

SECTION 2

ACADEMIC INITIATIVES AND PLANS

In this section, we focus on the programmatic elements of the Budget Plan by describing the principal planning issues in the schools, major labs and institutes, and academic support areas.

SCHOOL OF EARTH SCIENCES

The School of Earth Sciences' faculty population continues to undergo significant change. From 1997 to 2002, nearly a third of the faculty will have turned over. In academic year 2001/02, the School will have four new faculty members. The School also anticipates several retirements next year, increasing the rate of turnover in a faculty body that was previously stable for many years. With new faculty have come changes in programs, new research directions and, consequently, new needs in research facilities.

In addition the School is exploring several areas for potential growth in its academic program. Some of these potential growth areas include:

- **INTERDISCIPLINARY PROGRAM IN ENVIRONMENT, RESOURCE, AND EARTH SYSTEMS SCIENCE** – This initiative would bring together more effectively the diverse efforts occurring across campus, complementing and building on the strengths of the Earth Systems program, which is actively developing a small Ph.D. program to be launched in fall 2002.
- **CENTER FOR COMPUTATIONAL GEOSCIENCES** – This center would foster the development of advanced models and analytical tools in the areas of geological and physiochemical processes.
- **PLANETARY GEOLOGY AND ASTROBIOLOGY PROGRAM** – The School is also exploring the possibility of

developing a formal teaching and research program in this area.

- **EARTH SCIENCES POST-DOCTORAL FELLOWSHIP PROGRAM** – This program would allow us to compete for the best young Ph.D.s internationally by offering a prestigious post-doctoral fellowship.

Additionally, the School is developing a model to effectively meet support needs for technical and scientific instrumentation in research facilities. Despite its large investments in the purchase and/or development of research equipment, the school is making insufficient investment in ongoing maintenance or technician support. It is clear that in order to maintain a top academic ranking, the School must make resources available to maintain and utilize its research facilities effectively.

Earth Sciences has very strong graduate programs in all departments, but does not have a very robust undergraduate population other than in the Earth Systems program. Two departments, Geological and Environmental Studies (GES) and Geophysics, are actively attempting to reinvigorate their undergraduate programs through a variety of means. Resources will be focused on these efforts, including hiring an undergraduate program coordinator for GES and using technology more creatively to deliver curriculum materials.

SCHOOL OF EDUCATION

Several new initiatives will provide opportunities for research on subjects embedded in practical contexts and, at the same time, strengthen links between the School of Education and the community:

- **THE JOHN GARDNER CENTER FOR YOUTH AND THEIR COMMUNITIES** – This program involves a university-community partnership to build new practices, knowledge and capacity for youth development and learning in Bay Area communities. The Center aims ultimately to create a model of community collaboration for youth and to become a national resource for communities, universities, practitioners, and policy makers interested in youth development and learning.
- **THE CALIFORNIA SCHOOLS REDESIGN NETWORK AND PERFORMANCE ASSESSMENT COLLABORATIVE** – This initiative will coordinate secondary school reform efforts in local school districts. It will support practitioners throughout California by conducting research on school designs and outcomes and will help school leaders across the state redesign schools to achieve more powerful learning outcomes with diverse learners.
- **THE REDESIGN OF TEACHER EDUCATION** – This program is entering its third year. In 2001/02, Stanford co-term students will be admitted to the Stanford Teacher Education Program (STEP). In 2002/03 the program will launch a five-year blended program of teacher preparation in the areas of English, math, history and Spanish. The mission of the program will be to cultivate teacher leaders while students are still undergraduates. The new program will deepen the process STEP has already begun and will develop relationships with local reform-oriented schools and districts that are seeking to educate diverse students to high standards. The goal of these initiatives is to integrate service to the community with the training and research mission of the School.

Another major initiative for the School focuses on technology and learning. Our intention is to create a highly visible Learning and Technology Center involving faculty, graduate and undergraduate students, as well as technology experts in the for-profit sector. The Center's goals will be to promote and bring coherence to: development of

new technologies and uses of technology for educational purposes; research on teaching and learning using technology; and teacher training and professional development involving technology.

For the third consecutive year, the School continues to be in an intensive period of faculty recruitment that will lead to a replacement of over half its faculty between 1996 and 2002. Six new faculty members joined the School in 2000/01 and four searches are currently open. These include positions in counseling psychology, history of education, social studies education, and a joint search with the graduate School of Business in the area of organizational studies.

SCHOOL OF ENGINEERING

Over the past two years, the School has been engaged in extensive academic planning, which has included ongoing discussion and debate at the school, department and individual faculty levels about future directions. A significant number of emerging objectives involve interdisciplinary opportunities, which have been broadly discussed with other schools and with the Dean of Research. There is tremendous excitement within the School, as its faculty believes they can position Engineering not only to maintain its current status as one of the two best schools in the nation, but to take a leadership position in areas that are critical for the future.

Engineering's strongest opportunities include bioengineering, photonics, materials, and the creation of a state-of-the-art Science and Engineering Center. Other opportunities include building on existing programs in Management Science & Engineering, Computational Math & Engineering and Environmental Biotechnology. In order to succeed, these areas will require investment in new faculty billets, in faculty start-up and student support and in facilities and equipment.

The single highest priority for new investment is bioengineering. Clearly, the Clark Center will be a major plus for Stanford and for Engineering, but it does not address issues associated with

admitting students in bioengineering and with degrees in bioengineering. At this time, the plan is to transform the current Chemical Engineering Department into a new department, tentatively named Chemical and BioEngineering. This will create a new set of degree-granting programs at the undergraduate and graduate levels in bioengineering, while maintaining existing chemical engineering degrees.

The second highest priority for new investment is photonics. Broadly defined, photonic materials, devices, and components will provide the infrastructure around which “wired” communications systems will be built in the future. The opportunity exists to provide orders-of-magnitude improvement in the amount of information accessible to individuals and to groups and in the speed with which this information can be accessed. The remarkable developments in the power of silicon chips over the past 30 years will be duplicated by similar developments in optically-based information networks. The opportunity exists to replace the aging Ginzton facility with a new modern building, operating as an independent lab and housing faculty from Engineering and Humanities and Sciences.

The third priority for significant investment is a new Engineering and Science Center on the Science and Engineering Quad. This new multi-purpose building is expected to house a modern, digitally-based engineering and science library; a “high tech zone” to make engineering faculty, students, and staff the best “connected” people on earth; gathering places for engineering students and student groups; and teaching spaces designed for professional education. In addition, the new building will provide a home for the School of Engineering Dean’s Office and needed expansion space for electrical engineering and computer science.

Materials represents another broad Engineering initiative. While the Materials Science and Engineering department is arguably the “home” of materials research and teaching at Stanford, the fact is that materials research is distributed across

many departments, largely because it is often applications-driven and many applications reside in departments other than Materials Science and Engineering. One of the critical factors that will enhance materials research is a set of core experimental facilities for fabrication, synthesis, and characterization of new materials. Over the next several years, the plan is to establish, equip, and staff several key laboratories for the broad materials community at Stanford. This will result in the following benefits: (1) provide enabling facilities for materials faculty, (2) substantially improve national visibility for the materials program at Stanford, (3) enhance opportunities for students to do experimental work at the forefront of materials research, and, (4) offer an integrated materials curriculum cutting across departments, designed to make it easy for students to take a variety of materials classes. A Materials Council, consisting of senior faculty from Engineering and H&S, will provide overall guidance to the school deans and to the Dean of Research regarding materials research on campus.

In addition to these major initiatives, Engineering continues to strengthen its programs in Management Science and Engineering, Environmental Engineering and Biotechnology, and Computational Math and Engineering by adding resources and facilities, expanding industrial partnerships and developing new research directions.

The School does not expect these initiatives to result in significant overall growth in faculty, students, or space. Growth will occur principally in bioengineering, an endeavor which is largely new to the School of Engineering, but which is critical for the future. The other initiatives will be largely achieved through reallocation of existing billets and resources within the School.

The School of Engineering also anticipates a flattening in its research volume for 2001/02. Over the past three years, a number senior faculty—many of whom were leaders in their fields—have retired. Nearly 30 faculty have replaced them during the same period and are in the process of developing their own research groups. It is likely

that in the future, research volume will grow again as newer faculty develop their research programs and as the School's new academic initiatives mature.

SCHOOL OF HUMANITIES AND SCIENCES

As part of the university-wide needs assessment process, H&S has been actively engaged in comprehensive planning focused on establishing a clearer vision of the School's role in the university and ways in which it can move the School to the next level of excellence. In particular, the School is examining its role as the "core" of Stanford and addressing how it can strengthen its effectiveness within the university as a whole.

The School's needs assessment process has two major goals: (1) identifying a set of objectives to ensure the foundational strength of H&S across the disciplines; and (2) defining the cross-disciplinary themes and issues that take on new or renewed salience in the current intellectual, institutional, and social environment. This effort has been guided and integrated by a faculty advisory group in concert with the cognizant deans and the H&S Council, the School's outside advisory group.

H&S continues to seek perspectives from outside Stanford to assess the quality of its faculty, students, and curriculum. In 2000/01, external visiting committees have reviewed the departments of Drama, Statistics, and Classics. Reviews will be conducted during 2001/02 in the departments of Music, Philosophy, and Religious Studies. As a result of a review that took place in 1999/00, a reorganization has been proposed to bring the departments that currently make up the Division of Literatures, Cultures, and Languages into a single department.

An ad hoc Advisory Committee on International Studies has been charged to examine the scope of the current H&S curriculum on international topics, the range of faculty expertise, and the structure and organization of international studies in the School. Rather than conducting reviews of individual programs, the Committee

will think through the overall constellation of international studies in the School in order to identify lacunae and to determine if the current organizational structures are as effective as possible. The Committee's recommendations, which are due at the end of spring quarter, will be considered in the context of the needs assessment process.

During the past two years, the School has been reviewing the status of interdepartmental programs, their role in the teaching mission and the resources available to them. As a result, the School has begun to integrate programs more effectively into its budget process and governance structure, and programs have figured significantly in the current needs assessment process. Among other initiatives, the Dean's Office has recently allocated base budget supplements to programs in the form of discretionary and supplementary teaching funds that will be helpful in maintaining vibrant and interdisciplinary course offerings.

Finally, 2001/02 will be a year of transition, as H&S welcomes a new Dean, Sharon Long, who will chart a course for the next academic year and beyond.

SCHOOL OF LAW

Stanford Law School is at the strongest point in its history, but sees additional room for improvement. The School has three programmatic goals: (1) to become the preeminent center for the study of law and technology and a leader in the intelligent application of new technologies to legal teaching and research; (2) to develop a premier international program that prepares students for the global environment in which they will practice; and (3) to expand and intensify its clinical offerings.

To achieve these goals, the School will need to grow the size of the faculty, maintain competitive faculty compensation and adequate student scholarship aid, hire a new clinical director and clinical faculty, increase support for the Law Library, and address student housing and information resources issues.

The School will also address fundamental issues to ensure a strong base from which to grow. First, and most critical, is the inadequacy of the Law School's physical plant. The buildings are in need of repair and are becoming technologically obsolete. During the summer of 2001, the School will renovate classrooms and install the technology needed to bring the Law School into the 21st century. These costs will be paid utilizing \$7 million from funds functioning as endowment.

The School will continue to address competitive pressures on faculty salary packages from its peers. One of the largest discrepancies is in summer faculty compensation. While most peer institutions provide summer faculty compensation of up to 3/9ths of regular salaries, the Law School provides an average of only \$10,000 – far less than even 1/9th.

The Law Library's budget has not kept pace with inflation during the last decade. Its ranking dropped from 14th to 24th in just the last two years. The Law Library is the only library on campus with no information technology (IT) support, making it difficult to move fully into the digital age. The School will hire needed IT positions and begin addressing long-overdue acquisition and equipment needs in the Law Library.

VICE PROVOST FOR UNDERGRADUATE EDUCATION

The Vice Provost for Undergraduate Education promotes the highest quality education for all undergraduate students and supports faculty throughout the university in their undergraduate teaching and mentoring. The 2001/02 budget enables VPUE to carry out this mission in its complexity and vitality through careful and efficient management of its programs and services, while sustaining the steady rate of growth that has been projected during the past few years. It further enables the VPUE to sustain the quality of its excellent academic programs, to continue to build strong management practices, and to innovate strategically. Modest new investments in undergraduate education will promote improvement in

writing instruction and continuing expansion of student participation in faculty-supervised undergraduate research and honors during the 2001/02 academic year. The unpredictable pace of fundraising in the Campaign for Undergraduate Education launched during 2000/01 to support the successful programs introduced over the past five years has introduced some uncertainty in the income projections for funds available to support the 2001/02 budget.

The 2000/01 academic year marked the final stages of implementation for the Stanford Introductory Studies (SIS) initiatives begun in 1996. The Writing and Critical Thinking Program, which provides instruction to first-year students through courses that satisfy the University Writing Requirement, changed its name to Program in Writing and Rhetoric and thus signaled a new direction for writing programs at Stanford. In addition to revitalizing the professional community of writing instructors, the new director of the program led a successful effort to establish Stanford's first Writing Center. Set to open in autumn 2001, the Writing Center will provide individualized tutorials to supplement the feedback on writing provided by professors and graduate teaching assistants in courses throughout the curriculum.

The centerpiece of the past year was the full implementation and reorganization of Stanford Advanced Studies into a new structure, the Undergraduate Research Programs (URP) office. The new organization provides a full-service operation in support of undergraduate research and honors. It also provides, for the first time, a coordinated "one-stop shop" for students seeking advice and information on graduate fellowships and advanced degrees.

More than 20 departments from all three Schools offering undergraduate degrees received funding from the VPUE to provide faculty-supervised research experiences for more than 300 students in summer and term-time positions. The Summer Research College houses about 120 of these students on campus while they are working with faculty during the summer, doubling the College

residential capacity since the summer of 2000. In addition, 34 members of the faculty created research positions for 72 students through the faculty grant program of the URP. Most of these students had previously worked with the sponsoring faculty member in a Stanford Introductory Seminar or Sophomore College class, thus demonstrating the success of the SIS programs in forging mentoring relationships between faculty and students.

The 370+ students participating in the departmental and faculty grant programs of the URP are in addition to those participating in the continuing program of URO student grants, which funds expenses for over 400 student honors and research projects each year. In sum, the VPUE investment in reorganization and administration of Undergraduate Research Programs has almost doubled the number of students working in close partnership with faculty on the research mission of the University.

A third focus in 2000/01 has been expansion and consolidation of academic technology services for faculty teaching in Stanford Introductory Studies. Faculty teaching Freshman and Sophomore Seminars, Sophomore College, Introduction to the Humanities, and Writing and Rhetoric courses used web and video technology to enhance both instruction and organization of their courses under the expert guidance of Academic Technology Specialists from each of the SIS program offices. These hybrid staff positions combine doctoral-level education in the discipline with advanced training and expertise in technology and pedagogy. The investment in technology not only promoted faculty development in teaching. It also expanded the technical infrastructure in each of the SIS programs, enabling directors to streamline processes for communication with students and faculty and to collect assessment data necessary for program evaluation.

The budget plan for 2001/02 reflects VPUE's ongoing commitment to program evaluation and quality control. For example, the Science,

Mathematics, and Engineering Core (SME) will discontinue offering courses to satisfy the General Education Requirements. One of the initial experiments of SIS, the SME core courses saw enrollments drop to unsustainable levels in 2000/01, due primarily to students' preference for more flexibility and choice in course selection than was provided by a two- or three-quarter course sequence. The VPUE has undertaken a full assessment of the conditions shaping the SME program in the context of a Faculty Senate-mandated review of General Education Requirements in science, applied science, and mathematics. This budget supports expenses for curriculum and pedagogy anticipated to result from the recommendations of this faculty review.

Priority will go toward institutionalization of the new directions in writing and oral communication resulting both from the recent transition in faculty leadership and from the recommendations of an 18-month faculty review of writing programs at Stanford. Oral communication initiatives, begun as a pilot in "Speaking Across the Curriculum" through the Center for Teaching and Learning, will be expanded and enhanced by incorporating mixed media presentation skills into the range of abilities developed and encouraged in the curriculum. Key to the success of this approach will be the professional development of instructors throughout the University—in the Program in Writing and Rhetoric, the Center for Teaching and Learning, the Technical Communications Program of the School of Engineering, and in departments and degree programs.

The VPUE budget will provide support for an increased number of grants for undergraduate research. This steady growth is consistent with long-range strategic planning and is contingent upon continuing positive outcomes for evaluation of the faculty/student partnerships in research. Investments in services for honors programs will also grow modestly, anticipating that many of the 300+ students engaged in research experiences will undertake honors projects as they progress through their junior and senior years.

In recognition of the centrality of the thesis to departmental honors programs, writing tutorials are provided through the Undergraduate Research Programs office in coordination with the new Writing Center. Writing services take two forms: individual consultations with students working on their theses, from proposals through final drafts, and group workshops offered under the auspices of departmental sponsorship. More than 200 students take advantage of tutorials, including those who attend the Honors College, a residential program held in September before the opening of autumn quarter for 120 seniors to get a head-start on their honors projects.

Creating and sustaining a community of like-minded scholars and teachers is an important goal for both faculty and students in VPUE programs. For faculty who teach Stanford Introductory Seminars, this budget invests in faculty development activities in which seminar teachers reflect upon their common teaching experiences and provide mutual support for developing appropriate pedagogical approaches to materials for freshman and sophomore classes. For students, the budget supports expansion of peer advising in the major, through a joint initiative of the Undergraduate Advising Center and the Mentoring Fund of the VPUE.

DEAN OF RESEARCH

The Office of the Vice Provost and Dean of Research and Graduate Policy has several important functions: the development and oversight of research policy; oversight of the independent laboratories, centers, and institutes; policy development for Stanford's graduate education program; and management of the Offices of Technology Licensing, Environmental Health and Safety, and Research Compliance.

The Stanford Graduate Fellowship program now supports 345 outstanding graduate students in science, engineering and the social sciences. Of the students chosen as Stanford Graduate Fellows, 70 also earned nationally competitive fellowships and

are honored as joint fellows. In addition, the program supplements the stipend of students who come to Stanford with three year National Science Foundation or similar grants.

The nine independent laboratories, centers, and institutes reporting to the Dean of Research encourage and support Stanford's interdisciplinary research and scholarship and currently account for about 36% of the total non-Medical School research volume. The program and budget plans developed by these units demonstrate that they provide strong programs that both complement and supplement Stanford's departmentally-based research and scholarship programs, in addition to attracting excellent students, external scholars and scientists. Two examples are the new Fitzpatrick Photonics Center, which will incorporate the E. L. Ginzton Laboratory and establish a home for the broader photonics community on campus, and the Bio-X program for Bioengineering, Biomedicine and Biosciences at Stanford, an emerging collaboration of faculty in the Schools of Engineering, Medicine and H&S, to be housed in the new Clark Center for Biomedical Engineering and Sciences.

The budget also supports the following administrative units. The mission of the Office of Technology Licensing (OTL) is to transfer Stanford technology for public use and benefit and to generate royalty income to support research and education. It is notable that OTL's success in technology transfer has allowed the establishment of 25 Stanford Graduate Fellowships. The Environmental Health and Safety Office (EH&S) has established a stable program that devotes its resources to the continued support and welfare of the Stanford community and, especially, its research activities. The Research Compliance Office oversees five administrative panels that assure the university's compliance with federal, state and local regulations of research and teaching activities by reviewing those activities involving human subjects, laboratory animals, biohazardous agents, recombinant DNA or radiological hazards.

HOOVER INSTITUTION

In 2001/02, the Hoover Institution will expand its research program by adding up to seven new institutional initiatives to its current programs in American Public Education, National Security and End of Communism. Institutional initiatives are multi-year projects in which Hoover fellows and other scholars focus on specific and important topics related to the Institution's mission, which embraces the principles of individual, economic, and political freedom; private enterprise; and representative, yet limited, government.

New initiatives planned for 2001/02 include:

- Accountability of Government to Society
- American Individualism and Values
- Capital Formation, Tax Policy, and Economic Growth
- International Rivalries and Global Cooperation
- Population Growth
- Property Rights, the Rule of Law, and Economic Performance
- Transition to Democratic Capitalism

The result of the institutional research initiatives is a greater number of institutional book projects, conferences and forums. Institutional initiatives augment the scholarship that originates from Hoover scholars' individual research.

By September 1, 2001, the Hoover Library and the Stanford University Libraries will have implemented a plan to realign their respective collecting and operating responsibilities. The realignment transfers responsibility for acquiring general library materials (books, periodicals and newspapers) from the Hoover Library to the University Libraries. Accordingly, the Hoover Library will focus all its resources on gathering fugitive, archival and other special materials, and thus strengthen its capacity to fulfill its original mission as a special library of rare and unique materials.

The Hoover Library focuses on three programmatic areas: collection development, access and preservation. While the collecting efforts include all aspects of political, economic and social change

in modern times, an emphasis will be placed on three collecting priorities: the history of communism, transition to democracy and economic freedom, and cultural conflict, especially between the West and the Islamic movement. In order to enhance access, new efforts will be made to eliminate the cataloging backlog, improve access through the Internet, promote research and publication of archival documents through grants to scholars, and expand the exhibits and outreach program. In order to address preservation needs, Hoover is seeking to double its expenditures on preservation activities over the next five years. The funding objectives in these three programmatic areas will be met primarily through Hoover's fundraising program.

The Institution disseminates its scholarly work through a variety of media, including institutional books, Hoover-published journals, weekly essays, and television. Over the past three years, the Hoover Press and Hoover fellows have published 30 institutional initiative books. More than 35 are in various stages of production and will be published during the next two years. The following briefly describes the regularly appearing journals, essays, and television programs.

Hoover Digest: Research and Opinion on Public Policy – In its sixth year of publication, this quarterly journal remains the signature outreach vehicle for the Institution and its scholars.

Education Matters: A Journal of Opinion and Research – One of two additional journals, this publication is the joint product of the Hoover Institution and three other research institutions. It addresses important developments in school reform and serves as a valuable resource for the academic and policy communities as well as for business leaders, legislators, journalists, change-minded educators, and parents. The members of Hoover's Koret Task Force on K–12 Education serve as the editorial board of the journal.

Policy Review – This bimonthly journal first appeared as a publication of the Hoover Press in the summer of 2001. It is a general interest magazine of ideas that complements Hoover's publications

product line by offering a premier vehicle for advancing debate at the highest level. The Hoover Institution is committed to free and rigorous inquiry into the American condition, into the workings of U.S. government and of political and economic systems throughout the world, and into the role of the United States in the world. *Policy Review* offers the opportunity for civil discourse, the airing of reasoned disagreement, and a vigorous and open debate among scholars with an interest in current affairs and journalists interested in exploring the world in greater depth.

The Weekly Essays Series – Now entering its second year, the series is syndicated nationally by Knight Ridder/Tribune to its more than 400 subscriber newspapers. The Weekly Essays—all authored by Hoover fellows—appear in six national news and public policy journals with total readership of more than one million. The essays address current public policy issues.

*Uncommon Knowledge*TM – The Institution's weekly public affairs television series continues with 39 new shows each year providing original programming to PBS stations across the country.

GRADUATE SCHOOL OF BUSINESS

The School's most important goals, and the single most critical budget assumption, are the recruitment and retention of faculty. With 10 new faculty recruited in the last year (a net increase of four faculty in 2000/01), the proposed budget assumes a net increase of 12 faculty, with related increases in faculty support staff, research assistants, and school-funded housing support. It also assumes retention of key faculty, despite the intense competition for outstanding scholars that continues unabated.

In the course of its needs assessment process this year, the School has identified electronically-mediated learning, research and teaching regarding the impact of technology on management, and continued development of executive education as important priorities for the future. The proposed budget for 2001/02 allows for continued

investment in electronically-mediated learning, both within the School and in a potential joint venture with Harvard Business School. Faculty and staff are exploring alternatives for creating and capturing educational content and distributing it electronically to various audiences. These include alumni (as part of lifelong learning), students, and participants in executive education courses. A key objective is to extend GSB education to geographically-remote locations without sacrificing either faculty time or the quality of the classroom experience. These efforts will be funded at least in part by gifts to be raised and/or support from the Stanford Business School Trust. The School believes that this investment is necessary because of the uncertainty surrounding how teaching will evolve in the future and that, in the long run, it will benefit pedagogy, executive education programs and outreach to alumni.

Technology investment continues at a high level, supporting teaching, research and business processes. Major investments in the current year include outsourcing network services, server support and help desk support; ongoing upgrades to the network and desktop; staff involvement in the PeopleSoft Axess implementation; and initial steps in implementation of an integrated web platform to support teaching, research, student services, alumni outreach and business processes. This will continue in 2001/02, with additional investment in supporting instructional technology and electronically-mediated learning efforts.

Capital improvements during 2000/01 will include complete renovation of one executive education classroom to provide integrated video-conferencing capability, as well as standardizing classroom technology and equipping one classroom for professional-quality taping of teaching content. The 2001/02 budget provides for additional investment in taping and video-conferencing, refurbishment of several classrooms, and complete renovation of a second classroom (the latter to be supported by gifts). In addition, over the summer and into next year, the fourth floor of Jackson Library will be reconfigured from book and periodical shelving to doctoral student cubicles in order to provide

capacity within the School's existing facilities to absorb anticipated increases in faculty and staff. Looking ahead several years, proposed increases in students, faculty, and staff will require additional classroom, residential, and office space, all of which are under consideration in the capital plan and in the needs assessment process.

SCHOOL OF MEDICINE

The rapidly changing financial landscape impacting Stanford's teaching hospitals makes it difficult to develop the Medical School's financial forecast over the next several years. This is primarily due to potential changes in the projected flow of funds between the Medical School, Medical Center and the university. In addition, the new dean, Dr. Philip Pizzo, is developing a strategic plan that will allow the School to focus its energies and investments in specific areas. Notwithstanding these uncertainties, the School has continued its program of investing in the recruitment and retention of key faculty and faculty leaders.

The Stanford University School of Medicine and the Stanford hospitals have been dedicated to providing high-quality healthcare for more than a century, teaching successive generations of physicians and researchers, and conducting groundbreaking research. While our commitment to this mission is unchanged, academic medical centers across the country and particularly in northern California are compromised because of the rapid proliferation of managed care during the last decade as well as the significant reductions in federal support to teaching hospitals following the 1997 Balanced Budget Act. Because of these changes, academic medical centers are being paid only a fraction of the fair cost of the services they deliver. In order to balance the budget, Stanford Medical Center must consider several options: (1) renegotiating or exiting health plan contracts; (2) transferring some programs to other providers; and (3) closing some money-losing programs. Clearly, all of these difficult choices impact not only the services provided to the community but the

clinical, education and research programs of the School. Extensive analyses and very difficult decisions must be completed by the end of the current fiscal year in order to position the School and hospitals to reach financial stability within the next two years.

Dean Pizzo is developing a strategic plan that will allow the School to utilize its resources in pursuing the multiple facets of its mission. He intends to focus the curriculum in both M.D. and Ph.D. programs to foster the development of physician-scientists and leaders in academic medicine and biomedical research. He will also continue to develop and enhance excellence in basic and clinical investigation in conjunction with seeking ways to facilitate interdisciplinary research efforts.

One of the resources that will be carefully evaluated in the coming months is the School's physical facilities, particularly space dedicated to education, libraries and student support. Plans that had been developed for the revitalization of the E.D. Stone buildings are being reevaluated and will focus, for the present, on education and library facilities that more fully serve the School's mission. These investments are key at a time when approaches to education and the technology that supports it are progressing rapidly. Identifying appropriate resources to support this initiative will be a focus of development activities during 2001/02.

The School is fortunate to have accumulated reserves, both centrally and in the departments, but will continue to have pressing needs to develop and enhance existing programs and to satisfy program support and space commitments to department chairs and departments. As clinical revenues contract, the sources for replenishing those reserves also diminish. Development activities, as well as ongoing income and responsible use of reserves, will be critical to provide ongoing support as well as opportunities to invest as the strategic focus of the School is refined and the impact of changes in clinical program becomes clear.

STANFORD UNIVERSITY LIBRARIES / ACADEMIC INFORMATION RESOURCES

SUL/AIR, the merged organization of university library, academic computing services, and HighWire Press (an Internet publishing service), is experiencing and will continue to experience strong demand for its services and collections by all segments of the Stanford community and by readers, users and clients from afar. Insofar as it is possible to do, we will maintain the level of service and responsiveness to the individual and organizational needs of those in the Stanford community.

Certain trends are clear. We are circulating very large numbers of traditional books both inside and outside of our 13 facilities and demand for new books and other printed material remains high. Simultaneously, there is very strong use of digital information resources, especially those emanating from scholarly processes, governmental and non-governmental organizations, and other refereed publishing houses.

One of SUL/AIR's main challenges in 2001/02 and for several more years will be providing Stanford students and faculty with clear and intuitive access to information about information available for teaching, learning, and research. In attempting to meet this challenge, we have adopted the goal of making individually customized views of the universe of information and services available through SUL/AIR the norm. SUL/AIR's Academic Computing department has taken the strategic approach of teaching Stanford students and faculty to become more self-sufficient in making use of basic electronic tools in preparing and supporting courses, devising and composing reports, and conducting research. To that end, information technologists are working with a similar group at MIT to devise a modular toolkit of software, most of it commercially produced, for these purposes. In the Residential Computing unit, the focus turns increasingly to serving the full range of information and computing needs of the 9,500 students who live on campus, a change from the former need to assist students in assembling new computers and get them connected to SUNet. Residential

Computing Consultants are becoming out-riders in the student residences in much the same way that the Academic Technology Specialists have served in the faculty departments.

HighWire Press moves from strength to strength. The staff has relocated to a newly acquired building on Page Mill Road and serves a constantly growing number of scholarly society publishers. More growth is anticipated in clients and in the numbers of titles delivered through HighWire's services. More knowledge environments are in development to join those already created in cellular signal transduction, cancer research and therapy, and bone research.

Other key efforts for 2001/02 include:

- Completion of work on an off-campus collection storage building by September 2002. A three-year period of activation, will consolidate volumes scattered around many campus and commercial storage locations. Substantial effort on the deployment of collections on and off campus will be made. When complete, this facility should accommodate collection growth in all of Stanford's libraries for about 20 years.
- Absorption of the Hoover Library staff and collections, including the East Asia Library. This effort will be overseen by a sub-committee of the Academic Council Senate Committee on Libraries.
- Continuation of work on the integration of intellectual access to collections in both physical and digital form.
- Planning for numerous facilities projects on and off campus. A consultation process with faculty departments and schools has begun. Refinement of SUL/AIR's pieces in the campus plan is necessary by the end of 2001/02.

An ongoing concern to SUL/AIR in that recruitment and retention of specialized staff (including especially subject curators, catalogers, technical specialists and information technologists) is and will continue to be negatively affected by the cost of housing in the Bay Area.

STANFORD LINEAR ACCELERATOR CENTER

The 2001/02 budget for SLAC is expected to be relatively flat in the current year; however, growing program needs will require increased support in the future. Major initiatives are outlined below.

The PEP-II/BaBar B Factory project has been a great success on the high energy physics program. It achieved design luminosity in its first year of operations. An accelerator improvement program has been underway for operating efficiency enhancements and a two-stage luminosity upgrade. The PEP-II luminosity is expected to triple in 2003 and triple again in 2006. Upgrades to the BaBar detector are also being planned in order to keep up with the increasing luminosity of PEP-II. With the B Factory producing data at a very substantial rate, a critical increase in computing resources is needed to accommodate the anticipated data rates.

The B Factory program is complemented by the fixed-target experimental program at End Station A. The Moller scattering experiment, which utilizes SLAC's unique capability of a high-energy polarized electron beam, is taking data in 2001 and 2002. Preparation has begun for the next series of fixed-target experiments utilizing high-energy polarized photon beam.

The Department of Energy (DOE) and National Aeronautics and Space Administration (NASA) are jointly funding the Large Area Telescope (LAT) investigation on the Gamma-Ray Large Area Space Telescope (GLAST) mission. The LAT project on particle astrophysics is an international collaborative effort of the Stanford team (SLAC, Physics Department and HEPL) with other U.S. and European institutions. The fabrication of the LAT instrument has been underway, targeted to meet the launch schedule of 2006.

Another key element in the high energy physics program is an extensive research and development (R&D) effort aimed at the eventual construction of a large electron-positron linear collider, which will make possible unique experimental investigations at the TeV energy scale. The Next Linear Collider (NLC) program is being carried out in close collaboration with SLAC's sister lab KEK (Japan's National Laboratory for High Energy Physics) and three other DOE National Laboratories.

The National Institutes of Health (NIH) is in partnership with DOE on the SPEAR3 project to upgrade the synchrotron radiation facility, SPEAR, at the Stanford Synchrotron Radiation Laboratory (SSRL). In parallel to the SPEAR3 upgrade, there is a multi-year program to upgrade the SPEAR beam lines in order to benefit from the increased beam power available with SPEAR3. The upgrade activities are being carried out while operation of SPEAR continues. When SPEAR3 is completed in 2003, it will provide capabilities for new science and technological developments.

The other major initiative of SSRL is the R&D program for an x-ray free-electron laser called the Linac Coherent Light Source (LCLS) which utilizes the last third of the linear accelerator. It is a multi-institution collaboration that includes four other DOE national laboratories and UCLA. We hope to have DOE approval soon to proceed with the conceptual design phase, completing a proposal to begin construction of the facility in 2003.

For many years, SLAC has requested increased funding from DOE for infrastructure support. Aside from addressing the routine programmatic or ES&H infrastructure requirements, SLAC needs to complete the replacement of 35-year-old equipment and utility systems and to finish a seismic upgrade program for the many buildings and structures on site.