

SPOTLIGHT ON CALIFORNIA

California Love: Why the West is best for start-ups

California is a hub of start-up activity, where industry, government and academia do what they can to help life scientists turn their research into a business.

“Risk-taking and being a pioneer is part of our DNA.”

Gail Maderis, president and CEO, BayBio

There’s something special about California. From San Diego to the Bay Area, the United States’ third largest and most populous state is a melting pot for the bright, innovative and gutsy. The Golden State “creates success,” says Teri Melese, assistant vice chancellor of Industry Research Alliances at the University of California, San Diego (UCSD). “It has an incredible collaborative culture that crosses boundaries.” Entrepreneurs, venture capitalists (VCs) and researchers across academia and beyond cooperate to construct new sectors and revolutionize existing ones.

Chuck Eesley, assistant professor of management

science and engineering in the Stanford Technology Ventures Program, surveyed 140,000 Stanford alumni to determine their economic impact: almost 40,000 firms can trace their roots to Stanford and if these companies formed a country, its estimated economy would be the world’s tenth largest. Those companies have created an estimated 5.4 million jobs and generate annual global revenues of US\$2.7 trillion. There are 18,000 start-ups calling California home, generating US\$1.2 trillion per year in sales and representing three million jobs. And that’s just Stanford.

“There is a huge entrepreneurial spirit here,” says Una Ryan, a biologist, angel investor and founder of the Bay Area BioEconomy Initiative. California is a hub of start-up activity, buoyed by strong academic research, access to varied sources of capital and a skilled workforce, notes Gail Maderis, president and CEO of BayBio, the Bay Area’s biotech cluster organisation. “Risk-taking and being a pioneer is part of our DNA.”

Doing business in California gives access to a community attuned to entrepreneurial success and keen to promote innovation. When it comes to infrastructure, California has it all: incubators (both real and virtual), accelerators, wet lab space, and anything else needed to realize a dream. “It’s a huge differentiator for us to be in California,” says Norman Winarsky, vice president of ventures at SRI

International, a non-profit that launched 68 years ago originally as a part of Stanford University, with a mission to commercialize innovations made by academic and government labs. “The ecosystem is entirely intact, from universities and research labs, venture capitalists, an unparalleled entrepreneurial community to legislative and financial structures,” adds Winarsky.

Academic institutions play a critical role. “Universities are very friendly to entrepreneurs,” says Ryan. “There has always been a huge relationship between Californian universities, government and industry.” Private and public universities and some colleges invest heavily in entrepreneurship education, with a resulting “state of the art” experience for eager innovators, says Stephanie Marrus, director of the University of California, San Francisco (UCSF) Entrepreneurship Center.

Getting off the ground

Scientists and clinicians launching enterprises have specific needs at different stages and universities are committed to providing help through the process. The UCSF Entrepreneurship Center provides access to expertise through a number of courses, one of which uses the Lean Launchpad framework, now adopted by the National Science Foundation and National Institutes of Health (NSF and NIH) under a programme called Innovation Corps (I-Corps).



It is designed to teach scientists with promising research projects in US university laboratories how to turn their insights into commercial applications and become successful start-ups, says Steve Blank, a tech entrepreneur, and the originator of the Lean Launchpad method. “I-Corps trains scientists for business by teaching them a process that gets them back to the roots of Silicon Valley. It embraces what engineers and scientists already know how to do: experimentation, learning and discovery.”

Programmes like this give scientists an insight into how the business world thinks, which is a “novel experience” for them, says Marrus. “We have a number of vehicles to help them explore and connect with the entrepreneurial ecosystems that are essential to creating a successful venture,” Marrus adds. These programmes include an entrepreneurs club, a speaker series and networking receptions with high-profile Silicon Valley experts, collaborative events with the University of California, Berkeley and Stanford, and other opportunities that engage the community of VCs, entrepreneurs, consultants, professional service firms, business executives and early career technical experts.

Strategic partnerships with industry help oil the entrepreneurial engine. “We work with companies to craft novel business frameworks”



San Francisco, hub of the Bay Area, where entrepreneurial spirit runs high and opportunities abound.

that bring value to all involved, says Melese. Aiming to progress early-stage assets and reduce their risk before commercialization, she and her team in the Innovation, Technology and Alliances Division of UCSD explore alliances with established industry collaborators to move academic inventions into the marketplace quickly. The bottom line is “universities and industry see value in working together,” she says.

Policies that encourage performance

California has specific state policies conducive to entrepreneurial growth. “It’s most important that a state doesn’t put

friction in the entrepreneurial system,” says Winarsky. California, unlike some states, does not enforce “Non-Compete Agreements”, even if a professional is required to sign one for employment. This is good news for entrepreneurs, adds Eesley, because “non-Competes are detrimental to scientists,” he says. “You can’t execute on your start-up idea if you are in a state that does enforce these.”

Academic institutions have enacted generous policies to help entrepreneurship. The University of California (UC) System has been accepting equity in companies in exchange for licensing intellectual property rights for many years, says Jane

Moore, assistant vice chancellor, Technology Transfer at UCSD. Recently it made changes to its policy to allow acceptance of equity in exchange for services, such as providing incubation space. And in September, UC announced the launch of UC Ventures, an independent fund to make investments in UC research projects, with an initial commitment of up to US\$250 million for all projects.

California’s golden touch

While a sensible state level regulatory framework is important, says Eesley, the informal culture of the Bay Area has made it a breeding ground for strong companies. The



Portrait of an entrepreneur - Andrew Lee

Andrew Lee came to Stanford to become a researcher and to improve patients’ lives. He enrolled in the MD/PhD programme, but soon identified a stumbling block. “As a student, you don’t realize that the discoveries you make at the lab bench are not going to make an impact without commercialization,” he says. “It’s the companies that make the impact.” So, after finishing his PhD in 2013, Lee took a leave of absence from his MD and co-launched Stem Cell Theranostics, a company dedicated to revolutionizing the drug discovery process through the use of patient-specific induced pluripotent stem cells.

Lee approached StartX, a non-profit start-up accelerator supported by Stanford University, to get his firm off the ground and, through that process, saw another entrepreneurial opportunity. “StartX, at the time, was very tech-focused,” and it wasn’t meeting the specific needs of companies in the life sciences sector he says. “You may need 10-15 years or more before you have your first user and you can’t work out of a dorm room.” So Lee co-launched

StartX Med, catering to the particular needs of young biotech enterprises.

For StartX Med he organized building construction and equipment contributions to provide wet lab space and recruited industrial partners such as Merck, Johnson & Johnson and Roche to provide financial support and additional lab space for new companies in the accelerator. He also orchestrated a deal with Stanford Hospital, allowing StartX Med companies to instantly obtain user feedback from clinicians. “With our partners, we can think strategically about building and launching medical companies,” he says. “This is important – how do you turn that *Nature* paper into a product that can help patients? Most students are not trained in this.”

Since 2012, 45 companies have gone through the programme and have raised more than \$170 million in funding. The hands-on experience is priceless, he says, noting that he still volunteers for StartX Med while he works at his own company. “I’m translating my seven years work directly to impacting patients,” he says. “Although I never thought I’d do anything in business it validates my MD/PhD.”

Californian attitude has made the west coast a premier location for launching enterprises. With innovators launching company after company, “there’s no stigma attached to failure,” says Moores. “Serial entrepreneurs are valued so much. You can always try again.” Unlike other places, Winarsky says, in California, if your company sinks, “your reputation doesn’t take a nosedive with it.”

California’s emphasis on community building combined with a “pay it forward” attitude helps access to resources. “The majority of the support you get here is from the culture,” says Andrew Lee, a Stanford MD/PhD student who took a leave of absence to launch his own

biotech company and a new life sciences-focused accelerator at the school, (**see Portrait of an entrepreneur**). The culture of engagement is a cycle that feeds into itself, says Eesley. “People are eager to help the next generation of entrepreneurs,” he says. “It’s easy to get high-level VCs and entrepreneurs to mentor my students.” This information-sharing is vital to a start-up’s success, agrees Ryan. “The community supports a company all the way from idea [to market] and beyond. It’s much more than money.”

Within this environment, diverse opportunities exist for researchers who want a career that blends science and business.

Beyond working for a start-up or launching your own; tech transfer offices, accelerators and incubators all need scientists who want to move knowledge into the marketplace. SRI International, which has helped create 70 companies in the last 17 years, hires many scientists who “have skills at the intersection of technology and entrepreneurship,” says Winarsky. These scientists and technologists need to know the business requirements of commercializing innovations.

It is an exciting time to be in entrepreneurship, says Marrus, especially in the life sciences. “We can change the course of human healthcare. It’s a much harder road than doing

a technology start-up, but if we succeed we’re going to make a difference in the world.”

And whether it is high-tech in the Bay Area or biotech in San Diego, “the entrepreneurial clusters in California are areas of hope,” says Blank. “There’s a high concentration of people with great imagination who can make it happen because everything’s here. It’s why we have so many people here from other countries. It’s truly a mecca of self-expression, coupled with a huge pool of capital willing to bet on ideas that in other places would languish in labs.”

This content was commissioned and edited by the Naturejobs editor



Assistant Professor Department of Developmental Biology

Stanford University is seeking applicants for a tenure-track Assistant Professor position in the Department of Developmental Biology in the Beckman Center for Molecular and Genetic Medicine in the School of Medicine. This is a broad search, and the department is interested in applicants working in diverse fields. We view Developmental Biology in the broadest sense, encompassing Microbes to Humans and employing a wide-variety of molecular and genetic approaches as well as systems level biology, engineering, and computational science. For more information on our department and job search, see http://devbio.stanford.edu/about/faculty_position. The predominant criterion for appointment in the University Tenure Line is a major commitment to research and teaching. Applicants are expected to establish a vigorous and innovative research program studying fundamental biological processes in any experimental system. Responsibilities include teaching graduate students and research-oriented medical students.

Interested applicants should send a *curriculum vitae*, and a brief statement of research objectives in a single pdf file to: DevBioFacultySearch_2015@stanford.edu. In addition please arrange to have three letters of recommendation sent to this email as well. Consideration of application files will begin September 15, 2015.

Stanford University is an equal opportunity employer and is committed to increasing the diversity of its faculty. It welcomes nominations of and applications from women, members of minority groups, protected veterans and individuals with disabilities, as well as from others who would bring additional dimensions to the university’s research, teaching and clinical missions.

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FACULTY POSITION

Department of Medical Microbiology and Immunology
School of Medicine, University of California, Davis

The Department of Medical Microbiology and Immunology (MMI), School of Medicine, University of California-Davis is engaged in research investigations on human infectious diseases and host immune interactions with pathogens and commensal microbiota. The MMI department is seeking candidates for one full-time tenure-track academic position at the rank of Assistant or Associate Professor in the tenure track series. Successful candidates must have a Ph.D., and/or M.D. with postdoctoral experience and a record of research publications. Applicants must have active research programs involving human infectious diseases (emphasis on pathogens or resident microbiota or immunology or immunogenomics). Candidates are expected to establish and maintain a strong extramurally funded research program and to actively participate in the academic and service missions of the University. Candidates must possess excellent interpersonal and communication skills and demonstrated ability to work with others in a collegial team atmosphere. Laboratory and office space is available (including BSL2 and BSL3 laboratory space), with state-of-the-art facilities, instrumentation, and administrative support. The MMI research and teaching programs intersect with other campus-wide programs and resources in the Schools of Medicine and Veterinary Medicine and Agriculture and Environmental Sciences, Genome Center, MIND Institute, California National Primate Research Center, Center for Comparative Medicine and the Cancer Center. UC Davis is ranked 9th nationally among public universities in research funding. The University’s student population is approximately 32,000.

For applicants at the Associate Professor level, a strong track record of teaching at the graduate level, extramural funding and published research is required. For applicants at the Assistant Professor level, a strong record of research publications and potential for obtaining extramural funding are required.

For full consideration, applications should be received by August 31, 2015; however, the position will remain open until filled through June 30, 2016.

Qualified applicants should upload a cover letter, curriculum vitae, statement of research, and 3-5 letters of recommendation online at <https://recruit.ucdavis.edu/apply/JPF00599>.

The University of California, Davis is an Affirmative Action/Equal Opportunity Employer with a strong institutional commitment to the achievement of diversity.

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David Geffen School of Medicine

Chair, Department of Neurology

The University of California Los Angeles invites applicants for the position of Professor and Chair, Department of Neurology, David Geffen School of Medicine (DGSOM). Reporting to the Vice Chancellor for Health Sciences, the Chair will provide vision, leadership and strategic direction in meeting the educational, research, and clinical missions of the Department. Responsibilities include overall management, academic planning, budget, personnel, resource allocation and program development.

Candidates must have an outstanding record of leadership, research and clinical excellence, and a demonstrated commitment to education. Additional requirements include a proven track record of management in academics, national leadership in professional organizations, national recognition for scholarship, M.D. degree or equivalent, eligibility for California medical licensure, and documented experience and expertise in mentoring junior faculty.

The Department of Neurology at the DGSOM is relentless in its pursuit of innovation, strategic growth and success. Founded by Augustus S. Rose, M.D. in 1951, the department has grown to its current size with 106 faculty with primary appointments, 11 with secondary appointments, 5 active emeriti faculty, and 59 voluntary faculty throughout the local region. The department is integrated with seven affiliated hospitals including Harbor/UCLA Medical Center, Olive View/UCLA Medical Center, Cedars-Sinai Medical Center, the Greater Los Angeles Veterans Administration Medical Center, and Charles Drew University. These affiliations provide the ability to serve a diverse community throughout the region.

The department is organized into disease-specific and method-specific programs, including all of the major categories of neurological diseases. The department enjoyed a #1 ranking in NIH funding for nine consecutive years and currently is in the top five nationally. The faculty lead comprehensive clinical programs at the Ronald Reagan UCLA (RRUCLA) and Santa Monica UCLA Medical Centers. US News & World Report has recognized RRUCLA as Best in the West and one of the top five Best Hospitals in the nation, and it recognized UCLA in the top 10 for best adult neurology/neurosurgery care. The department has a strong tradition in the development of clinician-scientists and is home to 125 trainees. The Neurology residency training program is rated in the top 10 nationally and attracts applicants from the finest institutions in the nation. The faculty are educational leaders who chair many of the courses at national meetings and are the authors of many noted textbooks on subdisciplines in neurology.

Confidential review of applications, nominations and expressions of interest will begin immediately and continue until an appointment is made. Compensation for the position is highly competitive. All qualified candidates, including women and minorities, are encouraged to apply.

Electronic submission of materials is preferred. A letter of interest, curriculum vitae and the names of 3 references should be submitted online to: <https://recruit.apo.ucla.edu/apply/JPF00997>

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NW261444R



TENURE TRACK FACULTY POSITION DEPARTMENT OF PHYSIOLOGY AT UCLA (CARDIOVASCULAR SCIENCE)

Assistant or Associate Professor

The Department of Physiology in the David Geffen School of Medicine at UCLA invites applications for a tenure track faculty position, preferably at the level of Assistant or Associate Professor.

We are especially interested in candidates with a research focus combining hypothesis-driven and discovery-driven approaches to address cardiovascular physiology and/or pathophysiology. Candidates must have a Ph.D., M.D. or equivalent and are expected to have a strong background in molecular, cellular and/or systems biology including computational approaches and a demonstrated interest in addressing fundamental physiological questions.

The successful candidate will be expected to develop an independent, NIH-funded research program and to participate in the highly collaborative research programs in Physiology and the cardiovascular community at UCLA. S/he will also be a member of the UCLA Cardiovascular Research Laboratory and actively participate in the teaching mission of the Department of Physiology.

Interested candidates should apply on line at UC Recruit:
<https://recruit.apo.ucla.edu/apply/JPF01244>

Search Committee Chair
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TENURE TRACK FACULTY POSITION DEPARTMENT OF PHYSIOLOGY AT UCLA (Neuroscience)

Assistant or Associate Professor

The Department of Physiology in the David Geffen School of Medicine at UCLA invites applications for a tenure track faculty position, preferably at the level of Assistant or Associate Professor.

Candidates interested in any aspect of molecular, cellular, computational or systems neuroscience, including the use of nanotechnology, are encouraged to apply. The Department of Physiology at UCLA has a strong tradition of excellence in molecular biophysics, neuroscience, cardiovascular research, and structural biology in a highly collaborative environment. Candidates must have a Ph.D., M.D. or equivalent and are expected to have a strong track record of research achievements and a demonstrated interest in tackling outstanding biological problems using state-of-the-art approaches. The position comes with generous support, excellent start-up funds and outstanding shared resources at UCLA.

The successful candidate will be expected to develop an independently funded and collaborative research program, and actively participate in the teaching mission of the Department for medical, dental, and graduate students.

Interested candidates should apply on line at UC Recruit:
<https://recruit.apo.ucla.edu/apply/JPF01245>

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