Highlights & Success Stories

UNIVERSITY OF CALIFORNIA

AB2664 Report
(Jan 2017-Jun 2018)

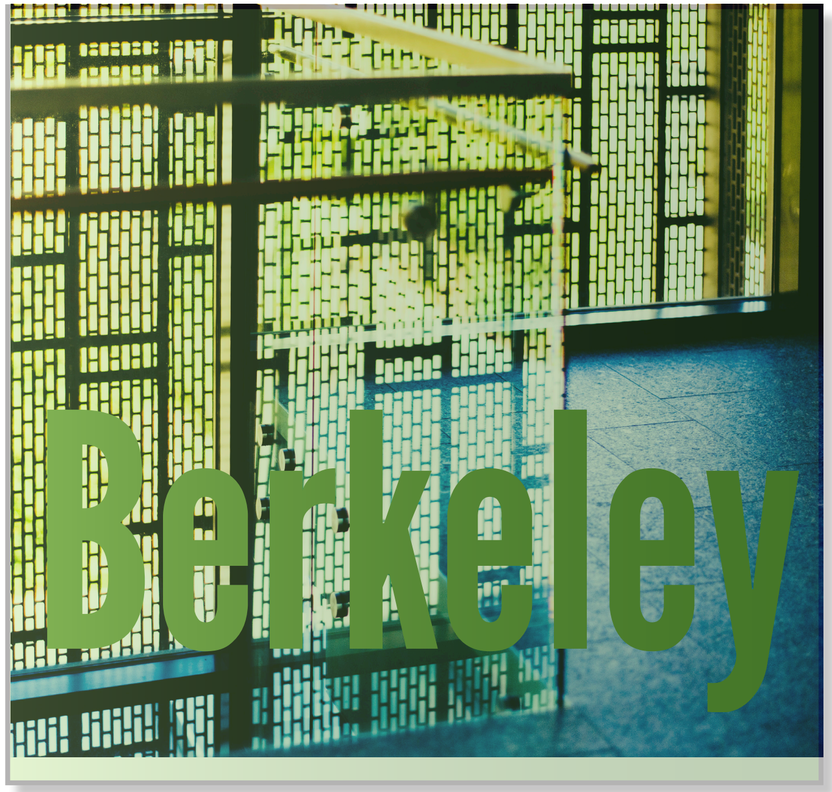
INTRODUCTION

In the past year, the University of California has seen an explosion of innovation and entrepreneurial activity across its 10 campuses. Largely due to the funding received from Assembly Bill (AB) 2664, signed by Governor Jerry Brown in 2016, UC student and faculty entrepreneurs have access to:

- More proof of concept funding
- An increased number of accelerators and incubators where they can build and test their prototypes or launch their startups
- Additional training and mentorship programs to help them on their entrepreneurial journey

In this first report, we provide highlights from the programs funded by AB2664 and offer profiles of just a few of the successful UC innovators and entrepreneurs who benefited from them.

UC Berkeley



HIGHLIGHTS FROM PROGRAMS SUPPORTED BY AB2664

- The Big Ideas Contest:
  - 316 teams applied, 70 were accepted
  - Two new categories were added this year — Connected Communities and Workforce Education and Development
  - Launched the New Innovation Ambassador program and hired seven part-time students to represent Big Ideas at each UC campus to provide social entrepreneurship programming
  - Nineteen workshops/events were held across the UC system
  - Three workshops held for finalists
  - Three practitioners-in-residence sessions were organized
- Participants have completed the first new Lean Transfer course offered by Berkeley-Haas Entrepreneurship Program in conjunction with the Sutardja Center for Entrepreneurship and Technology (SCET). Using technology developed by Bakar Fellows, the course focused on teaching students the principles on how to test the viability of a product and the process to launching a startup.[1]
- The CITRIS Foundry hosted Demo Days for Cohort 8 and launched the Entrepreneurship Hub.
- Students in the Alternative Meat Lab, which was developed by SCET in August 2017, presented their final projects, which focused on creating new non-meat substitutes for popular items, such as bacon and chicken nuggets. The lab also welcomed several new board members from the plant-based food industry.[2]
- SCET held its first Collider Cup Competition. Students from the entrepreneurship classes presented their end-of-year project, which was judged by a panel made up of entrepreneurs, alumni and venture capitalists.
- Four teams were awarded $50,000 to continue their work at the SCET Blockchain Lab. This was the first time the awards were given to support students and faculty advancing blockchain technology.
- SkyDeck and QB3 have partnered on a new program called Bio Track at SkyDeck. The first cohort, made up of two startups, were selected in fall 2018. Each company will receive $100,000 in investment funds from SkyDeck and access to the resources at both accelerators.[3]
- The first Startup Disco cohort has completed the course.

STARTUP @ BERKELEY LAW'S NEW BUSINESS PRACTICUM & CENTRAL VALLEY VENTURE LEGAL ASSISTANCE NETWORK

Program Narrative

All new businesses have a host of legal issues to solve right from the get-go. Most, however, cannot afford prevailing legal fees of $375 an hour. Berkeley Law's New Business Practicum provides legal guidance to entrepreneurs of limited means, helping them manage risks and create the kind of clean "legal record" that capital providers demand.

Since February 2017, the practicum has combined UC Berkeley and UC Merced AB2664 funds to support an additional attorney and dramatically expand its services. In 2018, AB2664 funds have continued to fuel the practicum's expansion of legal training and walk-in office hours, especially to the diverse communities of entrepreneurs in California's East Bay and Central Valley. AB2664 funds have also been used to build an online library of legal resources , released to low-income entrepreneurs in June 2018 and currently in pilot testing.

Legal Trainings

As of the first quarter of 2018, AB2664 funding supported over 40 live/live-streamed legal trainings for East Bay and Central Valley entrepreneurs. Practicum staff and students visit business incubators in the Valley to provide service twice per month: first Fridays in Merced and third Fridays in Fresno. These trainings and live office hours, focused on entity formation, capitalization, hiring and other legal matters, provided a total of $30,375 in free legal help to entrepreneurs.

Office Hours

AB2664 funding enabled the Practicum to provide limited service walk-in/call-in office hours to the East Bay and Central Valley every Monday and Wednesday afternoon. A total of 190 entrepreneurs received 190 hours of assistance, which equates to $71,250 in free legal help. Approximately 30 percent of office hour clients were from the Central Valley, where legal help for new businesses is almost nonexistent. The top categories of legal assistance provided include entity formation, hiring, and intellectual property — all areas where entrepreneurs can quickly get into trouble without legal guidance.

Full-Service Representation

AB2664 funding helped the Practicum expand full-service representation from 26 to 40 low-income entrepreneurs in 2017. The Practicum's 21 full-service clients received multilateral assistance over a three-month period with a variety of legal issues, including forming entities, drafting contracts, protecting intellectual property and advising on regulatory compliance. In 2017, AB2664 funding supported 1,536 hours of legal work for these clients, representing $576,000 in free legal assistance. As of the first quarter of 2018, clients were provided with 2,432 hours of legal work, representing $912,000 in free legal assistance.

Online Legal Library

Much of the new Practicum attorneys' time has been spent building a website that will deliver free, accessible legal guidance to entrepreneurs who cannot afford an attorney. The new website, referred to as OLLIE (Online Legal Library and Information for Entrepreneurs) will help entrepreneurs up their legal game with a variety of resources, including short articles, checklists, videos, weblinks, and template forms. OLLIE content, created mostly by Practicum attorneys and senior UC Berkeley Law students, will include links to resource materials published by law firms, legal aid organizations and others. OLLIE is currently being pilot tested by a crew of experienced pro bono attorneys, after which it will be opened to low-income entrepreneurs. OLLIE will be accessible on an "offline first" basis, allowing users in regions where internet connectivity is limited to review OLLIE content without having access to a continuous internet connection.

New Outreach to Immigrant Entrepreneurs

In 2018, the Practicum began efforts to connect with immigrant entrepreneurs, including new regular monthly office hours and trainings offered in Spanish at Fresno's Mexican Consulate. These office hours have served 10 businesses owned by low-income immigrants, and approximately 40 entrepreneurs attended the training sessions. Together these services provided about $4,500 in free legal assistance. In addition, students were able to offer a one-hour training in entrepreneur guidance on Radio Bilingue, a Spanish-language radio program that reaches immigrant communities throughout the Central Valley.

New Pro Bono Attorney Panels Recruited and Trained

During the first quarter of 2018, the Practicum recruited and trained seven volunteer attorneys to help supervise the law students participating in the Practicum office hours. These pro bono attorneys will also provide legal help to low-income entrepreneurs themselves when students are absent over the summer.

KIWI CAMPUS

https://kiwicampus.com/

Kiwi Campus is a delivery service that utilizes autonomous robots to transport food orders. The Kiwi Restaurant Bot takes the food from the counter to the sidewalk, where the driver of the semi-autonomous Kiwi Trike loads the food into the KiwiBots. The Kiwi Trike holds up to four Kiwi Bots and 20 meals. The KiwiBots are then deployed closer to their destination. Users must enter a code to get their order from the locked bot. Currently, Kiwi Campus is available only in the greater Berkeley area.

Kiwi Campus was a member of SkyDeck.

TABLA

https://tabladevices.com/

Tabla has developed an inexpensive, portable tool to help health care providers diagnose pneumonia, the leading killer of children. The noninvasive device uses acoustics and algorithms to detect fluid in a person's lung.

The 2017 Grand Prize winner of the Rudd Family Foundation's Big Ideas Contest, Tabla was one of 14 recipients of Fast Company's 2017 Innovation by Design Awards out of 2,500 submissions worldwide. The device was honored as one of the most innovative and disruptive design solutions created to solve today's most challenging issues.

ABC News highlighted the diagnostic device: http://abc7news.com/health/new-device-may-help-diagnose-pneumonia/2434102/.

FALL 2017 SCET COLLIDER CUP WINNERS

Students taking entrepreneurial classes at Sutardja Center for Entrepreneurship and Technology (SCET) ended the fall 2017 semester by presenting their end-of-year project at the first Collider Cup competition.[4]

1ST - TEAM HEALTHCHAIN

Team Healthchain created a way to securely store medical files in cases of emergencies on the Interplanetary File System network (IPFS). This new internet protocol allows users to permanently store their medical information on a decentralized network that can be accessed on any browser. Users have access to all of their important documents in the unfortunate case of an emergency.

2ND - ADIPOCAPSULES

The team proposed a prototype for creating plant fats and emulsions with natural ingredients.

3RD (TIE) - SOLEA, MARBLE SOLUTIONS & PEERINVEST

Solea showcased its sustainable fish oil.

Marble Solutions improved fat solubility for plant-based foods.

PeerInvest created an app that allows users to hand-pick individual investments for their stock portfolio.

2018 BLOCKCHAIN LAB AWARD WINNERS

The first Blockchain Lab student and faculty teams were awarded $50,000 to further their projects and promoting the use of blockchain.[5]

FRAMEWORK FOR CRYPTOECONOMIC INCENTIVES IN PROOF OF STAKE (POS) SYSTEMS

- Aparna Krishnan
- Zubin Koticha
- Alexis Gauba
- Maaz Uddin
- Philip Hayes
- Vishesh Mehta

EFFICIENT AND SECURE CONSENSUS FOR BLOCKCHAIN

- Gireeja Ranade

DECENTRALIZED NONDETERMINISTICALLY VERIFIABLE SECURITY

- Eric (Yiqi) Hou
- Sid Masih
- Alberto Todeschini
- Jeremiah Andrews
- Parth Singhal
- Leon Ming
- Ling Xie

VODCHAIN: A BLOCKCHAIN-BASED CROWDSOURCED VIDEO-ON-DEMAND SYSTEM

- Kannan Ramchandran

HIGHLIGHTS FROM PROGRAMS SUPPORTED BY AB2664

- Venture Catalyst piloted two new grant programs: Science Translation and Innovative Research Plus (STAIR-Plus) and Data, Informatics and Application Launch (DIAL). Both programs provided recipients with grants up to $20,000 in funding.
  - STAIR-Plus is intended to offer additional support to STAIR Grant recipients who have successfully achieved their projected commercialization milestones and are poised for commercial debuts. In FY 2017, three recipients received grants. (See recipients on pages 16-17.)[6]
  - The DIAL Grant provides funding to UC Davis researchers whose proof of concept or innovation related to data, information science or software demonstrates commercial potential. Three proposals were awarded DIAL grants in FY 2017. (See recipients on pages 18-19.)
  - The six FY 2018 STAIR recipients and the two 2017 DIAL awardees also received support through the commercialization clinics offered by Venture Catalyst. (See recipients on pages 20-21.)[7]
- Using funds received through AB2664, Venture Catalyst supplemented the shared lab space at the UC Davis-HM.CLAUSE Life Science Innovation Center with additional technical equipment and specialized instrumentation for the benefit of startups leasing space in the incubator.[8]
- Three Little Bang! Poster Competition were held between December 2017 and May 2018. These competitions were designed to help students define their business idea and communicate it concisely using a poster. The sessions were intended to support currently enrolled UC Davis students on their entrepreneurial journey and to promote business ideas where university intellectual property is not a primary driver. Microgrants from $500 to $2,500 were available.[9]
- Over 280 students and community members attended the Aggie Innovation and Start-Up Symposium at the UC Davis Conference Center on February 8, 2018. The day was filled with informative talks and discussions about space, campus resources, best practices and obstacles entrepreneurs faced on their journey to success. Undergraduate students also had an opportunity to pitch their startup ideas.[10]

- The DARTS VIP program has been launched. It provides startups with access to facilities and discounted research and translational services.
- Leaders for the Future is a new five-month certificate program that provides Ph.D. students and postdocs with professional development training, including innovation and entrepreneurship skills, via non-academic activities, projects and internships. The program is part of a collaborative effort between the Office of Research, the Internship and Career Center, GradPathways and the Mike and Renee Child Institute for Innovation and Entrepreneurship. It is implemented as part of the Advanced Scholar Career Enablement and Development (ASCEND) Program, which receives AB2664 funding.
  - To date, two cohorts have successfully completed the program.
  - Leaders for the Future fellows can also participate in the Entrepreneurship Academy, a three-day program designed to connect them to the world of innovation and entrepreneurship. Students learn about commercialization and marketing and are mentored by investors, entrepreneurs, faculty and industry experts.[11]
- The Mike and Renee Child Institute for Innovation and Entrepreneurship hosted the 18th annual Big Bang! Business competition in May 2018.
  - Seventy-five percent of the awards went to teams that participated in AB2664-funded programs, such as the Creator Challenge Series, the Prototyping Labs and Startup Mentorship Accelerator (PLASMA), the Little Bang! Poster Competition, and the Food, Ag and Health Entrepreneurship Academy.
  - Forty percent of the semi-finalists received support and/or participated in the Little Bang! poster competition.[12]
- The Mike and Renee Child Institute for Innovation and Entrepreneurship, the Office of Research and Venture Catalyst group and UC Merced's Venture Lab have partnered to offer UC Mentors, an online mentoring program. The program, which launched in the fall quarter of 2018, included participants from the UC Entrepreneurship Academy, the Central Valley Entrepreneurship Academy, the 2018-19 Business Development/Keller Pathway Fellowship, the UC Davis Graduate School of Management innovation class, the 2017-18 Big Bang! Finalists, and STAIR and DIAL recipients in its initial cohort.
- The second annual Creator Challenge Series ran from April 28 to May 6, 2018. In the three-part series, student teams prepared their ideas during the Ideathon, developed a working prototype during the 24-hour Create-a-thon and presented their product to a panel during the Sharkathon.[13]
- Inventopia, the new makerspace at UC Davis opened its doors in November 2017. Using AB2664 funds, UC Davis was able to purchase state of the art manufacturing equipment for the new facility. Inventopia currently houses 11 startups.[14]
- PLASMA held its first demo day in conjunction with the Ideathon portion of the Creator Challenge Series. PLASMA is a student accelerator that provides startups with workspace, access to equipment, funding, training and mentorship through a 12-week program. The demo day is the Creator Challenge Series finale.
- The Food, Health and Agriculture Entrepreneurship Academy hosted its second cohort and is currently conducting post-program activities.

GINO CORTOPASSI

PROFESSOR,
DEPARTMENT OF MOLECULAR BIOSCIENCE

2017 STAIR-PLUS GRANT RECIPIENT

Transition to Patentable New Chemical Entity Shc Inhibitors for Fatty Liver Disease

Cortopassi and his team have identified several compounds that inhibit Shc, a signaling protein that regulates the body's response to insulin and resistance to pediatric nonalcoholic fatty liver disease. With assistance from the STAIR Grant, the team conducted medicinal chemistry optimization to narrow dozens of functional parent molecules down to several of the most productive candidates. The STAIR-Plus Grant will allow the team to conduct additional screening and test the two most potent inhibitors in-vivo in an animal model.

TONY SIMON

PROFESSOR,
DEPARTMENT OF PSYCHIATRY AND BEHAVIORAL SCIENCES

2017 STAIR-PLUS GRANT RECIPIENT

Translation of Neurotherapeutic Video Games to Virtual Reality

Simon has invented a "neurotherapeutic" video game designed to help improve the cognitive abilities of children with one of several genetic disorders and patients with many forms of traumatic brain injury or stroke. The STAIR Grant enabled Simon and his team to build prototypes utilizing desktop computers and game consoles, which were used to conduct tests to provide evidence of clinical benefit. Simon plans to use funding from the STAIR-Plus Grant to develop, with his game design partner, a second-generation prototype utilizing a virtual reality platform and to conduct preliminary tests for usability and efficacy potential.

Simon's startup, Cognivive, was invited to participate in the Innovation and Entrepreneurship Showcase in Washington, D.C., in November 2017.

JOHN VOSS

ASSISTANT PROFESSOR,
DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR MEDICINE

2017 STAIR-PLUS GRANT RECIPIENT

A Novel Nitroxide-Based Agent to Produce Contrast Enhancement for Amyloid Beta Peptide Detection by MRI

Voss' team is developing technology based on a small molecule with the potential for early detection of Alzheimer's disease. The compound is innovative for its paramagnetic properties, which affect MRI intensities correlating to an early and prominent marker for Alzheimer's. Unlike available imaging methods, this approach would be less expensive, enable greater patient access and eliminate radiation exposure for the patient. Voss utilized the STAIR Grant to conduct in-vivo tests to demonstrate effectiveness and to synthesize nine novel small molecules. Voss plans to use the STAIR-Plus Grant to conduct additional optimization leading to the selection of a lead [sic] candidate. He also plans to use high-resolution imaging to better correlate the contrast signal with identifiable brain structures.

ABHIJIT CHAUDHARI

ASSISTANT PROFESSOR,
DEPARTMENT OF RADIOLOGY

2017-18 DIAL GRANT RECIPIENT

Medical Imaging Software Plug-in

Chaudhari and his team are developing a software plug-in for medical imaging that can perform texture analysis and integrate seamlessly with OrisiX, one of the most widely used medical image viewers in the world.

MAURICE PITESKY

ASSISTANT SPECIALIST,
COOPERATIVE EXTENSION,
DEPARTMENT OF POPULATION HEALTH
AND REPRODUCTION

2017-18 DIAL GRANT RECIPIENT

Poultry Food Safety Software

Pitesky is creating an original integrated software tool for poultry food safety using business intelligence and Tableau, an analytics software, to identify new insights related to production efficiency, regulation and poultry welfare.

ANNE BRITT

PROFESSOR,
DEPARTMENT OF PLANT BIOLOGY

2017-18 STAIR GRANT RECIPIENT

Novel Gene Editing

Britt is developing a method for rapid and efficient genome editing in tomato plants as a model for general transformation/gene editing process that does not require tissue culture of the stable integration of foreign DNA.

ROBERT FAIRCLOUGH

ASSOCIATE PROFESSOR,
DEPARTMENT OF NEUROLOGY

2017-18 STAIR GRANT RECIPIENT

Therapeutic Platform for Treating Myastenia Gravis

Fairclough and his team are developing a therapeutic platform for treating myathernia (an antibody-mediated autoimmune disease) with an antigen-specific platform that targets only myastenia gravis pathogenic immune system components with biologics.

SOHEIL GHIASI

PROFESSOR,
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

2017-18 STAIR GRANT RECIPIENT

Noninvasive Wearable Device for Patients with Neurogenic Bladder

Ghiasi and his team are developing a noninvasive wearable device that can monitor a patient's bladder filling and restore the sense of bladder fullness for individuals with neurogenic bladder, such as those with spinal cord injury.

CHEN GILOR

ASSISTANT PROFESSOR,
DEPARTMENT OF MEDICINE AND EPIDEMIOLOGY

2017-18 STAIR GRANT RECIPIENT

Method for Oral Delivery of Insulin

Gilor is developing a method for oral delivery of insulin to dogs that uses hepatitis E capsid proteins to encapsulate insulin, with the goal of protecting it from digestive enzymes and enhancing its absorption after oral administration.

DENNIS HARTIGAN-O'CONNOR

ASSOCIATE PROFESSOR,
DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY

2017-18 STAIR GRANT RECIPIENT

Novel Gene Editing

Hartigan-O'Connor's project is to test whether novel vaccine vectors created at UC Davis are effective against simian immunodeficiency virus and can elicit immune responses that kill tumor cells.

YOSHIKAZU TAKADA

PROFESSOR,
DEPARTMENT OF DERMATOLOGY

2017-18 STAIR GRANT RECIPIENT

Developing an Antagonistic Ligand Mutant

Takada's team is developing an antagonistic CD40 ligand mutant a potential therapeutic agent for chronic inflammation seen in such diseases as atherosclerosis and psoriasis. The CD40 ligand plays a key role in immune regulation.

ANU SNACKS

www.anusnacks.com

Microbreweries currently dump millions of tons of spent grain into landfills. Using the spent grain, which still maintains a high nutritional value and high fiber, Anu Snacks has created a high-protein, low-sugar food product.

Anu Snacks was presented with the Food and Agriculture Sector Award, the Food, Ag and Health Innovation Award, and the People's Choice Award at the 2018 UC Davis Big Bang! Business Competition.

Denise Bronner, Anu Snacks CEO and UC postdoctoral fellow, participated in the UC Davis Institute for Innovation and Entrepreneurship 10-month Business Development Program as well as the Entrepreneurship Academy.

CIRCULARIS BIOTECHNOLOGIES

www.circularisbiotech.com

Circularis has developed a new method to regulate gene expression and enable increased production that does not require foreknowledge of control or coding sequences of any specific genes. Circularis offers a range of promoters with varying strengths to help tune the expression to go beyond codon optimization. Circularis technology can be applied to biotherapeutic manufacturing, industrial biotechnology and industrial agriculture.

Circularis is currently a tenant at the UC Davis-HM.CLAUSE Life Science Innovation Center.

COGNIVIVE

www.cognivive.com

Cognivive is working to create a virtual reality game that has therapeutic benefits for aging adults, patients suffering from brain trauma and children with neurodevelopment disorders to help them recover or develop cognitive abilities.

Cognivive won second prize in the 2018 UC Davis Big Bang! Business Competition for their "digital medicine."

COMPASSIONLIT

http://box5653.temp.domains/~compauf8/

Compassionlit has developed a solar-powered phototherapy device that will treat babies suffering from jaundice. While phototherapy is not a new treatment, equipment currently used to treat jaundice requires access to an electrical power grid. For those living in developing areas where electrical power is not readily available, receiving treatment is difficult and costly. This new device, which can run on solar or electric power, is expected to be a less expensive, more easily accessible option for the underserved communities.

Compassionlit was in PLASMA's first cohort. It won the Health Sector Award and the Global Poverty Alleviation Award at the 2018 UC Davis Big Bang! Business Competition.

JUST A PARKING APP

www.parkjapa.com

Just a Parking App (JAPA) is a mobile app that provides users with a stress-free means to find available parking. Through the use of smart data, the parking system works by tracking inventory in parking lots and structures, recording transactions and notifying users of real-time availability.

JAPA currently has partnerships with UC Davis, the City of Walnut Creek and Redwood City.

JAPA won first prize in the 2018 UC Davis' Big Bang! Business Competition. Its founders also won first prize in the Little Bang! Pitch and Poster Competition and a microgrant from an earlier competition.

SENSIT VENTURES

SENSIT has developed a microelectromechanical system (MEMS) that "can detect molecules present at parts-per-billion while operating on common direct-current batteries, such as 9-volt or watch battery." This technology is expected to be less expensive than ion mobility spectrometers currently in use and have a broader application potential that can extend to the security, agriculture and health care industries.[15]

SENSIT Ventures is a member of Inventopia.

SPECTRAL SOLUTIONS

Spectral Solutions seeks to disrupt the growing unmanned airborne systems industry with a high-endurance aircraft that captures research-grade hyperspectral imagery at a fraction of the cost.

Spectral aims to raise the standard in unmanned airborne imagery for numerous applications, ranging from agriculture to oceanography, geomorphology to oil and more. Spectral combines cutting-edge research and technology to exponentially increase data collection and analysis of changes in the environment.

Spectral Solutions was a tenant at Inventopia.

SU

http://picbear.online/smog.apparel

SU is a clothing manufacturer that produces specialized apparel with built-in air-filtering technology. Inspired by the dire need for protection against the smog in Beijing, Lanwei Su created a stylish top with a collar that has a removable/replaceable filter that functions as a mouth and nose mask.

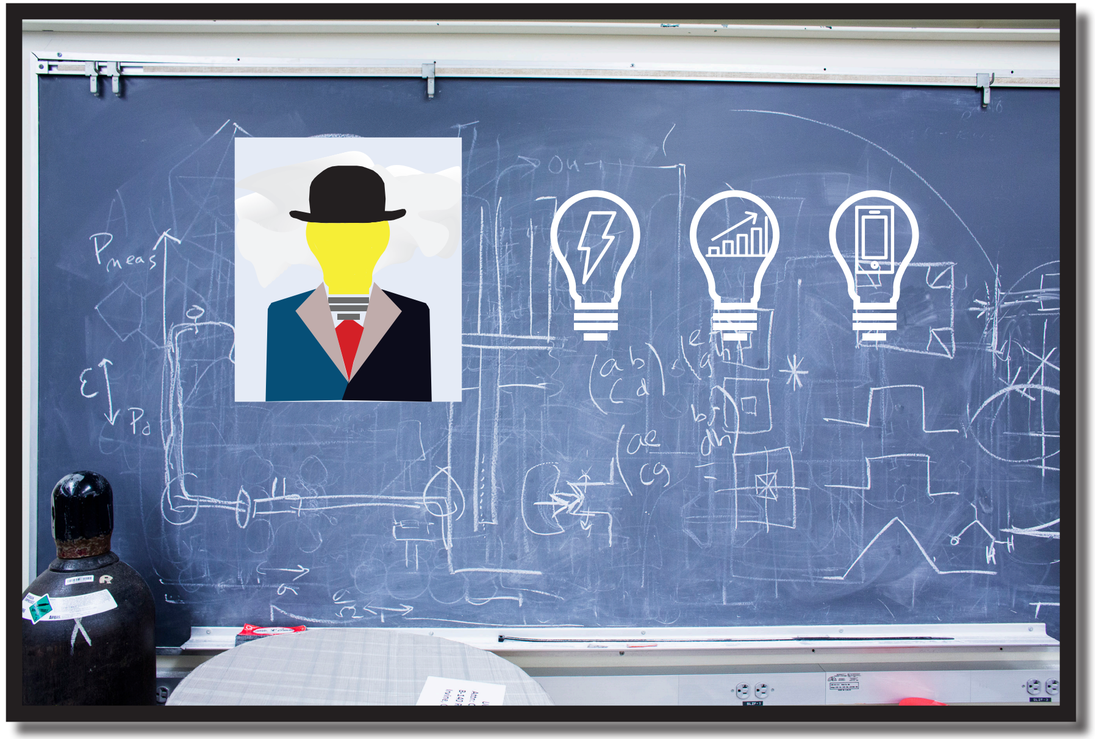
SU was the winner of the UC Davis Health Award at the 2018 Big Bang! Business Competition.

UC Irvine

HIGHLIGHTS FROM PROGRAMS SUPPORTED BY AB2664

- Proof of Product (POP) Grants:
  - Increased participation — The scope of potential applications has been broadened to include projects beyond medical devices/diagnostics and therapeutics, such as bioelectronics, cybersecurity, spatial mapping and aerospace technologies.
  - For Round 3 of POP Grants, 28 proposals were received; 11 teams were awarded funding. Total amount awarded in Round 3 was $1,043,798.
  - Kairos sponsored the Kairos Ventures Track Award/POP Grant Award in Round 3, awarding a total of $473,883 to six recipients (three received 100 percent funding, and the other three received 50 percent funding).
  - Forty-four letters of intent (LOI) were received for Round 4. The number of LOIs from the School of Physical Sciences has increased from 2 percent to 18 percent.
  - A $150,000 POP Grant award was secured for Round 4 and additional funding was secured for Round 5 from Beckman Coulter, who also served as domain expert reviewers during Round 3.
- The Tech Surge Competition, hosted by Applied Innovation, is ongoing. Out of the 26 teams, UCI has 16 teams represented in the Tech Surge Competition.
- The Henry Samueli School of Engineering hosted a Winter Design Review as a way to look for innovative projects addressing grand challenges and demonstrating high commercialization potential. Out of 144 projects, 13 were awarded the Dean's Choice Award. The top three projects came out of the Biomedical Engineering (BME) 180A/B/C class.
- The Beall Center for Innovation and Entrepreneurship and Applied Innovation hosts the New Venture Competition each year. Out of the 26 student projects, 18 were finalists in the New Venture Competition.
- The BioENGINE program held a "Speed Dating Team/Mentor Matchup Event." The event matched the Biomedical Engineering (BME) capstone teams with industry experts who mentor teams on business development plans and market strategy. The program had lined up 19 individuals as mentors to meet with the student teams approximately once a week for an hour.

- BioENGINE held the Third Annual Device Design Symposium, a celebratory showcase of the UCI senior design projects from the yearlong biomedical engineering course.
  - Each of the 26 student teams gave 90-second elevator pitches to a large audience of industry leaders, UCI faculty and colleagues, and presented working prototypes of their inventions.
  - Two $15,000 Summer Fellowships were given to two teams (OnSite and BubTech) to continue working on their projects through the summer.
  - Five $1,000 Design Awards were given to teams for the technical work done on their projects throughout the year.
- Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR):
  - Engaged over 43 UC researchers and provided them with 140+ hours of assistance, service and one-on-one counseling
  - Assisted nine UCI-related and Cove incubator-related companies with SBIR direct and indirect support, providing over 120 hours of consulting, grant assistance and opportunity identification
  - Assisted UCI research team with collaborative NIH U19 grant resulting in the submission of a $25 million proposal between UCI, UC Davis and University College London
  - Assisted three university research teams/companies developing their SBIR proposals
  - Developed and presented SBIR/STTR presentations to I-Corps, BioENGINE and TechSurge; served more than 200 individuals, providing over 350 hours of training, outreach and engagement



HUMBLE TECHNOLOGIES

http://humbletechnologies.net/

Humble Technologies is a student startup that came out of the BioENGINE Senior Design Capstone Course. The team has developed its own IP and incorporated, and is raising funds to move its startup forward. The team leader came up with the idea of bubble-free syringes because as a child when he was responsible for giving his diabetic grandfather insulin injections, the prospect of injecting an air bubble into his grandfather terrified him.

The Humble Technologies' team won second place (out of 46 participants) in the Elevator Pitch Competition at the Neeley School of Business at Texas Christian University. The team also placed second in the UCI TechSurge Competition, and won second place in the Beall Student Design Competition. Humble Technologies is a member of the Wayfinder incubator.

KINO BIOSCIENCES

http://www.kinobio.com

Kino Biosciences' proprietary Vascularized Micro-Organ (VMO) platform is the first to contain a 3D, perfused network of living dynamic human blood vessels. Kino also created organ-specific versions of these vessel networks by inserting tissues of interest, such as cancer (the Vascularized Micro-Tumor, or VMT) and normal brain with an intact blood-brain barrier (the Vascularized Micro-Brain, or VMB). The perfused vessel network in these platforms has physiological flow and permeability, making them an ideal test platform to measure responses to stimuli.

Kino Biosciences was awarded a POP Grant.

SYNTR HEALTH TECHNOLOGIES

https://www.syntrtechnologies.com/

Syntr develops therapeutic devices that use stem cells to treat diabetic foot ulcers at the point of care.

A BioENGINE success story, the Syntr team emerged from the program as undergraduate students. After receiving $300,000 of NIH funding on a Phase I effort, they will follow up with another Phase I proposal to the Defense Health Program for $350,000 in funding to create a device for a 510(K) premarket FDA submission.

The Syntr team is a member of the Wayfinder incubator.

HIGHLIGHTS FROM PROGRAMS SUPPORTED BY AB2664

- UCLA Anderson School of Management — Price Center for Entrepreneurship and Innovation:
  - Hosted 10th annual Entrepreneurship Bootcamp for Veterans (EBV)[16] for 23 veterans with disabilities, with five participants having launched startups
  - Management Development for Entrepreneurs (MDE) hosted a 10-day program for 27 entrepreneurs from 25 companies. (Surveyed program participants reported that over 250 jobs were created this year.)
  - The Venture Accelerator hosted a summer cohort in 2017; launched the Entrepreneurs-in-Residence program; hosted the Business Creation Options program during fall and winter quarters; hosted the inaugural Anderson Veterans Association (AVA) Showcase; and awarded AVA proof of concept grants to promising accelerator teams
  - Between January and June 2018, held first two-quarter Entrepreneurship Science, Medicine and Technology (ESMT) Seminar Series for South Campus (science, medicine, and engineering) researchers
- UCLA Technology Development Group:
  - Assisted with the creation of four new startups
  - Held the first campuswide computer science competition in conjunction with Bow Capital and Osage University Partners. Upon incorporation of the company, the winning team, CytoLive, will receive $75,000 and the second place team, MLX, will receive $50,000 in the form of a safe agreement
- 2017 UCLA Innovation Fund Biomedical Competition:
  - Awards of up to $200,000 were given to 18 researchers and scientists to help bring their technology and innovation to the marketplace more quickly and with a greater chance of success. Award recipients will also be able to solicit feedback from a panel of industry leaders and investors. (Full list of recipients on pages 42-45.)[17]
- 2017 Startup UCLA Summer Accelerator Program:
  - Eleven teams completed the program
  - $12,000 of proof of concept funds were awarded to the 2017 teams
  - The teams continue to utilize services — venture consulting and coworking space — to develop their startups

- 2018 Startup UCLA Summer Accelerator program:
  - Hired two additional venture consultants to increase outreach and support venture consulting appointments in nonprofits and social enterprise areas
  - Received 50 applicants for funding
  - Ten teams to participate in the program
  - Four teams chosen for the pre-accelerator
- As of June 2018, Startup UCLA Outreach Activities and Venture Consulting:
  - Served 126 new ventures
  - Held 400+ venture consulting meetings
  - Gained 369 new profiles
  - Reached 1,097 people via event programming
  - Reached 725 people via tabling programming
  - Had 2,150 space usage check-ins

STARTUPS THAT PRESENTED AT THE ANDERSON VENTURE ACCELERATOR SPRING 2018 SHOWCASE

- Bruxa is developing a smart mouthguard that gathers data while protecting the wearer's teeth. It will connect to a smartphone app to allow users to track bruxism episodes, severity and treatment effectiveness. It will also make recommendations to help reduce bruxism.
- Chronaly plans to create a portfolio of mobile apps using advanced technology to provide better treatments and therapies to individuals with developmental disabilities and those that care for them. The initial focus will be on apps for autism.
- EvaluMe is a software designed to eliminate bias in employee performance reviews using artificial intelligence (AI) built on a platform that facilitates micro-continuous feedback from collaborators and stakeholders.
- Hansel is a social travel app that lets users see where their friends have visited, privately exchange place recommendations and keep playlists of their favorite recommendations.
- KPOP Foods is a Korean food consumer packaged goods company focusing on an e-commerce strategy during its early stages of growth.
- MiVUE is in the process of creating the first smart otoscope that will use AI to diagnose ear infections at home.
- Onova develops machine-learning software to analyze medical images, providing diagnosis reports for radiologists and doctors to utilize. The software looks to reduce diagnosis error rates and medical costs.
- OutofOffice is a software for early-stage entrepreneurs. It will help users stay organized and be more efficient as they launch their startup.
- Prairie Coast Partners is a startup real estate fund that acquires, modernizes and rents properties in Kansas City.
- Textpert utilizes AI to fight the opioid epidemic and mental health disorders. Its flagship product, AiME, features cutting-edge AI technology that objectively assesses and tracks risk levels of opioid addiction, depression and anxiety.

2017 UCLA INNOVATION FUND BIOMEDICAL COMPETITION AWARD RECIPIENTS

HOLDEN WU
ASSISTANT PROFESSOR,
DEPARTMENT OF RADIOLOGY

JEFFREY ZINK
DISTINGUISHED PROFESSOR, DEPARTMENT OF CHEMISTRY

Wu and Zink's research focuses on precision MRI-guided nanomedicine. They were recognized for their work with a novel nanoparticle platform to control where and when cancer drugs are released to fight disease within a patient, with the hope of limiting damage to healthy tissue.

THERAPEUTIC TRACK

DIGITAL HEALTH TRACK

DIAGNOSTIC TRACK

WILLIAM LOWRY
PROFESSOR,
DEPARTMENT OF MOLECULAR, CELL
AND DEVELOPMENTAL BIOLOGY

HEATHER CRISTOFK
ASSISTANT PROFESSOR,
DEPARTMENT OF
BIOLOGICAL CHEMISTRY

MIKE JUNG
DISTINGUISHED PROFESSOR,
DEPARTMENT OF CHEMISTRY

Lowry, Cristofk and Jung were awarded for their discovery of a method to stimulate new hair growth through increased lactate production in the hair follicle stem cells.

REN SUN
PROFESSOR,
DEPARTMENT OF NEUROLOGY

Sun is developing a new flu vaccine with a strain that allows for interferon production, which "will limit virus replication" and "stimulates a stronger antibody and T-cell response."[18]

THOMAS CARMICHAEL
PROFESSOR,
DEPARTMENT OF NEUROLOGY

TATIANA SEGURA
FORMER PROFESSOR,
DEPARTMENT OF CHEMICAL AND
BIOMOLECULAR ENGINEERING

Carmichael and Segura were recognized for their work in developing bioengineered hydrogels to help repair the brain after a stroke.

MIKE JUNG
DISTINGUISHED PROFESSOR,
DEPARTMENT OF CHEMISTRY

RICHARD PIETRAS, M.D.
PROFESSOR,
DEPARTMENT OF MEDICINE

Jung and Pietras were recognized for their research on estrogen receptor downregulators for breast cancer.

LUKE MACYSZYN, M.D.
ASSISTANT PROFESSOR,
DEPARTMENT OF NEUROSURGERY
AND ORTHOPEDICS

BILWAJ GAONKAR
POSTDOCTORAL RESEARCHER,
DEPARTMENT OF NEUROLOGY

Dr. Macyszyn and Gaonkar's research focuses on the use of advanced computational imaging for spinal disease diagnosis and surgery.

NAVID AMINI
RESEARCH SCIENTIST,
DEPARTMENT OF COMPUTER SCIENCE

KOUROS NOURI-MAHDAVI, M.D.
OPHTHALMOLOGIST, DEPARTMENT OF OPTHALMOLOGY

Amini and Nouri-Mahdavi were recognized for their project using head-mounted displays to compensate for neurological vision loss and enhance patients' field of view.

KALYANAM SKIVKUMAR, M.D.
PROFESSOR,
DEPARTMENT OF MEDICINE AND RADIOLOGY

OLCAY AKSOY, M.D.
DIVISION OF CARDIOLOGY

Drs. Shivkumar and Aksoy "were honored for their progress on the creation of an artificial cord for minimally invasive mitral valve repair in the heart."[19]

TATIANA SEGURA
FORMER PROFESSOR,
DEPARTMENT OF CHEMICAL AND
BIOMOLECULAR ENGINEERING

NICHOLAS BERNTHAL, M.D.
ORTHOPEDIC SURGEON AND DIVISION CHIEF,
MUSCOLOSKELETAL ONCOLOGY

Segura and Bernthal were recognized for their research of a polymer that can be used as an "antimicrobial coating to limit infections associated with orthopedic implants."[20]

MONA JARRAHI
PROFESSOR AND VICE CHAIR, GRADUATE AFFAIRS
DEPARTMENT OF ELECTRICAL ENGINEERING

ALIREZA MOSHAVERENIA, DDS
ASSISTANT PROFESSOR,
SCHOOL OF DENTISTRY

AYDOGAN OZCAN
CHANCELLOR'S PROFESSOR AND HHMI PROFESSOR,
DEPARTMENT OF ELECTRICAL AND
COMPUTER ENGINEERING

Jarrahi, Moshaverenia and Ozcan were awarded for their development of a "terahertz imaging system for non-destructive quality control of dental products."[21]

BRIAN KOOS, M.D.
DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

Koos was honored for his research about noninvasive screening for gestational diabetes in the first trimester of pregnancy.

BELLENOVÉ

www.bellanove.com

BelleNové is a membership-based clothing company that allows expectant mothers to rent a variety of maternity clothes in various sizes as they progress along their pregnancy journey.

BelleNové was founded by Jenny Leung, a 2018 Anderson MBA graduate. While still an MBA student, Leung participated in the 2017 Startup UCLA Summer Accelerator and received proof of concept funding from AB2664. She was also a finalist in the Knapp Venture Competition and was selected to receive the Wolfen Entrepreneurial Spirit Award in spring 2017, which provides a $15,000 stipend that allows a student to conduct a feasibility study and launch a business during the summer between years at Anderson. (The Wolfen Funds were part of the AB2664 matching funds.) After launching her company in September 2017, Leung continued working on her venture through Anderson's Business Creation Option program. She was one of 40 other student entrepreneurs invited to attend the Blackstone LaunchPad Techstars Training Camp in New York City in October 2017. In April 2018, BelleNové won second place in the Lowell Milken Institute-Sandler Prize for New Entrepreneurs, which came with a $30,000 prize.

ESCALITY

http://escalitygames.com

Escality, LLC. is a video game studio that specializes in creating unique customized virtual reality (VR) and augmented reality (AR) games and applications. Currently, the studio is developing custom-themed VR escape room games and AR scavenger hunts for clients.

Alvin Vuong, Eric Qu and Hunter Gorczycki, undergraduate and recent alumni founders of Escality, participated in the 2017 Startup UCLA Summer Accelerator.[22]

GENEROSITY DESIGNS

https://generositydesigns.com

Generosity Designs is a philanthropic jewelry startup. The company creates custom-made jewelry for sororities to sell to raise money for charities. Generosity Designs also offers a line of jewelry that directly supports the American Heart Association through each sale. The company donates 25 percent of all proceeds to charity.

Generosity Designs was founded by Richard Yu, a pre-med student. He received venture consulting through Blackstone LaunchPad at UCLA and proof of concept funding.

MECHANODONTICS

www.mechanodontics.com

Mechanodontics makes customized braces that reduce the overall treatment time by half and are placed behind the teeth, and making them invisible.

Founders Jamie Wratten and Mehdi Roein-Peikar have been active participants in activities of the Anderson Venture Accelerator over the past two years; Mechanodontics won the Knapp Venture Competition at UCLA Anderson in spring 2017. Mechanodontics was also selected to pitch in the Arizona State University (ASU) Innovation Open semifinal round in December 2017 at ASU's SkySong in Scottsdale and has participated in several other pitch/business plan competitions while building the business. These competitions provide non-dilutive funding that supports the cash flow needs of the business.

Roein-Peikar is a resident in orthodontics at UCLA. He participated in the Startup UCLA Summer Accelerator in 2017 and received venture consulting through Blackstone LaunchPad at UCLA.

POMILY

www.pomily.com

Pomily is a makeup and beauty app that integrates social media and social commerce. Designed for beauty consumers, the app seeks to eliminate the fragmentation between seeing and buying beauty products on various social media platforms. Pomily allows users to post pictures and tag beauty products they use, then allows viewers interested in the same product to purchase the tagged products directly through the app.

Pomily, created by UCLA graduate Selina Moon along with a team of Bruins, received venture consulting through Blackstone LaunchPad at UCLA.

QUANTVEX

Quantvex is a fintech company that has developed a proprietary digital engagement/financial planning platform for the wealth industry. This new technology is expected to "deliver instant client insights" to wealth managers and enhance engagement of future clients.

Quantvex founders, Shang Chou (MBA '16) and Dan Jacobs, incubated the company in the Anderson Venture Accelerator. Quantvex received venture funding from a local venture firm, built out its software platform and began its business development efforts. During this process, the firm received an acquisition offer from an asset manager, which it has accepted, resulting in a successful exit from the business.[23]

ROSEN SKINCARE

www.rosenskincare.com/

Rosen Skincare has created a line of natural beauty products that are plant based, have a minimal number of ingredients, and are still highly effective.

Rosen Skincare was founded by Jamika Martin, a 2017 business economics graduate. Rosen Skincare participated in the Startup UCLA Summer Accelerator in 2017 and received venture consulting through Blackstone LaunchPad at UCLA. Rosen also participated in the Target Takeoff Accelerator program.

SARA HEALTH

www.sara.health

SaRA: The Simplifying Recovery Assistant, is a web-based application that aids physical therapy patients in their recovery process by tracking their compliance with their rehabilitation plan and keeping their health care provider apprised of their progress.

SaRA Health, founded by Steven Coen (MBA '18), was a member of the 2017-18 cohort in the Anderson Venture Accelerator. SaRA Health has already received seed funding.

TUTORFLY

www.tutorfly.org

Tutorfly is an ed tech platform that is working to provide an educational alternative to the traditional classroom setting through peer-to-peer tutoring. Tutorfly is reinventing education by empowering students to teach other students at every education level.

Parsa Rezvani, undergraduate founder of Tutorfly, participated in the Startup UCLA Summer Accelerator in 2017 and received venture consulting through Blackstone LaunchPad at UCLA. Tutorfly won the 2018 Barry and Meredith Eggers Entrepreneurial Seed Prize of $5,000 as well as second place, with a $10,000 prize, in the Knapp Competition.

VANTH

https://www.vanththeapp.com/

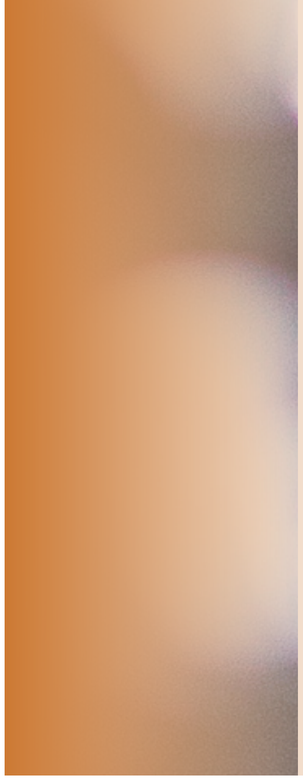
Vanth is a social commerce app that directly connects consumers looking for made-to-measure clothing to seamstresses and tailors in Los Angeles and around the world. The app also has a social impact as it encourages direct buying, which can reduce the need for sweatshops

Kimberly Phan, law student and founder of Vanth, received venture consulting through Blackstone LaunchPad at UCLA. She also pitched at the Princeton TigerLaunch startup competition for the Seattle regional round in February 2018.

HIGHLIGHTS FROM PROGRAMS SUPPORTED BY AB2664

- Development for the Pi Shop - a.k.a. the Product Development Center, is underway, with new space for the facility having been secured as of June 1, 2018. The Pi Shop will be a new makerspace facility that will allow inventors and entrepreneurs to develop and test prototypes using a wide range of tools, machinery and equipment. Seminars, networking events and programs focused on assisting participants along their entrepreneurial journey will also be offered.
- Central Valley Entrepreneurship Academy:
  - UC Mentors, the new online platform, is currently being configured. A three-way collaboration between the UC Davis Institute for Innovation and Entrepreneurship, the UC Davis Office of Research Venture Catalyst group, and UC Merced's Venture Lab, the UC Mentors will provide innovators and entrepreneurs with access to a vast network on mentors via the internet. The program is expected to launch fall quarter 2018.
  - The First Central Valley Innovation Award (2018) was presented to a Central Valley team during Big Bang! Final Presentations and Awards Ceremony in May 2018.
- Central Valley Venture Legal Assistance Network - see pages 6-7 for update.
- The newly developed Proof of Concept Venture has opened up the application process to their first two cohorts.
- UC Merced Venture Lab Expansion — Merced:
  - The main lab has been expanded to include an extra 3,000 square feet of space with an open space for large events and networking opportunities.
  - A program has been created for additional affiliate members to mentor startups and use the space. A mentor series event was held in April 2018.
- UC Merced Venture Lab Expansion — Atwater:
  - The build-out of the Atwater makerspace facility continues. New equipment purchases are being finalized; safety and training protocols have been established; workshops with the Product Development Center have been initiated; and an advanced workshop series is in development.

- UC Merced Venture Lab Expansion — Modesto:
  - The UC Merced Venture Lab has moved into the Modesto space.
  - In collaboration with UC Davis, programs such as the Big Bang! Business Competition and the Central Valley Entrepreneurship Academy have been developed and will be hosted in Modesto.
  - Programs around the needs of the Modesto Venture Lab members are also being implemented: 1) Founders seeking Founders — similar to speed mentoring, centered on guests and members seeking opportunities to collaborate or partner with potential co-founders; 2) Artist's Speak provides opportunities for visual and spoken-word artists to showcase their talent in the community; 3) Venture Lab Startup TV enables members to share their business on camera and have it delivered to a network of entrepreneurs, business leaders and potential customers.
  - The Modesto facility has launched additional programs including: UC Berkeley's New Business Practicum office hours; SCORE Business Consultation; NSF I-Corps and Big Bang! Business Competition Viewing Parties.
  - Various events to promote the Venture Lab have been held over the past year: soft opening, member roundtables and First Friday Finance office hours with financial advisers.



BRIAN HUNGERMAN

UNDERGRADUATE STUDENT,
DEPARTMENT OF COMPUTER SCIENCE
AND ENGINEERING

Brian Hungerman is currently a sophomore studying computer science and engineering at UC Merced. When Brian entered the UC Merced's 2016 Mobile App Challenge, he knew exactly what he wanted to try and build: an educational coding app that would overcome the pitfalls so many students encounter while learning computer science. This led to, after making different ideas and prototypes, his final product: Iterate. Brian won the Mobile App Challenge with his app that seeks to revolutionize not only how we teach computer science, but how we write code itself. As of today, Brian is working closely with Michael Urner, from BEAT, to develop relevant in-class and after-school curriculum utilizing Iterate on a web platform accessible through school Chromebooks. Brian is excited to get the chance to enter the next stage of development with Iterate, and is eager to see kids start learning how to code faster and with a higher rate of retention.

JULIO PEREZ

UNDERGRADUATE STUDENT,
DEPARTMENT OF MECHANICAL ENGINEERING

Julio Perez is a mechanical engineering student with experience in sustainable energy research. Perez is in the conceptual phase of Solar Homes Construction. His project aims to integrate an innovative and sustainable system for meeting thermal energy needs into the construction of new homes in Merced. He wants to aid in the inevitable transition to a renewal energy to stimulate economic growth in the Central Valley by refocusing the economic dependency on energy. As a member of the Venture Lab, he aims to gather the resources, guidance and mentorship necessary to cover all aspects of his business and to transition Merced into a sustainable community.

TRENTON BERNER

UNDERGRADUATE STUDENT,
DEPARTMENT OF MECHANICAL ENGINEERING

Trenton Berner is pursuing a B.S. in mechanical engineering at UC Merced. The main objective of his research is 3D-print custom bicycle frames for individual riders. He creates complex geometries, which allow the frame to be manufactured with a variety of materials that are more cost-effective and sustainable. Each frame can be tailored to the rider's size, skill and aesthetic preference. In addition to conducting research, Berner is the vice president of the UC Merced Cycling Club and a trail builder at Exchequer Mountain Bike Park, where he shares his passion for cycling and engineering with the campus and local community.

SWEEP ENERGY

https://sweepenergy.com/

Sweep Energy has developed a device to remotely monitor equipment and diagnose issues. It can be used in a wide variety of industries, from medical to agriculture.

After finishing its first pilot programs, Sweep Energy has acquired its first two paying customers. The company is working on producing complete units of their device at Venture Lab Atwater.

Now that Sweep Energy is able to access the UC Merced manufacturing site in Atwater, it has been able to accelerate its hardware engineering and testing, and is now preparing its device for manufacturing. With Venture Lab assistance, the team was able to attend their first two expositions.

At the first expo, the group connected with the CEO of the California League of Food Processors and secured a substantial discount to exhibit at the league's yearly expo as a result of their networking within the Venture Lab.

As a result of their presence at the food processors' expo, Sweep Energy developed a partnership with a company that will be helping the group sell its product in the San Diego area. Using the Venture Lab's lawyer resource, Sweep Energy has been able to develop sales agreements and nondisclosure agreements for partnering with other companies.

Sweep Energy also benefited from a networking event hosted by Venture Lab Merced, where they met and are now working with a salesperson with over 20 years of experience in the technology sales industry who is helping the company expand its reach to additional customer segments.

Sweep Energy is a member of the UC Merced Venture Lab.

TERGIS TECHNOLOGIES

Tergis Technologies co-founders, Michael Urner and Paul Barghouth, developed a new humidifier for mechanical ventilators to help prevent ventilator-associated pneumonia in premature newborns, one of the most prevalent infections in neonatal intensive care units. "Our mission is to make hospitals cleaner and safer through mechanical means, rather than pharmaceutical," Urner said. "If we can reduce the use of antibiotics, we can reduce the prevalence of antibiotic-resistant bacteria."

As a finalist in the 2nd Annual UC Entrepreneur Pitch Competition, Tergis Technologies had the opportunity to pitch in front of over 700 investors at the Global Corporate Venturing and Innovation Summit in January 2018. They also participated in the Big Bang! Pitch in April 2018, where they won the $5,000 Central Valley Innovation Award. Watch their pitch: https://youtu.be/OlMBQhAT_rc

Tergis is a member of the UC Merced Venture Lab.

UC Merced alumni Michael Urner and Paul Barghouth founded Tergis Technologies, a company developing new medical devices to reduce the number of hospital-acquired infections.

HIGHLIGHTS FROM PROGRAMS SUPPORTED BY AB2664

- Semiannually, UCR's Office of Technology Partnerships offers proof of concept funding of up to $45,000 to UCR faculty who have an idea or technology that has significant commercial or business potential. These grants provide a gateway, transforming the traditional research perspective into developing technology with commercial applications in mind. Interested faculty members apply with information about their team, the problem they are solving, their solution, intellectual property and commercialization ideas. Through funding from AB2664, the Office of Technology Partnerships provides expertise and support to faculty in the commercialization aspects of moving technology out of the University.
  - In 2017, eight proof of concept grants were awarded.
  - In 2018, six UCR faculty members were awarded proof of concept funds.
- The Center for Molecular and Translational Medicine (MolMed) awarded four proof of concept grants in 2018.
- Citrus Lab Expansion is almost complete. Equipment has been purchased and project applications for the first faculty cohort are in the process of being reviewed.
- UC Riverside's Entrepreneurial Proof of Concept and Innovation Center (EPIC) supports not only UCR students and faculty, but the local Riverside County communities as well.
  - In collaboration with the National Science Foundation (NSF) I-Corps program, EPIC has completed three semester courses with a total of 36 teams. Five faculty teams have been accepted into the seven-week NSF I-Corps national program. These teams will also receive $50,000 toward validation and product-market fit.
  - The EPIC Small Business Development Center (SBDC) was officially launched on April 3, 2018. The new center, located in downtown Riverside, will "provide free training, access to capital, and ongoing support from seasoned entrepreneurs and industry experts."[24] To date, 10 active mentors have provided 47 clients with over 364 hours of support.
  - EPIC also held its first Patent Award Ceremony, EPIC Annual Demo Day and Innovation Month Pitch Competition.
  - In partnership with EPIC SBDC, the ExCITE Accelerator has implemented new processes and programs for its entrepreneurs.

- The Highlander Venture Fund (HVF), which invests specifically in startups to help them bring their products to market and to be sustainable, has funded two teams — NanoCellect Biomedical[25] and Sensorygen[26] — and are in the process of reviewing teams for their third investment. (See pages 62 and 65 for more information about each company.)
- Creat'R Lab, a new student-driven innovation makerspace, celebrated its first anniversary with its inaugural Anniversary Showcase, which was held on May 3, 2018. Student groups presented their projects and staff provided demonstrations and led visitors in crafts. To date, Creat'R Lab:
  - Hosted over 1,300 entrepreneurs utilizing its new facility
  - Held over 180 workshops on various entrepreneurial topics
  - Hired new staff and implemented a entrepreneurs-in-residence office for students[27]
- The new wet-lab incubator will be located in the Multidisciplinary Research Building 1. The 3,000-square-foot facility is under construction. When fully occupied, it will house approximately 10 UC-affiliated startups.

2017 PROOF OF CONCEPT GRANT WINNERS

Below are the eight faculty and researchers who were awarded the proof of concept grants:[28]

- Peter Atkinson, professor of genetics in the Department of Entomology, and Linda Walling, professor of genetics in the Department of Botany and Plant Sciences, received $35,000 to further develop their genetic technology that focuses on controlling pests.
- Guillermo Aguilar, professor and graduate advisor in the Department of Mechanical Engineering, was awarded $35,000 for his "laser-based device to provide a visual representation of blood flow for surgeons in the operating room."
- Juchen Guo, assistant professor in the Department of Chemical and Environmental Engineering, is creating a rechargeable aluminum battery. He received a $30,000 grant.
- Chan Park, an associate research engineer at the Center for Environmental Research and Technology (CE-CERT) and associate adjunct professor in the Department of Chemical and Environmental engineering, received $45,000 to develop his natural gas fuel quality sensor, which measures and adjusts the gas utilized by water heaters and other devices.
- Michael Pirrung, distinguished professor of chemistry, was awarded $35,000 for his "novel cancer treatment."
- Sundararajan Venkatadriagaram, assistant professor in the Department of Mechanical Engineering, was given a $30,000 grant "to create a device that monitors industrial machinery to predict failure."

AGROBIOMICS

www.agrobiomics.com

Vineyards and orchards impacted by trunk diseases can experience huge economic losses, with decreased yields of up to 50 percent, or more if the orchard or vineyard is older.

To combat this issue, Agrobiomics develops products that protect fruit and nut tree crops against trunk disease. Its first commercial product, CropSeal 2.0, is on the market. It is a water-resistant, antimicrobial sealant that is applied to tree wounds after pruning and is safe to use in organic farming.

Agrobiomics is supported by EPIC.

BEAM-CA, LLC

www.beam-ca.com

BEAM-CA, LLC specializes in developing highly sensitive magnetometers for instruments and devices used in the food, health care, and transportation industries.

BEAM-CA, LLC recently received a $149,000 NSF grant to continue its research development efforts. BEAM-CA, LLC was a member of the ExCITE Accelerator.[29]

BLUE

https://blue.social/

Blue is a social app that can instantly connect people to other Blue users. It shows other users who are going to or are at the same event, and it can provide introductions to users who are nearby.

Blue is currently a member of the ExCITE Accelerator.

DEEPBITS

www.deepbitstech.com

DeepBits has developed two cybersecurity software tools, EagleEye and Holmes, using innovative analytics to detect vulnerabilities in all internet-accessible devices and provide intelligence on cyber incidents.

DeepBits is currently a member of the ExCITE Accelerator.

EZER

www.getezer.com

EZER is a new delivery system that utilizes local drivers for on-demand or scheduled pickups and deliveries of small or big items. Using a smartphone app, similar to Uber or Lyft, individual and business customers can simply request an EZER driver, tell them where to pick up an item and where it needs to be dropped off. Items and drivers can easily be tracked.

EZER is one of the startups supported by EPIC.

FARMSENSE

www.farmsense.io

Previously, farmers had to set up traps, manually conduct repeated checks of those traps, and then go through the process of identifying the captured insects. The whole process could take days or even weeks. FarmSense has developed an new insect trap, called Smart Traps, that can detect, capture and immediately classify insects inhabiting a particular orchard or field through a remote monitoring system. By providing real-time intelligence, Smart Traps allows for a more optimized pesticide management process, which may reduce toxicity.

FarmSense is currently a member of the ExCITE Accelerator.

INSTAPP DEALS

www.instappdeals.com

InstApp Deals is a smartphone app that helps businesses expand their customer base using existing customers' connections to their friends and family members while providing individual users with discounts and promotions to businesses they frequent in the InstApp network.

How it works: Businesses send out a promotion to individuals in the network, after the customer meets the purchase requirement for a coupon or discount; the person is then offered an additional incentive for sharing the promotion with people he or she knows. Individuals are also able to purchase items via the app.

InstApp Deals is one of the startups supported by EPIC.

KIDS THAT CODE

https://kidsthatcode.org/

Kids That Code offers educational workshops and programs to elementary and middle school children to help them develop their computer programming skills to create games, mobile apps, etc.

Kids that Code is a member of the ExCITE Accelerator.

MURRIETA GENOMICS

www.murrietagenomics.com

Murrieta Genomics is an incubator dedicated to supporting startups focused on genome-related products, services and research. Murrieta offers entrepreneurs a full range of support to help them get their product to market, including access to specialized equipment, mentors and investors.

Murrieta Genomics is currently a member of the ExCITE Accelerator.

NANOCELLECT BIOMEDICAL

www.nanocellect.com

NanoCellect Biomedical has developed a compact, portable cell sorting device, the Wolf Cell Sorter, which enables researchers to process fragile cells using a new technology that reduces damage or negative impacts to the cells that may occur in traditional cell sorting mechanisms. Toxic aerosols are no longer emitted due to the microfluidic chip that NanoCellect developed to sort the cells. Also, with the use of sterile disposable fluidics, there is less chance of contamination. The N1 Single Cell Dispenser is another product created by NanoCellect. The device "quickly and effortlessly" plates cells using disposable fluidics technology.

NanoCellect Biomedical is currently a member of the ExCITE Accelerator. NanoCellect is also the first company to receive investment funds from Highlander Venture Fund. It received $250,000 as part of a Series B funding round.[30]

NanoCellect Biomedical - N1 Single Cell Dispenser

For NanoCellect video, click on picture above or go to:
https://youtu.be/7NNdUuxAMJk

NEX MOVE GAMES

http://nexmovegames.com/

Nex Move Games is a UCR student-founded startup that aims to make the world better through games by using an innovative card game to increase meaningful social interaction. The startup is working on launching brewery games and building its customer base through demonstrations, mailing lists and its social media presence.

Nex Move Games' founders started the company as a class project in UCR's MBA program. They then went on to participate in the NSF I-Corps Startups for Innovators class funded by AB2664 in fall 2016, where they were able to test their product. After attending Startups for Innovators, Nex Move Games became a resident at the ExCITE Accelerator.

RIVAL

www.findyourrival.com

Rival is a social app that connects individuals looking to engage in unsanctioned competitive sports with other athletes. The app allows users to see pickup games in a given area, how many people are needed and how many people are already set to participate in a game, profiles of other members and a means to message them.

Rival is supported by EPIC.

SENSORYGEN

https://sensorygen.com/

Sensorygen is developing a mosquito repellent that rivals N,N diethyl-m-toluamide (also known as DEET) in effectiveness. But unlike DEET, which can melt plastic, the Sensorygen repellent will be safer for human use as it will include naturally occurring chemicals. Sensorygen is also looking to create repellents for other insects, such as bedbugs, ticks and ants.

Sensorygen is the second company to receive investment funds from the Highlander Venture Funds.

VINDUINO

www.vinduino.com

The Vinduino irrigation system utilizes wireless sensors that measure moisture in the soil and remote valve controls to adjust water flow as climate and soil conditions change. The system provides users with more immediate and precise recommendations regarding how much water to use and how often to water, thereby reducing their costs, increasing their yields and improving the quality of fruit they are able to produce.

Vinduino is supported by EPIC.

UC San Diego

HIGHLIGHTS FROM PROGRAMS SUPPORTED BY AB2664

- The Basement:
  - Continues to work with its 2017-18 cohort
  - Increased the number of students engaged in innovation/entrepreneurship programming by 25 percent, and doubled the number of Arts and Humanities students engaged in Basement programs
  - Supported the formation of four companies enrolled in Basement undergraduate programs
  - Hosted the Triton Entrepreneur Night on May 31, 2018, where six Basement teams pitched their ideas to a panel of judges made up of investors and entrepreneurs[31]
- Veteran Venture Accelerator:
  - Has successfully graduated two cohorts
  - Was recognized by the Great American Defense Communities for its innovation and support of the military in February 2018[32]
  - Sent two teams, Baja del Sol and Family Proud, to the Global Social Innovation Conference held at University of San Diego. (See pages 73 and 75 for team profiles)
- Rady School of Management:
  - Piloted the Social Impact Accelerator, which was designed to help entrepreneurs focused on solving social issues
- Health Sciences:
  - Blue LINC, a student-run biomedical incubator, had its second cohort complete the program, with three teams continuing on. Three student teams trained in the Biodesign process of innovation through the Blue LINC Innovation Program. Additionally, one student team pitched its project to a panel of Blue LINC advisors and received $1,000 for prototyping and proof of concept.
  - The UCSD Medical Entrepreneurship Education and Training (MEET) program awarded its first proof of concept grants in June 2017. As of July 2018, all MEET teams have met their milestones, and a new cohort is being recruited.
  - A collaboration of the Rady School of Management and the Office for Innovation and Commercialization (OIC) has begun offering venture incubation services.
  - The SPARK Program is an immersive course that takes entrepreneurial innovators through a series of modules to help them identify market needs and generate and validate ideas to make them viable business opportunities. Modules 1 and 2 have been delivered, and Module 3 has been launched.

- Scripps Corporate Alliance:
  - Conducted six partner visits
  - Delivered four presentations
  - Co-hosted the annual Blue Tech Week conference
  - Launched the Blue Tech incubator as a "collaborator" with the City of San Diego
  - Hosted a weeklong Partnership for Observation of the Global Ocean meeting
  - Received $5,000 from new corporate member Saildrone; $100,000 from new corporate member for Biomimicry for Emerging Science and Technology Initiative; and new gift of $100,000 from San Diego Gas & Electric (SDGE) for the Center for Climate Change Impacts and Adaptation
- The Institute for the Global Entrepreneur (IGE):
  - In spring 2018, eight teams participated in the tech accelerator bootcamp, and five teams were selected for the second tech accelerator program cohort (one subsequently withdrew).
  - The first business accelerator cohort was launched in the fourth quarter of FY 2018.
  - In partnership with the Office of Innovation and Commercialization, IGE now offers a streamlined process for participants to apply to three programs with one application. The three programs are: Accelerating Innovations to Market (AIM), which supports early-stage proof of concept projects; the IGE Technology Accelerator, which supports teams in the development or market validation stage; and the IGE Business Accelerator, which supports companies in early stages of incorporation.[33]
- AIM and IGE awarded nine UCSD teams with proof of concept funding ranging from $10,000 to $50,000.[34] (See pages 70-71 for a list of award recipients.)
- UCSD, in partnership with the City of Ulsan (Korea) and the Ulsan National Institute of Science and Technology, has launched the Smart Transportation Innovation Program, which is focused on developing technology-based transportation solutions.[35] In June 2018, the partnership initiated its first collaboration project titled "Small-Cells for Connected Vehicles: An Experiment-Driven Exploration."
- Skaggs:
  - The California Shaman program, a joint program with San Diego State University (SDSU), Cuyamaca College and local Native American tribal leaders, continues to educate San Diego Unified School District high school students about chemistry and environmental resources through the study of native plants.
  - Expanded collaborations with Moores Cancer Research Center
  - Supported eight projects
- The pilot cohort for AIM successfully completed the program, and the second round of grants were awarded.
- The mystartupXX accelerator, designed mainly with the focus of encouraging and supporting female founders and women-led companies:
  - Selected eight teams to participate in its inaugural program
  - Launched Stage 2 with a cohort of those teams that had sufficiently advanced during the Stage 1 course
  - Engaged three new mentors for the program

UC San Diego California Shaman Program[36]

To see video, click on the picture above or go to:
https://youtu.be/-UKU-AfIa2Y

ACCELERATING INNOVATIONS TO MARKET (AIM) PROOF OF CONCEPT AWARD RECIPIENTS

Leanne Chukoskie and Jeanne Townsend

Leanne Chukoskie, assistant research scientist, Qualcomm Institute and Institute for Neural Computation, and Jeanne Townsend, adjunct professor emeritus of neurosciences, won for their research on hacking gaze behavior to improve attention in young children with autism.

Calvin Hang and Neil Chi

Cardiology postdoctoral fellow Calvin Hang and associate professor of cardiology Neil Chi received an award for their research on designer molecular probes for assessing atherosclerotic plaque rupture vulnerability with autism.

Denise Kalmaz

Associate clinical professor of gastroenterology Denise Kalmaz was given an award for her air/water retention device for improved visibility in colonoscopies.

Timothy Mackey

Timothy Mackey, associate adjunct professor in the Global Health Program, received an award for his research on big data–based social surveillance security platforms.

Albert Hsiao

Associate professor of radiology Albert Hsiao was awarded for his work on an MRI quality and guidance system.

Armen Gharibans and Todd Coleman

Bioengineering postdoctoral fellow Armen Ghariban and professor of bioengineering Todd Coleman were provided a joint award with the AIM program for their work on optimization of systems and methods for non–invasive gastric monitoring.

Lonnie Peterson, Alan Hargens and Jeffrey Steinberg

An award went to orthopedic surgery postdoctoral fellow Lonnie Peterson, professor of orthopedic surgery Alan Hargens and resident physician Jeffrey Steinberg for their research on reducing intracranial pressure.

Akshay Paul and Ana Moreno

Bioengineering graduate students Akshay Paul and Ana Moreno received an award for their research on smarter pain therapy.

Jeffrey Omens and Ryan Fishel

Professor of medicine Jeffrey Omens and bioengineering graduate student Ryan Fishel won an award for their prediction of clinical responses to cardiac arrest.

INSTITUTE FOR THE GLOBAL ENTREPRENEUR (IGE) TECHNOLOGY ACCELERATION PROOF OF CONCEPT AWARD RECIPIENTS

ATEIOS (FORMERLY OCELLA)

https://ateios.com/

Ateios (formerly known as Ocella) has developed a process for making printable, stretchable batteries. Using a special ink formulation process, Ateios produces their printable batteries on common surfaces like walls or clothes with a regular silk-screen printer.

Ateios is a member of The Basement and is participating in the Institute for Global Entrepreneurs (IGE) Technology Accelerator. Ateios was the 2017 Quick Pitch first-place winner and recently competed in the annual Rice Business Plan Competition (RBPC) at Rice University, where it won the NASA-sponsored Most Innovative Idea prize of $50,000.

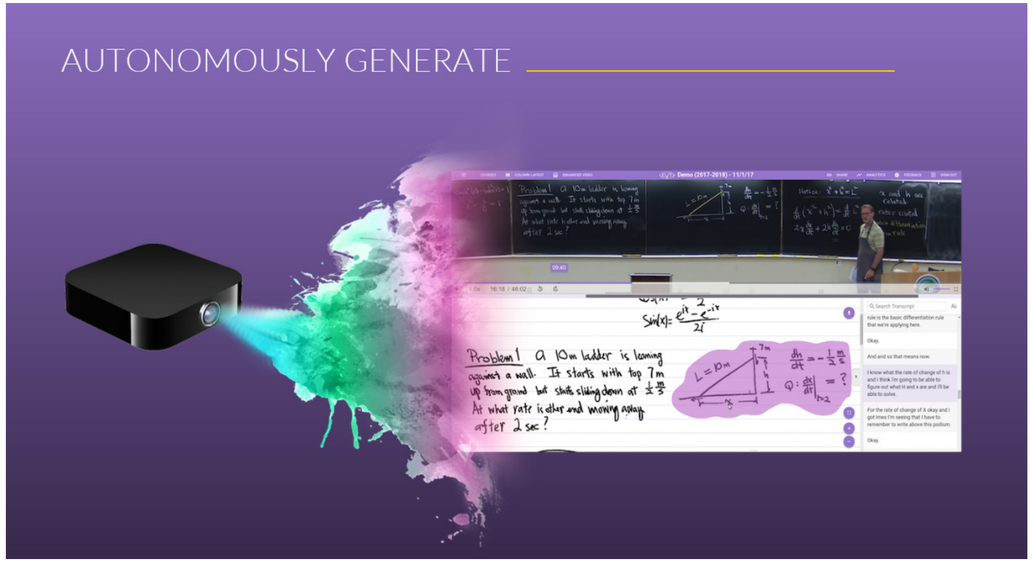
EDUCATIONAL VISION TECHNOLOGIES

https://evt.ai/

Educational Vision Technologies (EVT) is an online classroom platform that records and transcribes lectures verbatim, captures drawings and notes, and curates information on the same topic from other sources. It has the ability to remove the lecturer from view, allows users to revisit lecture content and is available for community participation.

EVT was designed to provide a solution for first-generation students, students with disabilities and professionals returning to school. EVT is being piloted at UCSD and San Diego State University.[37]

Educational Vision Technologies is a member of The Basement. The team successfully pitched at the Triton Entrepreneur Night and won $28,000 in prize for the Accelerator Track.



Educational Vision Technologies

For more information on EVT, click on the photo above or go to:
https://evt.ai/

FAMILY PROUD

www.family-proud.com/

Family Proud is developing a mobile app that connects patients with severe health issues and their families to financial, social and emotional support resources.

Jaden Risner, one of the founders of Family Proud, is a Rady School of Management MBA student. Family Proud represented UCSD at the Global Social Innovation Challenge and was awarded in-kind support from the University of San Diego Challenge.

HAPTY HEARTS

http://www.haptyhearts.com/

Hapty Hearts is a startup founded by undergraduates looking to help soon-to-be and new mothers deal with all of the emotions that come with having a baby. The Hapty Hearts team is developing socks and blankets with sensory devices that are worn by both the mother and baby and connect them through their heartbeats. The devices and the ensuing connection will help the new mothers suffering from perinatal mood and anxiety disorder (PMAD).

Hapty Hearts is a resident of The Basement. The team recently pitched at Triton Entrepreneur Night Competition.

INTERSECTIONAL HEALTH PROJECT SAN DIEGO

https://ihpsd.github.io/

Intersectional Health Project San Diego (iHPSD) is focused on helping low-income communities in the region. After starting a campaign to raise public health awareness in the migrant and refugee communities, the iHPSD team expanded its mission to create a safe school zone for kids in the Barrio Logan district. iHPSD has been working with local and community organizations to bring public awareness to the Barrio Logan area and help them find solutions to some of the prevalent problems impacting the health of the neighborhood's at-risk residents.

iHPSD is a resident at The Basement. It was one of six Basement teams competing at Triton Entrepreneur Night.

ONE VILLAGE PHILIPPINES

https://globalties.ucsd.edu/projects/one-village-philippines.html

One Village Philippines (OVP) is a team of students working to bring lighting solutions to impoverished communities in the Philippines. Working with an NGO, Gawad Kalinga, the students have developed an inexpensive solar power lighting source that villagers can use to travel at night and during power outages. The solar-powered torch was designed so that it can be produced by villagers at a minimal cost and sold locally.

The OVP team is composed of engineering students in the UC San Diego Global TIES program. On May 31, 2018, the OVP team won the Audience Choice award at Triton Entrepreneur Night, receiving a cash prize of $1,000. One Village Philippines also won first place in the Energy and Resource Alternative category in the 2018 Rudd Family Foundation Big Ideas contest.

UC San Francisco

HIGHLIGHTS FROM PROGRAM SUPPORTED AB2664

- The Entrepreneurship Center:
  - The campus-based entity that trains scientists and clinicians in commercializing technology is using AB2664 funding to plan, record and market an online course for aspiring startup founders. The multiple-lecture course will cover all major topics essential to creating a fundable business plan. Topics include opportunity assessment, business models, intellectual property, clinical/regulatory path, reimbursement, investor requirements and team building.
- UCSF Catalyst:
  - The UCSF Catalyst program is using AB2664 funds to build a library of case studies of technologies that have been spun out of academia as either licenses or startups. The goal is to illustrate the viable commercialization paths and key learning points such as the importance of controlling intellectual property (IP). Catalyst will be able to direct entrepreneurial researchers to case studies that might apply to their own situations. The Catalyst has produced seven case studies to date.
  - With AB2664 funding, Catalyst will match UCSF inventors in digital health, therapeutics, diagnostics and device spaces with industry expertise and mentors to develop optimal strategies for advancing their project and securing next stage funding.
  - With AB2664 support through Catalyst, the UCSF Center for Digital Health Innovation is working with doctors on proof of concept for the Immune Oncology Project, SuperAlarm, Tablet-based Cognitive Assessment Tool (TabCAT) and We3 Health.
  - AB2664 is also enabling Catalyst to offer Catalyst Plus, a follow-on round of support to scientists developing promising technologies that merit extra support. Currently, Catalyst Plus is considering support for a number of projects in development such as a drug as a therapy for inherited childhood epilepsy; a biological therapeutic and diagnostic to target metastatic lung cancer; and biomarkers as a personalized kidney transplant matching and management tool.

◈ QB3:

- QB3 launched the Life Science Pitch Summits, an annual cycle of forums that bring together startup founders, industry partners and early-stage investors for mutual benefit. The summits are focused on three areas: biotech/biopharma, medical devices and consumer health. In each summit, QB3 selects 10 finalists from an initial application round that typically attracts approximately 80 startups. The finalists present their companies to potential partners and investors at a spotlight event. In the weeks leading up to the event, QB3 provides mentorship in the form of professional coaching in business models and presentation.
- QB3 has hired an executive mentor to advise selected startups that participated in the summits. The mentor, Karen Boezi, former CEO of Redwood Bioscience, advises the startups' leadership on strategy and key topics such as prioritizing areas for spending. Boezi also provides introductions to valuable contacts in her professional network. For example, she introduced the founders of CHO Plus, a company developing cell lines for research, to cell line specialists at Catalent, a large company that provides services for drug development. Boezi currently advises two startups, CHO Plus and Cayuga Bioscience.
- QB3 identified a need for seed-stage funding and in 2009 founded Mission Bay Capital (MBC), a venture company investing private funds in a broad portfolio of startups. AB2664 has supported MBC on the administrative side, most recently as it participated in a $25 million Series B round of financing for Vivace Therapeutics, a UCSF/UCSD spinout.
- For years, QB3 has offered a Small Business Innovation Research (SBIR) grant writing workshop at its UCSF location. AB2664 funding made it possible to sustain an SBIR workshop at UC Berkeley as well, and the institute saw strong demand for the second offering, reflecting entrepreneurial energy at Berkeley and the logistical convenience of not having to cross the Bay Bridge to participate.
- Since MBC's launch, QB3 has greatly expanded its focus on medical devices and this year founded a second company, MedTech Venture Partners (MTVP), devoted to investing in medical device startups from the UCSF and Bay Area ecosystem. QB3 and Rosenman leadership, whose salaries were supplemented by AB2664 during this process, have raised $31 million for the MedTech Venture Partner Fund I to invest in early-stage companies. There are currently nine companies in the portfolio.
- Partnerships between startups and major companies can be mutually beneficial, providing startups with industry expertise and resources, and larger companies with an innovation pipeline. Created with the help of AB2664, QB3's Life Science Pitch Summits have, to date, brought 20 UC and Bay Area startups in contact with potential partners at Agilent, Applied Materials, Bio-Rad, Johnson & Johnson, Procter & Gamble, and Roche. These industry partners have also contributed valuable in-kind services to startup finalists of the summits. The medical device summit was particularly strong in this area, attracting $250,000 worth of services in areas such as design, prototyping and animal facility support.
- QB3 has hosted life science startup companies in incubator laboratory space since 2006. Currently, five spaces in the Bay Area are affiliated with QB3; recently, a new opportunity arose to develop the former Berkeley Art Museum (BAM) as a multisector innovation space including room for early-stage startup growth. However, the building is currently rated seismically unsafe, requiring upgrades that will cost on the order of $50 million. QB3 Director Regis Kelly is leading the fundraising effort concurrent with the planning of the business operations, space allocation and facilities. In November 2017, QB3 hired a new manager of incubator operations, and AB2664 funds have been used to support this position in developing a business structure and conducting negotiations with backers and campus stakeholders to drive the project forward.
- Control of IP is crucial in commercialization of life science because of the long development time and (especially in pharma) huge research and development costs. To attract investments, startups need to demonstrate that they have freedom to operate (FTO). AB2664 funding has supported QB3's partnership with the UC Hastings School of Law, in which law students conduct FTO analysis, a broad exploration of the IP landscape, for selected startups.

ABREOS

http://www.abreos.com

Abreos Biosciences in San Diego was founded by Bradley Messmer, a professor at the UCSD Moores Cancer Center. (Messmer is now CEO of Abreos but continues to run his lab at UCSD.)

Under Messmer's leadership, Abreos developed and commercialized the Veritope assays, which are a simple and reliable way to measure biologic drugs (such as monoclonal antibodies) in biological samples. By monitoring the levels of these therapies, clinicians can optimize therapeutic doses and timing to help achieve an optimal response to these expensive therapies. The result is a form of personalized medicine.

Abreos applied to and was selected as a finalist for our Biopharma Pitch Summit in 2017. AB2664 support was a key factor in enabling QB3 to plan and execute the summits, largely funding staff salaries.

Messmer flew to the Bay Area to present to the initial judging panel, and again on the day of the summit event. Shortly following the summit, Abreos reported a $1.2 million round of funding from investors whom they met at the summit. Messmer fully acknowledged the importance of the summit in enabling him to raise investment, and approved a mention in the QB3 newsletter.

The capital raised will fuel Abreos as it develops its precision medicine technology. The ultimate benefit to patients will be the doctors' ability to use Abreos' assays to measure dosage of expensive medicines, ensuring that the patients receive doses that are neither too small (and therefore ineffective) nor too great (possibly toxic).

Press Release Announcing Funding:

Precision Dosing Leader Abreos Biosciences Announces Investment Round
http://www.businesswire.com/news/home/20170606005698/en/Precision-Dosing-Leader-Abreos-Biosciences-Announces-Investment

ARTERYS

https://www.arterys.com/

Arterys is a web-based medical imaging platform that allow physicians to access patient data from anywhere, while keeping the data safe. Combined with cutting-edge automated artificial intelligence (AI) algorithms, Arterys provides cardio, lung and liver image analysis for more informed decision making.

Arterys participated in the 2017 Rosenman Innovator cohort. In November 2017, Arterys secured $30 million in Series B funding.

Press Release Announcing Funding:

Arterys Completes Series B to accelerate product commercialization
https://www.prnewswire.com/news-releases/arterys-completes-series-b-to-accelerate-product-commercialization-300556163.html

SIRIS MEDICAL

http://siris-medical.com/

Siris Medical has developed, Insight RT, a system that incorporates artificial intelligence to help health care providers create a more precise treatment plan. The QuickMatch module provides physicians with insights into historical patient treatments to help them better formulate dosage plans based on previous outcomes. The PlanMD module allows the physician to project possible outcomes based on dosage.

Siris Medical participated in the 2017 Rosenman Innovator cohort. It raised $4 million in Series A funding in fall 2017.

SUPERALARM

Doctors and nurses in the ICU are continually barraged with alarms alerting them to changes in the state of their patients. Some alarms indeed indicate a critical condition that needs immediate attention, but many alarms are false. Ultimately, many clinicians develop alarm fatigue and ignore alarms — which can lead to unnecessary patient suffering and sometimes death.

Ideally, clinicians would be alerted only in situations that really demand their attention. One solution would be an intelligent system to aggregate data, observe trends and filter alarms so that clinicians receive them only in genuine critical cases. A diverse team at UCSF is working on just such a system and AB2664 funding has enabled them to form a company, SuperAlarm, to commercialize the product.

The core team consists of Xiao Hu, a biomedical engineer with expertise in signal processing and machine learning; Michele Pelter, a critical care nurse who leads the ECG Monitoring Research Lab at the UCSF School of Nursing; and Richard Fidler, an assistant adjunct professor in the School of Nursing, a critical care nurse practitioner and a nurse anesthetist who has a clinical simulation lab at the San Francisco Veterans Administration Health Care System (SFVA) that tests the usability of the medical technology.

Hu, Pelter and Fidler have assembled a group of like-minded clinicians and information technology experts to develop the application. The larger team has now developed a beta version that can be used to discern patterns and predict “code blue” situations. The team is also conducting a NIH-funded clinical study and has engaged a design firm to create a user-friendly interface.

The AB2664 funding that is being provided to SuperAlarm is for algorithm refinement (including programming support, data science support and external statistical validation) as well for the improvement of data granularity and interprofessional case adjudication of true positives, false positives and false negatives. The Catalyst funding was also awarded to support organizing cases into a database, group meetings to discuss the cases, and the summary reports back to the engineering and data science teams to contextualize the data.

Paul Work, CEO of Siprean (another UCSF bioinformatics startup), is leading the commercialization side for SuperAlarm.

VIVACE THERAPEUTICS

http://vivacetherapeutics.com/

Vivace Therapeutics, whose research focuses on the Hippo-Yap pathway, is developing small molecule drugs for cancer immunotherapy.

Vivace Therapeutics, a UCSF/UCSD spinout, raised $25 million in Series B funding. Mission Bay Capital participated in the Series B funding.

ZENFLOW

www.zenflow.com

ZenFlow has developed a device that will mitigate symptoms associated with prostate gland enlargement or benign prostatic hyperplasia (BPH). During a simple in-office procedure, the Spring Implant is inserted into the urethra and holds back the tissue causing blockage. This new treatment offers patients a non-surgical option that is both safe and effective.

ZenFlow received support from the Rosenman Institute at QB3 and successfully raised $31 million in Series A funding in February 2018. MedTech Venture Partners was an investor in the Series A financing round.

HIGHLIGHTS FROM PROGRAMS SUPPORTED BY AB2664

- UCSB's California NanoSystems Institute (CNSI) has completed construction of the new CNSI Innovation Workshop and officially opened its doors in January 2018. The new makerspace facility is equipped with 3D printers, a laser cutter and other electronics, as well as hand tools to allow inventors to build and test their prototypes.
- The Wilcox New Venture Incubator, known as The Garage, had its grand opening on March 16, 2018. Currently, there are 20 New Venture Competition teams utilizing the space. UCSB startups receive up to one year of incubation.
- The Garage is the home to the G2 Launchpad, a startup accelerator. The first cohort of the G2 Launchpad Summer Program, an eight-week intensive program that teaches entrepreneurs about commercialization and launching their startup, is scheduled to begin in July 2018.
- Three rounds of SEED-TECH grant awards have been successfully concluded. CNSI SEED-TECH grants provide campus researchers with funding to support a demonstration of commercial value and/or commercial viability for UCSB technology, and to develop the technology toward a marketable outcome.
- The first round of SEED-MVP grants, which is proof of concept funding, have been awarded; the second round of applications is being reviewed.
- Professional development events:
  - Held innovation and entrepreneur community mixer that attracted 59 attendees.
  - The Beyond Academia session on entrepreneurship (sponsored by SEED-SB) had approximately 30 attendees.
  - Twenty-seven people attended the I-Corps Lunch and Learn.
  - Three people participated in the I-Corps ZAP two-part training series.
  - Thirty-five people attended a Technology and Industry Alliances (TIA) led seminar on IP for Biotech.
  - A career seminar hosted by CSO and co-founder of Memphis Meats drew 65 people.
  - Eighty people attended at the Santa Barbara and Goleta Biotechnology Industry Showcase.
- Entrepreneur stories:
  - Six video interviews of entrepreneurs sharing their startup journey were conducted.

Apeel Science

For more information about Apeel Science, click on the photo above or go to: https://apeelsciences.com/

APEEL SCIENCES

https://apeelsciences.com/

Apeel Sciences has developed a material, derived from plants, that is used to coat fruits and vegetables, adding an extra layer of protection to slow down water loss and oxidation, thereby reducing spoilage. The added odorless layer is edible and completely safe to eat.

Apeel Sciences founder, Jenny Du, was a 2018 Spirit of Entrepreneurship Finalist in the category of Science and Technology.[38]

BIOPROTONICS

https://www.bioprotonics.com/

bioProtonics has developed a magnetic resonance imaging diagnostic tool that can identify tissue changes in micrometers. Detection of ultrafine changes in the tissues allows for earlier detection and possibly more effective treatment.

bioProtonics is a member of the CNSI Technology Incubator.

EVMATCH

https://www.evmatch.com/

EVmatch has developed a charging network community that is accessible via a mobile software application. People looking to charge their electric vehicles in their area or while traveling can find a nearby charging station, reserve and pay for charging via the app.

The EVmatch team members participated in the Bren School Eco-Entrepreneurship program. The team was a finalist in the 2016 New Venture Competition. EVmatch is one of the winners of the 2017 Boulder Energy Challenge. According to the announcement on bouldercolorado.gov website, EVmatch was awarded a $50,000 grant "to leverage [its] existing mobile software application to rapidly build a community EV charging network in Boulder, Colorado, leading to increased EV charging reliability and a corresponding increase in electric vehicle miles traveled."

EVmatch was also a finalist in the 2nd Annual UC Entrepreneur Pitch Competition. The EV Match team, along with teams from four other companies founded by UC alumni, had an opportunity to make its pitch in front of over 700 investors at the Global Corporate Venturing and Innovation Summit in Monterey, California, in January 2018. EVmatch founder Heather Hochrein was awarded the 2018 Echoing Green Climate Fellowship.

FLUENCY LIGHTING

http://www.fluencylighting.com/

Fluency Lighting is developing ultra-efficient light sources that have flexible design illumination, thereby allowing users to control the output and the entendue of the light source.

Fluency Lighting Technologies, founded by Kristin Denault, received a $740,000 award from the Small Business Innovation Research in February 2018. Kristin Denault is also a 2018 Spirit of Entrepreneurship Foundation Award recipient in the Science and Technology category. [39]

Fluency Lighting is a member of the CNSI Technology Incubator.

LAXMI THERAPEUTIC DEVICES

Laxmi Therapeutics is creating a small painless patch that will allow for daily continuous glucose monitoring.

Laxmi Therapeutics is a member of the CNSI Technology Incubator.

MENTIUM TECHNOLOGIES

http://www.mentium.tech/

Mentium has the technology to bring ultrafast artificial intelligence to low-power electronics like cameras, sensors and microphones as well as wearable accessories. The technology can elevate autonomous vehicle performance and AI cloud computing to a whole new level.

Mentium Technologies is a member of the CNSI Technology Incubator.

MILO SENSORS

http://www.milosensor.com/

Milo Sensors creates biosensors for consumer and health applications. Currently, Milo Sensors is working on developing PROOF, a wearable tracker that monitors alcohol.

In September 2017, Milo Sensors received a $223,000 Small Business Innovation Research grant to support to further the development of its sensor.[40]

Milo Sensors is a member of the CNSI Technology Incubator.

MORESOLAR

www.linkedin.com/company/moresolar/

Solar panels experience energy loss as they begin to accumulate dust and debris and are obstructed by other materials. Current methods for cleaning involve labor, water and complicated machinery, which can be costly and time consuming. MoreSolar is developing a low-cost, wind-powered mechanism to clean solar panels using polymer airfioles.

MoreSolar won UCSB's 2018 New Venture Competition. It also received $12,500 and resources from the Wilcox New Venture Incubator.[41]

NEXUS PHOTONICS

https://nexusphotonics.com/

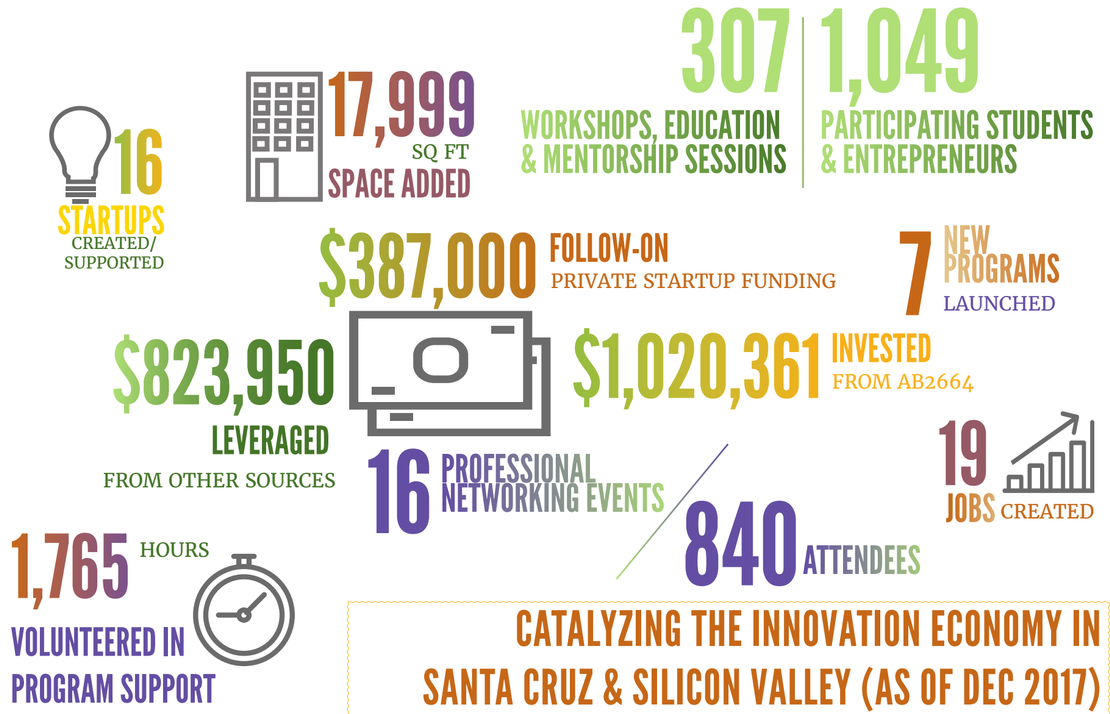
Nexus Photonics is working to commercialize photonic integrated circuits and photonic systems-on-chip.

Nexus Photonics is a member of the CNSI Technology Incubator.

HIGHLIGHTS FROM PROGRAMS SUPPORTED BY AB2664

- Creative Entrepreneurship Internships (CEI):
  - CEI completed the 2018 summer cycle. Fifteen Arts Division students were successfully placed into internships with CEI partners including Lionsgate, Sony Pictures, the games company Funomena, Oakland Museum of California, Chronicle Books, KQED and Santa Cruz's own Museum of Art and History (MAH) Hosted an information session along with five other workshops geared toward equipping students with the entrepreneurial mindset and skills needed to complete and sustain careers in the creative industries. Collectively, 160 Arts Division students participated in the workshops.
  - Continuing relationship building with 2018–19 CEI partners (e.g., Sundance, Directors Guild of America, STARZ, Warner Bros., Pixar, Playstation, Lytro) and welcomed three new partners: Nirveda Cognition, San Jose Museum of Art and Museo Eduardo Carrillo.
  - CEI received 57 applications for its inaugural cohort; 15 Arts Division students selected.
  - The newly launched Creative Entrepreneurship curriculum hosted 16 artist–entrepreneur speakers and resulted in 141 enrollments.
  - Disbursed CEI Scholar Awards for professional development and housing expenses.
  - The Art's Dean Lecture Series in Creative Entrepreneurship drew 154 registrants.
  - CEI director and staff provided support and guidance to CruzHacks 2018 executive team as it redesigned the UCSC hackathon. CruzHacks 2018 is also now an official nonprofit, having secured 501 (c)(3) status.[42]
- GameGo:
  - A program designed to help senior art and design students commercialize their games, has launched its website (https://ludolab.ucsc.edu/gamego/) and has funded its first set of awardees.
- Launchpad:
  - The newly created proof of concept funding program Launchpad has completed two rounds of award grants. Launchpad is reviewing applications for the final round.
- SVLink:
  - The Office of Industry Alliances and Technology Commercialization opened the doors to its new tech incubator, SVLink. Based at the Silicon Valley campus, the SVLink team is reviewing applications for its first cohort.[43]

- Santa Cruz Accelerates:
  - Santa Cruz Accelerates has successfully graduated two cohorts and is actively recruiting the third cohort.
  - Three additional executive mentors and 15 mentors at large have been recruited.
  - Santa Cruz Accelerates has successfully secured a commitment of $50,000 in funding.
  - A number of events were hosted by Santa Cruz Accelerates including over 20 pitch practices, a public pitch event, a demo day, eight speaker series trainings, 11 networking events and nine retreat days.
  - Santa Cruz Accelerates supported four companies through market validation milestones, connected five companies to external partners and assisted four companies secure seed funding.
- The Startup Sandbox:
  - A new director was hired.
  - The Sandbox had its grand opening on August 1, 2017. The first cohort was onboarded and are participating in the UCSC internship program.
  - The Sandbox held its first pitch event and technology seminar.
  - A ribbon-cutting ceremony for the new permanent wet-lab, with its fully built-out and newly furnished work and lab space, was held on May 31, 2018. Outreach efforts have extended to the four UCSC departments to build a pipeline of startups for the wet-lab.
  - The Sandbox team continues to reach out to clients, partners and donors. Potential investors, corporate sponsors and donors have been contacted to raise capital for a seed fund.
- The IDEA Hub:
  - Faculty and students from the IDEA Hub presented the Imaging America Conference at UC Davis in October 2017.
  - On December 6, 2017, IDEA Hub director Sue Carter testified to the U.S. Congressional Subcommittee on Research and Technology on the value of entrepreneurship education and the role of the NSF I-Corps program.
  - Its inaugural class graduated in spring 2018.
  - The Summer Entrepreneurship Academy has expanded to include students from the IDEA Hub.
  - Additional mentors as well as community and alumni partners have been recruited. Expanded participation of angels and philanthropic organizations at IDEA Hub events.
  - The IDEA Hub team is working with the Everett program to launch the new Impactathons.
  - New innovation and entrepreneur workshops have been launched and a community/industry-sponsored program has been targeting interdisciplinary student teams.
  - Additionally, the first Social Entrepreneurship contest was included in the annual Pitch Slam.
  - The number of private gifts received by the IDEA Hub has increased.



CATALYZING THE INNOVATION ECONOMY IN SANTA CRUZ & SILICON VALLEY (AS OF DEC 2017)

By Mohamed Abousalem
Assistant Vice Chancellor,
Industry Alliances & Technology Commercialization

2017 IDEA HUB COHORT

https://ideahub.sites.ucsc.edu/student-projects/

Below are a list of the 2017 IDEA Hub cohort.

- ***Bees of the California Central Coast*** is a comprehensive book created by UC Santa Cruz students featuring illustrations and poetry on the amazing diversity, beauty and ecology of wild bees. The team behind the book received the Webster Fellowship Award in November 2017. The $3,000 award supports innovative projects that utilize the natural reserves.
- **Formula Slug** is a nonprofit engineering organization created for students, by students.
- **Gastropod** is reducing the cost and increasing the accuracy of gas meter readings and more accurately monitoring natural gas consumption.
- **Immersive Cartography** is developing a virtual map of the Sagehen Watershed.
- **Just Biomedicine** aims to understand how investments in data-driven and high-tech approaches to biomedicine are altering what kind of health care is offered and to whom.
- **Leafparking** is developing a mobile app that helps people find affordable or free parking.
- **Let's Get Social** is a virtual reality platform that tests a user's calling and conviction for social causes through the user's creation of content in the platform. Parul Wadwah, Let's Get Social lead, was selected as a finalist for the 2017-18 Big Idea Contest.
- **Magnetocs** is developing a method using a modified electromagnet that will be able to sort different types of nonferrous metals
- **Materializing Interactive Research** is empowering artists and designers to cultivate expression through embodied code.
- **MidGray Collective** is utilizing art and design to promote healthy masculinity with the help of technology. MidGray was selected as a finalist for the 2017-18 Big Idea Contest.
- **Moody** is a mobile organization app that provides dynamic feedback for a happier life.
- **N³8 (incubate)** is a web-based platform that helps users document, archive and develop any number of their ideas.
- **NEAR MENU** is creating a cost-effective digitized menu through everyday smart phones, utilizing technology such as NFC and iBeacon.
- **OPTIMA SWARM** is building a Universal Swarm Intelligence Software to optimize anything from business analytics and finances to agricultural design and water usage.
- **Santa Cruisin'** is working to reduce carbon dioxide emissions by promoting biking as a mode of transportation.
- **Santa Cruz Waveworks** is creating an app that streams surf updates.
- **SEA+TECH** is developing a mobile platform to bolster alternative seafood markets' ability to be competitive in global economies.
- **Seeking Symbiosis** is an eco clothing label. Seeking Symbiosis was selected as a finalist for the 2017-18 Big Idea Contest.
- **SlugSat** is putting a nano-satellite into low Earth orbit for communication use by amateur radio operators.
- **Sol Searching** is investigating water purification through evaporative distillation for families in times of need.
- **Water Lab 2.0** is a small-scale integrated water treatment system that takes secondary effluent and produces potable water.
- **Watertap Sensors** is developing a smart water-sensor grid that monitors water usage per outlet in a household.
- **Way Out Ticket** is a simplified platform for money exchange between artists and their audience.

CLARET BIOSCIENCE

www.claretbio.com/

Claret Bioscience is an early-stage startup focused on developing tools and assays for better characterizing the biology of cancer-derived molecules.

Claret is a resident of the Startup Sandbox. In 2018, Claret was able to successfully expand its technical team and was granted $300,000 in NIH Small Business Innovation Research funding.

CRUZ FOAM

https://www.cruzfoam.com/

Cruz Foam started as an idea in the research labs of UCSC. Utilizing the resources available at UCSC and participating in competitions like the Grad Slam, it didn't take long for Cruz Foam to begin resonating with the community. Cruz Foam compiled an excellent team and joined the Startup Sandbox to commercialize its technology. The startup raised a round of friends and family funding. Startup Sandbox has been assisting Cruz Foam to evolve and strategically position for success.

2018 was a milestone year for Cruz Foam. CEO John Felts, who is a UCSC graduate, was recognized as the NEXTies Innovator of the Year by NEXTies events, which celebrate the best of Santa Cruz. Cruz Foam was also awarded $50,000 by NSF I-Corps grant and is currently participating in the program. In addition, Cruz Foam successfully raised $70,000 follow-on funding. Cruz Foam has been able to make its first surfboard prototype at Sandbox, which has enabled the team to start pitching to various angel investor groups.[44]

Cruz Foam is a member of the Startup Sandbox and a Santa Cruz Accelerates company.

DIMENSIONAL BIOCERAMICS

Dimensional Bioceramics (DB) is in the process of developing a line of bioceramic implants. One public company has granted Dimensional Bioceramics with a "development fund" to make commercial orthopedic craniomaxillofacial products. This particular company had granted DB with initial development money to make a pilot product in 2017, which DB successfully completed. Moreover, DB signed a licensing agreement with another public orthopedic company to manufacture and distribute an orthopedic bone void filler product in early July 2018, after passing its general due diligence and auditing of its systems.

Dimensional Bioceramics is a member of the Startup Sandbox.

HIPIC

HiPic has proven that its technology can detect consumption of edibles containing Tetrahydrocannabinol, or THC, the principal psychoactive constituent of cannabis. At the end of 2017, HiPic proved it was able to detect cannabis smoke containing THC. The startup team are now getting ready to present its technology to different investors.

HiPic is a member of the Startup Sandbox.

JUANITO EL NAHUALITO

http://teamnahual.com/#/

Juanito el Nahualito is a 3D video game based on Mesoamerican cultures. As the main character, a teenage boy named Juanito, players explore the world and solve puzzles while searching for the boy's grandfather. Throughout the game, the player (Juanito) learns to use the special powers inherited from Juanito's Latin American ancestors, the Nahuales (shamans/priests). Juanito is able to transform into animals and integrate with their souls as he progresses through the game.

Team Nahual is a GameGo project. Juanito El Nahualito was accepted to the Different Games Conference, the Meaningful Play Conference and the DEVHR International Game Forum held in Mexico City.

LAST NIGHT – MIDGRAY COLLECTIVE

https://ideahub.sites.ucsc.edu/student-projects/midgray-collective/

The MidGray Collective has developed an education workshop and interactive card game, called Last Night, to help college students develop positive approaches to dating. Last Night has participants role-play through a date by taking their cue from the cards. At the end of the date, players review how their actions were perceived by other participants and discuss what it means to have respectful behavior when dating.

The MidGray Collective is an IdeaHub student project. Last Night won second Place in Big Ideas Competition — Art and Social Change category.[45]

PINPOINT SCIENCE

https://pinpointscience.com/

Pinpoint Science is developing a new handheld device equipped with nanosensors and swappable cartridges to detect viruses, bacteria and fungi. This new technology will alleviate the need for sample preparation and laboratory testing. It also does not require refrigeration. Results are usually displayed within 30 seconds.

Pinpoint Science has engaged in two strategic partnerships. The first partnership provided revenue in 2018; the second partnership will help facilitate Pinpoint's FDA submission for its human diagnostic trials.

Pinpoint Science is a resident of the Startup Sandbox. It has successfully completed the regional NSF I-Corps program. It was also accepted into Berkeley's SkyDeck fall 2018 HotDesk program the California Life Science Institute FAST advisory fall 2018 program, and the UCSF HealthHub program. Pinpoint Science was invited to join the C-Sweetener program and was selected to pitch at the Silicon Valley Agricultural Technology conference in Watsonville, as well as to present at Medical MEMS and Sensors 2018 conference in Santa Clara. Most recently, it was selected to pitch at the upcoming CTO Forum in Half Moon Bay.

PRIME GENOMICS

http://primegenomics.com/

Prime Genomics is an innovative early-stage company that is developing genomics and molecular diagnostics for cancer screening.

Prime Genomics is a resident of the Startup Sandbox. It successfully raised money from early-stage investors, including Santa Cruz-based Angels by the Sea. It built out its scientific advisory board with leading professors at key institutions, including Stanford, and developed strategic relationships with other companies complementary to them.

ROSSMORE TRADING COMPANY

https://rossmoretradingco.com/

Rossmore Trading Company (RTC) is an online clothing company that is developing a 3D body scanner to help customers find the best clothing fit.

Since April 2018, RTC has turned an idea into a real company. With the resources and advice offered through the Sandbox, RTC was able to incorporate and begin hiring employees. Through the Sandbox network, RTC found qualified developers and have begun development. The RTC team have also met many experienced Silicon Valley professionals who have been very willing to advise and help them in any way possible. RTC has also secured two provisional patents. The company is in the process of beta testing and is planning Phase II of its development.

SANTA CRUZ WAVEWORKS

http://www.santacruzwaveworks.com/

After joining the Startup Sandbox, Santa Cruz Waveworks (SCWW) began pursuing partnerships with Chevron and BP on its first prototype, which is based on a UCSC invention. SCWW is also working with the Santa Cruz Harbor Commission to evaluate the company's velocity system at the Santa Cruz harbor.

Santa Cruz Waveworks is a member of the Startup Sandbox.

SCOOT SCIENCE

http://scootscience.com/

Scoot Science is led by two experienced ocean scientists who are both UCSC alumni. When they started the Santa Cruz Accelerates (SCA) program in June 2017, they had a great idea for a core set of products that includes a consolidated dataset of underwater ocean data that either did not exist yet or had never before been consolidated, an underwater data dashboard and data analytics tools. Since starting the program, they have refined their pitch; benefited from SCA's relationship with Looker by having Looker build their data dashboard, MVP; refined their initial target market and begun building relationships in that market; and successfully raised $100,000 out of their $300,000 seed round by the end of 2017. This was possible because of SCA's support and seed money.

Scoot Science is a member of Santa Cruz Accelerates.

UNNATURAL PRODUCTS

http://www.unnaturalproducts.com/

Unnatural Products is a drug discovery platform focused on the intelligent design and rapid optimization of macrocyclic compounds. Their mission is to accelerate drug discovery by harnessing insights from nature to guide the next generation of therapeutics. — From the CITRIS FOUNDRY website (https://citrisfoundry.org/portfolio_page/unnatural-products-inc/)

Unnatural Products (UNP) was accepted into the CITRIS Foundry accelerator program at UC Berkeley, which is providing a myriad of resources for building a deep tech startup as well as $50,000 capital from its investment group, Blue Bear Ventures. Additionally, UNP raised $150,000 of angel money, which will allow it to transition into wet-lab work and initiate validating its chemistry platform by beginning work on an early pipeline project against an exciting oncology target. UNP has also secured its first institutional investor and has closed $400,000. The startup has recently produced promising data on one oncology target while it boots up the biochemical assays for its second target. UNP will be using its new capital to flesh out its infrastructure so it can continue to push its preclinical pipeline forward.

Unnatural Products is a member of the Startup Sandbox.

ARTICLES

1 Meghana Krishnakumar. “Finding Greener Ways to Improve Technology.” *UC Berkeley Sutardja Center for Entrepreneurship & Technology News,* January 18, 2018. https://scet.berkeley.edu/finding-greener-ways-improve-technology/

2 Keith McAleer. “New Board Members join Alt.meat lab.” *UC Berkeley Sutardja Center for Entrepreneurship & Technology News,* December 12, 2017. https://scet.berkeley.edu/new-board-members-join-alt-meat-lab/

3 Chris Brown. “UC Berkeley’s SkyDeck and UC’s QB3 Partner to Launch Bio Track Accelerator Program.”*Berkeley SkyDeck News and Events,* March 20, 2018. https://skydeck.berkeley.edu/uc-berkeleys-skydeck-and-uc-qb3-partner-to-launch-bio-track-accelerator-program/

4 Brenna Smith. “UC Berkeley students put new startups to the test at SCET Collider Cup.” *UC Berkeley Sutardja Center for Entrepreneurship & Technology News,* January 18, 2018. https://scet.berkeley.edu/emerging-startups-students-collider-cup/

5 Melissa Glass. “SCET Blockchain Lab Announces Awards of $50K to Support Student and Faculty Projects.” *UC Berkeley Sutardja Center for Entrepreneurship & Technology news,* March 9, 2018. https://scet.berkeley.edu/scet-blockchain-lab-announces-awards-of-50k-to-support-student-and-faculty-projects/

6 AJ Cheline. “UC Davis Venture Catalyst Expands Program to Accelerate Technology Commercialization with STAIR-Plus Grants — Announces Recipients.” *UC Davis Technology Management and Corporate Relations News*, no date. Last accessed on July 12, 2018. https://tmcr.ucdavis.edu/stair-plus-grant/

7 Lisa Howard. “UC Davis STAIR and DIAL Grant Recipients Developing Breakthrough Innovations.” *UC Davis Office of Research News*, June 25, 2018. https://research.ucdavis.edu/2018-stair-dial/

8 Ryan Sharp. “HM.CLAUSE and UC Davis Venture Catalyst Extend Commitment to Support Early-stage Startups.*” UC Davis Technology Management and Corporate Relations News*, September 20, 2017. https://tmcr.ucdavis.edu/hm-clause-uc-davis-venture-catalyst-extend-commitment-support-early-stage-startups/

9 Marianne Skoczek. “Little Bang! Poster Competition Launches Students’ Entrepreneurial Journeys.” *UC Davis Graduate School of Management, Mike and Renee Child Institute for Innovation and Entrepreneurship News*, January 23, 2018. https://gsm.ucdavis.edu/news/little-bang-poster-competition-launches-students-entrepreneurial-journeys

10 Jeff Bennett. “Aggie Innovation and Start-Up Symposium: Entrepreneurship Impacting People, Products, and Planet.” *Startup Sac*, January 17, 2018. https://startupsac.com/aggie-innovation-and-start-up-symposium-entrepreneurship-impacting-people-products-and-planet/

11 Marianne Skoczek. “Leaders of the Future: New Roads to Travel.” *UC Davis Graduate School of Management, Mike and Renee Child Institute for Innovation and Entrepreneurship News*, April 25, 2018. https://gsm.ucdavis.edu/news/leaders-future-new-roads-travel

12 Marianne Skoczek and Julia Ann Easley. “Innovations in Parking, ‘Digital Medicines’, Nutritious Snacks Top 2018 Big Bang.” *UC Davis News,* May 24, 2018. https://www.ucdavis.edu/news/innovations-parking-%E2%80%98digital-medicines%E2%80%99-top-uc-davis-business-competition/

13 Clara Zhao. “2018 Creator Challenge Series held.” *The California Aggie,* May 17, 2018. https://theaggie.org/2018/05/17/2018-creator-challenge-series-held/

14 Mark Anderson. “Davis Mini-factory for Entrepreneurs Fills Up Quickly.” *Sacramento Business Journal,* January 17, 2018. https://www.bizjournals.com/sacramento/news/2018/01/17/davis-mini-factory-for-entrepreneurs-fills-up.html.

15 Lisa Howard. “UC Davis Licenses Technology for Miniaturized System that can Detect Chemicals with High Specificity and Sensitivity.” *UC Davis Office of Research News*, December 18, 2017. https://research.ucdavis.edu/sensit/

16 Elise Anderson. “UCLA Anderson Celebrates 10 Years of Helping Veteran Entrepreneurs.” *UCLA Anderson School of Management News Release*, July 12, 2017. https://www.anderson.ucla.edu/media-relations/2017/ucla-anderson-celebrates-10-years-of-helping-veterans-become-entrepreneurs

17 Joy McCreary. “18 UCLA researchers and scientists receive awards from UCLA Innovation Fund.” *UCLA Newsroom Faculty Bulletin*, March 9, 2018. http://newsroom.ucla.edu/dept/faculty/18-ucla-researchers-and-scientists-receive-awards-from-technology-development-group

18 Sumathi Reddy. “The Chase for a Permanent Flu Vaccine.” *Wall Street Journal*, February 5, 2018. https://www.wsj.com/articles/the-chase-for-a-permanent-flu-vaccine-1517841467

19 McCreary.

20 McCreary.

21 Desert Horse-Grant. “Innovation Update.” *UCLA Health Newsletter,* Winter 2018. https://medschool.ucla.edu/workfiles/Site-Research/InnovationNewsletterWinter2018.pdfMcCreary.

22 Laurel Scott. “Increased resources lead to surge of student startups sweeping UCLA.” *Daily Bruin*, January 18, 2018. http://dailybruin.com/2018/01/18/increased-resources-lead-to-surge-of-student-startups-sweeping-ucla/

23 Tigrian Unciano. “Hatton Consulting Acquires Majority Stake in Quantvex.” *Cision PR Web News Center,* May 3, 2018. http://www.prweb.com/releases/2018/04/prweb15431261.htm

24 Jeannette Marantos. “EPIC Small Business Development Center Will Help Inland Empire Startups Flourish.” *UCR Today*, March 26, 2018. https://ucrtoday.ucr.edu/52420

25 Richard Chang. “UC Riverside’s Highlander Venture Fund makes first investment.” *UCR Today*, January 12, 2018. https://ucrtoday.ucr.edu/50911

26 Jeannette Marantos. “Highlander Venture Fund Chooses UCR Professor’s ‘Next-Generation’ Mosquito Repellent for Second Investment.” *UCR Today,* February 7, 2017. https://ucrtoday.ucr.edu/51468

27 Melanie Ramiro. “Creat’R Lab to Celebrate First Anniversary. “*UCR Today*, April 25, 2018. https://ucrtoday.ucr.edu/53042

28 Jeannette Marantos. “$10 Sensor Reduces Brewers’ Natural Gas Use.” *UCR Today*, February 5, 2018. https://ucrtoday.ucr.edu/51409

29 Holly Ober. “UC Riverside Startup Received National Science Foundation Grant.” *Inside UCR*, July 19, 2018. https://ucrtoday.ucr.edu/54665

30 Richard Chang.

31 Rachel McNellis. “Three Social Innovators to Watch.” *UC San Diego News Center, thisweek@ucsandiego,* June 7, 2018. https://ucsdnews.ucsd.edu/index.php/feature/three-social-innovators-to-watch

32 Danica M. Sirmans. “UC San Diego’s Veteran Ventures Honored at Ceremony Aboard USS Midway.” *UC San Diego News Center, thisweek@ucsandiego,* February 22, 2018. https://ucsdnews.ucsd.edu/index.php/feature/uc-san-diegos-veteran-ventures-honored-at-ceremony-aboard-uss-midway

33 Kim McDonald. “UC San Diego’s “Proof of Concept” Awards Move Campus Health Innovations to Market.” *UC San Diego News Center,* July 13, 2018. https://ucsdnews.ucsd.edu/pressrelease/uc_san_diegos_proof_of_concept_awards_move_campus_health_innovations_to_market

34 Katherine Connor. "UC San Diego Innovators: You can now apply to three commercialization programs through one new application." *UC San Diego Jacobs School of Engineering News,* March 20, 2018 http://jacobsschool.ucsd.edu/news/news_releases/release.sfe?id=2504

35 Katherine Connor. "San Diego, Korea team up to tackle transportation." *UC San Diego Jacobs School of Engineering News,* March 21, 2018) http://jacobsschool.ucsd.edu/news/news_releases/release.sfe?id=2507

36 *Teens Research New Therapies with UCSD Scientists. CBS News Innovate 8*, aired June 1, 2017. *California Shaman Program,* uploaded on Youtube by UC San Diego, October 6, 2017.

37 Danica M. Sirmans. "Self-Described School False Starter Aims to Pay It Forward in EdTech." *UC San Diego News Center, thisweek@ucsandiego*, November 30, 2017. https://ucsdnews.ucsd.edu/feature/self_described_school_false_starter_aims_to_pay_it_forward_in_edtech

38 Spirit of Entrepreneurship Foundation. "The 2018 Finalists." Spirit of Entrepreneurship (SOE), accessed on June 15, 2018. http://soe-foundation.org/industry/awards-2018-finalists/

39 Spirit of Entrepreneurship Foundation.

40 No author. "Milo Sensors Awarded Small Business Innovation Research Grant." *CNSI News, Press Release*, September 18, 2017. https://www.cnsi.ucsb.edu/news/1072

41 Dhiraj Nallapaneni. "MoreSolar Looks to Bright Future After Winning UCSB's Venture Competition." *Noozhawks News, Local News,* July 10, 2018. https://www.noozhawk.com/article/moresolar_wins_uc_santa_barbara_new_venture_competition

42 Sarah Ali. "CruzHacks 2018: Driving Hackathon Culture in a New Direction." *Santa Cruz Tech Beat,* January 31, 2018. http://www.santacruztechbeat.com/2018/01/31/cruzhacks-2018-driving-hackathon-culture-new-direction/

43 Scott Hernandez-Jason. "UC Santa Cruz tech incubator offers convenient access to Silicon Valley." *UCSC Newscenter*, February 12, 2018. https://news.ucsc.edu/2018/02/sv-link.html

44 Wallace Bain. "Building a Surfboard from Post-Dinner Seafood Scraps." *Good Times News,* March 21, 2018. http://goodtimes.sc/santa-cruz-news/cruz-foam/

45 "A Growing Community of Social and Creative Entrepreneurs at UCSC." UCSC IDEA HUB website. https://ideahub.sites.ucsc.edu/student-projects/. Accessed October 10, 2018.