UNIVERSITY
OF
CALIFORNIA

From Discovery to Societal Impact: A Roadmap to Unleashing UC Innovation and Entrepreneurship

Regents Working Group on Innovation Transfer and Entrepreneurship

May 2021

Let's further commit to not just being one of the nation's cradles of academic discovery, but also being the best at translating big ideas into the solutions the public desperately seeks. From curing or preventing disease to growing food in more cost-efficient ways to reversing human-caused climate change, the University of California can be a powerful engine for innovation, change, and societal good.

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INTRODUCTION

"UC has a rich history in I&E [innovation and entrepreneurship], having helped launch iconic industries and businesses in California in fields such as semiconductors, biotechnology, digital media, and aerospace. The University has served as a powerful engine in making California a global leader in innovation."[1] — July 2019 Innovation and Entrepreneurship update to the UC Board of Regents

By most standards, the University of California is a research powerhouse and one of the world's most prolific cradles of ingenuity. It controls over 11,000 active patents globally and, on average, creates five new inventions per day. In 2019 alone, UC researchers disclosed 1,825 new inventions, filed 1,938 patent applications, received 234 licenses for inventions, and formed 102 new startup companies.[2]

For more than a decade, UC annually has ranked as the number one university worldwide in the number of U.S. utility patents[3] earned, far outpacing its peer institutions. For example, in 2019, UC received 631 patents, equal to the next two universities combined (MIT filed 355 patents and the University of Texas filed 276).[4]

UC's entrepreneurial activities have also been well recognized. UC routinely ranks highly in undergraduate programs producing startup founders, graduating founders who raise significant venture capital funding, and alumni founders who start companies with notable market capitalizations.[5]

According to a 2017 report published by the Milken Institute which evaluated and subsequently ranked the nation's top 225 technology transfer universities, five UC campuses (UCLA, UCSD, UCD, UCB, and UCSF) ranked among the nation's top 55.[6]

While accomplishments and rankings are a cause for celebration, it is worth noting that no UC campus appeared in the top 10 and only two campuses — UCLA and UCSD — appeared in the top 40 of the Milken Institute's Technology Transfer Rankings. Simultaneously, the data showcases the efficacy of UC's innovation transfer enterprise while challenging it to do better at unlocking its vast, yet still-untapped potential.

Top universities worldwide granted U.S. utility patents 2019	Ranking	Total Patents
University of California	1	631
Massachusetts Institute of Technology	2	355
University of Texas	3	276
King Fahd University of Petroleum & Minerals	4	225
Stanford University	5	217

Source: National Academy of Inventors

Milken Institute Best Universities for Technology Transfer 2017	Ranking
University of California — Los Angeles	15
University of California — San Diego	20
University of California — Davis	41
University of California — Berkeley	53
University of California — San Francisco	54

Source: Milken Institute

To understand UC's opportunities and how it could better promote innovation transfer and entrepreneurship, in December 2019, UC Board of Regents Chair John Pérez established the Regents Working Group on Innovation Transfer and Entrepreneurship, chaired by Regent Richard Leib and co-chaired by Regent Lark Park. The endeavor was born out of conversations with stakeholders across the breadth of this institution about how UC can best optimize the manner in which it converts its discoveries into products and services that uplift the human condition while strengthening UC's reputation as one of America's premier centers of research and innovation. The most common feedback included:

- Private industry representatives described UC's processes as more cumbersome, more protracted, and more antagonistic relative to its peer institutions throughout the nation. They claimed that UC's penchant for overcompensation for fear of making a mistake results in higher transaction costs in order to get a deal done or worse, potential investors and licensees simply walking away.

- Campuses cited outmoded policies, information technology infrastructure, and business practices that no longer address the size and complexity of their needs, and only serve to frustrate and undercut productivity.

- Within the Office of the President, itself, some were quick to highlight how its current Innovation and Entrepreneurship unit has undergone three major reorganizations in a span of less than a decade. Since 2009, their core oversight and support functions have been realigned, decoupled, and/or merged repeatedly, giving its own staff the impression of instability and lack of organizational direction.

- Others point to UC's chronic under-investment in translational research and commercialization activities as an indicator that at best, it undervalues the revenue potential of UC discoveries and at worst, disregards it.

The Working Group devoted 63 hours in formal monthly meetings during 2020 and hundreds more in smaller group discussions, interviews with stakeholders, and in designing the proposals detailed in this report. Its work was informed by the advice and insights provided by 46 subject matter experts, including UC faculty, students, alumni, campus and health system technology transfer leaders, legal and policy experts, as well as private sector entrepreneurs and venture capital investors (See Appendix A). It met with representatives of some of the nation's top performing innovation transfer universities in order to identify best practices and to study the strategies underlying their success. These included the University of Texas system, Stanford University, Columbia University, Massachusetts Institute of Technology (MIT), and Carnegie-Mellon University (see Acknowledgments).

WHAT DRIVES UC INVENTORS?

"'I went through this kind of early midlife crisis about 10 years ago,' Doudna says. She'd been running her lab for about 15 years, and even though she was proud of her research and the people she'd trained, she wondered: 'Is that what the next 15 years is going to look like for me? Am I going to get to the end of my career and feel like I did some cool stuff, had some fun, published some papers we're proud of, but did I really solve any problems?'"

Source: March 2020 interview of Dr. Jennifer Doudna by Chemical and Engineering News

Dr. Doudna is a UC Berkeley biochemist known for her pioneering work in CRISPR gene editing. In 2020, she was awarded the Nobel Prize in Chemistry, along with Dr. Emmanuelle Charpentier.

KEY FINDINGS

"The coin of the realm in real estate is 'location, location, location.' In university tech transfer, it's 'relationships, relationships, relationships.'"

— Josh Green, Member, Regents Working Group on Innovation Transfer and Entrepreneurship / Former Chairman, National Venture Capital Association

In the multitude of discussions held with UC's internal and external stakeholders, one theme emerged consistently: the importance of cultivating strong, long-term relationships. Whether with its faculty inventors, licensees, venture capitalists, or start-up founders, the University was repeatedly urged to be just as mindful in its stewardship of these relationships as it is in its intellectual property assets.

Institutions like Stanford, MIT, and Columbia highlighted how these relationships — especially when the collaborations lead to commercial blockbusters — can produce major benefactors who eagerly endow scholarships and professorships, contribute to capital improvement projects, and partner with students and faculty on future projects. These types of returns can often benefit the University in manners that well exceed those from licensing revenues, sometimes by multiple orders of magnitude.

Additionally, best-in-class innovation transfer officials emphasized the importance of understanding the division of labor between universities and the private sector in successful commercialization partnerships. That is, many opined that private industry is better poised to assess the commercial viability of discoveries than university officials. The former also has greater resources to "de-risk" and develop a discovery into a marketplace success. Therefore, one of the primary roles of university innovation transfer offices is to move discoveries to private industry as quickly and efficiently as possible, thereby creating a win-win-win scenario for the university, the faculty inventor, and the private sector partner.

Governance

Administrators at the nation's top universities for innovation transfer advised that the best value provided by their central administration was to serve as a resource supporting and facilitating the needs of their faculty inventors and innovation transfer offices, or in the case of university systems, their campuses. Representatives at these universities uniformly articulated that their faculty inventors and local innovation transfer offices were the drivers of productivity and success. All advised that the role of the central administration should be client service oriented rather than that of a control agency.

Patent Tracking System

Because it handles most core back-office functions, UC's Patent Tracking System (PTS) serves as the "central nervous system" or "connective tissue" of the University's innovation transfer ecosystem. However, it has not kept pace with UC's evolving and increasingly sophisticated business needs. Invoices can be inaccurate, there is lack of interoperability with other UC systems, and antiquated functionality often equates to unnecessary delays in computing and data retrieval. According to every campus, the current state of PTS undercuts productivity and at times, undermines important relationships. This has led several campuses to invest in alternative, locally-managed technology solutions.

Funding

For most entrepreneurs, the "Valley of Death," a laconic metaphor for the gap in funding that often exists on the journey between academic-based discovery (i.e., basic research) and commercial application, remains a considerable hurdle for bringing ideas to market. This is no less true at universities. But the nation's best innovation transfer universities have been able to traverse this valley by raising proof-of-concept (PoC) funds to catapult promising early-stage technology to license-ready status or the formation of spin-out companies. Data appears to support a fruitful return on investment: Innovosource, a strategy firm that partners with research universities to address early stage innovation needs,

recently surveyed 141 active proof of concept funds and accelerator programs at 84 universities and found that universities with PoC funds experienced a 32% increase in translating discoveries to licensed products.[7]

Conversations with campus leaders of technology transfer confirmed that proof of concept funds would be "a game changer" in improving their success rates, and would position them to return higher levels of revenue, licensing deals, business opportunities, and societal benefit.

In addition to proof of concept funding, the Working Group's inquiry revealed a significant disparity in licensing revenues generated by campuses. Further investigation exposed some campuses having resource shortages so acute that they cannot financially sustain basic innovation transfer staffing, know-how and functionality.

Policies

Many of the policies governing UC's innovation transfer enterprise — on equity, intellectual property, conflict of interest, and conflict of commitment — have not been materially revised since the 1990s. As a result, they have not kept pace with, nor do they effectively support, the growing sophistication and evolving trends that have become hallmarks of university innovation transfer in the 21st century.

According to interviews with campus officials, current policies that govern UC's innovation transfer enterprise should be reoriented toward consolidating and streamlining the rules, processes, and precedents that are strewn across multiple, difficult-to-navigate policy and guidance documents; facilitating effective interactions between the University and industry; guiding internal campus units toward stronger collaborations to perpetuate the desired cycle of investment, innovation, development, and reinvestment; facilitating the realignment of decision-making to the campus level while maintaining transparency and accountability; and advancing UC's stewardship of its research enterprise for public benefit.

Culture and Reputation

Many of the nation's premier innovation transfer universities consider translational research, innovation and entrepreneurship to be on par with other fields of research, scholarship, and university enterprises. They celebrate, support, and often incentivize faculty, who as inventors strive to translate their ideas into new products, services, and innovations, especially those with societal impact. Consultation with UC's own highly successful faculty entrepreneurs revealed similar desires to more highly value and celebrate their entrepreneurial endeavors.

Additionally, in interviews, individuals from the private sector indicated that UC has developed a reputation as being a difficult partner, discouraging potential collaborations. Compared to other best-in-class innovation transfer universities, they claim that UC's processes are cumbersome and protracted and that its general inclination toward caution circumscribes its ability to take advantage of business opportunities.

Enforcement

Successful litigation over the years has exposed bad actors with whom UC licenses its intellectual property. They fail to comply with contractual terms contained in UC's commercialization agreements. If left undetected, these contractual breaches could potentially cost the University hundreds of millions of dollars in royalty revenue, milestone payments, and other compensation.

The efficacy of existing enforcement strategies and mechanisms utilized by the University to protect its intellectual property rights needs to be thoroughly reviewed and, if warranted, strengthened.

Performance Metrics

UC currently tracks the number of inventions disclosed, patents applications filed, patents and licenses issued, start-up companies formed, and royalty and fee income. While these measures are important indicators, they are one-dimensional and not truly reflective of the continuum of impacts created by innovation and entrepreneurial activities. By capturing and reporting on a more diverse, broader set of measurements, benefits, and outcomes, UC will not only be better informed in managing and improving this dynamic enterprise, but also will be able to communicate the value of taxpayer-funded research and scholarship to the public.

RECOMMENDATIONS FOR THE UNIVERSITY

Based on its inquiry, the Working Group recommends broad-based reforms, increased investment and/or systemic modernization in the following seven areas which are discussed in the body of the report:

- Governance
- Patent Tracking System
  (i.e., information technology infrastructure)
- Funding
- Policy
- Culture/Reputation
- Enforcement
- Performance Metrics

In addition, the Working Group recommends establishing a Regents Special Committee on Innovation Transfer and Entrepreneurship to oversee the implementation of the recommendations in this report (Recommendation 14).

Finally, the Working Group urges the adoption of a Regents Policy articulating core governing principles and statements of desired outcomes, including the following mission statement, to guide the University's innovation transfer and entrepreneurship programs at both the campus and systemwide levels (See Appendix B).

MISSION STATEMENT

Promote the translation of UC's discoveries into useful products, services, and innovations that not only provide value to individuals and society, but also endeavor to uplift the human condition;

Inspire the passion of our faculty and student inventors, as well as provide the problem-solving and collaborative support necessary to translate those ideas into real-world solutions having societal benefit; and

Pursue fair value for our intellectual property so UC can continue to grow its excellence in scholarship, research, and global impact.

GOVERNANCE

Background

In a series of interviews conducted by the Working Group, administrators at the nation's top universities for innovation transfer advised that the best value provided by their central administration is to serve as a resource supporting and facilitating the needs of their faculty and innovation transfer programs, or in the case of university systems, their campuses. Representatives of these universities uniformly articulated that their faculty inventors and local innovation transfer offices were the drivers of productivity and success. All advised that the role of the central administration should be client service oriented rather than that of a control agency.

These principles of local control and client service should serve as a model for UC because innovation transfer and entrepreneurship is a campus-centric activity built on local relationships.

Greater local control is not a new concept for UC. A campus-based approach to technology transfer began in the 1990s when the UC Office of the President (UCOP) recognized that its centralized technology transfer office was under-resourced and too far removed from its faculty inventors and research facilities to effectively oversee and manage the entire enterprise. UCOP gradually began to shift responsibility and authority to the campuses, which encouraged them to more fully own the responsibility of working with faculty inventors, cultivating relationships with licensees and investors, and converting ideas into practical applications.

While responsibility for innovation transfer devolved to the campus level, much of the apparatus supporting the enterprise — including its core governing policies, information technology infrastructure, and business processes — did not. It left a bifurcated system of front-end responsibility at the campuses but back-end dependence on central administration. Importantly, many functions that may be best performed at the campus level are currently done at UCOP. At the same time, there are significant missed opportunity costs resulting from the lack of central coordination in other areas.

Because the number of transactions and opportunities for innovation have grown over the intervening decades, a more complete realignment of authority and corresponding accountability needs to be undertaken. Such realignment will ensure that the organizational level most responsible for producing results has the control and flexibility necessary to execute its charge and will also increase UC's capacity to leverage unique opportunities as a ten-campus system, which few other universities have.

Realignment does not mean an abandonment or diminution of oversight, risk management, or sound business practices. Instead, for realignment to be successful, it requires campuses to develop well-defined strategies, as well as adequate programmatic infrastructure and internal controls, to serve as competent stewards of the best interests of the University and the public it serves.

Successful realignment requires a partnership between UC's ten campuses and the Office of the President. The latter must continue to play an important role in facilitating the success of UC's innovation transfer enterprise by supporting the execution of campus-based strategies and solutions and finding opportunities to leverage UC's strength as a system.

The Working Group recommends the following steps for realizing this governance model.

RECOMMENDATION 1: Refresh UCOP's roles, responsibilities and business processes

The Office of the President will continue to play an important role in facilitating the success of UC's innovation transfer enterprise by supporting and enabling the execution of campus solutions and strategies. Its highest and best value comes in leveraging the power and potential of its ten campuses to perform services no one campus can cost-effectively do on its own, as well as coordinating or addressing multi-campus needs.

Toward this goal, the Working Group recommends that the Office of the President focus on these seven key service areas:

- Representing the individual and collective interests of the UC system before state and federal legislatures and regulatory bodies

- Identifying and disseminating best practices throughout the UC system

- Providing back office support (e.g., legal and accounting) to those campuses in need

- Fulfilling reporting obligations to the Regents, public agencies and grant-making bodies

- Overseeing the replacement and ongoing maintenance of the Patent Tracking System

- Helping campuses interpret and implement policy

- Identifying the needs of the campuses and developing value propositions to meet them

OPPORTUNITIES FOR UCOP TO MEET CAMPUS NEEDS

Example 1: Help campuses establish programs pairing inventors with experienced mentors and entrepreneurs who can help identify potential consumer markets, raise capital, and handle the business end of commercialization activities. This is expertise that many faculty inventors do not have.

Example 2: Coordinate the creation of patent pools allowing intellectual property assets, that by themselves may never be licensed, to be bundled with similar assets that as a package could appeal to potential licensees, investors or commercial partners.

To achieve the dual goals of reorienting units within the Office of the President to a client services perspective and achieving successful realignment of governance, the Working Group recommends a review of innovation and entrepreneurship business processes and work flow at UCOP that assumes a devolution of functions to campuses that desire and are capable of undertaking the responsibilities, unless there is a compelling reason for these to be done at the systemwide level. The review should begin by mapping out functions and processes, as well as where decisions are made. It should than assess each element through the prism of questions such as:

- Why do we do it this way? Does it still make sense to continue?

- Can we get better results more quickly by doing it another way?

- Does it move us closer to our desired outcomes or does it erect more barriers?

- At what level (i.e., campus or systemwide) should the task be assigned in order to get the best results?

Timeline

The Working Group recommends that within three months, the Office of the President prepare an implementation plan for the Special Committee to review that includes a detailed milestone plan, schedule, staffing-needs assessment and budget, and identifies an executive sponsor.

RECOMMENDATION 2: Realign equity management from UC investments to the campuses

Under UC's Equity Policy and associated guidelines, campuses have the authority to accept equity generated from their innovation transfer and entrepreneurship activities. However, they do not have the authority to manage the equity. Instead, pursuant to Regents Bylaw 23.5(d), the Chief Investment Officer has authority over all investment matters, including the custody and administration of equity on behalf of campuses and faculty inventors.

The following provides a summary of how equity derived from campus innovation and entrepreneurship activities is currently governed and managed.

CURRENT STATE OF GOVERNANCE

University Bylaws. Pursuant to Bylaw 23.5(d) the CIO has general authority over all investment matters pertaining to the University.

Equity Policy, G-44 and AFS Guidelines. The Equity Policy, G-44 Guidelines for Accepting and Managing Equity When Licensing University Technology, and the Guidelines for Accepting and Managing Equity in Return for Access to University Facilities and/or Services (AFS) provide the campuses/laboratories limited authority to take equity in startup companies in connection with licensing transactions and certain UC-affiliated incubator and accelerator transactions on behalf of campus/laboratory and related inventors.

UC Investments' Role in Managing Campus Equity. Campus/laboratory securities are held in custody, administered and managed by UC Investments on behalf of campuses and inventors. State Street acts as the external custodian for the campus equity, all of which is held under the nominee name of Shellwater & Company. UC Investments makes all decisions and executes all corporate actions and dispositions of campus equity. Any campus equity that is publicly traded is intended to be sold in accordance with a "rule-based" formula set forth in the Guidelines (50% when first saleable / 25% six months later / 25% one-five years after first saleable). UC Investments also decides whether to exercise or waive participation rights received in connection with campus equity. Finally, UC Investments has certain reporting obligations to the Office of the President: (i) monthly reporting regarding any significant actions taken on campus securities such as a sales, transfers and other dispositions, and (ii) quarterly reporting regarding value of the campus equity.

Source: UC Legal

The Working Group, along with the Chief Investment Officer (CIO), recommends that campuses possessing a defined strategy and sufficient internal controls and programmatic infrastructure act as the managers of equity generated from their innovation transfer and entrepreneurship activities. This includes acting as custodian of equity, exercising the right to vote on corporate actions, deciding when to liquidate shares, and determining whether to exercise "participation rights" entitling them to invest in future funding rounds.

While some campuses may not yet have the deal flow, resources, or programmatic infrastructure to undertake this expanded responsibility, approximately 50% of UC's campuses indicate they are ready or are highly interested. Campuses choosing to manage their own equity would be required to meet terms and conditions to be determined by the President, in consultation with the Regents Special Committee on Innovation Transfer and Entrepreneurship. To ensure that these campuses have sufficient internal controls, expertise, and programmatic infrastructure to serve as stewards of these assets, a certification process may be required.

In order to effectuate the ability of a campus to undertake full responsibility for the management of equity generated by its innovation and entrepreneurship activities, the Working Group recommends that Bylaw 23.5(d) be amended to provide both the Chief Investment Officer and the President the authority over the acquisition, management and disposition of all equity received by University campuses pursuant to licensing, incubator/accelerator activities and other commercial arrangements. It is expected that the President will re-delegate such authority to some or all of the campuses on terms and conditions to be determined by the President, in consultation with the Special Committee (See Appendix C).

Both the Office of the President and the Office of the Chief Investment Officer will continue to provide support and advice to the campuses during the transition and beyond.

The following provides a summary of the potential benefits of empowering qualified campuses with local control over their equity.

POTENTIAL BENEFITS OF LOCAL CONTROL OVER EQUITY

Campuses have relationships with their licensees and may be better positioned to determine how to address corporate actions and weigh decisions related to the benefits and drawbacks of consenting to liquidity and other transactions.

Campuses could have greater control over timing of sales in public company securities.

UC policies (such as limitations on UC's ability to indemnify and the Guidelines) provide guardrails to mitigate risk.

Campuses may benefit in exercising "participation rights" [i.e., the ability to invest in future funding rounds] in their licenses to support inventions.

Source: UC Legal

RECOMMENDATION 3: Realign legal and policy compliance from the Office of General Counsel (OGC) to the campuses

OGC currently is responsible for ensuring the legal integrity of all equity and licensing contracts, as well as for compliance with UC policy. This is largely an anachronistic vestige of the pre-1990s, when innovation transfer transactions were performed by the Office of the President and campuses neither had in-house counsel nor well-staffed, sophisticated innovation transfer programs.

The Working Group and the General Counsel recommend vesting campus chancellors with responsibility for policy compliance, as well as the choice to select OGC, campus counsel, or outside counsel in handling their innovation transfer legal affairs.

OGC is working with campuses to develop a Memorandum of Understanding to make this authority explicit. OGC will remain a resource to the campuses by: (a) providing model deal templates to the campuses, (b) providing legal services and resources to those who request them, (c) educating the campuses on legal pitfalls and hazards, and (d) providing best practice guidelines.

This aligns with practices at other top performing innovation transfer universities interviewed by the Working Group, which highlighted legal counsel's role in serving as a resource, rather than as a control agent.

> "Given its world-class faculty talent, its Nobel prize winning pedigree, and its distinguished history for ground-breaking research, UC should and must demand more, better, and faster from its innovation and entrepreneurship ecosystem. This begins with moving more autonomy, more resources, and more trust to the place where the magic happens: the campuses."
>
> – *Brook Byers, Senior Partner at Kleiner Perkins*

PATENT TRACKING SYSTEM

Background

The Patent Tracking System (PTS) is widely considered to be the "central nervous system" or "connective tissue" of UC's innovation transfer enterprise because it handles most core back-office functions, including:

- Marketing and business development
- Patent prosecution
- Intellectual property management
- Accounting, finance, and revenue distribution
- Stakeholder and client relationship management

Created in the early 1980s, the system has been upgraded numerous times but has not kept pace with the UC's evolving and increasingly sophisticated business needs. The challenges most commonly cited include poor data structure and architecture, time-consuming and sometimes inaccurate invoicing, lack of interoperability with other UC systemwide databases, cumbersome procedures, overly complex and outdated revenue distribution and reimbursement functionality, and antiquated technology causing unnecessary delays in computing and retrieval of data.

COMMON CAMPUS COMPLAINTS REGARDING PTS

"Invoicing is time-consuming, burdensome, and inaccurate"

- 5 clicks required to approve each invoice, whether $25 or $25,000
- Reimbursement codes are often inaccurate, requiring invoice to be sent back

"Numerous procedures require substantial time but do not add value"

In 2005, an off-the-shelf product was selected to replace PTS, but the project was abandoned. Since then, various internal efforts have repeatedly evaluated and identified major shortcomings in PTS. Most recently, the Knowledge Transfer Advisory Committee, an advisory committee to the President charged with providing strategic vision for UC's innovation transfer enterprise, has urged a full replacement.

The lack of progress and growing frustration with the system's performance gaps have caused several campuses to invest their own resources in building alternative, locally operated systems, which now must be reconciled in terms of data integration and interoperability.

Campus alternatives to UCOP's Patent Tracking System

UCLA and UC Davis use Inteum

UC San Diego and UC Riverside use Wellspring

Despite several campuses turning to local alternatives for some of PTS' vital functions, UCOP's PTS system still handles tens of thousands of transactions each year and manages thousands of payees.

RECOMMENDATION 4:
Replace the Patent Tracking System

The Working Group recommends replacing the Patent Tracking System with a hybrid technology platform that not only serves the comprehensive needs of the campuses that have thus far avoided pursuing independent solutions, but also enables those with alternative systems to "plug in" and upload information needed by UCOP to discharge its reporting and oversight duties. The Working Group strongly recommends that this work begin immediately, given that such a replacement system will take time to complete and that the current system has been a demonstrable hindrance to campus productivity.

Consistent with best practices for delivering a successful technology project, the following pre-project foundational work must be completed in order to mitigate risks, contain costs, and — importantly — to ensure that the system can meet the current and growing business needs of UC's complex innovation transfer enterprise:

- With the help of an outside consultant, engage in business process mapping and redesign as well as work flow re-engineering

- With the help of an outside consultant, perform a feasibility and cost analysis study

- Identify the business needs of the campuses

- Identify what campus-level data is required by UCOP to discharge its core oversight and reporting responsibilities

- Canvass the campuses and UCOP to identify what other UC systems and databases should have interoperability with the replacement system

In addition, the new system should capture and process metadata from all UC-sponsored intellectual property (IP). This will open doors to new opportunities such as giving prospective investors, licensees and private sector partners a powerful tool to search and find innovations in which they may wish to invest. It would also facilitate the creation of UC patent pools, allowing IP assets, that by themselves may never be licensed, to be bundled with complementary IP and marketed jointly.

Timeline

To complete the pre-project foundational work, the Working Group recommends that within three months, the President prepare an implementation plan for the Special Committee to review that includes a detailed milestone plan, schedule, staffing-needs assessment, a budget and funding source, and identifies an executive sponsor.

IGNORING BUSINESS PROCESS REDESIGN IS A RECIPE FOR FAILURE

"IT procurements tend to define requirements for the new system based on functionality of the known legacy system rather than using tools to perform business process modeling, analysis, and reengineering to modernize and standardize business practices. As a result, project requirements for the new system will at best reflect existing business processes. There is a strong impetus to maintain existing business practices, as inefficient as these may be, and adapt the technology to them. This tendency reduces the state's ability to take advantage of modern, standard solutions and the ability of vendors to design and implement efficient and effective solutions based on current best practices....IT projects should be as much about improving and redesigning [an organization's] business practices as they are about technology."[8]

Source: Governor Jerry Brown and Controller John Chiang's Task Force on Reengineering IT Procurement for Success

SECTION 3

FUNDING

Background

According to an Office of the President analysis, in the decade between 1995 and 2005, for every 1,000 UC inventions disclosed, 400 earned a U.S. utility patent (i.e., a patent for a new or improved product, process, or machine). Of those, 170 were licensed, 40 went on to generate royalties and only one generated more than $1 million.

Such statistics underscore the difficulties involved in bringing an invention to fruition. One of the factors contributing to these unfavorable odds is the "Valley of Death," a laconic metaphor for the gap in funding that often exists on the journey between academic-based discovery (i.e., basic research) and commercial application. Within this valley, funding is often extremely difficult to acquire because:

- The technology may not yet be proven
- The concept may not yet have been translated into a clear commercializable product
- There may not be a prototype
- There may not be an identified consumer need or market (i.e., "a solution searching for a problem")

Potential investors and licensees are leery of putting up capital because the risk of failure is high and the path to marketplace success is uncertain. Too often, this is where nascent but promising ideas prematurely die.

RECOMMENDATION 5: Create a proof of concept fund

The Working Group recommends that the University create a Proof of Concept (PoC) fund aimed at providing the vital seed money necessary to traverse the "Valley of Death" and catapult promising early-stage technology to license-ready status or the formation of spin-out companies.

A Proof of Concept fund could provide funding to fill the gap until the technology or innovation can attract potential investors, licensees, corporate partners, or other sources of outside funding. These funds should not be used for basic research, but for translational or applied research and other early stage activities such as, but not limited to, market research, product development, testing, and prototype construction.

While it is not a certainty that a Proof of Concept fund would result in overnight success, many of the nation's top-performing innovation transfer universities have credited them as key facilitators of their effectiveness.

PoC — A GAME CHANGER

Innovosource, a strategy firm that partners with research universities to address early stage innovation needs, recently surveyed 141 active proof of concept funds and accelerator programs at 84 universities and found that universities with PoC funds experienced a 32% increase in translating discoveries to licensed products.[9]

Awards from the PoC fund should be available on a matching basis. This shared-risk, shared responsibility approach will provide incentives for applicants to regulate how much they request and to perform due diligence in assessing the commercial viability of a new technology.

The Working Group conducted a survey of the amount of money campuses would need to fill this funding gap. On average, an annual outlay of $6.5 to 7 million would be required to fund the UC system's current proof of concept needs. Recognizing that campuses with emerging innovation transfer enterprises may not currently have adequate local resources to contribute matching funds, it is proposed that the 50/50 split be phased in over a 7-year period, as shown below.

By revenue	Year 1-3	Year 4-6	Year 7+
4 largest campuses	50/50	50/50	50/50
Next 3 largest campuses	30/70	40/60	50/50
3 smallest campuses	10/90	30/70	50/50

Split represents campus percentage/fund percentage

Timeline

The Working Group recommends that within six months, the Executive Vice President-Chief Financial Officer prepare a plan to create a Proof of Concept fund.
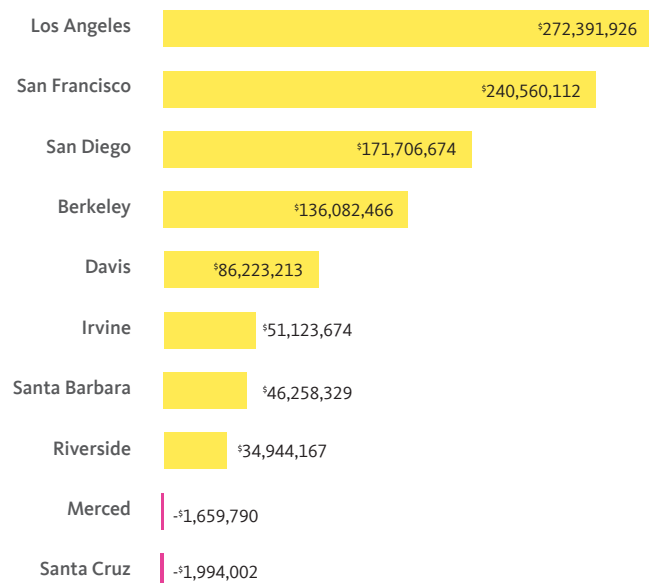
RECOMMENDATION 6: Provide budget augmentations to help campuses develop innovation transfer programs

In addition to proof of concept funding, there is an acute need to help those campuses where resource shortages have led to significant gaps in basic innovation transfer staffing, know-how and functionality. While the focus of the Working Group's efforts over the past 15 months has been on boosting UC's innovation transfer enterprise to compete with the nation's elite universities, it would be remiss to not recognize that funding and most importantly, opportunities for success, are unequal among UC campuses.

The Working Group recommends that the University provide limited-term budget augmentations to the emerging innovation transfer programs at the three campuses that produced the least amount of licensing and equity revenue over the past decade. These funds will be used to assist them in developing the programmatic infrastructure and expertise to convert emerging technologies into license-ready status or spin-off companies.

Net income distribution from royalties, fees and equity
Net Income Distribution FY2010 - FY2019

Campus	Net Income
Los Angeles	$272,391,926
San Francisco	$240,560,112
San Diego	$171,706,674
Berkeley	$136,082,466
Davis	$86,223,213
Irvine	$51,123,674
Santa Barbara	$46,258,329
Riverside	$34,944,167
Merced	-$1,659,790
Santa Cruz	-$1,994,002

Timeline

The Working Group recommends that within three months, the Executive Vice President-Chief Financial Officer prepares a plan to provide limited-term budget augmentations to the three campuses with emerging innovation transfer programs.

POLICY

Background

Many of the policies governing UC's innovation transfer enterprise — on equity, intellectual property, conflict of interest, and conflict of commitment — have not been materially revised since the 1990s. As a result, they have not kept pace with the growing sophistication and evolving trends that have become hallmarks of university innovation transfer in the 21st century. For example, the Presidential Policy on Accepting Equity When Licensing University Technology dates from 1996, the Patent Policy from 1997 and the Licensing Guidelines from 2012. (See Appendix D — Policies).

While policies can and should compel or restrict behavior to protect UC from incurring fiscal, legal, and reputational liability, they should not create disproportionate burden or bureaucracy, nor should they have an overall chilling effect on the faculty pursuit of innovation and entrepreneurial activities. Instead, the revised policies should provide general guiderails, allowing users maximum flexibility to innovate solutions to meet individual campus objectives. The revised policies should not simply be risk management documents, but should guide and support UC's innovation transfer enterprise toward achieving the desired outcomes defined throughout this report.

RECOMMENDATION 7: Update policies to reflect current business needs and establish a process for ongoing periodic review and, if warranted, revision

The Working Group recommends that the University modernize and revise key policies to reflect current business needs and climate. These include, but are not limited to, the University's conflict of interest and conflict of commitment policies, patent policy, and equity policy. To ensure that the core governing policies reflect UC's evolving needs and priorities, these policies should be reviewed and, if warranted, updated every five years.

COMMON COMPLAINTS REGARDING UC POLICIES

"They're so heavy-handed and prescriptive in the desire to keep bad things from happening, they also keep good things from happening, too."

"They deter creativity, out-of-the-box problem solving, and risk taking."

"Establishing standards in polices are necessary because they can promote uniformity and set a 'basement' for quality. The problem with UC's policies is the 'basement' often becomes the ceiling, thereby preventing enterprising campuses from achieving their ambitions."

In close collaboration with the Working Group, innovation transfer leaders at UC Berkeley, UC Davis, UC Los Angeles, UC San Diego and UC San Francisco took the lead in a six-month effort to draft "model language" based on the following principles to inform the University's policy modernization effort.

MODEL LANGUAGE — A RUNNING START

- Consolidate and streamline rules, processes and precedents that — over the course of a quarter of a century — are found across multiple policy and guidance documents

- Provide updated tools and new resources to facilitate effective interactions between the University and industry

- Guide internal campus units toward stronger collaborations to perpetuate the desired cycle of investment, innovation, development, and reinvestment

- Provide timely support to faculty inventors

- Facilitate the realignment of decision making to the campus level while maintaining transparency and accountability to the UC Regents and to others such as third-party sponsors of research, including state and federal funding agencies

- Protect and advance UC's reputation as a good steward of its research enterprise for public benefit

- Address the needs and support the aspirations of all ten campuses

These resources should be completed and furnished to the Office of the President and the Regents Special Committee on Innovation Transfer and Entrepreneurship no later than the latter's inaugural meeting.

The Special Committee should hold public meetings to review the principles and model language. Subsequently, in consultation with the Office of the President, the Academic Senate, the Chancellors, and other stakeholders, it should make recommendations on the formation of new policies.

Any proposed policies resulting from this effort will be evaluated and approved via appropriate, established systemwide policy review processes.

CULTURE/REPUTATION

CULTURE
Background

During its year-long inquiry, the Working Group engaged extensively with many of the nation's premier innovation transfer universities in order to identify best practices and to study their most successful strategies. One of the common threads shared by each of these universities is they consider translational research, innovation, entrepreneurship to be on par with other fields of research, scholarship, and university enterprises. They celebrate, support, and often incentivize faculty, who as inventors and founders, strive to translate their ideas into new products, services, and innovations, especially those with societal impact. Consultation with UC's own highly successful faculty entrepreneurs revealed similar desires to more highly value and celebrate translational research and entrepreneurial endeavors.

UC has long been an important cornerstone of the public trust. Building on its storied heritage of public service, UC should further commit to not just being one of the nation's cradles of academic discovery, but to translating those discoveries into new innovations uplifting the human condition, whether in the form of therapies to cure disease, technologies to grow food in more cost-efficient and environmentally-sustainable ways, or more effective tools to help children learn in the classroom or more recently, from home during the COVID-19 pandemic. This new commitment is consistent with the mission of land-grant institutions that were established to focus on the teaching of the "practical sciences," as well as the liberal arts, and were established with federal funding as public trusts.

But expanding UC's commitment to translational research, innovation and entrepreneurship not only serves the public interest, it also broadens and diversifies university research and teaching into the 21st century. The pace of technological development, new sources of private investment, and the emergence of exciting new fields of research have led to opportunities to disseminate research via real-world applications that previously did not exist.

While publishing basic research is central to the University's mission to share knowledge, many top research universities are embracing the conversion of academic-based discoveries into practical, "real world" applications as an equally effective form of sharing knowledge. For public research universities, such translation may help the public — especially public policy makers — to better appreciate the added value of taxpayer-funded universities and the power of basic research. Yet the structures for advancement in academia have not evolved in accordance with how innovation and entrepreneurship have brought value to UC's tripartite mission of teaching, research, and service. In fact, they may discourage faculty from engaging in translational research in favor of the imperative to "publish or perish" in order to succeed in their academic careers.

Through multiple discussions with stakeholders, culture and reputation were repeatedly emphasized as important ingredients in enhancing University innovation and entrepreneurship activities. Stakeholders encouraged the Working Group to help the University create a culture that values innovation and entrepreneurship and burnishes its reputation as a high-value partner in these endeavors.

RECOMMENDATION 8: Revise promotion and tenure guidelines to include consideration of innovation and entrepreneurship

Timeline

In consultation with the Academic Senate, the Working Group recommends that within twelve months the Academic Senate create a set of recommendations for Special Committee review on how innovation and entrepreneurship can be included in the merit and promotion process. This work should be done in collaboration with the Office of the President and respect the following guidelines:

- Define "innovation and entrepreneurship" broadly so that all disciplines are able to participate in the recommended changes

- The recommendations should not conflict with, nor raise or lower, existing expectations for academic advancement

- Faculty should not be required to engage in innovation and entrepreneurship endeavors as criterion for promotion or merit advancement, regardless of discipline
- The recommendation should describe the criteria for, and form of, documentation necessary to ensure the work can be evaluated in a fair, uniform, and judicious manner. In cases of high necessity for confidentiality, the review process's need for transparency and accountability can be met through protocols and procedures similar to those utilized for government classified reports and projects
- The recommendation should ensure that the manner in which innovation and entrepreneurship is factored into performance reviews meets the tripartite mission of teaching, research, and service
- It should promote the participation of women, persons with disabilities, and underrepresented minorities in the arenas of translational research and entrepreneurship

In this effort, the Academic Senate would benefit by consulting existing documents[10] for the inclusive recognition of innovation and entrepreneurship (I&E) within promotion and tenure guidelines, such as the 2020 report produced by Dr. Rich Carter (Oregon State University), funded by the National Science Foundation. The report describes best practices, model frameworks, metrics, and how to capture evidence of I&E-related impact within research, teaching, and service. It was based on extensive cross-institution research with a 67-university consortium that included five UC campuses — UC Los Angeles, UC Berkeley, UC San Diego, UC Riverside, and UC San Francisco.

RECOMMENDATION 9: Revise academic personnel policy regarding leaves of absence to include pursuit of innovation and entrepreneurship activities

Timeline

The Working Group recommends that within three months the Office of the President propose a revision of academic personnel policy for Special Committee review that explicitly states that leaves of absence can be used for innovation and entrepreneurship pursuits.

This work should be done in collaboration with the Academic Senate and the Chancellors, while observing the following guidance:

- The pay status and length of participation terms for leaves of absence for the purpose of innovation and entrepreneurship shall be consistent with those for all other uses of this category of leave
- The approval and possible extension of any leave of absence for the purpose of innovation and entrepreneurship shall be consistent with those required by existing policy (specifically, APM 759) for its other uses

RECOMMENDATION 10: Create a program to recognize innovation and entrepreneurship

Timeline

The Working Group further recommends that within three months the Academic Senate, Secretary and Chief of Staff to the Regents and Council of Chancellors prepare a plan for Special Committee review to build a coordinated program to recognize I&E at the campus, presidential, and regents' levels.

REPUTATION
Background

In interviews, individuals from the private sector indicated that UC has developed a reputation as being a difficult partner, discouraging potential collaborations. Compared to other best-in-class innovation transfer universities, they claim UC's processes are cumbersome and its general inclination toward caution circumscribes its ability to take advantage of business opportunities.

RECOMMENDATION 11: Create a re-branding campaign showcasing UC innovation

The Working Group further recommends that the Special Committee discuss ways to recast UC's reputation as a valuable partner in innovation transfer and a major supporter of entrepreneurial activities, including launching a re-branding campaign that highlights the research powerhouse that UC is, as well as its success at translating academic-based discoveries into practical applications that provide societal benefit. The Special Committee should engage campuses, industry partners, and the current UC Innovation Council in identifying both campus and systemwide strategies and opportunities.

ENFORCEMENT

RECOMMENDATION 12: Probe the strengths and weaknesses of UC's existing efforts to protect its intellectual property rights

The Working Group recommends that the Special Committee probe the efficacy of existing enforcement strategies, mechanisms, and procedures utilized by the University to protect its rights under its licensing, equity, and sponsored research agreements. Successful litigation over the years exposing non-compliance with contractual terms — potentially costing the University hundreds of millions of dollars in royalty and milestone payments — provides ample incentive to examine UC's enforcement practices with greater discernment.

Toward this end, the General Counsel advises that the Working Group approach this probe by retaining an expert consultant to provide a comprehensive assessment of how UC enforces its contractual intellectual property and economic rights.

Key questions to be answered include, but are not limited to:

- How are commercialization agreements currently monitored and analyzed for full compliance?

- Are rights sometimes wittingly neglected due to misalignment of interests between the University, faculty inventors, and licensees who are among UC's long-term strategic partners?

- Is funding a material barrier to vigilant enforcement?

- What strategies are other top-performing innovation transfer universities utilizing to protect their rights? Can these best practices be adapted to UC's needs?

Timeline

The Working Group supports the General Counsel's proposal and recommends that the Special Committee work with the Office of the President to immediately retain a consultant to complete a study and make recommendations within six months.
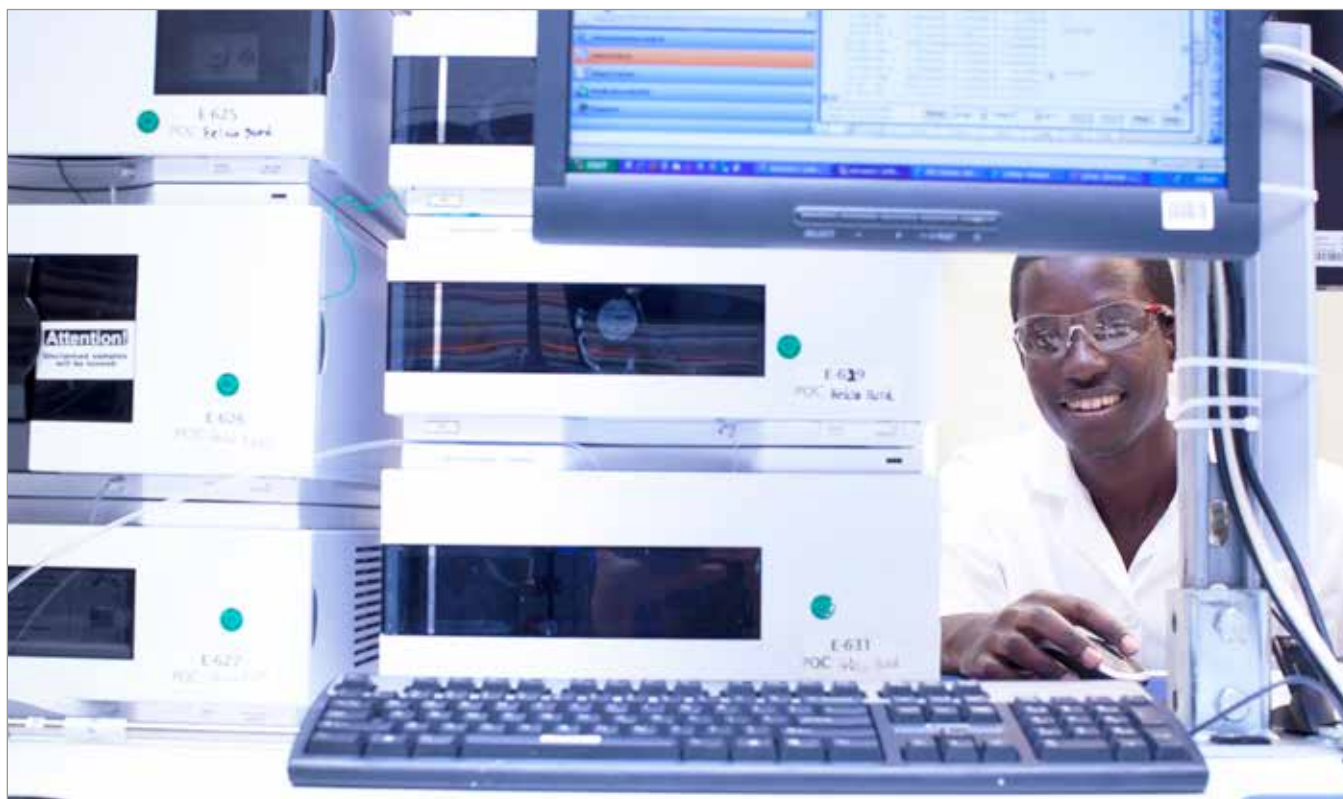
PERFORMANCE METRICS

"If you can't measure it, you can't improve it." — Dr. Peter Drucker, "The father of modern organizational management"

Background

Performance metrics for innovation, transfer, and entrepreneurship activities are tracked by both the University and third parties. For example,

- As discussed in the Introduction, the Milken Institute published a report in 2017 that ranked the nation's top 225 technology transfer universities. Five UC campuses ranked among the nation's top 55.

- PitchBook reported that as of 2019, 3,400 California companies were founded or co-founded by UC alumni. Also according to PitchBook, in 2020, five UC campuses ranked in the Top 50 Undergraduate Programs Producing Startup Founders (UCB #2, UCLA #14, UCSD #27, UCSB #40, UCD #43). In addition, UC Berkeley ranked #2 and UCLA #14 in PitchBook's Top 25 Undergraduate Programs Producing Female Founded/Co-Founded Startups.[11]

The University currently tracks and reports annually on recent technology commercialization activity such as the number of inventions disclosed, patents applications filed, patents and licenses issued, start-up companies formed, and royalty and fee income. While these measures are important indicators, they are one-dimensional and not truly reflective of the continuum of impacts produced by innovation and entrepreneurship activities.

By capturing and reporting on a more diverse, broader set of measurements, benefits, and outcomes, UC will not only be better informed to manage and improve this dynamic enterprise, but also will be able to communicate the value of taxpayer-funded research and scholarship to the public.

RECOMMENDATION 13: Propose new ways to measure the public impact of UC innovation and the effectiveness of its innovation transfer enterprise

The Working Group recommends the Special Committee propose a new set of metrics to assess the impact of UC's innovation and entrepreneurship activities. The Special Committee should consider societal impacts such as job creation, economic stimulus and social good.

While the University should continue to document the myriad ways that UC's translational research results in licensing agreements, start-ups and resulting revenues, the Special Committee should also assign value to longer-horizon returns such as philanthropic donations, endowed chairs and scholarships, and sponsored research that result from developing long-term relationships with faculty, student, and alumni inventors, as well as with private sector investors and partners.

Institutions like Stanford, MIT, and Columbia highlighted how these relationships — especially when the collaborations lead to commercial blockbusters — can produce major benefactors who eagerly endow scholarships and professorships, contribute to capital improvement projects, and partner with students and faculty on future projects. These types of returns can often benefit the University in manners that well exceed those from licensing revenues, sometimes by multiple orders of magnitude.

In addition to considering a more expansive set of impact measures, the Special Committee should also consider measuring who is engaged in I&E activities and their overall experience. For example, the University can assess the extent to which women, people with disabilities and other groups that have been historically marginalized in translational research, innovation, and entrepreneurship are included in UC's innovation ecosystem, reflecting the diversity of the University community.

Gender inequities persist in entrepreneurship

Original research conducted by UC Berkeley analyzed approximately 14,400 venture-backed start-ups headquartered in the United States that exited since 2000. The study discovered the following;

- Females founded 17% of all start-ups, but only received 3% of all venture capital funding.

- The data refutes the notion that males or younger entrepreneurs perform better than females or older entrepreneurs. Biases against providing funding to females are not justified by performance data.

- The presence of at least one female founder shortened the time to startup exit.

EFFECT OF FEMALE FOUNDER ON AVERAGE TIME TO EXIT

EFFECT OF FEMALE CEO ON ROI
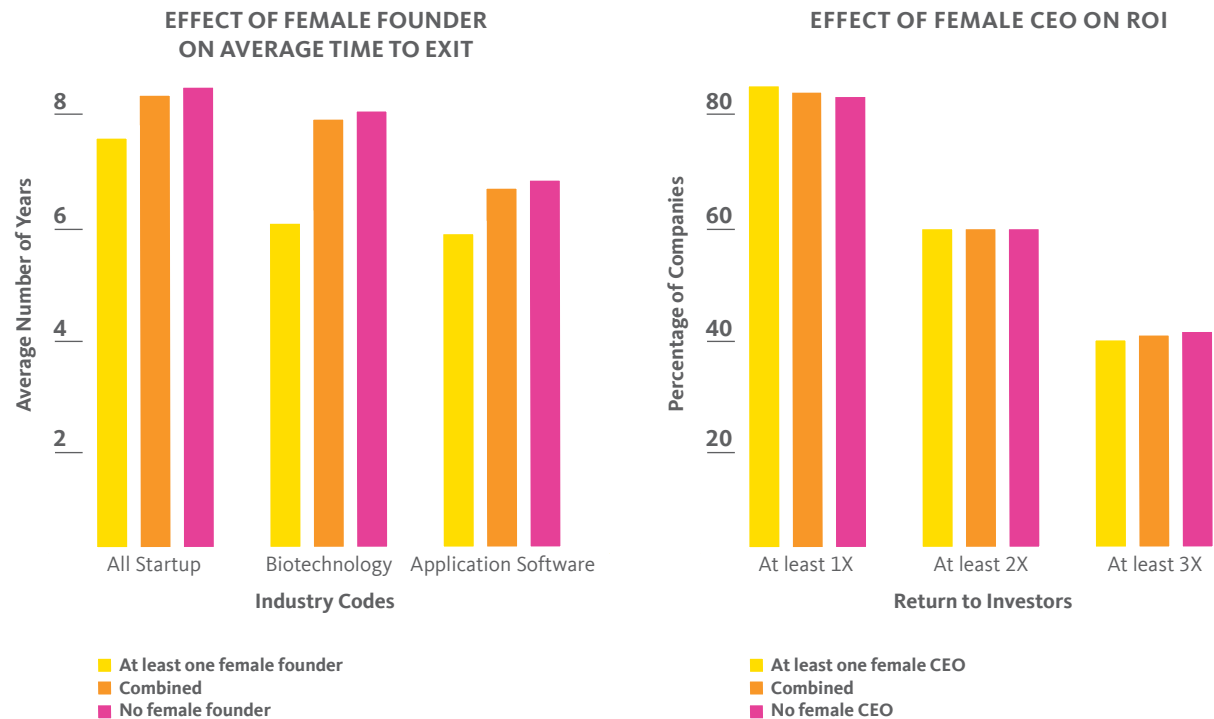
The University should also measure external and internal stakeholder satisfaction, including licensees, investors and other private sector partners, as well as faculty inventors and campus administrators who engage services from the Office of the President.

WORKING GROUP SUCCESSOR ENTITY

Background

Multiple working groups and reports on how to improve UC innovation transfer have been done in the past, but none have led to systematic change or a material increase in the investment of resources.

RECOMMENDATION 14: Establish a Regents special committee on innovation transfer and entrepreneurship to provide implementation oversight

The Special Committee on Innovation Transfer and Entrepreneurship would be charged with overseeing the successful implementation of the proposals detailed in this report, as well as the exploration and development of additional solutions serving to promote the success of UC's innovation transfer enterprise.

It is proposed that the Special Committee be established for two years and shall report at least annually to the Board on progress implementing the report's recommendations. Before the two-year term expires, the Special Committee should make a recommendation regarding continued oversight. (See Appendix E for proposed Charter of the Special Committee).

"A gilded report chock-full of findings and recommendations is not enough. It's been done too many times. . . by too many well-meaning UC supporters . . . over too many years, only to sit on a shelf gathering dust. We owe it to current and future generations of UC faculty, student, and alumni inventors to find the will and a way to help them pursue anew where no one has previously dared to go."

– Regent Rich Leib, Chair, Working Group on Innovation Transfer & Entrepreneurship

CONCLUSION

As the academic year comes to a close, it provides us with a natural opportunity to reflect on recent historic and tragic events that will forever reshape the way in which we live, work, and learn.

As of the end of April 2021, our nation, alone, has lost more than 570,000 lives to COVID-19, a harrowing statistic that exceeds the number of Americans killed in World War II and the Korean and Vietnam wars, combined. The social and economic disruption caused by COVID-19 is similarly staggering: nearly half of the worlds' 3.3 billion-member global workforce has lost or is at risk of losing their livelihoods; more than a billion youth were, or continue to be, physically unable to attend school; and global food prices rose close to 20% in the last year which only exacerbates the pre-existing food insecurity crisis here and abroad. Many have wondered if this health pandemic would forever deny us a return to normalcy.

It is only through the miracles brought about by science, technology, and innovation that we will eventually reclaim many of life's most treasured gifts, from having dinner with grandparents to seeing a child receive her diploma. It has traditionally taken years, and sometimes even decades, to develop a new vaccine. But thanks to the scientific innovation associated with mRNA research, COVID-19 vaccines have already made their way into the arms of 45 percent of our country's population.

COVID-19 has highlighted the importance of scientific discoveries and the value of translating them into "real world" practical applications. In dramatic fashion, the world has been introduced to how science and its breakthroughs have the potential to solve many of society's seemingly intractable problems.

This is exactly the right time for UC to increase its investment in translational research, innovation, and entrepreneurship.

Let's retool UC's antiquated IT systems, quarter century-old policies, and natural gravitation to preserve the status quo. Let's further commit to not just being one of the nation's cradles of academic discovery, but also being the best at translating big ideas into the solutions the public desperately seeks. From curing or preventing disease to growing food in more cost-efficient ways to reversing human-caused climate change, the University of California can be a powerful engine for innovation, change, and societal good.

ENDNOTES

[1] https://regents.universityofcalifornia.edu/regmeet/july19/f10.pdf
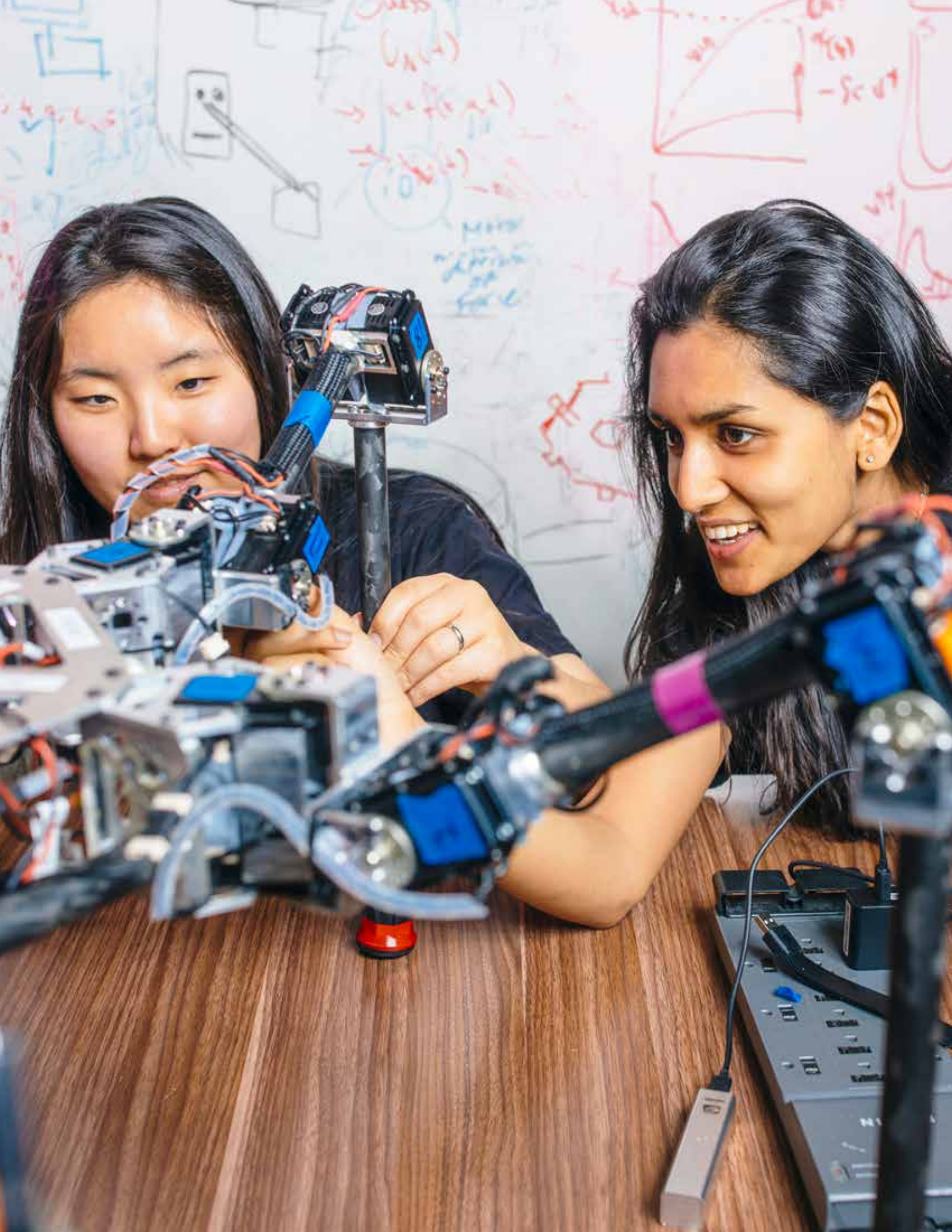
[2] UC Technology Commercialization Report, 2019, pp. 2-3.

[3] A patent for a new or improved product, process, or machine.

[4] "Top 100 Worldwide Universities Granted U.S. Utility Patents, 2019," National Academy of Inventors

[5] Five of UC's campuses made the 2018 TechCrunch list of top U.S. public universities ranked by numbers of graduating startup founders who raised at least $1 million in venture investment funding, with UC Berkeley and UCLA in the top one and two positions, respectively. Moreover, a 2017 data compilation by Statistica shows that the UC system ranks third as the alma mater of alumni founders of 'unicorn' startups, a term used to describe a privately held startup company valued at over $1 billion (July 2019 Update to the UC Board of Regents).

[6] Concept to Commercialization: The Best Universities for Technology Transfer, Ross DeVol, Joe Lee and Minoli Ratnatunga (Milken Institute, April 2017), p. 35 https://milkeninstitute.org/reports/concept-commercialization-best-universities-technology-transfer

[7] "Mind the Gap 2020: The University Tech and Startup Gap Funding and Accelerator Report," Innovosource https://innovosource.lpages.co/mind-the-gap-2020-report

[8] "Recommendations to Improve Large Information Technology Procurements: A Roadmap for Success in California," Task Force on Reengineering IT Procurement for Success, August 2013, p. 7 https://www.sco.ca.gov/Files-EO/0813_IT_Task_Force_Recommendations.pdf.

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[10] "PTIE Findings: Expanding Promotion and Tenure Guidelines to Inclusively Recognize Innovation and Entrepreneurial Impact," September 2020, https://ptie.org/ptie-recommendations

[11] "PitchBook Universities: 2020," September 22, 2020, https://pitchbook.com/news/articles/pitchbook-universities-2020?utm_campaign=PitchBook-Universities-2020&utm_medium=nl-na-premium&utm_source=reports

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Jim Demetriades, Kairos Ventures

Sujit Dey, UC San Diego

Yoni Dukler, UC Los Angeles

Barry Eggers, Lightspeed

Ed Green, UC Santa Cruz

David Haussler, UC Santa Cruz

Amy Herr, UC Berkeley

Brian Hervey, UC Irvine

David Horsley, UC Davis

Joseph Incandela, UC Santa Barbara

Michael Jung, UC Los Angeles

Jay Keasling, UC Berkeley

Kathy Ku, Wilson Sonsini

Kelsey Martin, UC Los Angeles

Chris Medina, Tesserakt Ventures

Alan Mendelson, Latham & Watkins

David Mills, UC Davis

Sherylle Mills Englander, UC Santa Barbara

Carol Mimura, UC Berkeley

Bill Mitchell, Sequel Venture Partners

Prasant Mohapatra, UC Davis

Amir Naiberg, UC Los Angeles

Johnny Nguyen, UC Los Angeles

Nikhil Penugonda, UC San Diego

Bill Perry, Hybridge Medical

Andrea Pesce, UC Santa Cruz

Luanna Putney, UC Merced

Paul Roben, UC San Diego

Varsha Sarveshwar, UC Berkeley

Holger Schmidt, UC Santa Cruz

Barry Selick, UC San Francisco

Greta Schnetzler, UC San Francisco

Richard Sudek, UC Irvine

Caitlin N. Suire, UC Irvine

Rodolfo Torres, UC Riverside

Bill Tucker, UC Davis

Hayley Weddle, UC San Diego

Xiaoxi Wei, Lawrence Berkeley National Laboratory

Marjorie Zats, UC Merced

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Orin Herskowitz

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Karin Immergluck
Luis Mejia
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MIT
Lesley Millar-Nicholson

Texas A&M University
Andrew Morriss

University of Arizona
Andrea Romero

University of Texas System
Claire Aldridge
Christine Dixon Thiesing
Fernando Gonzalez
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Mitch Jacobson
Sheila Kadura
Les Nichols
Ferran Prat
Teri Schultz
Dan Sharphorn

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Carol Mimura, UC Berkeley	**Bill Tucker, UC Davis**
Amir Naiberg, UC Los Angeles	**Barry Selick, UC San Francisco**
Paul Roben, UC San Diego	

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Michael Brown	**Jenny Kao**	**Maria Shanle**	
Susan Carlson	**Sajeel Malani**	**Tom Schroeder**	
Kelly Drumm	**Theresa Maldonado**	**Victoria Slivkoff**	

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Mike Benvenuti, Cove Fund	**Kate Klimow, UC Irvine**	**Brian Roe, UC Los Angeles**
Doug Crawford, Mission Bay Capital	**Peter Kotsonis, UC San Francisco**	**David Schwab, Vertical Venture Partners**
Russell Carrington, Berkeley Lab	**Angi Kujak, UC Los Angeles**	**Rhonda Shrader, UC Berkeley**
Greg Call, Crowell & Moring	**Tom Lipkin, UC Los Angeles**	**Laura Smoliar, Berkeley Catalyst Fund**
Bill Decker, UC San Diego	**Dina Lozofsky, UC Los Angeles**	**Leo Spiegel, Mission Ventures**
Savita Farooqui, Symsoft Solutions	**Richard Lyons, UC Berkeley**	**Carolyn Stephens, UC Irvine**
Anthony Francis, UC San Francisco	**Rosibel Ochoa, UC Riverside**	**David Tiemeier, UC Irvine**
David Gibbons, UC Irvine	**Paul Prokop, UC Davis**	**Luis Vasquez, UC Irvine**
Tim Grauerholz, UC Los Angeles	**Vivek Ranadive, BOW Capital**	**Mark Wisniewski, UC Los Angeles**

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Tricia Lyall	**Anne Shaw**	**Clare Sheridan**	**Jian Wu**

APPENDICES

Appendix A — Advisors to the Working Group

Appendix B — Proposed Regents Policy on Innovation Transfer and Entrepreneurship

Appendix C — Proposed Amendment of Bylaw 23.5(d)

Appendix D — Core UC Policies Governing Technology Transfer (see links below)

Equity Policy

Patent Policy

Conflict of Interest and Conflict of Commitment Policies

Appendix E — Proposed Charter of the Special Committee on Innovation Transfer and Entrepreneurship

Appendix F — Agendas of the Working Group on Innovation Transfer and Entrepreneurship

Appendix G — UCOP Innovation and Entrepreneurship organization charts

ADVISORS TO
THE REGENTS WORKING GROUP ON
INNOVATION TRANSFER & ENTREPRENEURSHIP

INVESTORS, LICENSEES, AND CORPORATE PARTNERS

Name	Organization	Position	Location
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Barry Eggers	Lightspeed	Partner	Menlo Park
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FACULTY

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Carol Mimura	Cal	Asst. Vice Chancellor	Berkeley
Paul Roben	UCSD	Assoc. Vice Chancellor	San Diego
Prasant Mohapatra	UC Davis	Vice Chancellor	Davis
Wiliam Tucker	UC Davis	Interim Associate Vice Chanceloor	Davis
Richard Sudek	UC Irvine	Chief Innovation Officer	Irvine

CAMPUSES HISTORICALLY HAVING DIFFICULTY DRAWING VC AND OTHER INVESTOR PARTICIPATION

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Rodolpho Torres	UC Riverside	VC, Research & Econ. Develop.	Riverside
Luanna Putney	UC Merced	Associate Chancellor/ COS	Merced
Marjorie Zats	UC Merced	Interim VC, Research & Econ. Dev.	Merced
Sherylle Mills Englander	UCSB	Director, Tech & Industry Alliances	Santa Barbara

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Name	Organization	Position	Location
Brian Hervey	UC Irvine	VC, University Advancement	Irvine
Jorge Ancona	UC Riverside	AVC, Alumni Relations	Riverside

STUDENTS

Name	Organization	Position	Location
Hayley Weddle	UCSD/Board of Regents	Student Regent	San Diego
Aidan Arasasingham	Assoc Students UCLA	Undergrad Rep.	Los Angeles
Neda Ashtari	UCLA	M.D. candidate	Los Angeles
Varsha Sarveshwar	UC Berkeley	President, UC Student Assoc.	San Jose
Michael Brennen	UCSC	Undergrad	Santa Cruz
Yoni Dukler	UCLA	PhD candidate	Los Angeles
Johnny Nguyen	UC Berkeley	Undergrad	
Nikhil Penugonda	UC San Diego	Undergrad	San Diego
Caitlin N. Suire	UC Irvine	PhD candidate	Irvine

Regents Policy XXXX: Policy on Innovation Transfer & Entrepreneurship

POLICY SUMMARY/BACKGROUND

This policy is in response to the findings and recommendations formed by the Regents Working Group on Innovation Transfer and Entrepreneurship from December 2019 to April 2021.

The purpose of this policy is to ensure that the University's innovation transfer and entrepreneurship programs – at both the campus and systemwide levels – achieve the following objectives:

- Promote the translation of UC's discoveries into useful products, services, and innovations that not only provide value to individuals and society, but also endeavor to uplift the human condition;

- Inspire the passion of our faculty and student inventors, as well as provide the problem-solving and collaborative support necessary to translate those ideas into real-world solutions having societal benefit; and

- Pursue fair value for our intellectual property so UC can continue to grow its excellence in scholarship, research, and global impact.

POLICY TEXT

A. Governance

The responsibility, authority, and accountability for innovation transfer and entrepreneurship shall reside generally with the campuses. Those campuses with defined strategies, as well as adequate programmatic infrastructure and internal controls, will have the authority and flexibility necessary to execute its charge.

The Office of the President shall continue to play an important role in facilitating the success of UC's innovation transfer enterprise by supporting and facilitating the execution of campus-based strategies and solutions. Its highest and best value comes in leveraging the power and potential of its ten campuses and to perform services no one campus can cost-effectively do on its own, as well as coordinating or addressing multi-campus needs.

B. Funding

The University shall endeavor to provide or raise funds to provide seed capital for early stage development and nascent innovations that have market potential to help the University meets its mission, as identified above.

C. Policy

The University shall periodically review, update and modernize those policies which are core to governing its innovation transfer and entrepreneurship enterprise, as necessary, but no less than every five years.

D. Culture / Reputation

With input from both internal and external stakeholders, the University shall take actions to create an environment encouraging and valuing translational research, innovation, and entrepreneurship on par with other UC enterprises and fields of scholarship and research.

E. Innovation Management System

The University shall endeavor to operate and maintain a state-of-the-art Innovation Management System to handle the IT infrastructure needs of its innovation transfer enterprise, including, at a minimum:

- Marketing and business development;
- Patent Prosecution;
- Intellectual property tracking and management;
- Accounting, billing, and revenue distribution; and
- Stakeholder and client relationship management

F. Performance Metrics

The University shall develop goals and measure innovation transfer and entrepreneurship activities with respect to the following: public impact; short and long-term financial returns; customer satisfaction; impact on students; and the participation of women, person with disabilities, and other historically marginalized groups.

REPORTING

The Office of the President shall provide an annual written report detailing progress, successes, failures, and barriers to implementation for each of the areas under Policy Text.

RELATED DOCUMENTS

Report of the Regents Working Group on Innovation Transfer and Entrepreneurship

Addition shown by underscoring

Bylaw 23. Officers of the Corporation

23.5 Authority and Duties of Principal Officers.

* * * * * * *

(d) Chief Investment Officer

The Chief Investment Officer serves as the chief University official having charge of all investment matters pertaining to the Corporation and University. The Chief Investment Officer provides advice and counsel to the Regents, to Board leadership and to University leadership regarding investment policy and performance and has direct access to the Board. The Chief Investment Officer oversees the acquisition, management and disposition of all assets held for investment purposes, as directed by Regents Policy, the Board and/or the President of the University, and acts as the custodian of all investment assets belonging to University; however, the Chief Investment Officer and the President will each have authority over the acquisition, management and disposition of all equity received by University campuses pursuant to licensing, incubator/accelerator activities and other commercial arrangements. Subject to the administrative oversight of the President of the University, the Chief Investment Officer provides investment services to the University and oversees all investment managers retained by the University to deliver such services. The Chief Investment Officer reports to the Board and to the President of the University. The Chief Investment Officer is expected to report to the Board any significant concerns regarding the Office of the President that could result in substantial financial, reputational or other harm to the University. With regard to audits and investigations of the Office of the President, the Chief Investment Officer reports solely and exclusively to the Board.

Charter of the Special Committee on
Innovation Transfer and Entrepreneurship

A. Purpose / Oversight Responsibilities

The charge of the Special Committee on Innovation Transfer and Entrepreneurship is as follows:

1. Oversight of the successful implementation of the proposals detailed in the May 2021 report of the Regents Working Group on Innovation Transfer and Entrepreneurship.

2. The exploration and development of additional solutions serving to further optimize the manner in which the University of California promotes innovation transfer and entrepreneurship, and translates its discoveries into practical products, services, and innovations having societal impact. These include, but are not limited to:
   i. Improving the manner in which UC protects its intellectual property rights, including contract enforcement.
   ii. Promoting the more inclusive participation of students in translational research, innovation, and entrepreneurship.

B. Duration

The Special Committee on Innovation Transfer and Entrepreneurship shall be established for two years, effective upon approval by the Regents.

C. Membership / Appointment / Term

The Special Committee shall be comprised of no fewer than five Regents and a quorum of the committee shall be a majority of voting members. The Special Committee may include non-voting advisory members, including Chancellors and/or UC-affiliated and external individuals.

Appointments will be made by the Chair of the Board for one-year terms. The initial appointments will be made in consultation with the Chair and Vice Chair of the Regents Working Group on Innovation Transfer and Entrepreneurship established in 2019.

D. Expert Advisors

As necessary to conduct its business, the Special Committee shall have the authority to retain ad-hoc advisors with expertise relevant to the work of the Committee. Appointments will be made by the Chair of the Special Committee.

Any advisors not otherwise subject to University policy, shall be subject to the laws and policies applicable to Regents governing reimbursement of expenses, and shall be subject to conflict of interest disclosure and recusal obligations as specified in the University's Conflict of Interest Code and other applicable policies.

D. Reporting

The Special Committee shall report at least annually to the Board on progress.

Regents Working Group on Innovation Transfer and Entrepreneurialism
UC Berkeley
January 27, 2020
3:00 to 5:00pm

I.   Greeting and Introductions   5 mins   Rich

II. Previous Business   10 mins   Rich
     A. Mission & Objectives
     B. Working Group Name
     C. "The Acid Test" (i.e., areas where we will be developing progress metrics and will serve
        as a mission accomplished checklist)
     D. Non-Regental Members
     E. Advisory Panels
        1. Potential investors, licensees, and corporate partners
        2. Faculty and Researchers (in particular, current or former UC faculty members or
           researchers who have commercialized an invention within UC's tech transfer
           ecosystem)
        3. Leaders of campus incubators/accelerators and tech transfer & commercialization
           offices
        4. Campuses that historically have had difficulty drawing VC and other investor
           participation
        5. Alumni / University Advancement (thanks to Will Um)
        6. Youth / Students (thanks to Michael Kahn)
        7. Health Advisors (thanks to Lark Park)

III. 3- phase work plan, schedule, other housekeeping   5 mins   Collin
     A. Start-up and Primers* (January through March 2020)
     B. Fact-finding* (February through December 2020)
     C. Design and Build (January 2021 through April 2021)
     D. Scheduling
     E. Central Repository

IV. Milken Institute 2017 Report   60 mins   Minoli Ratnatunga

V.   New Business / Action Items   30-45 mins   Rich
     A. Identifying best-in-class research institutions
     B. Appointment of leads for each of the advisory panels
     C. Open Discussion

*These will intentionally overlap.

Regents Working Group on Innovation Transfer and Entrepreneurship
UCLA – Luskin Center (Catalyst Room)
February 24, 2020
9:30 am to 1:00 pm

AGENDA

I.	**Greeting and Introductions**	5 mins (9:30 – 9:35)	Rich
II.	**Panel 1 – Primer on the components comprising UCOP's tech transfer enterprise**		
		60 mins (9:35 – 10:35)	Victoria Slivkoff Janna Tom
III.	**Working Group Discussion**	20 mins (10:35 – 10:55)	Michael Josh Joseph
IV.	**Panel 2 – Innovation & Tech Transfer @ UCLA**	60 mins (11:00 – noon)	Amir Naiberg Angi Kujak Dina Lozofsky Tim Grauerholz Mark Wisniewski Tom Lipkin Brian Roe

15 MINUTE BREAK, FOLLOWED BY A WORKING LUNCH.

V.	**Working Group Discussion**	20 mins (12:15 – 12:35)	Michael Josh Joseph
VI.	**Action Items**	25 mins (12:35 -1:00)	Rich

    A. Which universities do we want to study?
    B. Advisory Panels
        1. Potential investors, licensees, and corporate partners *{Walker / Green}*
        2. Faculty and Researchers (in particular, current or former UC faculty members or researchers who have commercialized an invention within UC's tech transfer ecosystem) *{Khosla / Block}*
        3. Leaders of campus incubators/accelerators and tech transfer & commercialization offices *{Green / Block / Khosla}*
        4. Campuses that historically have had difficulty drawing VC and other investor participation *{Will}*
        5. Alumni / University Advancement *{Will}*
        6. Youth / Students   *{Michael}*
        7. Health *{Lark / Michael}*

*An **optional** guided tour of UCLA's California NanoSystems Institute will take place between 1:15 pm and 2:15 pm. For more information, here is a link to CNSI's website: https://cnsi.ucla.edu/about-us/what-is-cnsi/*

Regents Working Group on Innovation Transfer & Entrepreneurship
Zoom Teleconference Meeting
https://UCOP.zoom.us/j/5109879493?pwd=bXEySUV0aGNRL3RUV0VpdDVRbWNTdz09
April 30, 2020
10:00 am to 2:30 pm

AGENDA

I.	**Greeting and Introductions**	5 mins (10:00 – 10:05)	Rich	

II.   **Panel 1 – Which Policies/Guidelines Promote (or hinder) Tech Transfer Productivity From a Campus Perspective**   75 mins (10:05 – 11:20)

    Paul Roben (lead)
    Carol Mimura
    Amir Naiberg
    Barry Selick
    Rodolfo Torres

III.   **Panel 2 – Which Policies/Guidelines Promote (or hinder) Tech Transfer Productivity From UCOP's Perspective**   60 mins (11:20 – 12:20)
(lead)

    Theresa Maldonado

    Janna Tom
    Victoria Slivkoff
    Nima Katz

10 MINUTE BREAK, FOLLOWED BY A WORKING LUNCH.

IV.   **Working Group Discussion**
(closed session / working lunch)   30 mins (12:30 – 1:00)   Michael
Josh
Joseph

V.   **Panel 3 – Tech Transfer at UCSF**   60 mins (1:00 – 2:00)   Barry Selick (lead)
Anthony Francis
Peter Kotsonis

VI.   **Action Items** (closed session)   30 mins (2:00 – 2:30)   Rich
    A. Discussion
    B. Tenth Working Group member
    C. Status of Advisory Panels
        1. Potential investors, licensees, and corporate partners *{Walker / Green}*
        2. Faculty and Researchers (in particular, current or former UC faculty members or researchers who have commercialized an invention within UC's tech transfer ecosystem) *{Khosla / Block}*
        3. Leaders of campus incubators/accelerators and tech transfer & commercialization offices *{Green / Block / Khosla}*
        4. Campuses that historically have had difficulty drawing VC and other investor participation *{Will}*
        5. Alumni / University Advancement *{Will}*
        6. Youth / Students *{Michael}*
        7. Health *{Lark / Michael}*

Regents Working Group on Innovation Transfer & Entrepreneurship
Zoom Teleconference Meeting
https://UCOP.zoom.us/j/5109879493?pwd=bXEySUV0aGNRL3RUV0VpdDVRbWNTdz09
May 14, 2020
10:00 am to 5:15 pm

AGENDA

I.	**Greeting and Introductions**	5 mins (10:00 – 10:05)	Rich

II.   **Panel 1 – From the Office of the President: What Works, What Doesn't and The Future of UC Tech Transfer**   30 mins (10:05 – 10:35)   Michael Brown / Theresa Maldonado

Focus: From the top of UC'S tech transfer food chain, thoughts on what works and what doesn't, and the future of tech commercialization and entrepreneurship at UC. They've also been asked to comment on the following:

1. *What is the best and most valuable role that UCOP can play in UC's tech transfer enterprise? In a "Hamilton vs. Jefferson" debate over the merits of a centralized versus a local control governing approach to tech transfer, what are UCOP's perspectives?*
2. *What do you hope to accomplish in the next year? 3 years? 5? How will you reorganize and re-tool UCOP's tech transfer structure to achieve these goals?*

III.   **Panel 2 – Best Practices and Productivity Metrics at Top Performing Tech Transfer Universities**   60 mins (10:35 – 11:35)   Kathy Ku

Focus: From the architect of Stanford's tech transfer eco-system and currently Wilson-Sonsini's chief licensing advisor, an exploration of the best practices employed by the nation's top-performing tech transfer universities, as well how we should measure productivity and success.

10 MINUTE BREAK, FOLLOWED BY A 30 MINUTE WORKING LUNCH

IV.   **Working Group Discussion / Working Lunch** (closed session)   30 mins (11:45 – 12:15)   Michael / Josh / Joseph

V.   **Panel 3 – Vulnerabilities in UC's Licensing Agreements**   60 mins (12:15 – 1:15)   Rita Hao (lead) / Greg Call

Focus: This session probes the vulnerabilities in UC's licensing agreements and – more importantly – what we can do to eliminate or better manage them to protect UC from both industry abuse and leaving money on the table.

VI.   **Panel 4 – UC's Equity Policy & Approaches – Challenges & Opportunities**   75 mins (1:15 – 2:30)   Barry Selick (lead) / Nima Katz / Larry Adkison

Carol Mimura
Alan Mendelson
Brook Byers

Focus: Three perspectives (i.e., UCOP, campuses, and private sector venture capitalists) on UC's approach to taking and managing equity. A dive into what works, what doesn't and – importantly – what can be done better. These are some of the questions they may address:

- *UC's equity policy was first adopted in 1996. Given the rapid evolution of technology, industry, and university tech transfer approaches, which provisions in this policy still make sense today? Which serve only to impair UC's ability put together the best partnership agreements and optimize UC's financial return?*
- *Which is a better approach toward to managing UC's equity portfolio: passive/formulaic or active? Should it continue to be done at the Office of the Chief Investment Officer, by the campuses, or elsewhere?*
- *Do we have a strong, coherent strategy for exercising our co-investment rights?*
- *Do we have strong, effective data tools and procedures to oversee our tech transfer portfolio of equity holdings? If we don't have a sightline, how do we exercise fiduciary care over our portfolio and ensure that there are not lost opportunities?*

15 MINUTE BREAK

VII.	**Working Group Discussion** (closed session)	30 mins (2:45 – 3:15)	Michael Josh Joe

VIII.	**Panel 5 – The Needs of UC's Mid-Sized and Smaller Campuses**	45 mins (3:15 – 4:00)	Andrea Pesce (lead) Chris Medina Prasant Mohapatra Joe Incandela

Focus: This session explores the needs of UC's mid-sized and smaller campuses. They've been asked to comment on these questions:

1. *What is the highest, best value that UCOP can bring to UC's tech transfer enterprise, generally, and to your campus, specifically?*
2. *What policies and guidelines promote entrepreneurship and commercialization productivity? Which ones only serve as wet blankets?*
3. *What improved support, resources, and infrastructure must be deployed to optimize tech transfer and entrepreneurship at your campus?*

IX.	**Panel 6 – Tech Transfer at UCSD**	45 mins (4:00 – 4:45)	Paul Roben (lead) Bill Decker

Focus: Continuing our commitment to listen to and learn from each of UC's campuses, this session seeks input from UCSD, which the Milken Institute's 2017 index of the nation's top-performing tech transfer universities ranked as #20. They've been asked to comment on these questions:

1. *What practices or methods have proven successful at UCSD? Could/should they be replicated at other campuses or scaled systemwide?*

2. *What is the highest and best value UCOP can bring to UC's tech transfer enterprise, generally, and to UCSD, specifically?*
3. *Are there mistakes UCSD has made in the evolution of its tech transfer enterprise that could serve as "lessons learned" for the Working Group?*
4. *Conversely, what are UCSD's biggest wins and what were the "lessons learned"?*
5. *What policies, practices, infrastructure support, cultural moorings, technology, funding streams promote tech transfer productivity at UC. Which ones only serve as a wet blanket?*

X.	**Working Group Discussion** 30 mins (4:45 – 5:15)	Michael
	(closed session)	Josh
		Joe

THREE ZOOM RULES

(1) *BE ON TIME. We have a tightly-scripted schedule. Once we slip, we'll have to cut off presenters, truncate our discussion time, or cause a cascading effect of delaying every subsequent presentation.*

(2) *MUTE YOUR MICROPHONE UNLESS YOU ARE SPEAKING. Ambient noise (e.g., keyboard typing, rustling papers, dogs barking, etc.) can be distracting.*

(3) *DON'T TALK OVER EACH OTHER. Raise your hand and wait to be recognized by the Chair.*

Regents Working Group on Innovation Transfer & Entrepreneurship
Zoom Teleconference Meeting
https://UCOP.zoom.us/j/5109879493?pwd=WXJSLzkzWEp5QkpMSUNyaVJPSld1dz09
June 18, 2020
10:00 am to 2:30 pm

AGENDA

I.	**Greeting and Introductions**	5 mins (10:00 – 10:05)		Rich

II.	**Panel 1 – UC's Patent Tracking System**	100 mins (10:05 – 11:45)	

Overview - UCOP (10:05 – 10:25)	Theresa Maldonado (lead) Angelita Varela Sajeel Malani
Campus Perspective (10:25 – 10:40)	Sherylle Mills-Englander (lead) Ragan Robertson Bill Decker Paul Roben
Local Solutions (10:40– 10:55)	Bill Decker Ragan Robertson
Advice on next steps (10:55 – 11:15)	Savita Farooqui Rosio Alvarez
Q&A (11:15– 11:45)	All

10 MINUTE BREAK, FOLLOWED BY A WORKING LUNCH.

III.	**Working Group Discussion** (closed session / working lunch)	30 mins (11:55 – 12:25)		Michael Josh Joseph

IV.	**Panel 2 – Conflict of Interest / Commitment Policy**	60 mins (12:25 – 1:25)

Intro and panel overview (12:25 – 12:35)	Carol Mimura (lead)
UC's COI Policies (12:35 – 12:45)	Mark Morodomi Ellen Auriti
UCSF's experience & the need for reform (12:45 – 12:55)	Barry Selick

UCSD's experience & recommendations (12:55 – 1:05)	Paul Roben
Cal's experience & recommendations (1:05 – 1:15)	Carol Mimura
Q&A (1:15– 1:25)	All

Conflict of Interest
1. Disclosure of Financial Interests and Management of Conflicts of Interest in Private Sponsors of Research
2. Guidelines for Disclosure and Review of Financial Interest in Private Sponsors of Research (APM-028)
3. Disclosure of Financial Interests and Management of Conflicts of Interest, National Science Foundation Awards
4. Disclosure of Financial Interests and Management of Conflicts of Interest, Public Health Service Research Awards
5. Compendium Of Conflict Of Interest And Integrity Policies – Guidance (formerly BFB G-39)
6. UCSF's Guidelines on Conflict of Interest

Conflict of Commitment
1. Conflict of Commitment and Outside Activities of Faculty Members (APM-025)
2. Conflict of Commitment and Outside Activities of Health Sciences Compensation Plan Participants (APM-671)

V.   **Panel 3 – Tech Transfer at UC Davis**   45 mins (1:25 – 2:10)   Prasant
Mohapatra (lead)

                                                                                          Bill Tucker

Focus: Continuing our commitment to listen to and learn from each of UC's campuses, this session seeks input from UC Davis. They've been asked to comment on these questions:

1. *What practices or methods have proven successful at UC Davis? Could/should they be replicated at other campuses or scaled systemwide?*
2. *What is the highest and best value UCOP can bring to UC's tech transfer enterprise, generally, and to UC Davis, specifically?*
3. *Are there mistakes UC Davis has made in the evolution of its tech transfer enterprise that could serve as "lessons learned" for the Working Group?*
4. *Conversely, what are UC Davis's biggest wins and what were the "lessons learned"?*
5. *What policies, practices, infrastructure support, cultural moorings, technology, funding streams promote tech transfer productivity at UC. Which ones only serve as a wet blanket?*

VI.   **Working Group Discussion**   20 mins (2:10 – 2:30)   Michael
      (closed session)   Josh
                                                                                 Joseph

Regents Working Group on Innovation Transfer & Entrepreneurship
Zoom Teleconference Meeting
https://UCOP.zoom.us/j/5109879493?pwd=WXJSLzkzWEp5QkpMSUNyaVJPSld1dz09
July 23, 2020
10:00 am to 3:15 pm

AGENDA

I.	**Greeting and Introductions** (closed session)	5 mins (10:00 – 10:05)	Rich

SIX PERSPECTIVES ON WHAT IS COMMERICIALIZABLE AND HOW DO WE ENGAGE INDUSTRY TO BE OUR PARTNERS?
One of the more vexing "Rubik's cubes" that must be successfully addressed in our efforts to optimize the manner in which UC moves discoveries from the laboratory to the marketplace is how do we determine what is commercializable?

Controlling 10,543 active patents and – on average – creating five new inventions per day, UC is one of the world's most prolific centers of ingenuity. The large majority of those discoveries will never be ready for prime time, others will bring far more value to scientific and academic advancement (think Nobel Prize) than have commercial viability, and a few have commercial potential. Can we and – if so – how do we determine which is which? Is it even possible or is the inherent nature of this ecosystem a game of chance? Even if that is the case, how can we maximize the chances for successful commercialization?

Of equal importance, once we have identified a discovery that is worth commercializing, what role, if any, should UC play in industry engagement and marketing? How are those efforts going on the campus level? What can UC and the campuses do to be a more appealing partner to licensees, investors, and private industry?

II.	**Session 1**	30 mins (10:05 – 10:35)	Barry Eggers
III.	**Session 2**	30 mins (10:35 – 11:05)	Bill Perry
IV.	**Session 3**	30 mins (11:05 – 11:35)	Bill Mitchell
V.	Session 4	30 mins (11:35– 12:05)	Kathy Ku

10 MINUTE BREAK, FOLLOWED BY A WORKING LUNCH.

VI.	**Working Group Discussion** (closed session / working lunch)	30 mins (12:15 – 12:45)	Working Group Members Only
VII.	**Session 5**	30 mins (12:45 – 1:15)	Jim Demetriades

VIII.   **Session 6**   30 mins (1:15 – 1:45)   Brook Byers

IX.   **Session 7 – Tech Transfer at UC Riverside**   45 mins (1:45 – 2:30)   Rodolfo Torres (lead)
                                                                                        Rosibel Ochoa

Focus: Continuing our commitment to listen to and learn from each of UC's campuses, this session seeks input from UC Riverside. They've been asked to comment on these questions:

1. *What practices or methods have proven successful at UC Riverside? Could/should they be replicated at other campuses or scaled systemwide?*
2. *What is the highest and best value UCOP can bring to UC's tech transfer enterprise, generally, and to UC Riverside, specifically?*
3. *Are there mistakes UC Riverside has made in the evolution of its tech transfer enterprise that could serve as "lessons learned" for the Working Group?*
4. *Conversely, what are UC Riverside's biggest wins and what were the "lessons learned"?*
5. *What policies, practices, infrastructure support, cultural moorings, technology, funding streams promote tech transfer productivity at UC. Which ones only serve as a wet blanket?*

X.   **Working Group Discussion**   35 mins (2:30 – 3:15)   Working Group
       (closed session)   Members Only

   A. What did we learn today about determining what is commercializeable   Josh, Joe, Sue (leads)
       and better tactics for industry engagement?

   B. Amending our original work plan   Rich & Collin
           1. Subgroup A – Modernize UC's equity policy and licensing guidelines (Josh and Joe)
           2. Subgroup B – Develop best practices guidelines for enforcement of COI (Mike)
           3. Subgroup C – Set UC on course to replace its Patent Tracking System (Lark & Sue)
                   a. What campus level data does UCOP need to fulfill its oversight and reporting duties?
                   b. Prepare and make the case to system leadership to allocate staff and budgetary resources for the purpose of completing the foundational work necessary to replace PTS. This includes:
                           i.   The feasibility of building a new PTS for those campuses which cannot or do not want to pursue a local solution, but that includes an integrated platform (i.e., data warehouse approach) for those campuses which cannot wait.
                           ii. Business process and work flow redesign

THREE ZOOM RULES

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(2) MUTE YOUR MICROPHONE UNLESS YOU ARE SPEAKING. Ambient noise (e.g., keyboard typing, rustling papers, dogs barking, etc.) can be distracting.

(3) DON'T TALK OVER EACH OTHER. Raise your hand and wait to be recognized by the Chair.

Regents Working Group on Innovation Transfer & Entrepreneurship

Zoom Teleconference Meeting

https://UCOP.zoom.us/j/5109879493?pwd=WXJSLzkzWEp5QkpMSUNyaVJPSld1dz09

August 25, 2020

10:00 am to 5:45 pm

AGENDA

I.   **Greeting and Introductions**   5 mins (10:00 – 10:05)   Rich
(closed session)

II.   **Panel # 1 - Innovation and Technology (I&E) in Promotion and Tenure (P&T) Decisions**
                                     90 mins (10:05 – 11:35)   Rich Carter
                                                                Karl Mundorff

Guests: Mary Gauvain, Janna Tom, Victoria Slivkoff
Advisors: Carol Mimura, Amir Naiberg, Andrea Pesce, Paul Roben, Barry Selick, Richard Sudek, Arie Belldegrun, Jeff Bluestone, Sujit Dey, Jennifer Doudna, David Haussler, David Horsley, Michael Jung, Kelsey Martin

FOCUS: In 2019, Oregon State University (under the leadership of Rich Carter and Karl Mundorff) received an NSF grant to develop best practices, metrics for evaluation, change management strategies, and road maps for individual universities to augment their respective promotion & tenure guidelines to support faculty innovation & entrepreneurship activities. While not constituting a formal endorsement, there are currently more than 60 universities that are members of a national coalition supporting this project, including our very own UC Berkeley, UCLA, UC Riverside, UCSD, and UCSF.

This session will not only provide us with a status report of OSU's progress and an overview of their learnings to-date, but will begin a discussion about the pros, cons, impacts, and obstacles to including I&E in P&T decision making.

III.   **Panel # 2 – I&E in P&T – Early Adopters and Thought Leaders**
                                     60 mins (11:35 – 12:35)   Andrea Romero
                                                                Paola Sztajn
                                                                    Andrew Morriss

Guests: Mary Gauvain, Rich Carter, Karl Mundorff, Janna Tom, Victoria Slivkoff
Advisors: Carol Mimura, Amir Naiberg, Andrea Pesce, Paul Roben, Barry Selick, Richard Sudek, Arie Belldegrun, Jeff Bluestone, Sujit Dey, Jennifer Doudna, David Haussler, David Horsley, Michael Jung, Kelsey Martin

FOCUS: While none of these institutions claim they have reached the finish line (or are even close), the University of Arizona, North Carolina State University, and Texas A&M are widely acknowledged to be among the furthest along and the most progressive thinking in their pursuit of including innovation & entrepreneurship in promotion & tenure decision making.

During this session, leaders from these universities will share their insights, lessons learned, and/or advice on the following: (a) how and why they are pursuing formal adoption of I&E in P&T decision making, (b) the obstacles, as well as solutions deployed, (c) evaluation metrics used, (d) change management strategies utilized, and (e) impacts, to date, on tech transfer productivity and entrepreneurship.

10 MINUTE BREAK, FOLLOWED BY A WORKING LUNCH.

IV.	**Working Group Discussion** (closed session / working lunch)	30 mins (12:45 – 1:15)	Working Group Members Only

V.	**Panel #3 - Stanford**	120 mins (1:15 – 3:15)	Karin Immergluck Luis Mejia Sunita Rajdev

Guests: *Mary Gauvain*, Janna Tom, Victoria Slivkoff
Advisors: *Carol Mimura*, *Amir Naiberg*, *Andrea Pesce*, *Paul Roben,* *Barry Selick*, *Richard Sudek*

FOCUS: Today, we begin our engagement with some of the nation's top performing tech transfer universities with the objective of identifying best practices and reverse-engineering their successes to see what can be imported to UC's tech transfer eco-system.

15 MINUTE BREAK

VI.	**Panel #4 – Entrepreneurial Leave of Absence**	60 mins (3:30 – 4:30)	Susan Carlson Kimberly Grant Karin Immergluck

Guests: *Mary Gauvain*, Janna Tom, Victoria Slivkoff
Advisors: *Carol Mimura*, *Amir Naiberg*, *Andrea Pesce*, *Paul Roben,* *Barry Selick*, *Richard Sudek*, *Arie Belldegrun, Jeff Bluestone*, *Sujit Dey, Jennifer Doudna, David Haussler*, *David Horsley, Michael Jung, Kelsey Martin*

FOCUS: Several top-performing tech transfer universities offer their faculty inventors the opportunity to take a leave of absence to pursue a spin-off to develop and commercialize their inventions. There are claims this approach sends a clarion message that faculty entrepreneurship is highly valued and has also been used as a recruitment and retention tool for the caliber of faculty coveted.

This session will feature Stanford, a university that currently offers its faculty an "entrepreneurial leave of absence" and UCOP leaders who will summarize the existing types of leave currently available to UC faculty. It will be followed by an open roundtable discussion about the merits of this approach with our guests and advisors.

VII.	**Panel #5 – Tech Transfer at UC Berkeley**	45 mins (4:30 – 5:15)	Richard Lyons Carol Mimura

Focus: Continuing our commitment to listen to and learn from each of UC's campuses, this session seeks input from UC Berkeley. They've been asked to comment on these questions:

1. *What practices or methods have proven successful at Cal? Could/should they be replicated at other campuses or scaled systemwide?*
2. *What is the highest and best value UCOP can bring to UC's tech transfer enterprise, generally, and to Cal, specifically?*
3. *Are there mistakes Cal has made in the evolution of its tech transfer enterprise that could serve as "lessons learned" for the Working Group?*
4. *Conversely, what are Cal biggest wins and what were the "lessons learned"?*

5.   *What policies, practices, infrastructure support, cultural moorings, technology, funding streams promote tech transfer productivity at UC. Which ones only serve as a wet blanket?*

VIII.   **Working Group Discussion**   30 mins (5:15 – 5:45)   Working Group
          (closed session)   Members Only

   A.   Discussion of today's topics   All

   B.   SubGroup Status   Rich & Collin
        1.   Subgroup A – Modernize UC's equity, patent, and other core governing policies (Josh and Joe)
        2.   Subgroup B – Develop best practices guidelines for enforcement of COI (Mike)
        3.   Subgroup C – Set UC on course to replace its Patent Tracking System (Lark, Sue, Rich)
        4.   Subgroup D – Industry Engagement / UC Branding (?)
             a.   Building management teams to support faculty inventors
             b.   Curation and showcase events (think JP Morgan's annual global healthcare conference)
             c.   Recognition / Awards at the President and Regents levels.

THREE ZOOM RULES

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(3) DON'T TALK OVER EACH OTHER. Raise your hand and wait to be recognized by the Chair.

Regents Working Group on Innovation Transfer & Entrepreneurship
Zoom Teleconference Meeting
https://UCOP.zoom.us/j/5109879493?pwd=WXJSLzkzWEp5QkpMSUNyaVJPSld1dz09
September 29, 2020
10:00 am to 3:15 pm (PST)

AGENDA

I.	**Greeting and Introductions** (closed session)	5 mins (10:00 – 10:05)	Rich
II.	**Session 1 – University of Texas System**	120 mins (10:05 – 12:05)	Sheila Kadura (lead) Teri Schultz Christine Dixon-Thiesing Mitch Jacobson Les Nichols Ferran Prat Fernando Gonzalez Claire Aldridge Julie Goonewardene Dan Sharphorn

Guests: Mary Gauvain, Theresa Maldonado
Advisors: Carol Mimura, Amir Naiberg, Richard Sudek, Bill Tucker

10 MINUTE BREAK, FOLLOWED BY A WORKING LUNCH.

III.	**Working Group Discussion** (closed session / working lunch)	30 mins (12:15 – 12:45)	Working Group Members Only
IV.	**Session 2 – Student Inventors and Entrepreneurs**	90 mins (12:45 – 2:00)	Jamaal (moderator) Aidan Arasasingham Neda Ashtari Michael Brennen Yoni Dukler Chris Medina Johnny Nguyen Nikhil Penugonda Caitlin N. Suire Hayley Weddle

Advisors: Carol Mimura, Amir Naiberg, Paul Roben, Richard Sudek, Bill Tucker

Focus: A roundtable discussion with members of our Student Advisory Panel. Topics to be covered include:

1. *How do we optimize our brand and appeal to make UC the destination university for those seeking careers in innovation, entrepreneurship, and applied research?*
2. *For those seeking careers in innovation, entrepreneurship, and applied research, are our current course offerings, degrees, pipelines to private industry (i.e., internships), and extracurricular programs sufficient? If not already, how do we make them world-class?*
3. *By way of coaching, funding, support infrastructure, culture, and hands-on opportunities, do you feel UC values and promotes innovation, entrepreneurship, and applied research? What our strengths? Weaknesses?*
4. *Do you feel there are barriers that block or disincentivize women and persons of color from pursuing careers in this arena? If so, how can we do better?*

V.   **Session 3 – Tech Transfer at UCSB**   45 mins (2:00 – 2:45)   Sherylle Mills Englander

Focus: Continuing our commitment to listen to and learn from each of UC's campuses, this session seeks input from UCSB. They've been asked to comment on these questions:

1. *What practices or methods have proven successful at UCSB? Could/should they be replicated at other campuses or scaled systemwide?*
2. *What is the highest and best value UCOP can bring to UC's tech transfer enterprise, generally, and to UCSB, specifically?*
3. *Are there mistakes UCSB has made in the evolution of its tech transfer enterprise that could serve as "lessons learned" for the Working Group?*
4. *Conversely, what are UCSB's biggest wins and what were the "lessons learned"?*
5. *What policies, practices, infrastructure support, cultural moorings, technology, funding streams promote tech transfer productivity at UC. Which ones only serve as a wet blanket?*

VI.   **Working Group Discussion**   30 mins (2:45 – 3:15)   Working Group
          (closed session)   Members Only

     A. Discussion of today's topics   All

     B. SubGroup Reports   Rich & Collin
          1. Subgroup A – Modernize UC's equity, patent, and other core governing policies (Josh and Joe)
          2. Subgroup B – Develop best practices guidelines for enforcement of COI (Mike)
          3. Subgroup C – Set UC on course to replace its Patent Tracking System (Lark, Sue, Rich)
          4. Subgroup D – Industry Engagement / UC Branding (?)
               a. Building management teams to support faculty inventors
               b. Curation and showcase events (think JP Morgan's annual global healthcare conference)
               c. Recognition / Awards at the President and Regents levels.

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Regents Working Group on Innovation Transfer & Entrepreneurship
Zoom Teleconference Meeting
https://ucop.zoom.us/j/5109879493?pwd=WXJSLzkzWEp5QkpMSUNyaVJPSld1dz09
October 28, 2020
10:00 am to 3:15 pm

AGENDA

I.	**Greeting and Introductions** (closed session)	5 mins (10:00 – 10:05)	Rich
II.	**Session 1 – Carnegie Mellon University**	120 mins (10:05 – 12:05)	Robert Woolridge

Advisors: Sherylle Mills Englander, Carol Mimura, Rosibel Ochoa, Andrea Pesce, Paul Roben, Richard Sudek

10 MINUTE BREAK, FOLLOWED BY A WORKING LUNCH.

III.	**Working Group Discussion** (closed session / working lunch)	30 mins (12:15 – 12:45)	Working Group Members Only

IV.   **Session 2 – Creating Synergies Between Alumni Advancement and Innovation & Entrepreneurship**

60 mins (12:45 – 1:45)	Will (Moderator)
	Jorge Ancona
	Rachel Barley
	Cheryl Harrelson
	Brian Hervey
	Paul Prokap
	Leo Spiegel

Advisors: Sherylle Mills Englander, Carol Mimura, Rosibel Ochoa, Andrea Pesce, Paul Roben, Richard Sudek

Focus: A roundtable discussion with members of our University Advancement (Alumni Affairs) Advisory Panel. Topics to be covered include:

1. *Do you have a relationship with your campus's office responsible for advancing innovation, entrepreneurship and technology commercialization (can also be known as "Innovation and Commercialization" or "Technology Transfer" or "Technology Licensing" or "Industry Alliances")?*
2. *How do we build better bridges between university advancement and research & innovation to create synergies aimed at enlisting UC graduates who have gone on to have successful careers as entrepreneurs, inventors, and captains of industry to return to UC as investors, mentors, coaches, "entrepreneurs-in-residence," and CEOs of UC start-ups?*
3. *How can UC better brand itself to alumni as not just a great public research university, but one that is equally successful at translating great ideas into new products, services, and innovations that have societal benefit?*
4. *Are there UC policies, funding gaps, bureaucratic requirements, cultural moorings, and/or practices that make it more difficult for you to have a strong working relationship with your colleagues in research & innovation? More difficult for you to persuade alumni to return in the capacities outlined above in question #2?*

5. *It is said that alumni are often asked for their "time, talent, and treasures." Can there be tension when one campus office wants an alum's time and talent, while another campus program seeks her/his treasure?*

V.   **Session 3 – Tech Transfer at UC Merced**   45 mins (1:45– 2:30)   Luanna Putney
                                                                                                         Marjorie Zats

Focus: Continuing our commitment to listen to and learn from each of UC's campuses, this session seeks input from UC Merced. They've been asked to comment on these questions:

1. *What practices or methods have proven successful at UC Merced? Could/should they be replicated at other campuses or scaled systemwide?*
2. *What is the highest and best value UCOP can bring to UC's tech transfer enterprise, generally, and to UC Merced, specifically?*
3. *Are there mistakes UC Merced has made in the evolution of its tech transfer enterprise that could serve as "lessons learned" for the Working Group?*
4. *Conversely, what are UC Merced's biggest wins and what were the "lessons learned"?*
5. *What policies, practices, infrastructure support, cultural moorings, technology, funding streams promote tech transfer productivity at UC. Which ones only serve as a wet blanket?*

VI.   **Working Group Discussion**   45 mins (2:30 – 3:15)   Working Group
             (closed session)   Members Only

A. Discussion of today's topics   All

B. SubGroup Status   `   Rich & Collin
    1. Subgroup A – Modernize UC's equity, patent, and other core governing policies (Josh and Joe)
    2. Subgroup B – Develop best practices guidelines for enforcement of COI (Mike)
    3. Subgroup C – Set UC on course to replace its Patent Tracking System (Lark, Sue, Rich)
    4. Subgroup D – Industry Engagement / UC Branding (Will, Jamaal)
        a. Building management teams to support faculty inventors
        b. Curation and showcase events (think JP Morgan's annual global healthcare conference)
        c. Recognition / Awards at the President and Regents levels.

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Zoom Teleconference Meeting
https://UCOP.zoom.us/j/5109879493?pwd=WXJSLzkzWEp5QkpMSUNyaVJPSld1dz09
October 29, 2020
10:00 am to 3:30 pm

AGENDA

I.	**Greeting and Introductions** (closed session)	5 mins (10:00 – 10:05)	Rich

II.	**Session 1 – Columbia University**	120 mins (10:05 – 12:05)	Orin Herskowitz

Advisors: Sherylle Mills Englander, Carol Mimura, Rosibel Ochoa, Andrea Pesce, Paul Roben, Richard Sudek

10 MINUTE BREAK, FOLLOWED BY A WORKING LUNCH.

III.	**Working Group Discussion** (closed session / working lunch)	30 mins (12:15 – 12:45)	Working Group Members Only

IV.	**Session 2 – UC's Vision of Investing In Innovation / Bow Capital**		
		60 mins (12:45 – 1:45)	Jagdeep Bachher Vivek Ranadive

Advisors: Sherylle Mills Englander, Carol Mimura, Rosibel Ochoa, Andrea Pesce, Paul Roben, Richard Sudek

Focus: A discussion with UC's Chief Investment Officer and the Managing Director of Bow Capital. Click here to learn more about Bow Capital and the UC Board of Regent's 2014 plan to invest in innovation emerging from our system.

V.	**Session 3 – Campus-Facing Venture Funds**	60 mins (1:45– 2:45)	Doug Crawford Mike Benvenuti David Schwab Laura Smoliar

Advisors: Sherylle Mills Englander, Carol Mimura, Rosibel Ochoa, Andrea Pesce, Paul Roben, Richard Sudek

Focus: This session features the managing directors of four campus-facing venture funds, including Mission Bay Capital (UCSF), Vertical Venture Partners (UCSD), Berkeley Catalyst Fund (CAL), and the Cove Fund II (UCI). These venture funds help provide critical funding and guidance to entrepreneurial faculty and researchers seeking to launch start-ups, as well as for promising new innovations emerging from our campuses. Each has a different investment thesis, approach, sources of deal flow, and ties to UC (both formal and informal), but all provide value to UC. We'll explore the following questions:

(1) How do you determine what is commercializable? Controlling 10,543 active patents and – on average – creating five new inventions per day, UC is one of the world's most prolific centers of ingenuity. The large majority of those discoveries will never be ready for prime time, others will bring far more value to scientific and academic

advancement (think Nobel Prize) than have commercial viability, and a few have commercial potential. How do you determine which is which? Is it even possible or is the inherent nature of this ecosystem a game of chance? Even if that is the case, how do you maximize the chances for successful commercialization?

(2) *Each of your respective funds has played and is continuing to play a significant role in funding tech transfer and entrepreneurship activity at one or more UC campuses. What can UC do to help attract such funds or help you round up more capital for more UC deals? What is UC doing or not doing that serves as a wet blanket? How do we fix it?*

(3) *Have you done any work with Bow Capital? Tell us about it. To date, UC has capitalized that fund with $250 million in pension and endowment funds. If the bottom-line goal is ROI, is Bow's approach the optimal one? If the goal is to invest in UC's commercialization and entrepreneurship ecosystem, is Bow's approach working? How can we do better?*

| VI. | **Working Group Discussion** (closed session) | 45 mins (2:45 – 3:30) | Working Group Members Only |

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Regents Working Group on Innovation Transfer & Entrepreneurship
Zoom Teleconference Meeting
https://UCOP.zoom.us/j/5109879493?pwd=WXJSLzkzWEp5QkpMSUNyaVJPSld1dz09
November 13, 2020
10:00 am to 3:35 pm

AGENDA

I.	**Greeting and Introductions** (closed session)	5 mins (10:00 – 10:05)	Rich

II.	**Session 1 – MIT**	120 mins (10:05 – 12:05)	Lesley Millar-Nicholson

Advisors: Sherylle Mills Englander, Carol Mimura, Barry Selick, Richard Sudek

30 MINUTE BREAK, FOLLOWED BY A WORKING LUNCH.

III.	**Working Group Discussion** (closed session / working lunch)	30 mins (12:35 – 1:05)	Working Group Members Only

IV.	**Session 2 – Campus Approaches to Traversing the Valleys of Death**		
		60 mins (1:05 – 2:05)	Richard Sudek Russell Carrington Tom Lipkin Andrea Pesce Paul Roben Rhonda Shrader

Advisors: Sherylle Mills Englander, Carol Mimura, Amir Naiberg, Barry Selick, Richard Sudek

Focus: The "Valleys of Death" is a metaphor for the gaps in funding that often exist on the journey between academic-based discovery (i.e., basic research) and their commercial application in the marketplace.   Within these valleys, funding is often extremely difficult to acquire because (a) the technology may not yet be proven, (b) the concept may not yet have been translated into a clear commercializable product, (c) there may not be a prototype, and (d) there may not be an identified consumer need or market (aka "a solution searching for a problem"). Potential investors and licensees are leery to put up capital because risks are high that (a), (b), (c) and (d) may never be realized. This panel discusses the many different approaches campuses take toward traversing these Valleys of Death so great ideas do not die on the vine and makes recommendations on how the Regents and UCOP can support their efforts.

V.	**Session 3 – Tech Transfer at UC Santa Cruz**	45 mins (2:05– 2:50)	Andrea Pesce

Focus: Continuing our commitment to listen to and learn from each of UC's campuses, this session seeks input from UC Santa Cruz. They've been asked to comment on these questions:

1. *What practices or methods have proven successful at UC Santa Cruz? Could/should they be replicated at other campuses or scaled systemwide?*
2. *What is the highest and best value UCOP can bring to UC's tech transfer enterprise, generally, and to UC Santa Cruz, specifically?*
3. *Are there mistakes UC Santa Cruz has made in the evolution of its tech transfer enterprise that could serve as "lessons learned" for the Working Group?*
4. *Conversely, what are UC Santa Cruz's biggest wins and what were the "lessons learned"?*
5. *What policies, practices, infrastructure support, cultural moorings, technology, funding streams promote tech transfer productivity at UC. Which ones only serve as a wet blanket?*

VI.	**Working Group Discussion** (closed session)	45 mins (2:50 – 3:35)	Working Group Members Only
	Discussion of today's topics		All

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Regents Working Group on Innovation Transfer & Entrepreneurship
Zoom Teleconference Meeting
https://UCOP.zoom.us/j/5109879493?pwd=WXJSLzkzWEp5QkpMSUNyaVJPSld1dz09
December 3, 2020
10:00 am to 3:35 pm

AGENDA

I. **Greeting and Introductions**   5 mins (10:00 – 10:05)   Rich
(closed session)

II. **Session 1 – Roundtable with our Faculty and Health Advisors**

75 mins (10:05 – 11:20)   Arie Belldegrun
Jeffrey Bluestone
Sujit Dey
Ed Green
Amy Herr
David Haussler
David Horsley
Michael Jung
Jay Keasling
David Mills
Holger Schmidt
Greta Schnetzler
Xiaoxi Wei

Focus: We've heard from Columbia, MIT, and many of our nation's top tech transfer universities about the importance of treating our faculty inventors and entrepreneurs as our #1 constituency. Embracing that advice, this session is devoted to listening and learning from our Faculty and Health advisors regarding the following:

1. *As a faculty inventor/entrepreneur, do you feel your translational/applied research and efforts to commercialize your innovations are viewed as on par with other fields of research and scholastic activity? What can UC do to send a clarion message that innovation and entrepreneurship is valued?*
2. *Does UC's tech transfer ecosystem provide its faculty inventors and entrepreneurs with adequate support (i.e., funding, coaching & guidance, opportunities for industry engagement, facilities, executive management talent, etc). How can it do better?*
3. *Just as UC is known for being our nation's premiere public research university, we would also like it to be known as THE destination institution for faculty and researchers who want to engage in applied research, commercialization, and entrepreneurship. How do we burnish our brand and reputation in this area?*
4. *For the Innovation Group to succeed at its mission, what is the one reform or change it must embrace? What is the one thing that is currently working well and should* be *preserved?*

III. **Session 2 – Let's Hear from our Campus TTO Leaders**

75 mins (11:20 – 12:35)   Sherylle Mills Englander
Carol Mimura
Amir Naiberg
Andrea Pesce
Deborah Motton
Rosibel Ochoa

Paul Roben
Rodolfo Torres
Barry Selick
Richard Sudek
Bill Tucker

Focus: I can't think of a better and more deserving group to have the last word before the Working Group rolls up its sleeves and begins its deliberations. These ten, individually and collectively, have spent many hours helping the Working Group identify core issues, understand the intricacies of UC's complex (and sometimes byzantine) tech transfer ecosystem, and appreciate the many fiscal, political, and operational dynamics that promote -- as well as hinder – productivity and success. Importantly, at the end of the day, they will be responsible for implementing many of the solutions emerging from our endeavor.

*Today, they answer one simple question: "What are your **top two** ideas, reforms, or pearls of advice that you want the Working Group to adopt in its final product?"*

30 MINUTE BREAK, FOLLOWED BY A WORKING LUNCH.

IV.	**Working Group Discussion** (closed session / working lunch)	30 mins (1:05 – 1:35)	Working Group Members Only
V.	**Session 3 – Tech Transfer at UC Irvine**	45 mins (1:35– 2:20)	Richard Sudek Kate Klimow Carolyn Stephens Matt Hanson David Tiemeier David Gibbons Luis Vazquez

Focus: Continuing our commitment to listen to and learn from each of UC's campuses, this session seeks input from UC Irvine. They've been asked to comment on these questions:

1. *What practices or methods have proven successful at UC Irvine? Could/should they be replicated at other campuses or scaled systemwide?*
2. *What is the highest and best value UCOP can bring to UC's tech transfer enterprise, generally, and to UC Irvine, specifically?*
3. *Are there mistakes UC Irvine has made in the evolution of its tech transfer enterprise that could serve as "lessons learned" for the Working Group?*
4. *Conversely, what are UC Irvine biggest wins and what were the "lessons learned"?*
5. *What policies, practices, infrastructure support, cultural moorings, technology, funding streams promote tech transfer productivity at UC. Which ones only serve as a wet blanket?*

Below are background material about UCI Beall Applied Innovation (http://innovation.uci.edu/):

- 2020 UCI Community Impact Report
- UCI Beall Applied Innovation's Grand Opening video can be viewed here (Please note that the perspective is of the video running on our 134 foot *Hiperwall*, which uses UCI IP, in our main event space.)
- Select digital issues of our award winning magazine, *Rising Tide:* Rising Tide, November 2020; Rising Tide, July 2020 ; Rising Tide, March 2020 ; Rising Tide, January 2020
- Custom video for our annual Innovation Awards: https://youtu.be/xY-dgxJptDQ

- Custom video celebrating Women's History Month featuring three innovative women who, in three different areas of entrepreneurship, have thought outside the box to pave new roads for women investors and those in science, technology, engineering and math fields. http://innovation.uci.edu/2020/03/special-feature-three-brilliant-uci-women-share-insights-for-womens-history-month/
- Wayfinder incubator team success story, in video format: Waterborne Surfboards
- Organization Chart for the Beall Applied Innovation team

VI.	**Working Group Discussion** (closed session)	75 mins (2:20 – 3:35)	Working Group Members Only
	A. Discussion of today's topics		All
	B. Discussion re: the upcoming Solution-Building Phase		All

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Research Policy Analysis and Coordination

Mission: Serve the #1 research enterprise in U.S. by developing innovative policy, guidance & implementation strategies for campuses & other stakeholders.

Approaches:

Policy Development and Guidance

- Develop policies to facilitate research and foster compliance with ethical, legal, and regulatory standards
- Provide clear guidance to implement UC policies and external rules/regulations

Systemwide Coordination and Support

- Coordinate to share expertise, problem solve, and build consensus
- Negotiate systemwide master / template agreements
- Provide expert support, strategic solutions, and training

Represent/Inform UC's Interests with External Policy-making Constituents

- Participate in state, national, international research policy debates
- Advocate for UC's interests with federal & state agencies, and higher ed and non-profit associations
- Comment on proposed legislation and regulations

See most recent RPAC Hot Topics Newsletter for examples.

Key Topics

- Animal Research
- Cannabis Research
- Clinical Trials
- Conflict of Interest
- Data Rights
- Export Control Regulations
- Federally-Funded Research
- Foreign Influence
- Gifts v. Grant Classification
- Human Subject Research
- Industry Sponsored Research
- Indirect Cost Policy
- Intellectual Property (patents, ©)

- Emerging Issues in Research

- Legislation and Regulations
- Material Transfer Agreements
- NAGPRA
- Nat'l Laboratory/Campus Awards
- Non-profit Sponsored Research
- Publication Restriction
- State Sponsored Research, inc CIRM
- Tax-Exempt Bonds re: IP
- UCOP C&G Operations

Constituents

- C&G Directors/staff
- TT Directors/staff
- Cannabis Workgroup
- COI Coordinators
- IRB Directors
- IRB Reliance Coordinators
- IACUC Directors
- Attending Vets
- Knowledge Transfer Advisory Committee (KTAC)
- Clinical Trial Negotiators
- MTA Negotiators
- Industry Contract Negotiators
- Non-profit Negotiators
- International Researchers/Administrators
- NAGPRA

Challenges

- Understaffing
- Insufficient resources
  - Staff development
  - Cross-training
  - Travel
  - More campus training
  - Maintain level of campus service while addressing urgent issues

Opportunities

- Improve knowledge base for effective and efficient negotiations at the local level
- Home grow research administration workforce

Knowledge Transfer Office

Mission: Advance University research discoveries for economic development and the public benefit by providing infrastructure and support for operational functions and systemwide reporting

Primary Functions

- **Support Campus Licensing Operations**

  - Executive accounting functions: accounts receivable, re-billing, and payable; collections; calculations and distribution of income to inventors and joint holders (9 campuses)

  - Patent prosecution and compliance support and oversight (4 campuses)

  - Systemwide agreements reporting; sponsor obligations

  - Approve acceptance of equity and facilitate share acceptance (5 campuses) and under the AFS Guidelines (all campuses)

- **Management of Systemwide Technology Transfer Database**

  - System design and administration, including user training and support

  - Database administration including data quality and completeness

  - Manage law firm e-billing onboarding and ongoing support

- **Systemwide Reporting**

  - Systemwide reports to Regents, Institutional Research and Planning, Association of University Technology Managers, and other entities

  - Track and report on start-up companies founded on UC licensed technologies

- **UCOP Licensing**

Distribution of Some Functions between Campuses and KTO

Campus	Business Systems[a] Partition	Patent Prosecution				Financial Services				Equity Management	
		ROI Set Up	Coord Outside Atty	CPI Annuity Paymts	Fed Rptg & Compliance	Accts Payable	Accts Recv'ble	Collections	Royalty Calc	Approval to Accept Equity	Coord'n & Mgmt
B	UCB					x	x	x	x		x
D	OTT	x	x	x	x	x	x	x	x	x	x
I	OTT	x	x	x	x	x	x	x	x	x	x
LA	OTT					x	x	x	x		x
M	OTT	x	x	x	x	x	x	x	x	x	x
R	OTT			x[b]	x[c]	x	x	x	x		x
SD	UCSD								x[d]		x
SF	UCSF					x	x	x	x		x
SB	OTT					x	x	x	x	x	x
SC	OTT	x	x	x	x	x	x	x	x	x	x
LLNL[e]	OTT					x[e]	x[e]	x[e]	x[e]		

a - KTO provides full support of PTS and related websites to all campuses and OP departments
b - KTO manages the CPI annuity review for all cases
c - KTO still manages cases for FY18 and earlier and annuity payments
d - KTO processes Inventor Share payments, statements and letters, and VA Calculations and Reporting
e - only for old agreements and associated cases still managed by KTO (circa 1980's)

Challenges:

- Subjected to multiple restructurings and organizational disruptions
- Severely under-resourced:
  -- Short-staffed, including Exec Dir vacancy (total 40% vacancy)
  -- Budget resources for new business system, systemwide tools and staff development

Opportunities:

- Improve business processes and policies
- Modernize technology systems and support
- Strengthen organizational stability and integration within UCOP Research and Innovation

Innovation & Entrepreneurship ('I&E')

Mission

The Innovation & Entrepreneurship department works to increase UC's innovation capabilities, to promote economic growth and public benefit and to create new opportunities for the UC community.

It supports campus & lab I&E programs and forges alliances with the government, private and philanthropic sectors

Leverages the scale and diversity of UC's ten campuses and three affiliated national labs to build a vibrant and innovative entrepreneurial culture across the system.

➤ *I&E Unit Strategic Review – July 1, 2020*

➤ *Objectives and Key Results (OKRs)*

I&E Ecosystems Across UC: A comprehensive presentation deck of the I&E ecosystems across all 10 campuses, 3 affiliated labs and ANR

I&E Staffing Level: 4 FTEs and 1 TOPS

Core Functions *(prioritized based on feedback from campuses & labs)*

- **Systemwide Coordination:** Enhance coordination across campuses and labs to share and leverage best practices and opportunities.
- **Funding**: Increase funding sources to support campus and lab I&E activities (proof-of-concept grant, state funding (e.g. Moonshot Proposal), introduction to VCs, foundations and corporations).
- **Corporate Engagement:** Introduce new industry connections to campuses and labs to facilitate strategic partnerships, investments and mentorship.
- **Branding UC:** Elevate the UC brand as a leading university system for innovation and entrepreneurship through coordinated messaging.
- **Entrepreneur Engagement:** Facilitate cross-campus engagement of UC entrepreneurs.
- **I&E Ecosystem Mapping:** Online mapping of campus and lab I&E ecosystems to create easier pathways for internal and external partner engagements.

Services to Industry

- I&E serves as a conduit to help industry navigate the vast UC I&E ecosystems to facilitating industry-UC collaborations in bringing research and innovations to the marketplace to solve real world problems.
- This is particularly useful for external partners not currently connected with a specific UC campus or those who seek a multi-campus partnership (e.g. Blackstone LaunchPad student entrepreneur program).

Services to the State

- UC I&E activities as an important engine for innovation and growth - creating new industries and economic prosperity for CA
- A 'go to' brain trust that acts in the interest for the state and its constituents
- Create new knowledge and innovations to enhance the lives of Californians
- Proven experience in achieving multiplier effect on state funding - 14x return on investment on state's investment in UC's I&E infrastructure (via AB 2664)

Services to Campuses, Labs, and the System

Increase systemwide coordination and capabilities to

- enhance infrastructures, policies, and resources to support systemwide I&E activities
- facilitate cross campus strategic programs and initiatives
- facilitate external partnership engagements and funding opportunities
- share best practices and learnings
- elevate the visibility of UC's I&E activities to internal and external constituents

Internal & External Groups I&E Supports/Convenes

- *Internal:* Knowledge Transfer Advisory Committee (KTAC) and its 4 workgroups, Regents Innovation Workgroup, 4 Institutes for Science & Innovation (ISIs), President's Innovation Council, Systemwide I&E Leadership & Staff Community (e.g. 60 incubators, accelerators, and dozens of I&E programs)
- *External*: Corporate innovation and venturing community (e.g. Global Corporate Venturing), venture capital investor community, NGOs (e.g. Bay Area Council, BASIC), UC alumni entrepreneur community

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