Pop Quiz:
How many organizations at Berkeley support Innovation & Entrepreneurship (aka I&E)?

UC Berkeley

I&E Ecosystem

ACADEMIC PROGRAMS

Entrepreneurship @ BerkeleyHaas · CBE PDP · Berkeley Changemaker · Berkeley BIOENGINEERING · ROBINSON LIFE SCIENCE, BUSINESS, AND ENTREPRENEURSHIP PROGRAM · BERKELEY CENTER FOR GREEN CHEMISTRY · SCET · CITRIS AND THE BANATAO INSTITUTE · Fung Institute for Engineering Leadership, UC Berkeley Engineering · MTM Master of Translational Medicine, UC Berkeley - UC San Francisco · SkyDeck ACE Intern Program · Learn2Launch · SAIF · Garwood Center for Corporate Innovation · FUNG FELLOWSHIP · Berkeley Biology+Business, Molecular & Cell Biology | Haas School of Business · Berkeley M.E.T. Management, Entrepreneurship, & Technology · Berkeley Institute for Data Science · Berkeley Impact Venture Partners · AMENA CENTER for Entrepreneurship & Development · THE COLLIDER CUP

NEW PRODUCT R&D SUPPORT

Berkeley Research Infrastructure Commons · CalTestBed · BSAC · The Mechanical Engineering Student Access Machine Shop, UC Berkeley · SYNTHETIC BIOLOGY INSTITUTE · moffitt makerspace (3D printing, CAD station, button station) · riselab · HS Chau Women in Enterprising Science · Biomolecular Nanotechnology Center · TORY BURCH FELLOWSHIP · CITRIS INVENTION LAB · HealthTech CoLab · BERKELEY EMERYVILLE Bio · qb3 EAST BAY INNOVATION CENTER · qb3 GARAGE BERKELEY

PRODUCT/MARKET FIT SUPPORT

C2M Cleantech to Market · CORPS NSF Innovation Corps · LEAN TRANSFER COURSE

STARTUP SUPPORT

Berkeley SKYDECK · Health Engine · LAUNCH The University of California's Startup Accelerator · Berkeley PostX · THE HOUSE · cyclotronroad · berkeley startup cluster · EBI² Bakar BioEngineuity Hub · BIG IDEAS · FREE VENTURES · StEP · Berkeley Life Sciences Entrepreneurship Center · qb3 · BAKAR FELLOWS · Bakar Labs

FUNDING SUPPORT

BEE PARTNERS · ALSOP LOUIE PARTNERS · OSAGE UNIVERSITY PARTNERS · CORE SEED FUNDING · KAPOR CAPITAL · DBL PARTNERS · CONTRARY · NUCLEAR INNOVATION BOOTCAMP · VCIC Venture Capital Investment Competition · LSEC VENTURE GRANTS · Erupture · Berkeley-Haas Entrepreneurship Startup Seed Funding · The House Fund · I SCHOOL INNOVATORS · Berkeley Student Technology Fund · Haas Impact Fund · COURTYARD VENTURES · University Incubator, Empowering Student Entrepreneurs · Berkeley Angel Network · ROUGH DRAFT.VC · SBIR·STTR America's Seed Fund, powered by SBA · ORIGIN · better VENTURES · THE HOUSE FUND · DRF DormRoomFund · IRONFIRE VENTURES

SHARED RETURN FUNDS

BERKELEY SKYDECK FUND · Berkeley Catalyst Fund · BERKELEY FRONTIER FUND · CALIFORNIA FUND INNOVATION · BBV

LEGAL SUPPORT

Berkeley IPIRA Intellectual Property & Industry Research Alliances · New Business Community Law Clinic · OLLIE · startup@BerkeleyLaw University of California · SIAB

ENTREPRENEURSHIP & IP SUPPORT

Berkeley IPIRA Intellectual Property & Industry Research Alliances · IP Intellectual Property Office, Your Gateway to Berkeley Lab Technology · BERC · Women Entrepreneurs of berkeley · BEGIN Berkeley Gateway to Innovation

FastTracking Founders Competition

RECRUITING SUPPORT

UCB Startup Fair · CAREER CENTER · Handshake login

That's confusing

How do we make sense of all of this?

UC Berkeley

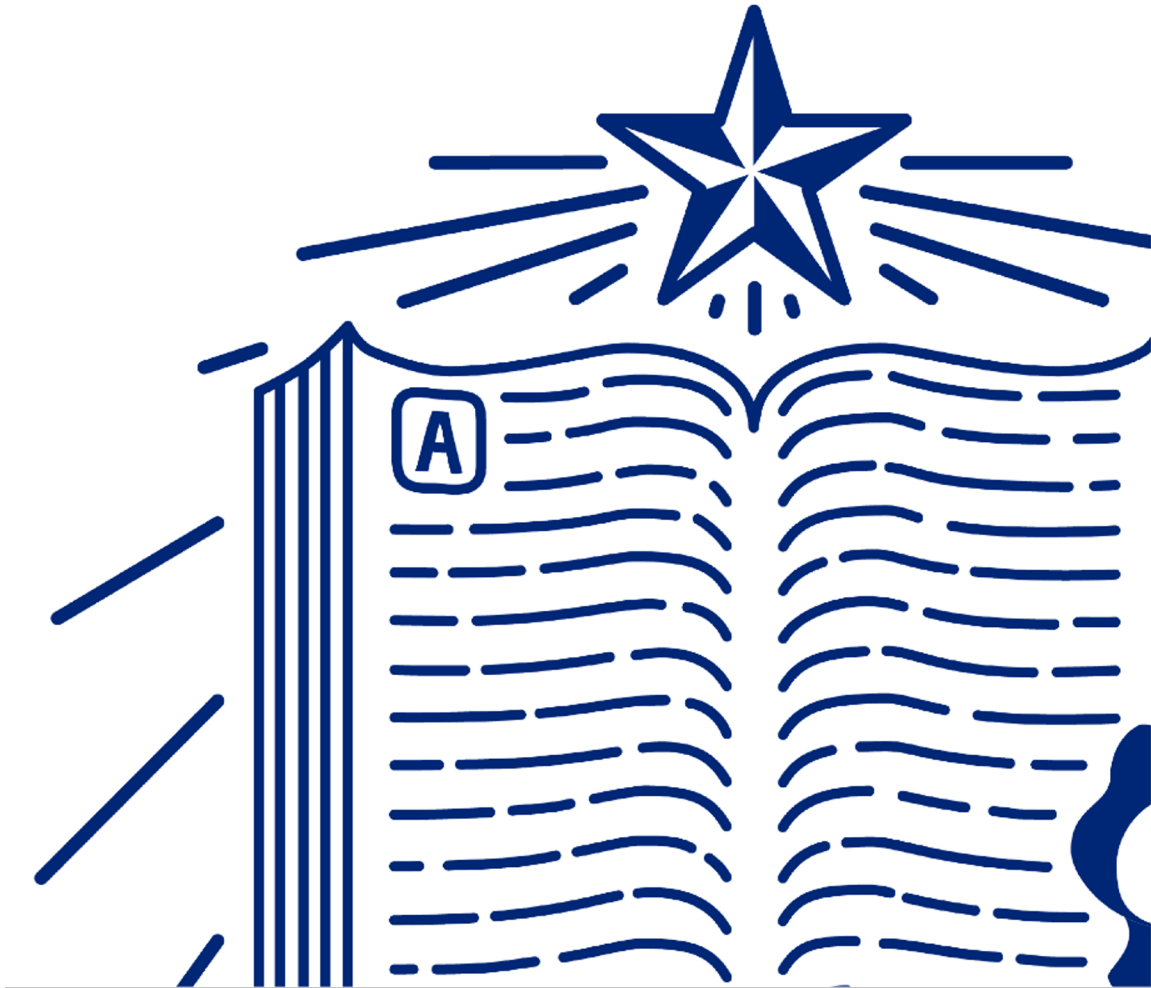
Office of the Vice Chancellor for Research

Entrepreneurship at UC Berkeley

Report Commissioned by VCR / EVCP Paul Alivisatos

From the Faculty Entrepreneurship Committee:

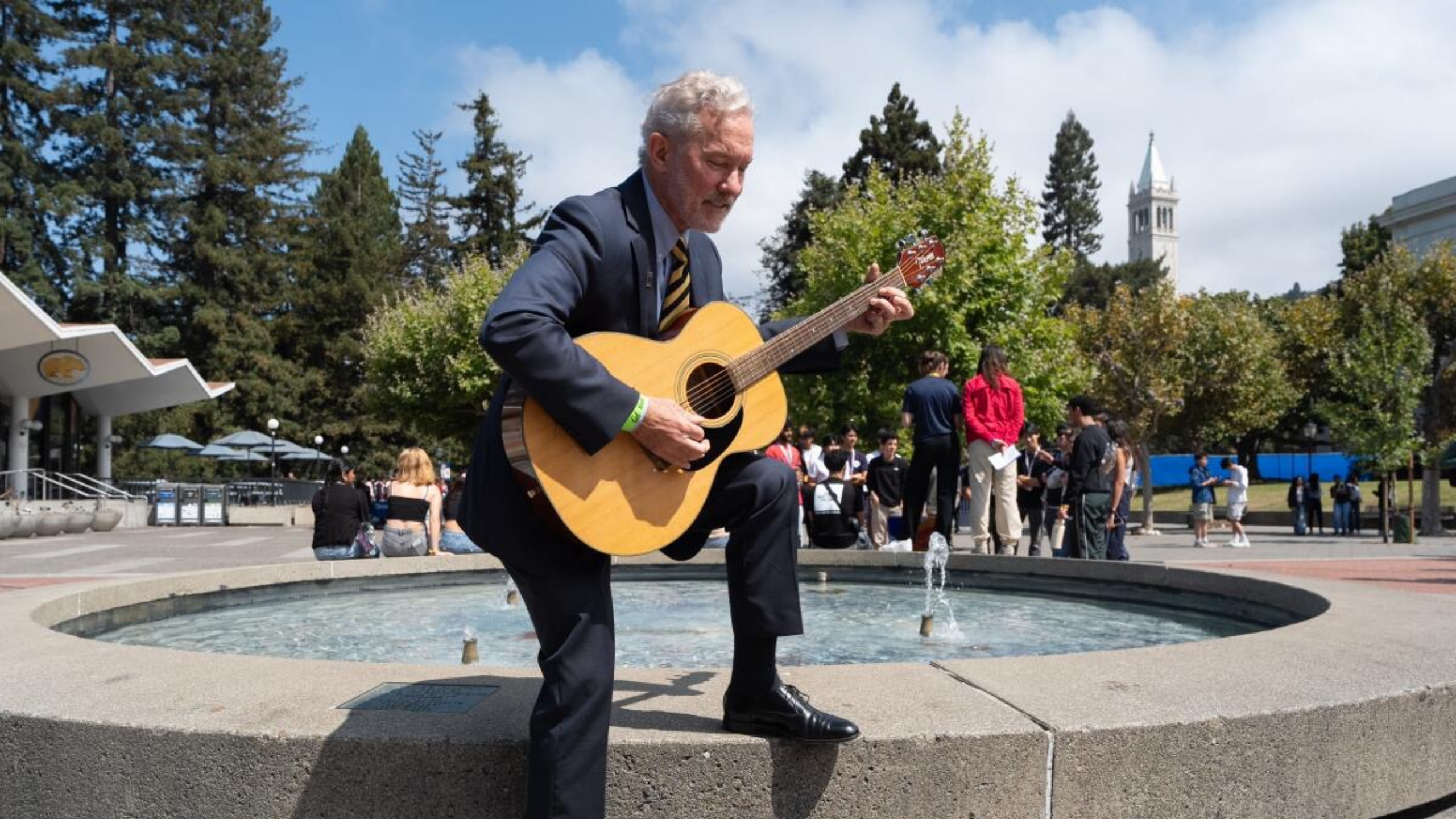
Ana Claudia Arias
Tiff Dressen
Daniela Kaufer
Rikky Muller
Niren Murthy
Yi-Ren Ng
Ronald Rael
Michael Rape
David Schaffer (Chair)
Scott Shenker
Toby Stuart
Paul Waddell
Peidong Yang



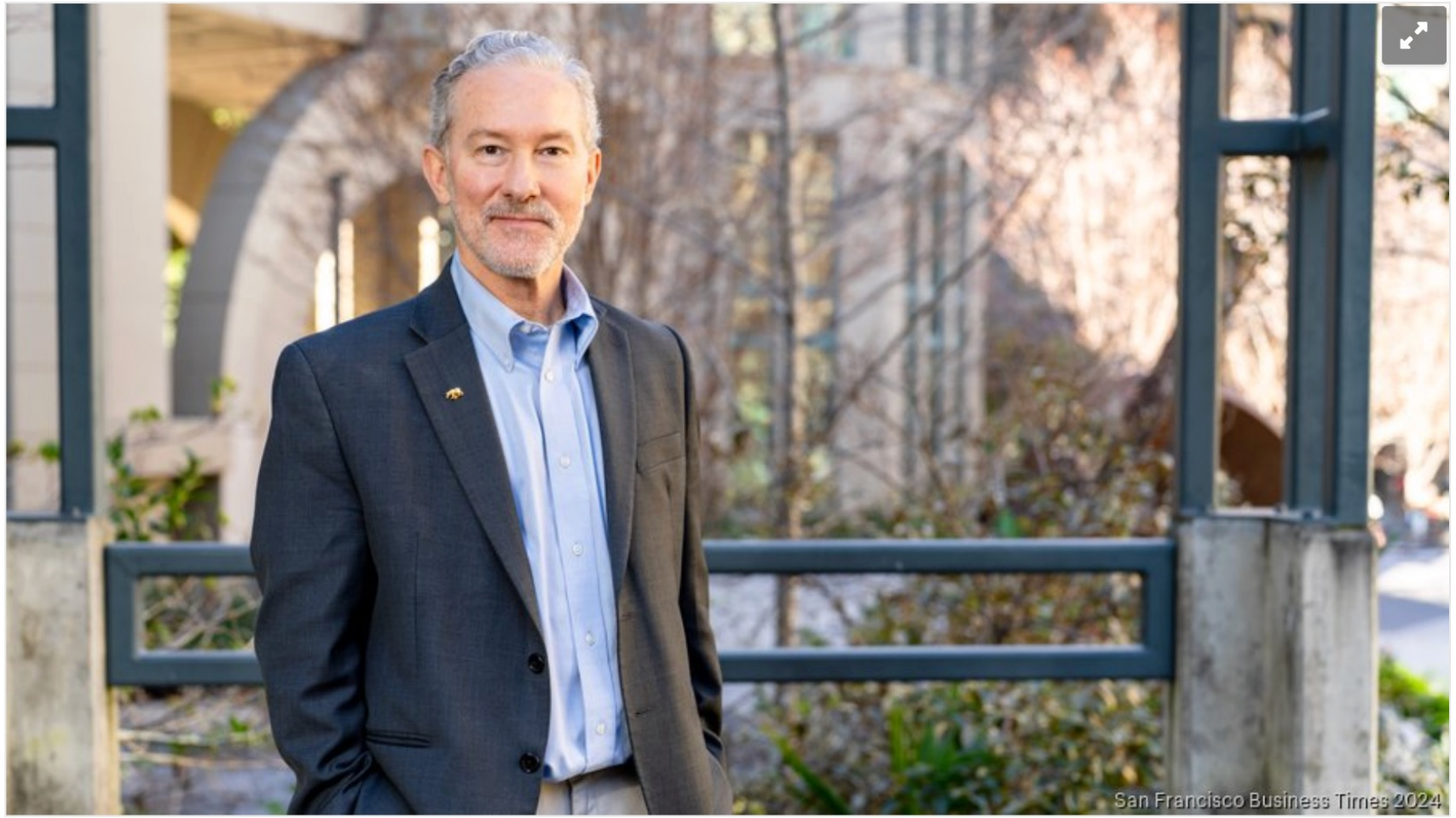
July 20, 2018

In 2019, we hired the right guy

UC Berkeley



Richard Lyons is driving UC Berkeley's reputation as a hotbed for founders and startups



UC Berkeley

The secret sauce: 65 organizations, 100 members

Innovation & Entrepreneurship

Some 90 leaders spanning the campus meet monthly as the Innovation & Entrepreneurship (I&E) Council with the goal of knitting our I&E ecosystem together.

I&E Council	
Adam Sterling	Berkeley Center for Law and Business | Startup @ BerkeleyLaw
Alice M. Agogino	Blum Center for Developing Economies | Squishy Robotics
Allison Schmitt	Life Sciences Law and Policy Center
Andrea McEvoy	Intellectual Property & Industry Research Alliances (IPIRA)
Brian Bordley	Berkeley SkyDeck Fund
Bruce Riordan	Berkeley Climate Change Network
Camille Crittenden	CITRIS & the Banatao Institute | Blockchain Working Group | Government Operations Agency
Carl Blumstein	California Institute for Energy and Environment
Carol Mimura	Intellectual Property & Industry Research Alliances (IPIRA)

And then what happened?

UC Berkeley

2024 startup rankings

	University	Founder count	Company count
1	**UC Berkeley**	**1,811**	**1,642**
2	Stanford	1,547	1,397
3	Harvard	1,352	1,222
4	University of Pennsylvania	1,197	1,099
5	MIT	1,175	1,049

LSEC Venture Grant Program

Berkeley
Life Sciences
Entrepreneurship
Center

Photo by Elevate on Unsplash

Want to launch a bio startup at Berkeley?

Let us help you build it. Next cohort March 2024 - February 2025

Money to Get it Going:

- $100k R&D grant to promote translation of technology to commercialization
- $200k investment from the Berkeley SkyDeck Fund ($100k+$100k, traunched)

Built with the Best of Berkeley:

- Admission to Berkeley SkyDeck: advisors, workshops, investors, huge demo day
- Participation in I-Corps @ LSEC and Bio Startup Speed Teaming
- Presentation to BioEng 153/253: *Biotechnology Entrepreneurship*
- Participation in QB3's SBIR grant-writing workshop
- Optional participation in IP Law Practicum, and Lean Transfer class at Haas

Outstanding Resources:

- Showcase event and pitch to experts and investors
- Access to Bakar Labs events and CABL program
- Access to the UC Berkeley Drug Discovery Center

Info and apply by January 24, 2025: lsec.berkeley.edu/venture-grant

Eligibility:

- Academic UC Berkeley teams of at least two members (faculty, PhD students, postdocs, and other graduate students, including business and engineering)
- Life sciences field: therapeutics, diagnostics, medical device, research tools
- Innovation based on Berkeley IP

Berkeley SKYDECK

Berkeley IPIRA
INTELLECTUAL PROPERTY & INDUSTRY RESEARCH ALLIANCES

qb3

Bakar Labs
Powered by QB3

NSF CORPS
NSF Innovation Corps

AsparaGlue™

Founded by **Professor and Chair of Bioengineering Phillip Messersmith** and his postdoc Subhajit Pal. AsparaGlue has developed a **medical adhesive** that can be uniquely used for both external wound closure as well as internal tissue adhesion and sealing.

editpep

Founded by **Innovative Genomics Institute Professor Ross Wilson** and Berkeley Haas MBA candidate Malu Kannuswamy. Editpep has developed a class of peptides capable of **conveying CRISPR enzymes** into clinically-relevant and previously untransfectable cell types.

Founded by **Electrical Engineering and Computer Sciences Professor Rikky Muller**, her postdoc Ryan Kaveh, and PhD candidates Saavan Patel and Arya Reais-Parsi. MZR has developed an **in-ear EEG** sensor for sleep monitoring and more.

LSEC Venture Grant Cohort 1

ASO Therapeutics

Founded by Nutritional Sciences & Toxicology **Professor Anders Näär** and industry veteran Stuart Hwang. ASO Therapeutics is a drug development company focused on targeting transcriptional drivers of cancers, targeting pathological mRNAs.

MuscleMatrix

Founded by Bioengineering **Professor Kevin Healy** and UVA **Professor George Christ**, with their graduate students. MuscleMatrix has developed a hyaluronic acid (HyA) hydrogel structural scaffold for volumetric muscle loss injury repair.

Venture Grant Cohort 2 (2024)

Life Sciences Venture Canvas

UC Berkeley Life Sciences Entrepreneurship Center

Stakeholder →	**Patient**	**Provider**	**Payor**	**Partner**	**Permitter** (e.g. FDA)
Who is this and how do they solve the problem now? (Customer Segment)	**?**	**?**	**?**	**?**	**?**
What would motivate them to say **YES** to change? (Value Proposition)	**?**	**?**	**?**	**?**	**?**

Life Sciences Venture Canvas

Stakeholder →	Patient	Provider	Payor	Partner	Permitter (e.g. FDA)
(Customer Segment)	Usually start with primary care and then referred to a specialists, run numerous tests (potentially invasive), and intake history/etc. for a physician to determine a diagnosis.	Primary Care conducts some tests and often refers onto specialists. Specialists conduct somewhat qualitative tests along with clinical history etc	Patients pay per visit or per test either out of pocket or through insurance. More testing and later diagnosis lead to higher costs	Pharma companies testing efficacy of treatment (use our device in clinical trials) Contract Manufacturers Community screenings? Glasses Stores?	FDA: There are other diagnosis options. CE Mark if we want to expand to Europe UL/other testing sites
What would motivate them to say **YES** to change? (Value Proposition)	Reduce time to diagnosis, reduce number of trips to doctor, more accurate diagnoses, personalized care and treatment options, easier and more seamless patient experience.	A reduced time/workload burden. "Better" referrals from primary care An increase in objectivity to determine more clearly. Ability to longitudinally track symptoms and medications. Minimal to no disruption to workflows	Reduce costs per patient in diagnosis and potentially treatment Earlier detection to stop diseases before they require significant treatment or lifestyle changes Replace existing expensive tests	Working tech: high quality measurements that correlate with disease Large target patient populations that align goals across partners Accurately detect earlier and can be done quickly. Demand for product would bring people into their store for screening	Working and safe tech Reach requirements of a 510K pathway or PMA. Reach requirements for CE mark Testing sites: conduct tests measuring ESD/radiation/etc. needed for submissions Both authoritative bodies somewhat follow IEC ISO guidelines

Often patients need to come with complaint for PCP to address

Now thinking we may rely more on partnerships to reach patients

Dr's aren't quick to ID flaws in current standard of care

Little creativity across use cases

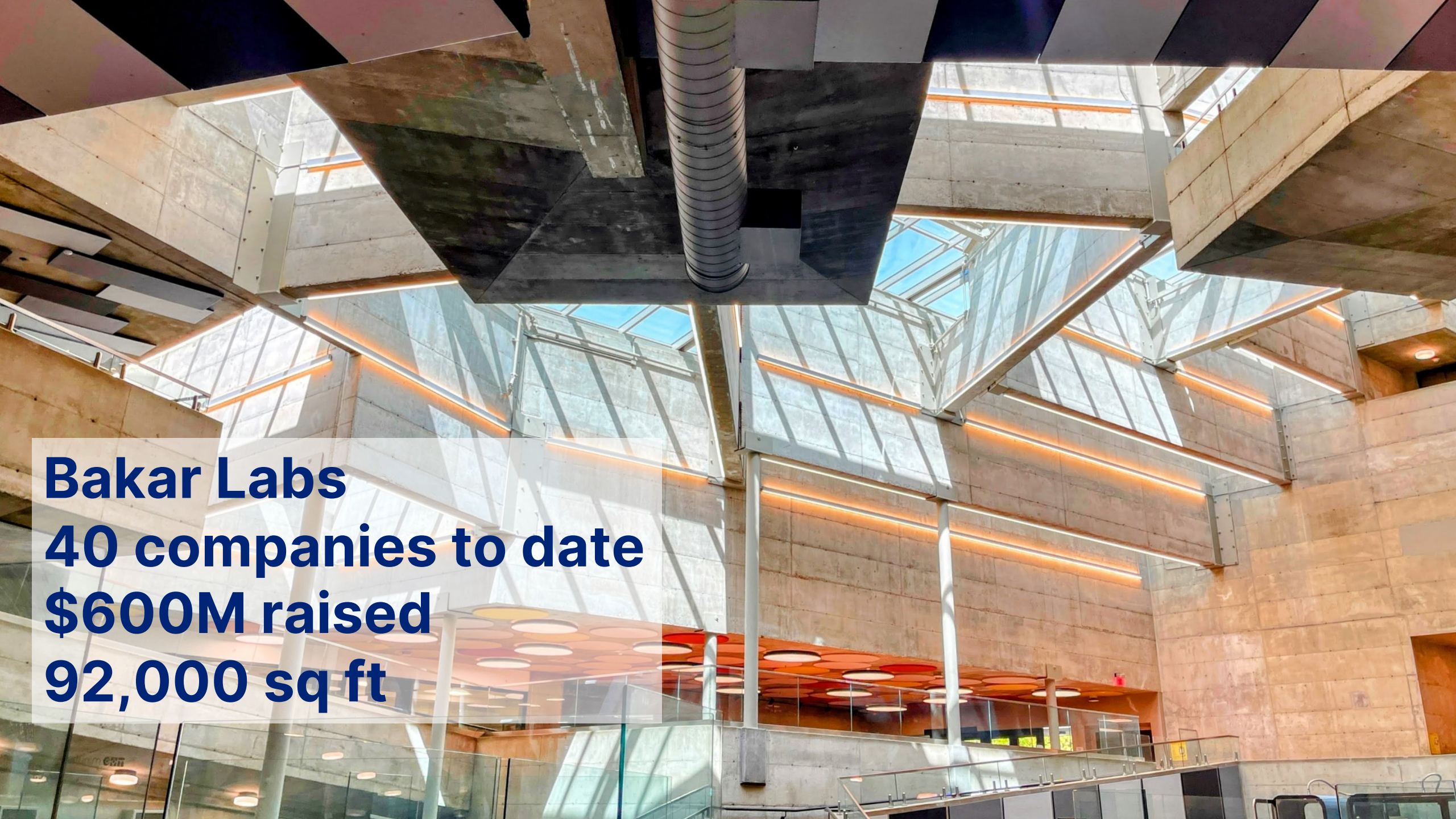
Correct pain points, but motivation to solve problem varies significantly

Will all patients want to learn about a disorder pre-symptoms?

Specialist vs PCP wants

Life Sciences Venture Canvas (new)

Stakeholder →	Patient	Provider	Payor	Partner	Permitter (e.g. FDA)
Who is this and how do they solve the problem now? (Customer Segment)	~~Neurodegenerative diseases~~ Movement diseases Maybe cognitive decline- but not sure if at MCI or dementia stage ~~Psychiatric/mood diseases~~ Mainly outpatients At risk patients for screening? Disease needs vary based on rural vs urban	Primary Care - initial screening, diagnosis depth depends on setting (rural vs urban) Geriatrics - specifically for AD diagnosis Neurologists ~~Psychiatry~~ ~~Traditional Optometry~~ Pediatric/developmental psych Maybe retirement/independent living/assisted living homes but only if partnered correctly Memory care/nursing homes (strikethrough)	Patients pay per visit or per test either out of pocket or through insurance. More testing and later diagnosis lead to higher costs Government programs or community partners?	Clinical researchers Telehealth companies Clinical Trials (pharma companies) Retail Pharmacies/walk in clincs Companies making diagnostic tests Other remote patient monitoring devices Contract Manufacturers Community screenings: schools, etc. Glasses Stores: warby parker, etc.	FDA: There are other diagnosis options. CE Mark if we want to expand to Europe UL/other testing sites
What would motivate them to say **YES** to change? (Value Proposition)	Reduce time to diagnosis (6 months earlier?) Reduce number of trips to doctor (by at least 1-2/year?) depending on the disease More accurate diagnoses (especially for things with treatment or lifestyle changes(?)), personalized care and treatment options, easier and more seamless patient experience.	*If colleagues are using the tech successfully* PCP - More confidence for specialty diagnoses and referrals (especially rural). PCP - plenty of scientific validation Specialists - better referrals from PCP (specificity >0.7) and earlier (6 months) A reduced time/workload burden (3 more minutes per patient, see 1 more patient per day) Ability to longitudinally track symptoms and medications Can be done by support staff, not Drs.	Reduce costs per patient in diagnosis and care by $200/year. Earlier detection to stop diseases before they require significant treatment or lifestyle changes (reduction in multiple ADLs/activities of daily living) Replace existing expensive tests (reduce imaging costs for alzheimer's diagnosis by 20%)	~~Large target patient populations that align goals across partners~~ Clinical trials: objective metric that correlates with physiology Retail: drive 30 more customers per month to the store Researchers: <0.05° precision Other diagnostics companies: boost signal to noise by 10% Telehealth: fill key remote-diagnostic shortcomings that can't be achieved by other tech (e.g., tablet or computer).	Safe and Effective- FDA line Reach requirements of a 510K pathway or PMA. Reach requirements for CE mark Testing sites: conduct tests measuring ESD/radiation/etc. needed for submissions Both authoritative bodies somewhat follow IEC ISO guidelines


Bakar Labs
40 companies to date
$600M raised
92,000 sq ft