

***DRAFT*: TALKING POINTS SUBMITTED FOR DISCUSSION AT
ACADEMIC COUNCIL – NOVEMBER 30, 2006:
ON THE ROLE OF SCHOLARLY RESEARCH
AND CREATIVE ACTIVITIES IN THE CSU**

The senior research officers from each CSU campus collaboratively prepared the attached statement for discussion at the November 30, 2006, meeting of the CSU Provosts at the Academic Council. After review and extensive discussion, the Provosts concluded that this draft statement deserves wider dissemination and should be made available to all campuses as they participate in the *Access to Excellence* planning process (see http://www.calstate.edu/acadaff/System_Strategic_Planning/index.shtml).

Although this draft document has not been formally endorsed by Provosts and has not yet been reviewed by faculty at individual CSU campuses or by the ASCSU, the Provosts strongly believe that the information and recommendations will be of great interest to faculty. The Provosts are in fundamental agreement with the analyses presented in the document and believe that it presents a compelling case for reexamination of research policies and resource needs within the CSU.

In the near future, the Academic Council will review the specific recommendations presented in this document for possible formal endorsement and/or actions, which would include communication with the Executive Council, ASCSU, and other appropriate bodies.

Executive Summary

History and Context

While the 1960 version of the Master Plan for Higher Education authorized the CSU (or State College System) to assume only a minor role in research¹, many faculty members considered research and other forms of scholarship to be fundamental to their professorial development and believed that their involvement in research and scholarship was essential to enhancing their teaching effectiveness and student learning. Hence, they continued to engage in such activities without the use of State resources and in time, legislative action authorized research in the CSU. In 1989, the *Final Report of the Joint Committee for Review of the Master Plan for Higher Education* stated, "Central to the role of any decent teaching institution is the research, scholarly and creative activity essential to the development of good teaching, and essential as a part of the education of students. The state should acknowledge this in the Mission of the California State University, and endeavor to support it." As a result of this report, the California State Education Code: Chapter 1587 (SB 1570, Nielson) was amended in 1990 so that the mission of the CSU was broadened to include "research, scholarship, and creative activity in support of its undergraduate and graduate instructional mission."

¹ Throughout this document, research is used interchangeably with the more general phrase "scholarly research and creative activity"

The Value of Scholarly Research and Creative Activity to the CSU & the State of California

The benefits of instilling a significant scholarly research agenda among CSU universities are manifold:

- The requirements and exhilaration of competing at the forefront of their disciplines keep faculty knowledgeable and current, enhancing the education of their students.
- By honoring scholarly research as an essential component of our profession, the CSU becomes more competitive when recruiting and retaining the most promising teacher-scholars as members of the faculty.
- Active research programs and creative endeavors offer undergraduate and graduate students venues for pursuing their own original creative research, providing an added, and often essential, dimension to their educational experiences and leading some of them to pursue doctoral education.
- The growth of external support for research is instrumental in providing funding to modernize laboratory facilities, fund travel and fellowships for faculty scholars, enhance student support services, and grow new academic programs. In 2005, the CSU as a whole obtained \$140M in federal grants and contracts (excluding federal financial aid); \$267M in state and local grants and contracts; and \$83M in non-governmental grants and contracts.
- Research pursued in our universities is the basis for scientific, technical, social, educational, and cultural advances that stimulate the California Economy and have afforded our society an enviable standard of living.

Recommendations for Addressing the Factors Limiting the Growth of Scholarly Research and Creative Activity in the CSU

It is important that the system and campuses implement changes that promote an environment that develops and sustains faculty research and scholarly activity as a means of enhancing student learning, and the recruitment and retention of a quality faculty by addressing the following:

- **Faculty Workload.** Faculty workloads have expanded to emphasize student learning and outcomes assessment, applied research and teaching, as well as scholarship and community involvement; however, the traditional interpretation of faculty workload does not adequately reflect the time and effort required. **Recommendation: Revisit the 1999-2001 CSU faculty workload study to reconfirm the system-wide move to increased expectations and performance in the area of faculty research and scholarship. Initiate a CSU dialogue on workload balance and reassignment strategies that recognize this realignment of faculty workload.**
- **The RTP process.** Typically RTP evaluations are based on a combination of Teaching, Scholarly or Professional Activity, and Service. It appears to be universal within the CSU that a faculty member must be a good teacher in order to be tenured and promoted. No change should be made in this expectation. On many campuses there are expanding expectations in the area of Scholarship

- (publications, grants, creative works, etc.). **Recommendation: RTP policies should more fully acknowledge the role of research, creative and scholarly activities and the value of obtaining external support through grant and contract awards.**
- **Space and Research Resources.** Departments within the CSU are struggling to meet space needs for research and scholarly activities. A major problem is that present formulas are inadequate for faculty and graduate research space, as well as research support space and information resources. **Recommendation: Reform the thirty-year-old facilities and space allocation formulas to reflect the shift to faculty, undergraduate and graduate research collaborations, and move to augment information resources.**
 - **Start Up Packages For New Faculty.** To attract high quality, research-active faculty, departments must be able to provide each new faculty member with resources adequate to initiate a campus-based research program. Additionally, these resources are essential if the faculty are expected to be competitive when applying for extramural funds. **Recommendation: Each campus should provide competitive faculty start-up funding where appropriate for new faculty as part of its base funding.**
 - **RSCA Funding.** In the late 1980s, the Research Scholarship and Creative Activities (RSCA) program was established and allocated a total of \$2.5M per year, to be allocated to campuses based on FTEF. This amount, while adequate in the 1980s, is insufficient today because of inflation and growth in the number of faculty and expectations for research and scholarly activity. **Recommendation: Revisit RSCA accountability constructs and the amount of its funding allocation to bring them into alignment with current research and scholarship expectations.**
 - **Research and contract administration infrastructure.** Federal, State and University regulations have greatly expanded the complexity and demands of compliance and cost for research and contract administration infrastructure support. **Recommendation: Institutionalize support for compliance functions that support the research role of the university such as those dictated by EO 890, human and animal research regulations, Export Controls, etc.**
 - **Intellectual property.** There is a need for consideration of a centralized approach for providing the expertise associated with the development and management of intellectual properties that does not overly burden the infrastructure of individual campuses. **Recommendation: Examine and support an approach to leveraging the specialized legal and business expertise of certain campuses to benefit all campuses in developing intellectual property and technology transfer in the CSU.**

History and Context

The 1960 Donahoe Act, which implemented the Master Plan for Higher Education in California, formalized the tripartite structure of higher education in the State. The Plan itself was the result of contentious negotiation in which the University of California and the State Colleges asserted competing claims in areas such as graduate training, research,

and enrollment growth

(http://sunsite.berkeley.edu/~ucalhist/archives_exhibits/masterplan/1960.html). The differentiation of mission that ultimately emerged authorized the CSU (then the State Colleges) to offer Bachelor's and Master's degrees and assume primary responsibility for teacher credentialing programs, while playing only a minor role in research and public service (http://sunsite.berkeley.edu/~ucalhist/archives_exhibits/masterplan/heart.html).

Despite these restrictions, many faculty members in the State College System considered research and other forms of scholarship to be fundamental to their professorial development and roles and continued to engage in such activities without the use of State resources. Indeed, many faculty members believed that their involvement in scholarly research and creative activities was essential for their teaching effectiveness and student learning and valued the synergy between teaching and research. During this time, organized research units (centers and institutes) began to emerge and the CSU gradually became known for an applied research emphasis that distinguished its efforts from the basic research orientation of the University of California. In time, legislative action acknowledged the emerging reality. In 1989, the *Final Report of the Joint Committee for Review of the Master Plan for Higher Education* recommended that the State of California support research, scholarly and creative activities in the CSU that serve the university's instructional mission, directly involve students, and study issues or problems "relevant to the changing social, environmental, economic, or cultural life of California's many regions." Further, the report stated, "Central to the role of any decent teaching institution is the research, scholarly and creative activity essential to the development of good teaching, and essential as a part of the education of students. The state should acknowledge this in the Mission of the California State University, and endeavor to support it."

As a result of this report, the *California State Education Code: Chapter 1587* (SB 1570, Nielson) was amended in 1990 so that the mission of the CSU was broadened to include "research, scholarship, and creative activity in support of its undergraduate and graduate instructional mission." At this time also, a line item appropriation for faculty research at the CSU was included for the first time in the General Fund budget (the RSCA allocation).

During the 1990s and continuing into the current decade, research and scholarly activities have increased within the CSU, not at the expense of our educational mission, but in support of it. The quality of CSU's academic programs has continued to improve and our educational system is recognized for the quality of students, faculty and alumni. Non-State funding to support research and scholarship of faculty and students has increased dramatically; centers and institutes have proliferated; and faculty and student awards and recognition for research and creative activities have multiplied. Moreover, the acceptance of research and scholarly activity as an integral part of our instructional mission is manifest in system-wide strategic planning efforts. The 1997 *Cornerstones Report* affirmed "Through teaching, research, scholarly activities, and service, the university is a powerful force for individual development and the improvement of a democratic society." Principle 4 of the report stated that, "The California State University will reinvest in its faculty to maintain its primary mission as a teaching-centered

comprehensive university. Faculty scholarship, research and creative activity are essential components of that mission,” and included “a commitment to support research, scholarly and creative activities for the faculty as a central element of a rich learning environment for our students.”

More recently, the *CSU Economic Impact Report* concluded that CSU faculty research and creative activities have made significant contributions to California’s economic prosperity. “CSU research has attracted public and private research investment in the form of applied research and entrepreneurial partnerships that drive California’s knowledge-based economy. For every dollar spent on the CSU more than double is returned to the state of California in economic resources.” Another seminal document that both informs and is synergistic with consideration of the role of research in the CSU is the 2004 Academic Senate report by the Task Force on Graduate and Postbaccalaureate Education in the CSU. In that document, the ties between CSU’s crucial regional role in graduate education and faculty research, scholarly, and creative activities are summarized in the following striking paragraph:

“The CSU faculty is well qualified through their doctoral education and continued research, scholarly, and creative activities to provide quality postbaccalaureate education, including doctoral education. CSU faculty maintain active research and scholarship for reasons that include the following: to assure their teaching is current and of high quality; to involve graduate (and undergraduate) students in research and scholarship before entering the job market or doctoral programs; to help satiate their inherent excitement about their discipline; and to model appropriate professional and academic behaviors.”

Now, nearly a decade following the launch of the first *Cornerstones* initiative, the CSU is poised to reconsider and reexamine its mission and role in higher education in the State of California. *Access to Excellence*, as the current initiative is called, will address six domains, including “Domain 5. Faculty/Staff Excellence to Promote Student Success,” which embraces, among other elements, a commitment to “supporting the teacher-model for faculty” and “recognizing...faculty roles in research and service.” This reexamination of mission and goals provides a propitious opportunity for reflection on the role, significance, and value of research, scholarship and creative activity in the CSU.

The Value of Research and Scholarly Activity to the CSU & the State of California
Universities have traditionally assumed three major functions: teaching/student learning research and service. Teaching creates the educated workforce upon which an advanced society depends. Creative original research and scholarship extends the boundaries of knowledge, works through the turbulence of competing theories and data at its leading edge, and enlarges and modifies the body of accepted knowledge to be taught. As previously noted, student learning often critically depends on the nexus between teaching and research. When students are actively involved in research and creative activities with faculty mentors, their learning experiences are enriched, and retention and graduation are positively affected.

The benefits of fostering a significant research enterprise in the CSU are manifold. The requirements and exhilaration associated with competing at the forefront of their disciplines keep faculty knowledgeable and engaged, to the benefit of their students. Active scholarly research programs offer students venues for pursuing their own original creative visions and for developing critical thinking skills, providing an added dimension to their educational experiences. Recognition of faculty as contributing scholars by professional colleagues brings distinction to their universities. Grants and contracts awarded in support of research projects and sponsored programs provide extramural funds that can be used to advance the university's research initiatives and provide infrastructure that supports educational programs as well as research. External funds also support training, curriculum development, and public outreach projects that disseminate the practical applications of research findings to the public and private sectors. Finally, research pursued in the CSU is the basis for scientific, technical, social and cultural advances that benefit the citizens of the State of California, and, indeed, the nation.

The faculties whom we seek to attract to CSU universities bring specific research agendas. They have typically just completed intense research and creative inquiry experiences as doctoral, post-doctoral, or MFA students and are seeking to dedicate their new knowledge and skills to original scholarship. If our system is to be competitive in the recruitment of the most promising faculty and to retain them throughout their careers, we must honor scholarly research and creative activities as essential components of the professorial career, and provide the time and resources to permit their conduct. In this successful pursuit, the quality of faculty will continue to rise, and with it, the wealth and reputation of CSU universities, and so will the number and credentials of students seeking admission. In turn, these skilled and demanding students will have not only more respected faculty in the classroom, but the additional venues of laboratory, library, and performance space through which to extend their knowledge and promote personal inquiry. The value and excellence of a CSU degree, at the baccalaureate, Master's, and, with the addition of Ph.D.'s and Ed.D.'s in some disciplines, the doctoral level, can only be assured through continued support and investment in faculty scholarship and professional development.

Perhaps less obvious is the way in which the research activities of universities promote the goals of diversity. Seminal work on inter-group relations has shown that tolerance, understanding, and higher regard among groups, can be achieved through inter-group contact, but only when that interaction takes place in a positive environment that emphasizes cooperation over competition and where success is far more common than failure. The logical extension of these general principles to a university campus reinforces the importance of integrated learning and social experiences in a supportive environment that fosters success. Moreover, recent lessons from cognitive science show that interactive and participatory learning usually promote deeper understanding than do passive lecturing or reading. Studies in student engagement and retention (recently publicized in the Chronicle of Higher Education, and at a recent National Survey of Student Engagement (NSSE) Conference) clearly demonstrate that students' engagement in structured activities that build toward their future professions is a powerful acculturation and retention strategy. Thus, establishing these desired conditions is an essential and common core for realizing the goals of diversity. One of the best ways to

create this environment is to have all students participate in research teams on projects that would span the full range of disciplines: from molecular biology study, to public art design and construction, to archival and library-based humanities scholarly work, to community-based social services research projects.

Even better, the federal government is willing and eager to help the CSU create this environment. Many of the CSU institutions are designated minority-serving or Hispanic-serving institutions or otherwise qualify for federal programs aimed at increasing the number of under-represented minorities in the STEM fields (science, technology, engineering, and mathematics). Both NSF (e.g., LSAMP, AGEP) and NIH (e.g., MBRS, RISE, BRIDGES, COR) have programs that provide direct support for student stipends as well as for the development, evaluation, and dissemination of innovative methods for improving student success. These agencies understand that minority-serving institutions cannot produce highly competitive graduates without affording students the opportunity to gain research experience under the tutelage of productive faculty and using advanced research methods, equipment, and laboratories. As well, the CSU benefits from the many sponsored projects that indirectly support students through faculty research development and support for research infrastructure (e.g., DOE McNair, NSF CREST, NIH SCORE, NIH M-RISP).

Finally, the intellectual capital and vigorous scholarship of CSU faculty should be recognized for what it truly is: a part of the nation's higher education research capabilities. Creation of new knowledge is of intrinsic value in and of itself, and a central obligation of all universities.

Among the opportunities afforded the CSU through an increasing emphasis on research and scholarly activity are:

- *Stronger student preparation for the workforce*— opportunities for students to work alongside their professors in an active learning environment translates to their intended employment destination.
- *Diversification of the professional workforce and the professoriate* – traditionally underrepresented groups become more fully engaged in planning their education through research experiences. As a result of its emphasis on access, the CSU has the most ethnically and culturally diverse student body of any system of higher education in the world. When these students have the opportunity to participate in research and scholarly activity with their faculty, some of them are inspired to pursue doctoral-level education. As graduates of doctoral programs, they can make an important contribution to the diversity of their professions, as members of the academy in all disciplines, as well as private sector scientists, engineers and other professionals.
- *Enhanced and often accelerated learning* – students gain exciting, first-hand experience in the search for knowledge, an enriching complement to the

traditional classroom setting.

- *Faculty retention and job satisfaction* - scholarly achievement helps faculty build their dossier as they move toward tenure and promotion, essential to retention and job satisfaction.
- *Faculty maintain disciplinary currency* - when faculty are at the cutting edge of their disciplines, they remain connected with the source that feeds their intellectual curiosity and creative abilities and are able to establish and maintain partnerships with other scholars around the world. These connections, in turn, enhance their teaching and interactions with students.
- *Campus prestige and student recruitment* – active scholarly, creative and research programs are excellent mechanisms for CSU campuses to interact with their local communities and to relate the exciting intellectual work that is happening on campus.
- *Additional resources for campuses* - the growth of external support for research and sponsored programs is instrumental in advancing campus missions and strategic plans. In an era of shrinking State support, externally supported research and sponsored programs provides funding to modernize laboratory facilities, fund faculty fellowships and travel, enhance student support services, and develop new academic programs that will meet the workforce needs of the State.

Data and Analysis: CSU Attributes Related to Research and Creative Activities

Scholarly research and creative inquiry are tied to many aspects of the CSU learning enterprise, permeating such disparate system imperatives as student success, the economic impact of the CSU, and faculty hiring and retention. Below, we present CSU attributes that we believe are critically linked to the health of the CSU research enterprise, and which we believe clearly demonstrate both the existing power and reach of research and allied endeavors in the CSU, and the likelihood that research and creative activities will grow in importance to the CSU's future.

The CSU Economic Impact Report

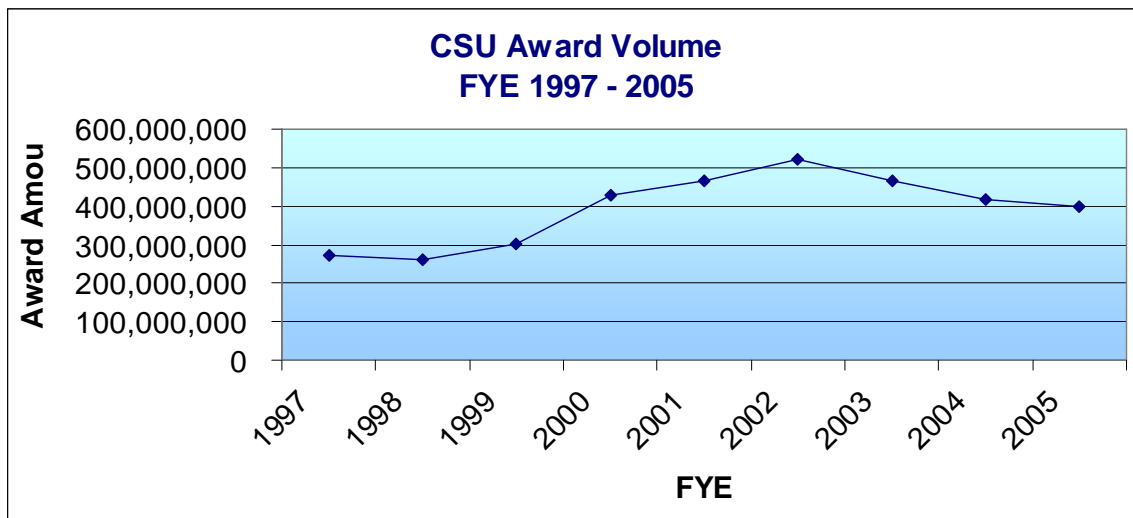
As cited earlier, the CSU system recently (2003, updated January 2005) released a compelling document outlining the economic impact *in toto* of the 23 CSU campuses. In parallel, individual campuses produced their own regional economic impact statements. These documents clearly demonstrated a \$4-5 direct return on investment for every State dollar spent to support the CSU. The economic impact statements were widely disseminated, receiving extensive media coverage and substantial government and business recognition. Chapter 5 in the system-wide report identifies CSU research as a “growing resource for California’s economy” and an “expanding economic engine”, and states that:

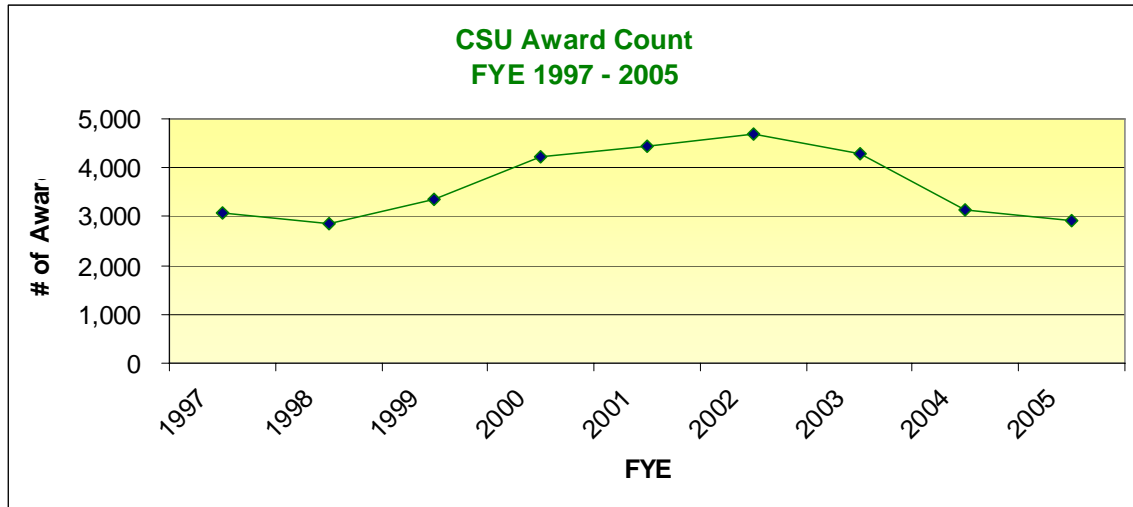
“The evolution of CSU into providers of applied research is consistent with the historic role of CSU as a teaching institution. As the pace of technological change has accelerated, the need to ensure that the curricula remain current has become fundamental. Faculty research has become a natural way to ensure that the CSU curricula are on the leading edge. Faculty members who perform research are usually at the top of their professions and bring the latest insights to their teaching. Many, if not most, CSU research projects are also carried out with students and in the process, create important learning experiences.”

External Grants and Contracts

As described in the CSU Economic Impact report, CSU faculty and staff have greatly increased external grant and contract support within the last decade, through their successful approaches to federal, state, local, and private/corporate sponsors. These grants and contracts not only provide much needed direct programmatic support for instructional programs, but the indirect costs (also called facilities and administrative costs) recovered provide infrastructure support for campus research facilities.

As the following two figures (courtesy of Sue DeRosa, Director for Grants and Contracts, CSULB Foundation) show, despite some decreases in levels of support from grants and contracts between 2002-2005 (due to the State fiscal crisis that reduced the number of tenure/tenure-track faculty, and to reallocations of federal fund priorities from domestic to military purposes), the CSU as a whole averages between \$400 and \$500M in grants and contracts awarded per year system wide, through between 3,000 to 4,000 individual grant and contract agreements. Most campuses have experienced growth in grant and contract revenues within the last decade, due to recruitment of faculty with more interest in garnering external support for their research, scholarly and creative activities.



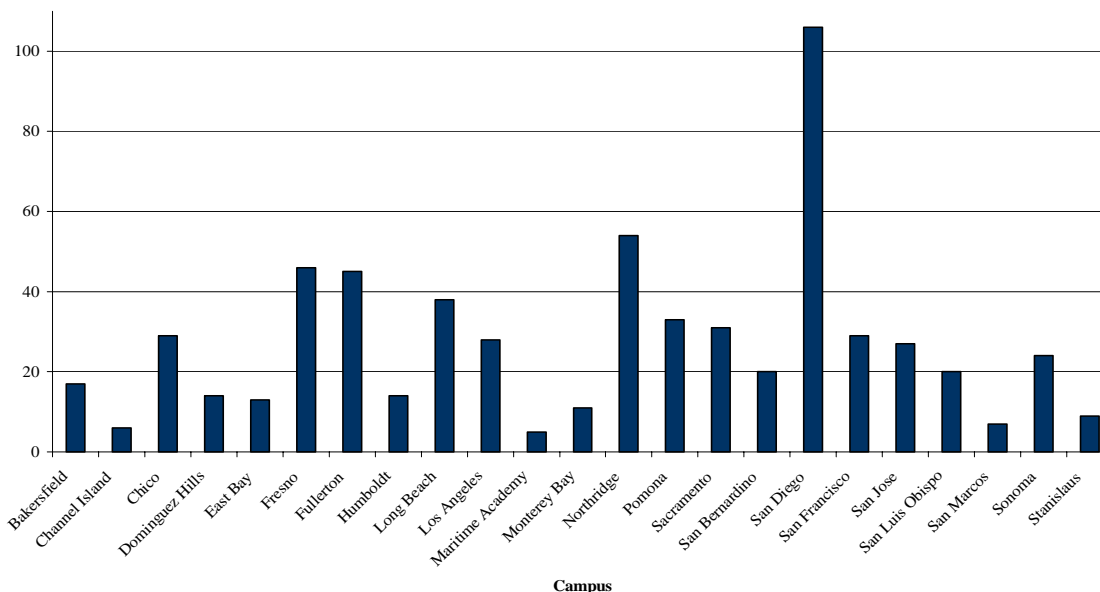


(note: the above figures may underestimate the total volume of grants, contracts, and cooperative agreements, as they reflect figures garnered from CSU research auxiliaries. Nonetheless, the overall patterns of awards over time are reflective of actual levels of activity.)

Centers and Institutes

Another measure of the vitality of the CSU research and creative enterprise, particularly as it links to instruction and community service, is the number and type of centers and institutes currently housed on the CSU campuses. The figure below (courtesy of Sara Zaragoza, CSU Chancellor’s Office) shows the number of these units by campus. Centers and institutes not only support faculty research and scholarship, but also provide opportunities for student participation in research and employment, as well as service and outreach to industry and communities.

Number of Centers and Institutes at each CSU



The Sally Casanova Pre-Doctoral Program

Through the system-wide Sally Casanova Pre-Doctoral program, the CSU provides a very significant pipeline for future faculty, particularly those from groups currently underrepresented in the ranks of CSU (and UC) faculty. Since its inception in 1989, the program has fostered the careers of close to 1000 student scholars. Each scholar has received support for summer research experiences, averaging \$4,000 per scholar. The total investment in summer research fellowships for scholars amounts to \$2.6M over eighteen years. (Data courtesy of Sara Zaragoza, CSU Chancellor’s office.)

Ethnicity	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	Total
African American	15	16	13	5	12	5	7	4	4	27	108
American Indian	2	5	5	8	2	5	1	1	0	3	32
Asian American	12	20	17	13	5	12	19	6	14	34	152
Caucasian	8	15	12	21	32	29	29	37	24	103	310
Mexican American/Hispanic	28	19	30	32	22	26	16	21	30	70	294
Other	1	2	0	0	4	0	9	13	14	17	60
Total	66	77	77	79	77	77	81	82	86	254	956

Gender	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	Total
Male	16	24	20	31	21	21	27	28	25	96	309
Female	50	53	57	48	56	56	54	54	61	158	647
Total	66	77	77	79	77	77	81	82	86	254	956

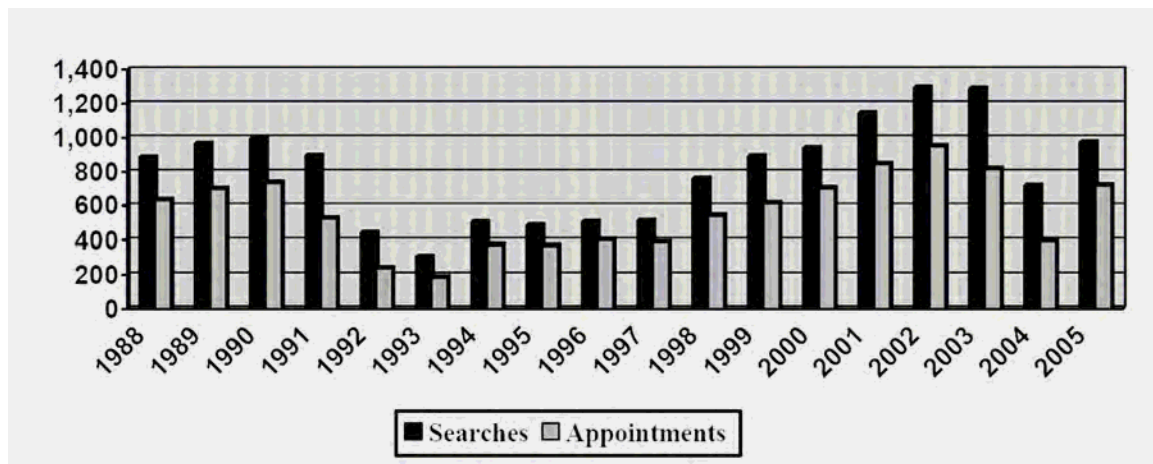
Overload Pay and Intellectual Property

Incentives for faculty to engage in research, other than personal satisfaction and to advance through the RTP process, differ from models in existence at most colleges and universities. One CSU incentive is that faculty can earn overload pay of up to 25% of

their State salaries through external grant and contract funding. In addition, CSU faculty members retain substantial rights to their intellectual property, in contrast to the typical intellectual property practices of many academic institutions.

Faculty Hiring Patterns

Despite a state budget driven decline in new faculty hires during the 2004-2005 hiring cycle, the rate of hiring during the past decade essentially doubled the yearly rates of the early to mid 1990's. As a result, more than half of the tenured and tenure-track faculty on most campuses are new to the CSU, and bring enhanced expectations for their own scholarly careers, as well as expectations of the resources and opportunities that will be provided by their institutions in support of their research. (Figure shown below is from <http://www.calstate.edu/HR/FacRecSurvRep05.pdf>.) More than 60% of CSU faculty entering employment in Fall 2005 were provided with start up funds. Of the faculty receiving these funds, the average amount offered was \$14,224, and the median amount was \$3,500.



Student Research Competition

The CSU system, in collaboration with host campuses, holds an annual student research competition as an avenue for acknowledging and celebrating graduate and undergraduate student research and creative endeavors. Now in its 21st year, this event is another example of the CSU infrastructure and support that appears relatively stable, and is signal recognition of the link between student and faculty research and creative activities.

CSU Field Stations

The CSU maintains 22 biological field stations, many of them sited in close to pristine and/or ecologically distinctive environments. These stations represent a wealth of research and educational opportunities for CSU's faculty and student researchers. Taken in the aggregate, the CSU field stations are equal to or surpass facilities afforded to faculty and students at some research-intensive/doctoral granting institutions.

Roles and Responsibilities within the CSU with Respect to Scholarly Research and Creative Activities

In this section, we identify some of the major domains of interest and concern in the CSU research enterprise by institutional purview (California legislature, system, campus), and discuss some of the current issues relating to these domains.

- Administrative infrastructure (system, campus)
- RTP process (campus)
- Space (system and legislature)
- Overload pay (system)
- Faculty start up (campus)
- RSCA (campus accountability and reporting, system understanding)

Administrative Infrastructure

By means of Executive Order 890, “Administration of Grants and Contracts in Support of Sponsored Programs”, the CSU created a framework to deal with a multitude of issues, both structural and programmatic, that affect faculty and students as they seek external funding via contracts, cooperative agreements, and grants. EO 890 recognized the benefits of sponsored programs and research to the CSU as it sought to provide more uniform structure and oversight: “Sponsored Programs provide significant benefit to the California State University (CSU) and further its educational mission by facilitating research, workshops, conferences, institutes and other projects that enrich the scholarly endeavors of faculty and students and enhance the services provided by the University to California communities.”

Since the previous 1973 Executive Order, a variety of structural patterns had emerged on the 23 CSU campuses related to the conduct of sponsored programs and research. In the face of this heterogeneity, each campus is expected to follow the overall guidance of EO 890 as well as have campus-specific policies dealing with intellectual property, appropriate use of human and animal subjects, and other issues involving the proper conduct of research.

Many campuses have recognized that to promote faculty and student research requires an administrative structure that acknowledges and articulates its importance and role, as well as advocates for, coordinates, supports, and promotes research activities. While the precise structure varies across the system, many campuses now have a senior research administrator (with titles as varied as: Assistant/Associate Vice President, Associate/Vice Provost, Vice President, Dean of Graduate Studies and Research, and Director of Research) who is solely, or primarily, responsible for research. The Council of Graduate Schools, a national organization, has indicated in its publications that this variety of research titles is common across U.S. campuses. In some cases, this position also is responsible for graduate studies and other related activities (often dependent on campus size). The senior research administrator is variously responsible for administering internal grants (mini-grants, travel awards, summer fellowships) and

overseeing external grant proposal submissions, and is often the designated Institutional Official for both animal and human subjects use and other federal compliance areas. This administrator may also develop and administer programs for undergraduate and graduate students that promote their involvement in research with their faculty mentors. In some cases the senior administrator also may serve as the Principal Investigator on externally funded grant programs, particularly those with an institutional focus. Increasingly this administrator may, in addition, be involved with the management of intellectual property.

The senior research administrator either interfaces with or oversees the pre- and post-award offices for external grants and contracts. The administrative location of these offices (university or auxiliary) and the reporting lines vary considerably across the 23 campuses. While the same structure may not work for every campus, there should be encouragement and support for creating an administrative office for research on each campus with sufficient resources to properly discharge the necessary support and compliance functions. In addition, support is needed for appropriate administrative infrastructure at the school and department level.

Retention, Tenure, Promotion (RTP) Processes

Typically RTP evaluations are based on a combination of teaching, scholarly or professional activity, and service. It appears to be universal within the CSU that a faculty member must be a good teacher in order to be tenured and promoted. No change should be made in this expectation. On some campuses there is a move toward higher expectations in the area of scholarship (publications, grants, creative works, etc.); however, sufficient infrastructure to support these activities has not always been provided. If the expectations for scholarship are increased, then the needed infrastructure must be provided. The scholarship performed by faculty and their students varies considerably across disciplines. The infrastructure needed is dependent upon the discipline but includes library, technology, laboratory, and other resources, some of which are elaborated upon below. A powerful model for appropriate scholarship within the CSU is that of the teacher-scholar in which teaching and research activities of faculty are balanced and students are directly included in the scholarly work of the faculty wherever possible.

Space and Research Support Resources

Departments within the CSU are struggling to meet space and allied infrastructure needs for research and other scholarly activities. Specifically, present formulae for allocation of space do not recognize or are inadequate for meeting the needs for faculty and graduate student research space and research support space.

Space allocation at CSU campuses is governed by formulae set in 1970 by the State legislature at a time when expectations for original scholarship by CSU faculty were lacking. The space formulae have not been adjusted to respond to the increased involvement of our faculty and students in research activities.

Current formulae are related to assignable square feet (ASF), which are justified by total FTES generated in undergraduate lower- and upper-division activities and teaching laboratories, as well as in graduate laboratory and activity courses. The space formulae are used to determine faculty office space, administrative office space, and miscellaneous space for shops and storage

Interestingly, by CSU formula, faculty research currently does not generate space – only student research activity does. Space in graduate research labs – what many departments use for faculty research labs – is allocated at 120 ASF per FTE graduate student. Thus, a lab with 600 ASF must be justified by having 10 graduate students (assuming 0.5 FTE/student). This is unrealistic and may even create health and safety issues as a result of overcrowding in laboratories where potentially hazardous substances are used. In addition, according to this formula, up to 24% of the faculty members have no research space allocation (based on data from CSU Biology Council surveys).

An allied issue is that of research support resources in the form of books, e-journals, data bases, data archives, etc., which form the basis for much of the scholarship accomplished in the CSU. The CSU library system provides excellent support, but with limited resources. Augmentation of the budgets for libraries would allow more extensive and comprehensive support for faculty and student scholarship.

Workload

Historically, the workload for tenured and tenure-track faculty has been 12 Weighted Teaching Units (WTU's) plus 3 WTU's of other duties, which include student advising (mandatory office hours) and committee assignments. Lecturers and part-time faculty do not have service responsibilities (advising and committee assignments) and thus are expected to teach 15 WTU's. There is no direct allocation of time for faculty research, although research is listed among faculty duties in the CSU/CFA contract:

“The primary professional responsibilities of instructional faculty members are: teaching, research, scholarship, creative activity, and service to the University, profession and to the community.... Research, scholarship and creative activity in the faculty member's field of expertise are essential to effective teaching... The professional responsibilities of faculty members include research, scholarship and creative activity, which contribute to their currency, and the contributions made within the classroom and to their professions.”

Although there is language in the contract to allow for adjustments in workload, presently there is rarely funding to allow for this adjustment: “Consideration for adjustments in workload shall be given to at least the following: preparation for substantive changes in instructional methods, research, student teacher supervision, thesis supervision, supervision of fieldwork, and service on a University committee.”

As discussed earlier, over the past two decades, the CSU has experienced an increasing emphasis on faculty scholarly, research and creative activities. Although faculty are

encouraged and expected to carry out professional activities, there is no formal release from classroom assignments in order to carry out scholarly research and creative activities. Only if there is grant-supported released time do faculty members receive dedicated time for research. Many departments recognize this contradiction and some have been able to achieve a reassignment of workload to reflect all of the duties of a faculty member.

The portion of faculty workload to be devoted to professional activities needs to be recognized in a formal way, not to reduce overall workload or compromise the quality of student instruction, but rather to acknowledge how faculty spend their time in and out of the classroom, and realign workload definitions accordingly.

Faculty Start-up Assistance

To attract high quality, research-active faculty, departments must be able to provide each new faculty member with facilities and funding adequate to initiate a research program that can be eventually sustained with extramural funding. In the case of the sciences and engineering, for example, this means a functional laboratory – space, basic equipment, specialized instrumentation and initial supplies – for faculty in other disciplines the needs are just as urgent, but often take the form of release time, travel, library journals and other information sources, and other needs. The primary mechanism to achieve this is via start-up funds provided to new faculty. Since the equipment obtained (whether for a engineering laboratory, a geography program, or a digital arts media facility) remains at the university, start-up funds represent an investment in updating the infrastructure of the university and department. It is also an investment in the faculty's ability to obtain external grant funding in the future and to meet RTP requirements, as well as a means to secure the investment already made in recruiting faculty who, without adequate support, may not be retained.

There is no specific mechanism to fund start-up costs in the CSU, so, for each new hire, departments are faced with a funding dilemma. Departments and Colleges usually must cobble together support from several resources, including salary savings resulting from retirements and unfilled faculty positions. However, this cannot be a long-term solution because unfilled positions should be used to hire lecturers who generate FTES. A mechanism to fund start-up costs needs to be established so that the CSU is able to continue to hire high-quality faculty, the most important resource for maintaining high quality programs.

RSCA (Research, Scholarly, and Creative Activities) Support

In the 1980s, the California State Legislature recognized the significance to the CSU mission of the scholarly, research, and creative activities of CSU faculty, and specifically allocated a total of \$2.5M per year, to be apportioned among the campuses according to FTEF. This amount, while adequate in the 1980s, is currently insufficient (particularly for smaller campuses). Both the accountability constructs and the amount of funding need to be revisited, in light of the CSU's renewed mission as a teaching and research-active system.

Recommendations for Building Capacity for Research, Scholarship and Teaching in the CSU

It is critical that the CSU system and the individual campuses embark on a program to make the broad audience of stakeholders aware that the CSU is a vital and significant contributor to connecting the university with the community. Through applied research, advanced pedagogy, and interdisciplinary, experiential learning, faculty and students are building the California of tomorrow.

At the system level recognition must be given to:

- The need to align resources to match the research and scholarly roles and expectations of the faculty and the curriculum in light of the recent advances in the CSU mission and regional roles of our campuses;
- The importance of focusing on the CSU as a significant contributor to regional economies and workforces via teaching, applied research and community service;
- The role of the CSU as the primary preparer of California's professionals via undergraduate and graduate programs and the array of experiential and service learning opportunities created by the faculty, often as externally-funded activities;
- The emerging reality of the CSU as an incubator and leader for new academic programs and partnerships responding to California's needs, largely through external sponsorship.

In light of the above, we believe progress is necessary in two major areas, with sample recommendations for consideration:

1. Policies, procedures, resource allocation.

There is a need to update, revise and communicate policies and procedures and consider the reallocation of resources to better address the following:

- Faculty roles as teacher-scholars commensurate with changing needs of students, community and the profession (non-enrollment-based workload)

Recommendation: Articulate the role and significance of applied research in the CSU system today and in relationship to the faculty's historical teaching role.

Recommendation: Include in RTP policies an element that acknowledges the role of research, creative and scholarly activities and that also recognizes the value of grant and contract awards.

- Undergraduate and graduate research

Recommendation: Recognize and reward faculty for facilitating faculty-mentored undergraduate and graduate research and creative activities as part of their workload

- Applied, community-based and participatory research

Recommendation: Acknowledge and communicate to faculty on all campuses that applied and community-based research are valued by the institution.

- Professional currency in field and demands of research and scholarly programs

Recommendation: Revisit the 1999-2001 CSU faculty workload study to reconfirm the system-wide move to increased expectations and performance in the area of faculty research and scholarship.

Recommendation: Initiate a CSU dialogue on workload balance and reassignment strategies that support workload realignment.

- Balanced workloads that emphasize student learning and outcomes assessment, research and creative activities, and teaching, as well as community involvement

Recommendation: Implement workload realignment and reassignment strategies that support the move to increased faculty/student research and scholarship and the emphasis on learning outcomes rather than hours taught.

Recommendation: Ensure that assignment of workload reflects all duties and expectations of a faculty member.

- Compensation and incentive structures that encourage engagement in research, scholarship and creative activity

Recommendation: Develop viable incentive plans at both the system and campus levels to encourage increased involvement in seeking and obtaining extramural support.

Recommendation: Supported by the CSU system, provide funding for changes in workload assignment.

Recommendation: Campus policy should be designed to allow release from teaching to support scholarly research.

- Facilities formulae that reflect dynamic faculty/student research activities and sponsored programs that integrate applied research and student learning

Recommendation: Revise thirty-year old facility- and space-allocation formulae to recognize faculty, undergraduate and graduate research needs. Augment budgets for development and enrichment of information resources in support of scholarship.

2. Faculty recruitment and retention.

It is also important that the system and campuses promote an environment that develops and sustains faculty recruitment, retention and career-long involvement in applied research and student learning activities, including:

- Flexible support for start up packages for new faculty that may include: labs, equipment, supplies, information resources, and assigned time

Recommendation: Each campus should provide competitive start-up funding where appropriate for new faculty as part of its base funding.

- Funding for RSCA that keeps pace with growth in new faculty hiring and campus expectations for intellectual advancement

Recommendation: Revisit RSCA accountability constructs and the funding allocation, in keeping with current research and scholarship expectations.

- Support for research and contract administrative infrastructure that recognizes the expanding complexity and demands of compliance

Recommendation: Institutionalize support for compliance functions related to EO 890, IRB, Animal Research, and Export Controls.

- Support for intellectual property development and management

Recommendation: Examine and support an approach to leveraging the specialized legal and business expertise of certain campuses to benefit all campuses in developing intellectual property and technology transfer in the CSU. Consider providing centralized support to all campuses through the development of system-wide resources and expertise.