and public needs.”

Future funding must also help provide a solution to a problem that besets UC San Diego more than many other, more venerable institutions: the relative lack of financial flexibility that the chancellor has to respond to new and fast-breaking opportunities. “Other universities, where the chancellor has a pool of unrestricted income, can react quickly to seize opportunities,” Langley says. “We don’t have that flexibility, so our short-term responsiveness is often severely hampered.” With these and other needs in mind, Langley intends to announce the “quiet phase” of a major capital campaign beginning in July 2001.

**FACTS AND FIGURES**

**THE UC SAN DIEGO ALUMNI ASSOCIATION** currently cosponsors 140 National Merit Scholarship recipients.

**INCLUDING THE 1999 GRADUATES**, the total number of UC San Diego alumni now stands at 75,000.

**IN 1998-99 THE OFFICE OF SPECIAL EVENTS AND PROTOCOL** organized fifty events that were attended by 12,000 people.

**TOTAL ASSETS OF UC SAN DIEGO FOUNDATION** (Market Value, in millions)

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**THE UC SAN DIEGO FOUNDATION** have more than doubled in the past five years and more than quadrupled in the past ten years.

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The Preuss School, the first charter school on a university campus in California, is expected to become a model system where education is renewed, new technologies are used, and new ideas about teaching and learning are nurtured.

The school opened this fall in temporary quarters and will move into a custom-designed complex next year. By the year 2003, it will be preparing 700 underserved students in grades 6 through 12 from low-income families for a university education.

The school is named in recognition of a $5 million gift from UC regent and UC San Diego alumnus Peter Preuss, his wife, Peggy, their son, Peter, and the Preuss Family Foundation. Other major donors include San Diego publisher Helen K. Copley, Padres owner and developer John Moores and his wife, Becky, and the Walton Family Foundation.

For the first time ever, UC San Diego raised more than $100 million in private support last year. Of the $116.3 million total (a 50.3 percent increase over FY 98’s total of $77.4 million), $88.8 million came from foundations, $26.0 million was given by private individuals, and $18.6 million came from corporations.

The highest proportion of the donations, $63.7 million, was given for research and $23.7 million was given for general department support.

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Research in Biology, Physics, and Chemistry Converges

Marvin Goldberger, dean of the Division of Natural Sciences

When Marvin Goldberger, dean of the Division of Natural Sciences at UC San Diego, looks into the future he sees signs of a great convergence among the sciences, particularly in the way biology, physics, and chemistry are coming together.

“The instrumentation techniques and basic theoretical aspects of physics are increasingly being exploited and expanded by biologists and chemists,” Goldberger says. “The evolution of designer materials created by chemists and physicists has a growing impact on biology. ... its rightful place alongside theoretical and experimental science. Mathematics is, of course, the core of computation.”

These trends are just another indication of the one simple theme that pervades the entire Division of Natural Sciences: interdisciplinary research. And the division, enhanced by the presence of the San Diego Supercomputer Center on campus, is well positioned to exploit this increasingly important theme.

“The unique capabilities of Scripps Institution of Oceanography are playing an important role in connection with research and teaching in the area of the environment on the main campus, where we have established the Center for Environmental Research and Training,” Goldberger says, “and this has important attachments to the Division of Social Sciences, the Graduate School of International Relations and Pacific Studies, and the Irwin and Joan Jacobs School of Engineering.”

To facilitate these and other developments, a state-funded Natural Sciences Building, located on the Revelle campus, is scheduled for completion in 2002. It will house faculty from biology, chemistry/biochemistry, and physics.

FACTS AND FIGURES

- Number of undergraduates: 4,776
- Number of graduate students: 553
- Number of ladder-rank faculty: 196

YEAR FOUNDED AND BY WHOM

- Biology: 1960, David Bonner
- Chemistry and Biochemistry: 1960, Harold Urey
- Mathematics: 1963, Stefan Warschawski
- Physics: 1959, Keith Brueckner
In a move that reflects the very large number of biology undergraduate majors and the anticipated growth in biology faculty, Goldberger says the Department of Biology may soon become its own Division of Biology with four sections. “This move would have some important administrative advantages,” he says, “but in no way would it interfere with the unity of the scientific endeavor.”

From the standpoint of federal research support, the stature of graduate research and education programs, faculty membership in the National Academy of Sciences, and the size of the student body being attracted to the division, Goldberger says, the natural sciences continue to constitute a formidable portion of UC San Diego’s academic strength.

“The natural sciences formed the core of UC San Diego when it was established in 1960,” Goldberger says, “and they still remain a vital part of the university today.”
Paul Drake, dean of UC San Diego’s largest academic division, the Division of Social Sciences, is a man with a plan for augmenting existing strengths, strategically building up new programs, and promoting interdisciplinary work, a research characteristic that lies at the heart of the university’s academic strength.

Over the last fifteen years, the division, which comprises nine academic departments and a multitude of interdisciplinary programs, has grown by leaps and bounds. In recent surveys, many of the division’s departments were ranked among the top ten in the nation.

And yet there is room for further growth. “Our division plans to grow in three significant ways,” Drake says. “First, by building on strength with a focus on quality and not necessarily on quantity; by adding strategic new fields; and by promoting interdisciplinary work, because a great deal of the most exciting research here is taking place at the intersection of departments.”

Drake is particularly excited about a number of research and outreach projects under way, and believes that many of these efforts are of great relevance to public, political, and civic leaders, and others in the public sphere.

“The social sciences at UC San Diego are deeply involved with some of the hottest topics at the turn of the century,” he says. “For example, faculty in our cognitive science, psychology, and linguistics departments are investigating fresh ways of understanding how the brain works. These efforts could lead to new discoveries about human behavior and brain functioning and even shed light on some neurological disorders.”

Social scientists in the ethnic studies and sociology departments are studying the emergence of multiethnic, multicultural societies, and their many social, political, and educational ramifications. While economists in the division are advancing the frontiers of mathematical approaches to modeling and forecasting, communication specialists are exploring new information technologies and the widespread repercussions of the digital age.

Maintaining this high level of intellectual prowess will be one of Drake’s most important goals. Toward that end, he is committed to recruiting and retaining outstanding faculty who will maintain the division’s impressive momentum.

“To obtain and keep such stellar faculty we will also have to attract the best students in the world,” he says. “Our undergraduate population is exhibiting academic qualifications second to none and the competition is even more intense for top-flight graduate students, who are the cutting-edge researchers and teachers of the future.”

For this reason, the division’s highest single fundraising priority is for graduate fellowships, so that the next generation of UC San Diego scholars can be adequately supported.
Wayne Cornelius, a professor of political science and one of the world's top authorities on immigration, has been appointed director of a new interdisciplinary Center for Comparative Immigration at UC San Diego. The center will bring together political scientists, anthropologists, economists, historians, health-care specialists, and others to examine immigration trends that are expected to have a significant impact on California and its future.

Studies by Cornelius in the past have challenged numerous assumptions about border enforcement policies, immigrants' use of social, health, education, and welfare programs, and the role of Mexican labor in the local and national economy.
Harnessing Technology for a New Generation of Artists

Frantisek Deak, dean of the Division of Arts and Humanities

The Arts and Humanities division is looking to a future of surprising dimensions. Our creative artists are harnessing new technologies to expand the sweep of their words, sounds, and images; our performing artists are reaching a new generation of audiences; our humanities faculty are charting how social and cultural developments have shaped and will shape the world at large; and our graduates are taking a higher profile in the leadership of that world.

Data comparing long-term employment rates among graduates from a variety of disciplines show that education in the humanities is a sterling public investment. Research by University of British Columbia economist Robert Allen has determined that, contrary to widely held assumptions, new graduates with humanities degrees land well-paid managerial and professional jobs. And their earnings continue to grow as they gain work experience, because these graduates tend to, as Allen put it, ‘construct their own career ladders,’ thanks to ‘a capacity for lifelong learning which is essential in the rapidly changing, modern economy.’

The future of the arts at UC San Diego will encompass new modes of thinking and working. For example, the Departments of Visual Arts and Music have launched an interdisciplinary computing-and-the-arts major that will prepare the next generation of artists to prosper in a computer-mediated culture.

Graduate education in Arts and Humanities has been advanced significantly by two joint doctoral programs, the first of their kind in the entire University of California: a Ph.D. in drama and theatre offered by UC San Diego’s Department of Theatre and Dance and UC Irvine’s Department of Drama, and a UC tri-campus graduate program in classics offered through UC San Diego, UC Irvine, and UC Riverside.

Looking farther down the road, we anticipate construction of a new, expanded university art gallery and a new music building, both of which should bring the campus the same recognition that our state-of-the-art dance facility has attracted.

As academic quality and enrollments grow at both the undergraduate and graduate levels, and as new faculty further energize our vibrant departments and programs, the Division of Arts and Humanities is looking ahead to a bright, exciting future.

FACTS AND FIGURES

- **FORTY-TWO BOOKS PUBLISHED BY THIRTY-TWO MEMBERS** of the arts and humanities faculty over the past three years were displayed at the UC San Diego book fair in April this year.

- **THE CENTER FOR RESEARCH IN COMPUTING AND THE ARTS (CRCA)** RECEIVED A GRANT OF $99,680 to participate in 3Com Corporation’s Internet2 Partnership Program. This grant will enable CRCA to explore the horizons of media-based computing.

- **THIS YEAR, 1,366 SAN DIEGO SCHOOLCHILDREN TOOK UC SAN DIEGO ARTS REACH TOURS** and got a front-row experience of the arts on campus.

- **THE UC SAN DIEGO ALUMNI ASSOCIATION SELECTED CAROL BECKER (Ph.D. in literature, ’75),** who is currently dean of faculty and vice president for academic affairs at the School of the Art Institute of Chicago, for the 1999 Distinguished Alumna of the Year Award, and literature professor Jorge Mariscal for the 1999 Distinguished Service to the University Award.

- **(Codeforces 765) Balanced Round**
Patricia Churchland, an Oxford-trained professor of philosophy, is a pioneer in the field of neurophilosophy, which looks to neuroscience to answer fundamental questions in philosophy and psychology.


The essays present the Churchlands’ critical responses to mainstream philosophical ideas about everyday psychology and consciousness, among other topics.

As they state in the book’s preface, “We mean to give our colleagues—or rather, their various philosophical positions—as rough a time as we can responsibly manage.”
Disease management based on genetics and molecular biology will revolutionize the practice of medicine, opening doors for the prevention and treatment of physical and mental illness in the coming years, according to Dr. David N. Bailey, interim vice chancellor for Health Sciences at UC San Diego.

“Molecular biology has enabled us to diagnose disease often before we see symptoms, and in some cases even before birth,” Bailey says. “Perhaps the most positive medical advancements in the next decade will be in disease prevention through screening and counseling. And, with gene therapy, it will become possible to treat, and even to cure, many diseases at early stages. The implications for improving quality of life and reducing the staggering costs associated with long-term chronic treatments are obvious.”

For example, Bailey says, heart patients now benefit from high-tech procedures and heart transplants, but cardiology researchers are also seeking ways to revitalize the failing heart by using genetically based therapies that restore heart function and prevent muscle death. The collaborative nature of the UC San Diego community creates a particularly rich setting for medical discovery, with clinicians and community health experts working closely with chemists and cell biologists, computer scientists, and bioengineers, he adds.

“Medicine thrives upon cross-fertilization among disciplines, which is such an integral part of the UC San Diego environment,” Bailey says. “With its acclaimed institutions of higher learning, its research community, its biotechnology industry and its geographic location on the Pacific Rim, San Diego is uniquely positioned to be a world leader in medical advancements.”

However, Bailey adds, the most promising medical advances are only partial victories when many do not have access to or seek proper care. “Even if we cure the most devastating diseases, we cannot consider it a victory unless health care is available for everyone, regardless of socioeconomic status,” he says.

We also must respond to the rapidly growing population of people over seventy, Bailey says. “We must make sure we have adequate and appropriate residential facilities as well as health care to meet the special needs of the elderly, otherwise we will fall short of society’s expectations and needs.”

And even with breakthroughs in medicine, the best insurance against disease and disability is still proper diet, healthful behaviors to minimize the risk of injury and illness, and basic preventive care, he says. “As we focus more and more on primary care and preventive medicine delivered in outpatient, community-based settings, we must develop innovative approaches to teaching our medical students, approaches that include collaboration with other health care providers throughout the region.

“While the emphasis on prevention and primary care must continue, at the same time, as we enter the twenty-first century, we must assure that we do not deplete the pool of specialists and researchers who advance the field.”
Dr. Thomas Kipps, an oncologist and associate director of the Human Gene Therapy Program, is leading a team that has disarmed human leukemia cells and genetically modified them in a way that induces a powerful, killing response from the immune system.

They have also shown that the immune response prompted by the modified cells destroys not only the harmless modified cells, but also active leukemia cells lurking nearby.

Clinical trials with patients who have chronic lymphocytic leukemia, a condition affecting more than 50,000 people per year in the United States, are already under way and Kipps says the preliminary data are very encouraging.
The desire to capitalize on these new possibilities is demanding that we organize ourselves in a new way and that way is through greater cooperation. But we haven’t ever worked together on this type of project and, therefore, we know that it’s something we have to learn to do, both at the national and international level.

Our responsibility is all the greater because we are the largest oceanographic institution in the United States, blessed with the broadest and the most scientifically comprehensive research programs. Our job is to play a leading role in this collaborative work. In the future, we will have more measurements of the Earth and be able to make more elaborate predictions of ‘next year’s climate.’ We will be able to convey to the public the implications of long-term climate change; we will know much more clearly how to characterize the health of all the marine ecosystems; and we will understand through measurements and modeling how human beings on the coast and their neighboring marine environments are affecting one another.

And we’ll understand all of those things better, because we’ll have to. When you start thinking about the long-term future of our civilization, you realize that these issues are not an option. So, whether it takes twenty-five years or fifty years, we will do it.
Scripps researcher V. Ramanathan recently served as co-chief scientist of a six-week field experiment that documented widespread pollution covering about 10 million square kilometers of the tropical Indian Ocean, an area roughly the same size as the continental United States.

The Indian Ocean Experiment (INDOEX), a $25 million project led by an international group of scientists, found a dense, brown haze of pollution extending from the ocean surface to altitudes of one to three kilometers. Because levels of pollution from India and other nations bordering on the Indian Ocean are expected to grow substantially, the finding raises serious questions about the impact pollution is having on climate processes and marine life.
Ask Bob Conn about his vision for UC San Diego’s Irwin and Joan Jacobs School of Engineering, and you see at once exhilaration and a deep sense of responsibility.

“Engineering has been critical to the development of society and it will play a pivotal role in the new millennium, both in terms of economic prosperity and in terms of quality of life,” Conn, who has served as dean of the Jacobs School since 1994, says.

Drawing attention to the fact that industrial clusters grow up around great universities across the country, Conn stresses the sense of responsibility that UC San Diego feels for the region. “We supply the highly trained engineers who will lead our local companies; the research of our faculty and graduate students leads to new technologies that can be developed by our industry partners; and we educate the leaders and innovators who start new companies. So the school’s future is closely aligned with San Diego’s future.”

To that end, one of the highest priorities for the engineering school is to grow on the scale necessary to meet San Diego’s increasing high technology needs. Over the past five years, the school has expanded from 92 faculty to the current level of 118 and, by 2006, the school’s goal is to reach a faculty of 175. This will allow it to educate more students at all levels, and particularly at the master’s degree level.

“With our success, and the success of our neighboring industries, San Diego will drive the state economy,” Conn says. “What we do for the state, we also do for the country, and indeed the world. As we grow, we are shaping and focusing our research and education programs on targeted technology areas that we know are critical to the world’s future.”

Many of the school’s focus areas are tied to strengths of both UC San Diego and the greater San Diego regional economy, Conn says. “We’re taking advantage of revolutionary advances in biology, bioengineering, and information technology to develop novel ways to understand, diagnose, and treat human disease,” he says. “We’re merging the fields of communications and computer engineering in ways that will change how we do business and navigate our daily lives.”

Many of the focus areas involve taking an untraditional approach to long-standing technology challenges, Conn says, pointing to the example of energy and the climate: “We must resolve how we supply the energy that is increasingly needed while at the same time protect the stability of the earth’s climate,” Conn says. “This is a problem that the Jacobs School, in collaboration with other parts of campus, can help solve.”

The contributions of the Structural Engineering Department and its Powell Structural Research Laboratories have already saved the state of California billions of dollars through its inventions and testing of retrofit technologies for highways, bridges, and buildings.

“As we approach the new millennium, our foci are clear and are tied to our best view of the issues that are going to shape the future,” Conn says. “This is how we are going to sustain the greatness of the Irwin and Joan Jacobs School of Engineering.”
As principal investigators at the Cardiac Mechanics Research Group in the Irwin and Joan Jacobs School of Engineering, Andrew McCulloch and Jeffrey Omens use a wide array of techniques from the biomedical, engineering, and computer sciences to investigate the human heart.

As a result of the research, McCulloch has developed a tremendous respect for the human heart. He calls it “a masterpiece of engineering design, highly reliable, exquisitely adaptive, and remarkably energy efficient.”

With the help of supercomputers like the T3E at the San Diego Supercomputer Center at UC San Diego, they investigate relationships between the cellular and the molecular structures of heart muscle and the mechanical and electrical functions of the whole organ.
Takeo Hoshi, an associate professor at the Graduate School of International Relations and Pacific Studies, traces Japan’s financial crisis and economic troubles to the slow and incomplete deregulation of its financial system. This heavily regulated system was not able to adjust to the maturing of the Japanese economy, he says.

Hoshi, along with other nonpartisan economists on Japan’s Shadow Financial Regulatory Committee (of which he is a founding member) recommended remedies for overcoming Japan’s current economic crisis and upgrading its financial system. The remedies appear to be working.

“The Japanese government now has a workable framework to deal with the financial crisis,” he says, “so for the first time in several years, we can look ahead and predict how Japan and other Asian countries might look when the crisis is over.”

Hoshi, who joined IR/PS in 1988, has a doctorate in economics from the Massachusetts Institute of Technology.
FOUNDED: 1986
Faculty profile: twenty-five full-time faculty members, plus six visiting faculty, eight language instructors, and nineteen adjunct faculty.

DEGREES AND PROGRAMS
Master of Pacific international affairs and joint doctoral programs in political science and international affairs, and economics and international affairs.

REGIONAL CONCENTRATIONS
Latin America, China, Japan, Korea, and Southeast Asia

CAREER CONCENTRATIONS
International management, comparative public policy, international relations, applied economics, and international technology management.

IR/PS also offers the International Career Associates Program, a nine-month certificate program for foreign managers in government and industry.

FACTS AND FIGURES
Highlights 1998-99

After twenty-one years at Harvard, C. Peter Timmer, a leading economist in the fields of agricultural and development economics, became dean of IR/PS in August 1998.

Phil Parker, an international management expert, joined IR/PS after a ten-year stint at the European Institute of Business Administration in Fontainebleau, France. Marcel Lopez, an expert in operations management, operations research, and applied probability, came to IR/PS from the University of the Philippines. Barry Naughton, an expert on the Chinese economy and foreign relations, was named to the Sokwanlok Chair in Chinese International Affairs.

UC San Diego announced the creation of the Center for Comparative Immigration Studies, which will initially be developed as a unit of IR/PS.

IR/PS inaugurated the IR/PS Medal of Recognition and awarded it in June to US Secretary of Energy Bill Richardson for distinguished public service in international affairs. Richardson also delivered the commencement address in June. Long-time IR/PS supporters Larry and Ewa Robinson were also honored with the Medal of Recognition for their loyalty and generosity.

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IR/PS inaugura...
Creating New Opportunities for Community Learning

Mary Lindenste<ng Walshok, associate vice chancellor and dean of UCSD Extension

As the extension service of one of the nation’s leading universities, we see our challenges for the near future in five areas:

First, we are committed to developing an even wider range of postbaccalaureate educational programs with particular emphasis on new programs linked to UC San Diego graduate degrees. A good example of this is the new Graduate and Undergraduate Certificate in Communications Engineering launched this past year in cooperation with the Irwin and Joan Jacobs School of Engineering.

Second, we will continue to open new kinds of learning communities involving distance and online education. The San Diego region and this university have some very unique intellectual resources that deserve to be shared beyond our geographic boundaries.

A third major challenge concerns our responsibility to help businesses and the professions to function more effectively in a global environment. To accomplish this, we are putting more international emphasis into our executive leadership programs and adding additional resources to our second-language curricula.

Our fourth challenge is to help empower our elementary and secondary schools to relate more effectively with students from virtually every corner of the globe. One of our efforts, the UCSD Principals Executive Program is currently training local K-12 school administrators in best-business practices, including management techniques in an ethnically mixed community.

Fifth, we recognize our obligation to help close the gap between the ‘knowledge have’s and the ‘knowledge have-nots.’ To that end, we will continue exploring new partnerships with organizations that, like us, are working on the challenges facing San Diego’s economic future.

To accommodate the ever-increasing demand for continuing education, we anticipate substantial increases in staff and facilities over the next five years. New satellite education centers strategically located to serve the subregions of San Diego are on the drawing board, as well as a more comprehensive on-campus site for continuing and professional education.

With the help of between forty and sixty specially prepared teachers, UC San Diego trombonist and music professor George Lewis will take a wide variety of performances to some 8,000 middle school students this year.

The program, “Musicians and Middle Schools: Demystifying the Creative Process,” will illuminate the process of musical creativity and help children discover that great music is enjoyed and performed by all people regardless of their background.

Videotapes of the programs will be broadcast on UCSD-TV to 800,000 San Diego homes and shared with thousands of classrooms through San Diego’s Instructional Television Network.

The program is a collaboration between UC San Diego’s Department of Music, Extension’s Program for Teacher Enhancement, UCSD-TV, and the San Diego County Office of Education.
EXTENDED STUDIES AND PUBLIC PROGRAMS, which serves nearly 40,000 students annually, is self-supported through course fees, grants, gifts, and underwriting.

EXTENSION conducts over 2,000 courses per year for working professionals, career-minded individuals, and people interested in personal enrichment education.

EXTENSION OFFERS more than ninety professional and specialized certificate programs.

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