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July 19, 2002

**CHANCELLORS
LABORATORY DIRECTORS
ACADEMIC COUNCIL CHAIR VISWANATHAN**

Dear Colleagues:

In 1997, the University held a retreat in Los Angeles regarding the University of California's relationships with industry in research and technology transfer. The meeting featured intensive and candid discussions among administrators, faculty, and some industry participants. Attendees developed recommendations for actions that would support and strengthen these relationships in the future. I have reported to you on our progress annually during the subsequent years.

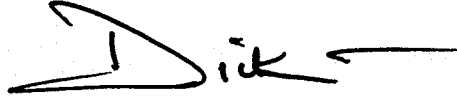
Now that five years have passed, it seems appropriate to give you a comprehensive account of accomplishments that have resulted from those discussions. The plan of action arising from the retreat had called for changes in campus staffing, organization, and accountability regarding research and technology transfer relationships with industry; the development of an integrated approach to outside professional activities; and the rethinking and updating of some long-standing policies, while protecting the University's core mission.

The attached report, "Five Years of Progress: A Summary Report on the Results of the 1997 President's Retreat on the University of California's Relationships with Industry in Research and Technology Transfer," gives a broad general account of some of the primary achievements in these areas during this time frame. The report was prepared with the review and approval of the Technology Transfer Advisory Committee.

We are proud of the planning process that was initiated at the retreat and that has been carried out in the subsequent years. We have addressed some identified shortcomings and made real changes in a thoughtful, deliberative and consultative manner. The University has benefited from these changes in our relationships with industry partners.

I will appreciate your assistance in informing faculty and staff at your campuses and Laboratories about our progress as described in this report. Although much has been accomplished, much remains to be done--and we are facing these ongoing challenges in a new and less certain economic environment. We must continue to have participation and discussion on these important matters.

Sincerely,

A handwritten signature in black ink, appearing to read "Dick", with a long horizontal stroke extending to the right.

Richard C. Atkinson
President

Attachment

cc: Members, President's Cabinet
Members, Technology Transfer Advisory Committee
Executive Director Bennett
Special Assistant Gardner
Principal Officers of The Regents

5 YEARS OF PROGRESS

A Summary Report on the Results of the 1997 President's Retreat:
The University of California's Relationships with Industry
in Research and Technology Transfer



University of California
July 2002

5 YEARS OF PROGRESS

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I. INTRODUCTION

In January 1997 the University of California initiated an internal systemwide discussion - a retreat - on the institution's research relationships with industry and its activities in technology transfer. As President Richard C. Atkinson stated, the plan for this retreat grew out of two concerns: Over the recent decades the dramatic increase in the number of University research projects and programs in which industry sought and found commercial applications had rendered some of UC's mechanisms for working with industry in need of careful re-examination. Also, it was clear that in the future research universities would be called upon to do more, not less, to put ideas to work in the marketplace in order to transfer University research results for the public benefit.

The Retreat was convened at a unique time -- the beginning of an unprecedented economic boom in California and the nation, a boom largely fueled by university-generated technologies. The Bayh-Dole Act which allowed universities to retain title to inventions based on federal research funds had been in place for almost 17 years. The University and industry were beginning to explore new and more comprehensive research relationships. The University technology transfer program had expanded rapidly and matured in its operation, and already by the early nineties, some members of the University community had begun to propose new organizational structures to support the continued growth and expansion of the technology transfer program. There was a growing realization that "technology transfer" means much more than the simple licensing of technology, but involves a range of research interactions with industry--and in fact, education itself. Electronic technology, including the Internet was introducing new opportunities for managing interactions with industry and requests for exceptions to many of the University's longstanding policies and practices were becoming more common -- a sign that these policies and practices were under pressure.

The President's Retreat on the University of California's Relationships with Industry in Research and Technology Transfer was organized as an internal meeting that provided an opportunity for senior University management and faculty leaders, with input from a number of selected industry representatives, to thoughtfully and candidly assess UC interactions with industry. It was held in Los Angeles in January 1997. The primary objective of the Retreat was to consider changes in programs, policy or structure that could improve research and technology transfer relationships with industry while supporting the University's mission and core values.

Throughout the Retreat the point was often made that the University must take a strong position of encouraging research partnerships with industry, and the University must become less risk-averse in these relationships. There was also agreement that the University should exercise more flexibility, taking into consideration differences among scientific disciplines and among industry sectors. In general, it was agreed that the University should take steps to become more "user-friendly" to industry and less complicated to work with. At the same time, there was strong consensus that teaching, disseminating information, and the search for new knowledge should underlie all University interactions with industry.

Retreat participants offered over 70 recommendations--some simple and relatively easy to implement, others more far-reaching--requiring extensive discussion within the University. After the Retreat the

President gave the follow up process direction by establishing priority implementation actions every year. Campuses engaged in their own discussions and follow up activities.

Over all, the Retreat and the actions that followed it have begun a process of profound revitalization and renewal of the University's technology transfer and research relationships with industry.

II. POWER TO THE CAMPUSES

Towards campus and faculty-centered research and technology transfer administration

Almost three years prior to the Retreat, in 1994, an Ad Hoc Technology Transfer Committee reviewed the existing Universitywide technology transfer structure and, the University community had already reached the conclusion that a less centralized administration of research and intellectual property would bring decisions closer to the faculty and to the academic enterprise. The Report of the President's Ad Hoc Committee on Technology Transfer (March 8, 1994) called for what it termed "distributed responsibility... a more refined approach to respond to the needs of each campus or Laboratory," and stated,

"The Committee...found merit in the idea of decentralization where it meets campus and Laboratory needs. The concept of decentralization alone, however, is inadequate. For example, some campuses and Laboratories may prefer not to undertake the entire burden of operating campus/Laboratory-based licensing. The term 'distributed responsibility' may more accurately reflect this campus/Laboratory-tailored approach."

- Ad Hoc Technology Transfer Advisory Committee Report (March 8, 1994)

This "distributed responsibility" approach would allow a uniquely designed administrative arrangement for each campus with the appropriate level of guidance, direction or assistance from the Office of the President.

At the Retreat, participants grappled with exactly how this could be effected, with advisory groups debating policy, organizational and structural issues. Recommendations were made calling for more sensitivity to the differences among disciplines, for local licensing offices to work more closely with faculty, for more general guidance to be issued from UCOP to provide a framework for local decisions. For example, one advisory group called for:

"...A set of primary principles on technology transfer (e.g., student involvement, freedom to publish, intellectual property and other creative activity) should be developed, to be implemented in a set of guidelines, not rules. Sufficient numbers of OTT/C&G officers must be trained and empowered to utilize these principles/guidelines to facilitate technology transfer as efficiently and flexibly as possible."

This idea that considerable campus/Laboratory autonomy in decision-making could be based on a foundation of clearly articulated principles seemed to the participants to be a clear answer to how to make "distributed responsibility" work in practical administrative terms. It became the basis for the many tangible achievements of the next few years.

A. Research Relationships with Industry

Policy Support for Local Decision Making

In support of expanding research relationships with industry, the University initiated a more flexible policy structure to enable each UC campus and National Laboratory, working with faculty, to manage directly intellectual property rights with private sector research partners.

University Principles Regarding Rights to Future Research Results

On August 26, 1999 President Atkinson issued Principles Regarding Rights to Future Research Results in University Agreements with External Parties. The Policy delineates University principles regarding rights and obligations concerning research results arising from the full range of UC research-related relationships with external parties. It was developed in response to recommendations made by administrators, faculty and industry representatives who attended the President's Retreat, extensively reviewed by campus, Laboratory and Senate representatives, as well by the Council on Research and the Council of Vice Chancellors for Research, and endorsed by the systemwide Technology Transfer Advisory Committee (TTAC).

The Principles Policy provides direction for the growing number of faculty and administrators involved in new forms of research relationships with industry and other extramural parties. It offers a basic framework that enables the University to maintain appropriate consistency in managing research results across the campuses and Laboratories while providing for greater flexibility in the local administration of agreements. In addition, the Principles provide University negotiators with a basis to support positions taken during often challenging contract negotiations.

The Principles Regarding Rights to Future Research Results can be found at:
<http://www.ucop.edu/ott/principals.html>.

An intellectual property pilot program for electrical engineering and computer science

At its June 6, 2000 meeting, the President's Engineering Advisory Council (PEAC) recommended that the University take steps to offer campuses greater flexibility in negotiating sponsors' rights to University intellectual property developed in the performance of EECS-based sponsored research. President Atkinson endorsed this recommendation and a three-year Pilot Program was developed on the premise that EECS industry sponsors of University research have commercialization and related intellectual property needs

that differ significantly from sponsors in the physical and life sciences disciplines. These EECS sponsors typically operate in a competitive marketplace that requires conformance to industry-wide standards, where market leadership is predicated on the rapid development of new, innovative products and early market entry, and the resulting commercial products have short lifetimes. Operating within this form of marketplace, such sponsors typically are not interested in any advantages resulting from exclusive access to University-owned intellectual property (e.g. exclusive licensing rights). Instead, they attempt to accommodate their need to bring new products to the marketplace within a short period of time through the negotiation of sponsored research agreements with provisions for earned royalty-free, non-exclusive licensing rights to resulting intellectual property. The Pilot Program accommodates these needs by providing greater flexibility in negotiating rights to University intellectual property created under a sponsored research agreement in certain defined fields of research.

Indeed, the Pilot Program has recently become the foundation for intellectual property arrangements at the Center for Information Technology Research in the Interest of Society (CITRIS), a research partnership of the Berkeley, Davis, Merced and Santa Cruz campuses and one of the new state Institutes for Science and Innovation.

The University's move to more flexible intellectual property management is a continuing project as special needs of disciplines, industry sectors, and individual campuses and Laboratories arise in the context of changing economic and regulatory circumstances.

Facilitating clinical trials

University medical schools and other health-related research facilities, with their faculty's hospital and clinic affiliations and access to diverse patient populations, commonly conduct testing of new pharmaceutical and medical device products involving human patients. Campus Contract and Grant Officers had asked for clear and flexible guidance in support of having drug and device investigations expeditiously placed at the University. The University Council on Research Policy (UCORP) asked that any guidance ensure that consideration be given to the intellectual contribution of clinical study investigators to the conception and development of the study protocol and to the interest of study investigators in benefiting from any resulting inventions. In response, flexible guidelines were developed in consideration of these factors and issued for use by University Contract and Grant Officers or others with authority to enter into drug and device testing agreements on behalf of The Regents.

An integrated approach to issues relating to outside professional activities and relationships, including conflicts of interest and involvement of students and postdocs

In response to recommendations from the President's Retreat that there was a need to review current policies on conflict of interest and faculty outside professional activities, an Administrative Task Force on Conflict of Commitment and Conflict of Interest was appointed by the President.

It was charged with assessing whether then current policies were clear and comprehensive enough to guide faculty, staff and administrators in making wise professional decisions to achieve the appropriate balance between University and outside activities and to assure that there is no inappropriate entanglement of private interest and University obligations. The University's policies on relationships with industry in research and technology transfer and on student involvement in outside activities were also reviewed during the course of this study.

The Task Force issued its first report in March 1998 that focused on conflict of commitment issues and its second report on December 1999 addressing conflict of interest concerns.

As a result of the Task Force, a revised Policy on Conflict of Commitment and Outside Activities of Faculty Members (APM - 025) was issued and became effective July 1, 2001. It provides the framework through which potential conflicts of commitment are identified and managed, while at the same time allowing faculty to engage in a wide array of outside activities. A key provision of the policy is the requirement that faculty obtain approval before engaging in certain specified types of activities. Another key provision of APM - 025 is a requirement for faculty to file an annual report on outside professional activities. In fulfillment of another recommendation that had originated at the Retreat, it provides for entrepreneurial leaves of absence and regulates the employment of graduate students in cases where faculty members may have a financial interest.

Revised Patent Policy

On October 1, 1997, the President issued a new University of California Patent Policy. This policy is the product of several years of consultation, debate and discussion within the University community and is directly responsive to concerns raised by faculty that the policy should: a) establish the inventor's share of royalties at a rate that provides sufficient reward and incentive for faculty participation in the technology transfer program; b) provide a direct research allocation from royalty income to provide further incentive for faculty participation and to support research; and c) simplify the royalty distribution formula for ease of understanding and administration. One important feature of the new policy is a royalty distribution formula that for the first time designates a special 15% allocation of royalties from each invention expressly to support research at the home campus of the inventor. In addition, based upon widespread faculty dissatisfaction with the reward and incentives provided by the April 1990 Patent Policy royalty distribution formula, the President retroactively rescinded that policy.

New focus on copyright issues

Before the Retreat, copyright had been a somewhat neglected stepchild among University intellectual property policies. Focused over the years mainly on faculty scholarly works in the form of print books and journal articles, the copyright policy has been administered locally on the campuses. By the mid-nineties, however, more and more complex copyright issues were emerging as a result of changes in technology and in the economy, including ownership issues and administrative complexities arising from the importance of software, distance learning, and e-commerce.

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An advisory group at the Retreat examined copyright issues. In their report they wrote, "The University needs a well defined [copyright] policy formulation and review process..." and they called for a new policy committee that would span "...legal expertise, faculty constituencies (in the arts, social sciences and medical engineering) as well as administrators and librarians." They emphasized the importance of providing education and service to faculty.

The following year, the University established the Standing Committee on Copyright to undertake these functions. Its charge is to:

- Initiate, encourage and monitor projects that make innovative use of copyrighted works, regardless of format, and assist faculty and students to both produce new works and make use of the works of others in ways consistent with law, policy, and the academic mission of the University;
- Monitor the copyright environment and make recommendations to the University on how to align University copyright policy and management with the goals of the academic mission in the context of continuous and rapid change;
- Monitor technological restrictions and contract practices that impede fair use and the advance of knowledge;
- Recommend priorities and methods for continuous Universitywide education on copyright;
- Assess the implications of new legislation for University policy and practice; and
- Make recommendations about substantive participation in national discussions and initiatives.

The Standing Committee has already circulated two draft policies for review: one on ownership of instructional materials and one on recording of instructional presentations. The first of these will be circulated to the campuses for formal review as a new Presidential policy in Fall, 2002.

The Committee is also working on issues of copyright education. In February 2002, the Committee recommended the allocation of temporary funds for a limited period of time to hire a contract staff person to: (a) track, compile, respond to, and refer to appropriate sources copyright-related questions received through the UCOP Teaching, Learning and technology Center (TLtC) program--including both the grants program and the recently-launched TLtC Webzine--and (b) begin to identify issues and strategies for the purpose of planning a systemwide copyright education program. The intention was to make use of and leverage the existing network of UC responsibility and expertise in the copyright area, and to make use of the TLtC Webzine as one channel for communication of copyright guidance. This position has now been filled by a six-month part-time appointment as Special Associate for Copyright Education Planning in the Office of the Vice Provost for Academic Initiatives.

Issues related to disposition of copyrightable materials remain especially complex and an area where sensitive academic and commercial issues often intersect. Early this year the President wrote the Chancellors and Laboratory Directors advising them that in considering the appropriate disposition of software code, protecting such works through patents or copyrights or publishing them without restriction are viable choices under varying circumstances, and should be decided with the close involvement of faculty researchers. He wrote:

"We have worked with the campuses to develop administrative systems to foster and facilitate dissemination of the products of scholarly investigation. One such administrative effort is the Electrical Engineering Computer Science pilot program to support rapid transfer of inventions in those fields. Under this program, campuses have broad flexibility in determining how best to make available software code and other inventions subject to patent protection ... For computer software codes that may come under copyright protection, campuses have local authority to determine the strategy for licensing or otherwise making the code available for the benefit of the public.

– President Atkinson, letter to Chancellors and Laboratory Directors, (January 25, 2002)

Systemwide Services to Support University/Faculty/Industry Research Relationships

Retreat participants called for "new intellectual property administrative systems...to support new, more flexible policies and provide adequate training for their use." More specific recommendations called for OTT to provide databases, web-based services and model documents to guide local research administrators and technology transfer professionals.

Systemwide policy and negotiations support to campus-based technology transfer programs

Over the past five years, a range of resources across the UC system has been established, and pockets of strong expertise in managing and negotiating rights to UC intellectual property continue to grow. Levels of experience, however, in units both within and across campuses, however, are uneven, and there is general agreement that increased expertise in this area is required.

The systemwide OTT has become an important source of policy and negotiation expertise across the UC system. To assist campuses, the OTT Campus Liaison Group (CLG) has been expanded to provide direct guidance and support upon request to local administrators and faculty in the negotiation of complex industry research agreements, material transfer agreements (MTAs) and agreements for various exchanges with industry of information and personnel. The CLG assesses project-specific needs of faculty and industry; provides advice on UC policy and administrative guidelines; defines the appropriate administrative architecture of individual research arrangements; and assists faculty and industry in navigating through the company and university bureaucracies to establish unique research partnerships. Recognizing that these services are highly case-specific and labor-intensive and require a unique set of skills and experiences, the Industry-University Cooperative Research Program (IUCRP) has entered into a partnership agreement with the OTT to provide additional support for this systemwide activity.

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Systemwide Web and database services to support University/ faculty/industry relationships

Since the Retreat there has been continued support of the development and implementation of a range of databases and web-based resources and related computer-based tools to further University research and technology transfer relationships with industry. Taking advantage of the efficiencies of internet technologies, the (OTT) Campus Liaison Group has recently established a new internal Web-based University resource – Ask Campus Liaison -- whereby all UC administrators responsible to manage and negotiate rights to University intellectual property may, on a confidential basis, immediately share on-line their internal discussions, analyses, guidance and perspectives with their UC colleagues engaged in the same activity.

Traditional policy advice and information sharing has been supplemented by "real-time" subject-focused listservs. Since the Retreat the Office of the President has established individual listservs for systemwide use by UC administrators on the front-line negotiations of industry research contracts, material transfer agreements, and technology licenses, and those administrators addressing more general contract and grant issues, clinical trials, conflict of interest and human subjects.

Companies worldwide can now come to the OTT home page to access a comprehensive database with abstracts of federally-supported UC research in progress. Industry representatives use this database, updated monthly, to locate University faculty for research collaborations and sponsored project support. Searchable information on University organized research units, centers, and institutes is also included on this site. In addition, this site affords companies the ability to search for technology licensing opportunities from UC campuses and Laboratories.

Another group of database tools developed since the Retreat provides access to information on the University's research and licensing relationships with various companies. These tools are available under restricted-access via the Web and can be used, for example, to help the University avoid entering into agreements with conflicting intellectual property commitments. Included among these resources is a database that enables UC personnel to assess patent, copyright, and data right obligations pertaining to non-profit industry-affiliated organizations who have provided research funding to the University.

Other database-related activities were initiated to support a more complete understanding of the breadth and depth of the University's relationship with industry. The Corporate Contracts and Grants System (CGX) was modified to support tracking both clinical trials and material transfer agreements (MTA's) with industry. In recent years, the negotiation and execution of such agreements have become increasingly important to the University of California research enterprise. Finally, work was completed on a database that includes information on start-up companies dependent upon UC-licensed technology for their initiation.

Campus Initiatives

To be successful in managing relationships with industry, campuses are re-assessing their administrative infrastructure and staffing capabilities, as well as the location of relevant activities within their organizational structures. Most important--as clearly asserted at the Retreat-- campuses increasingly appreciate that they need individuals who have the skills to perform on par with their industry peers, including individuals with strong scientific backgrounds, business negotiation skills, intellectual property law background, and fundamental understanding of the interests, values, organization, and policies of the University, including core values of academic freedom.

People with such a combination of attributes are highly sought after in both the private and public sectors, and so they are difficult to recruit and retain. Anticipating the implementation of an increasingly decentralized and flexible policy structure that would enable each campus to locally manage complex intellectual property rights and other arrangements with private sector partners, the Academic Senate wrote to President Atkinson on April 21, 1999 expressing their concerns about staffing and resources. In their letter, signed by Academic Council Chair, the Senate noted:

“...faculty realize that the Proposed Policy cannot succeed without well trained, skillful negotiators and support staff at the campuses and UCOP. For a variety of reasons, some faculty are skeptical about whether such staff will be available. Some point to the costs involved; others cite history or personal experience. Many worry that small campuses will lack the resources necessary to put the Proposed Policy into effective operation...We trust that sufficient funding, adequate balance...between campus and UCOP staffing and necessary training will be established for all implementations of the Proposed Policy, both at UCOP and on the campuses. In this regard, we want to encourage that the workforce in this area be well educated about and sensitive to academic freedom issues, as well as applicable laws and regulations and financial considerations.”

After the Retreat several campuses have brought the discussion and self-analysis to their own settings, reviewing their operations, levels of service, and staffing. For example, both UC San Diego and UC Berkeley have asked high-level committees to do a thorough review of their industry research and technology transfer policies and operations.

The San Diego campus spent a year and a half reviewing policies and practices related to University interaction with industry. In July 1999, a Joint Academic Senate-Administration Committee on University Interaction with Industry issued its report. The report describes the benefits of university interactions with industry and identifies local guiding principles for interactions with industry, makes recommendations about a range of topics -- conflicts of interest, conflicts of commitment, involvement of students and postdoctoral scholars in industry activities, appropriate use of university facilities for industry-related purposes, guidance to the UCSD community about appropriate interactions with industry, facilitating better interaction and communication with industry, and an organizational structure for overseeing and

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managing UCSD interactions with industry. The report was reviewed by the San Diego Division of the Academic Senate and a meetings were held among key administrators and Senate leadership to discuss the report's principal recommendations and develop a plan to move forward.

In December of 2000, the Berkeley campus appointed a Task Force on Campus-Industry Relations chaired by the Vice Chancellor for Research. Charged with evaluating current Berkeley campus policies and procedures for handling industrial relations, including gifts, industrial agreements, patents, and licensing, the Task Force is working on recommendations for policies and procedures that support the campus missions in research and education while fostering university-industry collaboration and maximizing transfer of the benefits of Berkeley faculty research to the public at large. The Research office is currently recruiting for a high level university/industry liaison position. The Task Force is expected to issue a final report and recommendations this summer that may result in some organizational and policy changes.

Other campuses have already moved ahead to implement change. UCLA initiated a major expansion of its Office of Intellectual Property Administration (OIPA) to enhance the services it provides to meet the technology transfer needs of its constituents. At the beginning of the year OIPA was merged with the Office of Research Administration (ORA), and efforts are underway to strengthen communications and collaboration between OIPA and the UCLA Office of Contracts and Grants. The campus administration believes that this merger provides significant leveraging of resources and personnel. For example, ORA has recruited a Chief Information Officer who will develop and implement strategies for shared information systems allowing for better communication between funding sources, inventions, and conflicts of interest management. OIPA has also recruited an intellectual property manager to strengthen internal knowledge and expertise of US patent and copyright law and to coordinate overall management of the UCLA portfolio. In the remainder of this year, OIPA is adding to its existing technology transfer staff three business development professionals who together will provide a more proactive approach to technology and research management. These individuals will mine opportunities for sponsored research, industrial alliances and technology licensing.

The effect of the Retreat at the local level has gone beyond organization matters. The Irvine campus has explicitly used the Retreat and all the initiatives that came after to send a signal that indeed there is "a new day dawning" at UCI in the university/industry research and technology transfer arena. This has helped combat the negative impressions many local companies have had about doing business with UC. The University Principles policy has been viewed by the Irvine campus as a very significant asset in terms of explaining to companies and to faculty what the University and technology transfer are all about and why the terms in sponsored research agreements and technology licenses agreements are written the way they are. Most people will agree -- from companies to attorneys to venture groups to faculty -- that the Principles are the right ones for the University and that they should be respected. UCI reports that the quality and success of UCI's negotiations have been measurably improved after the Principles were established. UCI's national ranking in industry research funding according to the NSF has improved from 109 to 28 over the last eight years. UCI has created a new position of Assistant Director for University/ Industry Contracts. This position was created to be the liaison between the Office of Technology Alliances and the Office of Sponsored Projects and serve as a focal point for complex industry relationships that involve technology licenses, MTAs, sponsored research, shared facilities, and visiting scientists.

At most of the campuses and Labs there has also been a significant expansion of the total number of individuals the University dedicates to generating research resources. Naturally, relationships with industry involve much more than licensing alone: a broader integration of faculty with their industry counterparts. Industries' most important relationship with the University remains the hiring of highly trained graduates who are experienced in concepts and technologies relevant to the companies' work. The goal of technology transfer efforts is to increase the active dialogue and interchange between these parties at every level.

B. Licensing Program

Licensing Policy Support

Retreat recommendations called for reform of some University policies that govern technology transfer. Most important was the call for the development of a set of principles to guide local officials in their decision-making. In other areas representatives at the Retreat called for new policies that would be more welcoming to interactions with industry--while preserving the integrity of the institution.

Licensing Guidelines

The University Licensing Guidelines were issued by the Office of Technology Transfer in December of 2000 to support a greater understanding of the objectives, practices, and issues involved in the operation of the University licensing program. It is hoped that the Guidelines will be useful in educational programs and general communications with University faculty and inventors, the general public, legislators, and other parties interested in the University's licensing operations, as well as in the University technology transfer program. The Guidelines will also be helpful in supporting a fundamental level of systemwide programmatic consistency across the University licensing operation and may be useful as an introductory orientation tool for new University licensing staff.

Finally, the Guidelines may assist in the independent substantive review of University licensing decisions pursuant to the State of California Political Reform Act of 1974 or under University conflicts of interest policies (see the following section).

Licensing Decision Reviews

The Retreat advisory group that considered conflict of interest issues made the following recommendation: "Instead of requiring faculty to avoid conflicts, UC policy should explicitly recognize that such conflicts are common and unavoidable, and thus should be disclosed and managed in cases where their outright elimination would also preclude a beneficial university/industry relationship."

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Nowhere is this more true than in the area of licensing University technologies. The inventor may well be the person the best able to advise the licensing professional on appropriate licensees and to guide the development of the technology. But sometimes it has been difficult for the licensing professionals to take advantage of this advice because the inventor may have an interest in one or more of these potential licensees. The President's Administrative Task Force on Conflict of Interest and Conflict of Commitment recognized the importance of this issue and in its 1999 report recommended establishing a process to review an inventor's financial interest in a potential licensee of University technology.

The Provost and Senior Vice President directed the Office of Technology Transfer to issue systemwide guidance for use by campuses and Laboratories in establishing "Licensing Decision Review plans." In August of 2001 new University of California Guidelines on Managing Potential Conflicts of Interest in Licensing were issued. These guidelines were developed after extensive consultation with University Patent Coordinators, licensing personnel, Conflicts of Interest Coordinators, and representatives from OTT, the Office of Research Policy, and the Office of General Counsel. The guidelines address some of the most common issues concerning potential conflicts of interest in University licensing activity. Each local campus-based licensing office as well as OTT is charged with implementing procedures in accordance with these guidelines.

It is anticipated that by use of disclosure and independent substantive review as established by the guidelines, the University and others can be assured that licensing decisions will be based on sound and appropriate criteria and not on the personal financial gain of the officials involved. This will allow campuses to take better advantage of the advice of inventors in licensing of inventions.

Equity participation in new companies

Allowing the University to realize the full value of its technology, University policy now supports the acceptance of equity in a company under certain circumstances when licensing University technologies. The combination of development costs and risk, and uncertainty as to the potential value of an early-stage University technology, occasionally make it difficult for the University to identify a licensee possessing both the requisite capabilities and willingness to assume such financial risks. Small or startup companies may find it particularly difficult to commit significant cash outlays for both developmental and licensing costs. In February 1996, the President issued the University Policy on Accepting Equity when Licensing University Technology, which permits the acceptance of equity in a company as partial consideration for receiving a license and establishes the parameters for entering into such arrangements. Today the University holds equity in 49 companies as a result of its licensing activities.

The guidelines for accepting equity in licensing-related transactions have been formally issued by the Office of the President as Business and Finance Bulletin G-44.

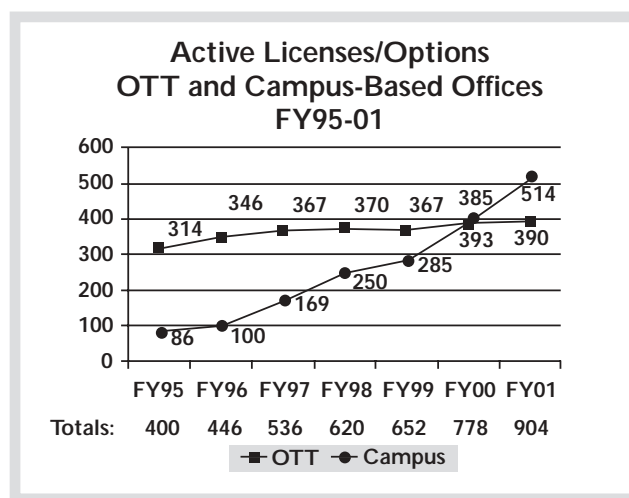
A Successful Transition to Campus- and Faculty-Centered Licensing Programs

Today the University technology transfer program continues to expand and flourish under a "distributed" model. Operating under this model for the past five years, the program as a whole reported significant increases in key technology transfer measures associated with discoveries from University research with the potential to be developed into new products and processes serving the public benefit.

In 2001, 957 inventions were disclosed, a 45% increase over the 661 inventions disclosed in 1996. Over the same five-year period, the total number of active US patents increased by 100 percent and the overall portfolio of patents by 75 percent. Total licenses and options held by The Regents increased by 65 percent. Since 1996 the University has earned almost \$632 million in income from royalties and fees.

Each campus and Laboratory has worked with OTT to develop a unique technology transfer program suited to its goals, resources and desire to take on particular responsibilities. Since the Retreat, the initial five-year "pilot" periods for the campus-based technology licensing programs at San Diego and Irvine were successfully completed and made permanent. A new program was launched at the Davis campus, and the Los Angeles and San Francisco campuses extended their program under a new cooperative model with the OTT Office of the President, whereby OTT will assume greater responsibility for managing patenting, licensing and/or accounting activities on behalf of the campus. Individual programs to carry out the licensing function in close proximity to the faculty and other academic researchers have now been firmly established on six campuses (Berkeley, Davis, Irvine, Los Angeles, San Diego and San Francisco) and at all three University-managed DOE Laboratories. Policy and legal support and a variety of other technology transfer infrastructure services continue to be provided for the entire University system by OTT.

Because of this redistribution of responsibility, most of the growth in the system has been in portfolios of campus-based licensing offices. Specifically, since 1996 the OTT portfolio has grown only slightly while the number of inventions managed by campus-based offices has multiplied five-fold.



It is interesting to note that as anticipated, the campus-based licensing offices taken together now have expanded their level of licensing activity to exceed that of OTT.

UC-managed DOE Laboratory technology transfer operations have reported a stable activity level over the years. In FY 1996 there were 354 invention disclosures; in FY 2001 there were 359 disclosures. In FY 2001 the Laboratories filed 339 patent applications and 158 US patents issued on DOE inventions.

The University of California continues to be identified as having generated more technology transfer revenues than any other university technology transfer program, according to the national survey conducted by the Association of University Technology Managers (AUTM).

III. STATE SUPPORT FOR INDUSTRY/UNIVERSITY INTERACTIONS

Building new programs

In the period immediately before and in the years following the Retreat, the State continued strong support for University research and industry relationships. The changes initiated at the Retreat helped facilitate these growing relationships.

Growth of the Industry-University Cooperative Research Program

President Atkinson launched the Industry-University Cooperative Research Program in 1996 to accelerate the contributions of university research to the California economy. Since its launch, the IUCRP has built a \$127 million portfolio of research partnerships, including industry, State, and University funds. More than \$225 million in industry commitments and budget requests have been received, with 56% approved through the Program's rigorous peer review process. The Program has managed 411 grants plus more than 200 awards for conferences and workshops that are not included in the \$127 million.

New industry partners join, every year, in most sectors. Moreover, the IUCRP has clearly been attractive to California's young businesses, in keeping with the Legislative vision of the Program as a mechanism for accelerating the development of promising young entrepreneurial firms. Since 1996, of the 496 companies participating in the Program, 307 (62%) meet the federal small business standard (i.e., 500 or fewer employees). More than one third of all private sponsors have fifty or fewer employees.

All nine established campuses and the three National Laboratories are participating in the Program. As hoped, the number of investigators participating in the Program continues to grow, and has now reached 649. Of these, 18% were Assistant Professors at the time of the grant. These outstanding, young researchers will help foster a culture of university-industry partnerships as they continue their research careers at UC.

The IUCRP continues on its developmental course, from the early phase of rapid growth, which was marked both by budgetary expansion (\$3 million/year to its current \$60 million/year potential) and by creation of five new sector programs, to its current phase which focuses on three critical goals: 1) continuing strategic development of the IUCRP's matching grant programs; 2) establishing mature, scalable and efficient IUCRP-wide management systems that eliminate redundancy, increase accountability, and strengthen Program development; and 3) analyzing the economic and scientific contributions that have been achieved by 411 individual research partnerships.

California Institutes for Science and Innovation

In December of 2000, Governor Gray Davis and the Legislature launched a plan to create the California Institutes for Science and Innovation. Located at UC campuses, they are unprecedented three-way partnerships between the State, California industry and the University. They are devoted to basic and applied cross-disciplinary research, focusing on large-scale problems where scientific advances may spur future economic growth. Each institute focuses on a research field key to the future of California's economy, bringing together UC scientists and students with industry researchers in a cooperative research and education effort. The work of setting up these Institutes has been facilitated by the new, more innovative climate that now exists at UC. They are:

- California Institute of Bioengineering, Biotechnology and Quantitative Biomedical Research
- California Institute of Telecommunications and Information Technology
- California NanoSystems Institute
- Center for Information Technology Research in the Interest of Society

IV. CONTINUING THE PROGRESS

A program for the future

Much has been accomplished, and yet much remains to be done. Many of the more complex programmatic and policy changes initiated by the Retreat are still in their early stages and require more experience and evaluation. For example, important new policies on conflict of commitment and licensing decision reviews only just became effective in 2001. It will take some experience with them to know how effective and "user-friendly" they are.

Also, some of the Retreat's more than 70 recommendations remain to be pursued. For example, one of the Retreat panels recommended that the University take a new look at Regulation 4, the 1958 policy on what constitutes an appropriate academic enterprise. This is a serious project that is ahead of us. Other recommendations on rights and obligations of graduate students and postdocs and industry visitors could be pursued further in the future.

5 YEARS OF PROGRESS

One of the Retreat working groups was devoted to examining organizational and structural issues around relationships with industry. To follow up some of these specific concerns, in February 2000, Senior Vice Presidents King and Kennedy appointed an ad hoc Task Force charged with identifying and prioritizing current and anticipated operational, human resource, and administrative infrastructure challenges and needs related to managing University research relationships with industry; and outlining effective strategies for meeting present and future infrastructure challenges and needs at the campus and systemwide levels.

The Task Force on Administrative Infrastructure in Support of University/Industry Relations issued an April 2000 report that recommended that UC encourage industrial partnerships, in part by supporting and facilitating entrepreneurship among faculty. To achieve this end, it found that UC must strengthen the administrative infrastructure that allows University/faculty/industry linkages and relationships to be established, recommending:

- expanding campus-based capabilities through local assessment and redress of staff needs;
- creating a job classification series for University-industry contract negotiators, intellectual property managers, and other technology transfer professionals;
- developing local programs to attract, train, and retain professionals;
- expanding support services and web resources systemwide and at campuses;
- identifying and sharing “best practices” for managing industry-funded research portfolios;
- reviewing University policies that govern research relationships with the private sector and assessing University-industry contract and policy compliance; and
- developing databases to support analyses of the impact of UC’s interface with the private sector, especially including the economic impact of UC’s industry interactions.

Consideration and planning on these recommendations must continue so the University will be able to move ahead as the state economy improves.

Participants in the Retreat had called for the University to become more welcoming and less risk-averse in relationships with industry. The University is moving strongly in this direction. However much will depend on the confidence of administrators at the local level that they have readily accessible guidance, back-up and clear and rational policies to work with.

New challenges may arise as the University and its industry partners move into the rapidly changing world of the new century.

V. CONCLUSION

The Retreat on the University's Relationships with Industry in Research and Technology Transfer was a watershed event. It yielded a rich product of debate, ideas and inspiration. The final Retreat report included summaries of all of the discussions and recommendations, including divergent and minority views. Highlights of the Retreat report can be found on the web at: <http://www.ucop.edu/ott/retreattabofcon.html>.

The Retreat did not result in a simple recipe or "to do" list. It did not resolve all the complicated problems, needs and controversies arising from research interactions with industry. But it did produce a new general agreement about the way the University should face the changed reality of university-industry relationships at the turn of the century. With all their differences of views participants shared a strong consensus that the University could maintain its traditional mission and at the same time nurture relationships with industry that are more welcoming and less bureaucratic. They also reinforced and built on the prevailing view that technology transfer and industry-sponsored research must become more campus-centered and faculty-accessible. Since the Retreat, over the last five years of technological creativity and national economic growth, the University has reformed and renewed its research and technology transfer policies and infrastructure in accordance with this vision. It remains committed to continuing to do so. The University is now in a strengthened position to face the uncertain climate of today's economy.