

RISING TIDE



MAKING WAVES

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“SUCCESS CAME BECAUSE
I NEVER SAW OBSTACLES.”

— Frieda Caplan, founder of Frieda's Inc.



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If you have story ideas, contact the editor-in-chief: connorj@uci.edu

EVENTS

Past Tides

EVENTS AT THE
COVE @ UCI



ENP Institute: Intrapreneurship and Entrepreneurship: Two Sides of the Innovation Coin / August 2020

Richard Sudek, executive director at UCI Beall Applied Innovation and UCI chief innovation officer, encourages the virtual audience to use difficult times as an opportunity to innovate during Executive Next Practices Institute's (ENP) Intrapreneurship and Entrepreneurship: Two Sides of the Innovation Coin virtual event.



Chris Barty, Ph.D. and Ph.D. students, Haytham Effarah and Kyle Chestnut, characterize a laser beam.

RESOURCE

Transforming Human Health at the COSI Labs

THE COSI LABS ARE HOME TO THE CREATION, CLINICAL TRANSLATION AND COMMERCIALIZATION OF LASER TECHNOLOGY THAT CAN BE USED TO FIGHT DISEASE AND ILLNESS.

Diseases are constantly evolving in our modern world, and with their evolution comes the need for new technology to combat them and sustain quality human health.

The Convergence Optical Sciences Initiative (COSI) labs, located in the Cove @ UCI, specializes in the creation, clinical translation and commercialization of trailblazing optics and photonic technologies to transform human health. The labs are prioritizing the creation of laser technology that could benefit the health of those fighting chronic illnesses.

"Here at the labs, the main focus is the intersection of multiple areas such as physical science, biology, engineering, industry and medicine, all around photonics," said Chris Barty, distinguished professor of physics and astronomy at the UCI School of Physical Sciences and senior faculty member of the COSI labs.

One of the main activities Barty is currently spearheading is the Laser Compton X-ray, an X-ray machine that works similarly to a laser pointer and is highly tunable. The application of this extremely precise X-ray has the potential to revolutionize disease detection and treatment.

"If we do what we say we're going to do correctly, you'll never remove a breast, you'll never remove a prostate again," said Barty. "It'll transform human health."

Students pursuing UCI's dual Ph.D./M.D. program study how to enable better medical applications, while Physics graduate students come up with new ways that could make the X-ray source even better. Since the pandemic, Barty and the COSI labs' small team of graduate students are also working on a compact UVC laser that would be able to denature the virus on surfaces.

As the COSI labs move forward, Barty hopes to change the way medical professionals use X-rays and lasers, making UCI Beall Applied Innovation a hub for X-ray and laser technology for the Orange County ecosystem.

"I would be thrilled if we had an X-ray source sitting at Beall Applied Innovation that acts as a national center for advanced radiography and radiology," said Barty. "Being a part of Applied Innovation makes it really easy to pursue this vision at UCI."

Learn more about the COSI labs at bli.uci.edu/convergence-optical-science-initiative ///

*Resources Mentioned in this Story

Cove @ UCI
innovation.uci.edu/the-cove



VC Speaker Series with Miramar Digital Ventures / September 2020

Luis Vasquez, associate director of Venture Capital Collaboration at Applied Innovation, joins Bruce Hallett and Sherman Atkinson from Miramar Digital Ventures to discuss the fund's strategy, portfolio and how venture capital has changed over the past 18 years in Orange County.



High Tech Awards, Powered by Octane / September 2020

Octane's virtual High Tech Awards event host Steve Churm, executive vice president of Public Affairs and Communications at FivePoint, recognizes UCI startup Wing and Applied Innovation ecosystem partner Cove Fund II as finalists during the virtual event, sponsored by Applied Innovation and other businesses within Southern California. The award identifies companies that show innovation in a consumer technology and have a sustainable growth strategy.



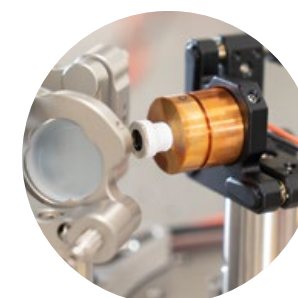
All of these events were held over virtual platforms and did not take place at the Cove @ UCI. All photos on this page are screenshots from virtual events.

The Cove takes great care in ensuring a safe environment for tenants and visitors. COVID-19 safety measures include requiring face coverings and temperature checks, providing hand sanitation stations, designated workstations, and displaying public health signs throughout to encourage cleanliness and social distancing.



Since the Cove @ UCI has been open, an average of 40,000-50,000 people have come through the building per year in support of innovation, entrepreneurship, industry and the community. Take part! Check out and register for upcoming events: innovation.uci.edu/events

TEXT: SANDRA FLORES / PHOTOS: JULIE KENNEDY



Developed out of the COSI Labs, the team uses a diode laser and a crystal to create a UV-C light that can potentially denature COVID-19.

"I HOPE I NEVER FAIL TO GIVE CREDIT TO THE EXPERTISE I'VE RECEIVED. THE HANDFUL OF INDIVIDUALS I MET THROUGH WAYFINDER WERE NECESSARY IN MAKING [WATERBORNE SKATEBOARDS'] SUCCESS HAPPEN. IF IT WEREN'T FOR THESE FOLKS, WE WOULDN'T BE WHERE WE'RE AT TODAY."

— Patrick Dumas



MAKING WAVES

UCI STARTUP

Waterborne Skateboards

WHERE ARE THEY NOW?

CEO OF UCI STARTUP WATERBORNE SKATEBOARDS
THANKS THE WAYFINDER PROGRAM FOR ITS SUCCESS.

TEXT: KAITLIN AQUINO / PHOTOS: CELINA BHANDARI & JULIE KENNEDY / ILLUSTRATION: ELISA LE

Like many young, first-time entrepreneurs, UC Irvine (UCI) alum Patrick Dumas did not expect his company, Waterborne Skateboards, to become the internationally recognized brand it is today.

"In the beginning, I made a financial projection and ... it was something stupid – a not exciting amount of money," admitted Dumas, CEO of Waterborne Skateboards. "People pushed me to think bigger ... [to] make this as big as it can possibly be."

The people Dumas spoke of were his mentors and eventual investors, whom he met through UCI Beall Applied Innovation's Wayfinder program in 2016. According to Dumas, they continue to coach him to this day. And he couldn't be more grateful for them.

"I hope I never fail to give credit to the expertise I've received," said Dumas. "The handful of individuals I met through Wayfinder were necessary in making [Waterborne Skateboards'] success happen. If it weren't for these folks, we wouldn't be where we're at today."

Dumas started Waterborne Skateboards as an undergraduate with his originally designed Surf Adapter, a skateboard attachment for the front of the board that allows riders to carve tighter turns than they typically would with their boards' original parts. After a couple of what Dumas describes as critical failures – a dud of a design and a manufacturing mishap – he perfected the flagship Surf Adapter and has since expanded the company's product line to include adapters for the back of the board, adapters for electric skateboards and zodiac-themed carbon-fiber skateboard decks.

The startup also partnered with Australian company Penny Skateboards to create the High-Line Surfskate, a skateboard line that launched last year. Now, with its new products and partnerships, Waterborne Skateboards ships to dozens of countries around the world.

The company's hard-earned growth and scale has allowed Dumas to focus on what he loves doing most: tinkering.

"We have a nice warehouse now," said Dumas. "I have a workshop there, and any tool I'll ever need. I can build whatever I want and get back to my roots in design. I think that's my calling."

For as far as Waterborne Skateboards has come, Dumas only picked up skating as a faster way to get around UCI's massive campus. But skating wasn't always the most convenient means of getting to class. During his undergraduate years, Dumas admittedly accumulated three skating citations from campus police. Still, that didn't stop him from weaving past pedestrians on his board between classes.

"I definitely fell in love with skating at UCI," he said. "The best part of my day was leaving class at the top of Ring Road and taking some cool pathway down. Experiences like that definitely shaped me to make Waterborne Skateboards, [which is] kind of crazy to think about."

Learn more about Applied Innovation's Wayfinder Incubator at innovation.uci.edu/programs/wayfinder-incubator ///



Patrick Dumas, CEO of Waterborne Skateboards, carves out a section of concrete in Irvine on one of his carbon-fiber surf skates.

Brevvie

Replaces Consumerism with Convenience

THE STARTUP USES TECHNOLOGY AND MAKES EVERYDAY LIFE EASIER BY ENABLING THE SHARING OF EVERYDAY ITEMS.

With the advent of the sharing economy, people all around the world participate in some form of this practice, either to make money on an owned asset or as an alternative to ownership altogether. From bike-sharing and ride-sharing companies, to companies that empower homeowners to rent rooms, swimming pools or driveways, there's something to rent or share for everyone.

Wayfinder startup Brevvie – a combination of “briefly rent everything” – challenges the idea of ownership even further to enable its users to rent everyday items from their network of smart lockers.

“

WE SHOULD DO IT NOW, BECAUSE IN TWO YEARS YOU'RE GOING TO KICK YOURSELF IF YOU DIDN'T START .”

– Tim Murphy



CONSUMPTION CONUNDRUM

It's safe to say that many are guilty of purchasing something that will only be used once. That item might sit in a closet or garage, be donated or eventually thrown out with the trash. That egregious level of overconsumption does not sit well with many, including Kristine Everly, co-founder of Brevvie.

Everly, a marketing professional in the corporate real estate industry, was acutely aware of the needs and habits of people who lived in apartments and multifamily housing communities, but it was an experience at a warehouse club that was a major turning point.

“I watched a young couple return an air mattress that they had clearly just used,” said Everly. “And as irritating as it was watching that wasteful consumer behavior, I realized that this couple – like many people – don't have any other options if they cannot afford to own something they need for a short time. They cannot do it any other way but purchase it, use it and return it for a refund.”

Everly then reached out to friend and co-worker Tim Murphy to get his take on whether or not they should pursue the idea and received advice that every entrepreneur should heed.

“We should do it now,” said Murphy, co-founder of Brevvie, “because in two years you're going to kick yourself if you didn't start.”

And in October of 2017, Everly and Murphy started Brevvie and began walking through neighborhoods and talking with residents, as

well as sending out surveys, to understand what people owned and to determine their buying habits.

“For example: not everyone in a neighborhood needs to own a ladder or tools when you can just go to a shared area and rent what you need for as long as you need it,” said Everly. “That's really the premise behind Brevvie.”

Within a few months, the two had a prototype and had joined the Wayfinder* program at UCI Beall Applied Innovation. While at the Cove @ UCI*, Applied Innovation's headquarters, Everly and Murphy have utilized the Small Business Development Center @ UCI Beall Applied Innovation*, made important network connections and found guidance and support through Innovation Advisors*.

BRIEFLY RENT EVERYTHING

Brevvie's core technology is their software platform, which allows people to rent and return common goods. With their free app, users can see which items are available in real time in one of their smart lockers and immediately rent an item by the hour or by the day, depending on the item, for only a few dollars.

Users can rent everything they need for a beach day, game night or an afternoon of chores without having to own or store anything themselves. After the rental period is over, they simply place the item back into the smart locker. Brevvie then makes sure the items are clean and ready for the next user. Items include name-brand coolers and vacuums,

ladders, tool kits, karaoke machines, tents, beach chairs, board games and more.

Currently, Brevvie's smart lockers are only located in select multifamily housing communities in Los Angeles and Seattle, where tenants get exclusive access. The startup has seen so much success that housing communities list Brevvie as an amenity to draw in new tenants, just as they would list pool access and an on-site gym.

Customer feedback has been overwhelmingly positive, according to Murphy, with about 30 percent of tenants at every community outfitted with a smart locker continuing to use the service, and rentals happening 24/7.



A LARGE PART OF THIS WHOLE JOURNEY IS 'HOW DO WE LEAVE THIS PLACE BETTER THAN WE FOUND IT.' SO, OUR COMPANY'S SUCCESS IS JUST AS IMPORTANT AS BEING ENVIRONMENTALLY CONSCIOUS AND DOING OUR PART TO REDUCE OVERCONSUMPTION.”

– Kristine Everly

Brevvie's mobile app and network of smart lockers allow users to immediately rent everyday items for as long as they need.

“We are changing consumer behavior and we’re introducing a new way to consume, which will be second nature to everyone in the next five years,” said Murphy.

Savvy consumers understand Brevvie’s value proposition and have been quick to adopt this new behavior, including taking advantage of the app’s latest features, an unlimited access membership for \$9.99 a month and a reservation feature that allows users to ensure their desired item is ready when they need it.

“A large part of this whole journey is ‘how do we leave this place better than we found it,’” said Everly. “So, our company’s success is just as important as being environmentally conscious and doing our part to reduce overconsumption.”

THE CROSS-HUSTLE

Longtime workers in the corporate real estate industry, both Everly and Murphy believe strongly in their simultaneous pursuit of their corporate careers as well as their entrepreneurial endeavor. Additionally, they stress the many benefits of not choosing one over the other.

“We financially support our families, so for us not to have a job just doesn’t make sense,” said Everly. “Not only would we have to give up our startup, but we would also miss out on opportunities to leverage connections made through our corporate jobs that will take Brevvie to the next level.”

Everly and Murphy fully expect Brevvie to eventually become their

sole focus, but until then, they plan to continue to allow each endeavor to complement the other.

“Not only do we have a side hustle that benefits from the networks, resources and knowledge from our day jobs, but there is also a cross-hustle benefit to our day jobs,” said Murphy. “I didn’t know how to pitch before we went through the Wayfinder program, and that pitching format has changed the way that I conduct business internally at my day job and I’ve been far more successful. These are all things that would not have happened if we quit our day jobs.”



I DIDN’T KNOW HOW TO PITCH BEFORE WE WENT THROUGH THE WAYFINDER PROGRAM, AND THAT PITCHING FORMAT HAS CHANGED THE WAY THAT I CONDUCT BUSINESS INTERNALLY AT MY DAY JOB AND I’VE BEEN FAR MORE SUCCESSFUL.”

— Tim Murphy

BUILDING ON BREVVIE

While Brevvie currently operates in multifamily communities for sole use by tenants, the startup plans to roll out more smart lockers to larger housing communities and student housing, as well as to public locations, like recreation centers and grocery stores. From there, Everly and Murphy are planning to make deliberate moves for a larger national and international rollout.

In addition to their smart locker locations, Brevvie is also focused on building an affiliate network based on their platform. This option can provide a contact-less rental experience and bridge the gap between a mobile shopping experience and getting an item immediately.

“The affiliate and franchise models are extremely important to us,” said Murphy. “If you’re in the business of renting tools, music equipment or camera equipment, we can automate those businesses right now. All that’s needed is to sign up for our software platform and use compatible hardware. It’s that simple.”

Until there is a smart locker in your neighborhood, Brevvie has some advice: consume smarter by investing in life, not things.

Learn more about Brevvie at brevvie.com ///

*Resources Mentioned in this Story

Cove @ UCI
innovation.uci.edu/the-cove

Innovation Advisors
innovation.uci.edu/programs/innovation-advisors

Small Business Development Center
innovation.uci.edu/sbdc

Wayfinder Incubator
innovation.uci.edu/programs/wayfinder-incubator



Users find the item they wish to rent on the Brevvie mobile app, then go to a Brevvie locker.



At the Brevvie locker, users access the item by entering the code provided on the Brevvie app or from their email.



Alternatively, users can access the item by scanning a barcode provided on the Brevvie app.



The specific locker containing the item will open, allowing the user to retrieve their rented item.



TEXT: JACKIE CONNOR / PHOTOS & ILLUSTRATIONS: JULIE KENNEDY

FACULTY SPOTLIGHT

Phil Felgner Knows Thy Enemy

THE UC IRVINE PROFESSOR AND HIS RESEARCH TEAM HIT THE GROUND RUNNING STUDYING ALL THINGS COVID-19.

Since early spring, an invisible enemy invaded the U.S. That enemy went unseen to the masses and gave other forms of invasion a run for its money. To the tune of an estimated \$8 trillion dollars to the U.S. economy, this enemy we know as COVID-19 has caused global shutdowns, new social protocols and so much more.

Phil Felgner, Ph.D., professor of Physiology and Biophysics at UCI's School of Medicine, director of UCI's Vaccine Research and Development Center, has been studying COVID-19 well before facemasks, economic shutdowns and social distancing with his team at UC Irvine's (UCI) Institute for Immunology.

Felgner has been working toward solutions for COVID-19 since January this year and continues to do so in his Protein Microarray Laboratory and Training Facility using UCI intellectual property. In this lab, Felgner has partnered with all corners of his network – from fellow academics to UCI startups and international educational institutions – to bring the best disease detecting ammo he has to the local and worldwide battlefield.

TRAINING CAMP

Growing up in a small German farm town in Michigan, Felgner discovered the innovations of Henry Ford and Thomas Edison readily available within his community and nearby cities. Early on, the automotive industries then modern technology took hold and fascinated Felgner.

"In the 1950s, Michigan and Detroit were the center of the economic universe at that time, every road came out of Detroit," said Felgner. "There was a lot of technology, too, all wrapped up in the auto industry. You don't think of it as technology; it's just a car. But at that time, it was modern technology."

As Felgner reached adulthood, he had decided on a career in life sciences thanks to Michigan's plethora of planetariums, museums and innovators placing a large scientific influence on the thriving Midwest state. He received his Ph.D. in Neurosciences and Biochemistry at Michigan State University and from there, moved to Charlottesville, Virginia, for his postdoc work in biophysics.



WE'VE BEEN DOING TREMENDOUS THINGS AND TO THEN SEE THAT IT ACTUALLY IS PRODUCING USEFUL INFORMATION IS REALLY REWARDING TO ME."

– Phil Felgner, Ph.D.

In 1982, Felgner made his way to Palo Alto, California, where he began his career at Syntex, a pharmaceutical company or as he describes as an early example of a biotechnology company. At Syntex, Felgner developed a gene therapy technology and in 1988, started his own company, Vical, and discovered he could produce vaccines based on this therapy.

"Instead of administering genes to treat a genetic disorder, we could administer genes that encoded proteins from viruses and bacteria," said Felgner. "So when you administer those genes and you get a gene product, the immune system thinks it's infected and responds to how the protein is being made."

According to Felgner, this discovery is the basis for some of the COVID-19 vaccines in clinical trials today.



Rie Nakajima, Ph.D., lab research supervisor, is using a pipette to put proteins onto source plates, which will go into the microarray printer in the Protein Microarray Laboratory and Training Facility at UC Irvine's Institute for Immunology.

Phil Felgner, Ph.D., director of UC Irvine's Vaccine Research and Development Center and the Protein Microarray Laboratory and Training Facility, works with Joshua Obiero, Ph.D., staff research associate, in the Protein Microarray Laboratory and Training Facility at UC Irvine's Institute for Immunology.

20 YEARS AT UCI

This year marks Felgner's 20th anniversary at UCI and what a momentous year it has been for his lab. Before the pandemic, Felgner and his team were studying respiratory infections in a group of 1,500 students residing in a dormitory at the College of Art in Maryland. From this study and a partnership with Sino Biologicals, a global reagents company based in China, Felgner was able to easily transition his team's focus to SARS-CoV-2, the virus that causes COVID-19.

"For the dormitory study we had six respiratory viruses," said Felgner. "And one of the most important is, guess what, coronavirus. It causes the 'common cold' that we get almost every year, everybody has antibodies against it."

In February, while COVID-19 invaded the globe, Felgner attended a conference in Argentina, narrowly missing the first case of COVID-19 in Brazil.

"One of the amazing things about that trip to Argentina is there were almost no cases in South America," said Felgner. "And the day we were



FACULTY SPOTLIGHT

The pipette, a laboratory instrument used to transport and dispense a measured volume of liquid, contains proteins that will be sequenced by the lab's microarray printer.



MOVES AND COUNTERMOVES

After 10 years of trying to understand the subtleties of the technology, Felgner came to UCI where he could have the opportunity to study it more in depth and take advantage of the newly developed genome sequencing of microorganisms.

"The first microorganism genomes being sequenced were in the late 1990s, so there was basically nothing available," said Felgner. "We thought if we could get the sequence data, we could make all the proteins and better vaccines."

In a post-9/11 world where biodefense issues and biological weapons became top-of-mind for

much of the country, Felgner's lab received funding from the National Institutes of Health to develop a way to create all the proteins from any infectious agent. From there, Felgner and his team developed a protein microarray chip that could be used to measure antibodies from anybody who might have been exposed to any infectious disease. At the time, Felgner was researching diseases like **tularemia**, **Query fever** and **Ebola virus**.

"Tularemia is very infectious. It just takes one or two organisms in your lung to make you experience an infection," said Felgner. "It was calculated that if you made a powder out of that and put it into

an airplane, you could drop it over Manhattan and large numbers of people can become ill from the infection."

During this tumultuous time in history, Felgner established UCI's Vaccine R&D Center, where the team studies these infectious diseases and develops potential vaccines.

Infectious organisms contain a multitude of different proteins, and if the wrong protein is chosen, a good vaccine will not likely be developed. Felgner's microarray technology narrows down the specific proteins and compares them to other similar disease proteins to help configure antibodies and a potential vaccine.

TU-LA-RE-MIA / noun

a rare infectious disease that typically attacks the skin, eyes, lymph nodes and lungs

(source: Mayo Clinic)

QUE-RY FE-VER / noun

a disease that exhibits mild flu-like symptoms transmitted to humans by animals

(source: Mayo Clinic)

E-BO-LA VI-RUS / noun

a virus that causes severe bleeding, organ failure, and can lead to death

(source: Center for Disease Control)

leaving Argentina was the first day of the Carnival in Brazil ... also when the first coronavirus case was diagnosed in Brazil. We were flying out on that very auspicious time."

In March, COVID-19 detection and antibody tests became the new frontier in vaccines. Felgner and his team pivoted their focus to develop a COVID-19 Coronavirus Antigen Microarray that detects antibodies against coronavirus-infected people. The microarray technology, one of Felgner's UCI intellectual properties, uses a drop of blood from a finger

stick to detect if a person has been exposed to COVID-19.

The microarray test, the size of a computer chip, holds hundreds of different types of disease proteins, such as dengue fever, malaria and now, 34 coronavirus antigens, or 33 antigens from six other harmful viruses that cause respiratory infections. The blood sample is tested against each of these to detect antibodies to determine a person's exposure to then define a person's antibody response.



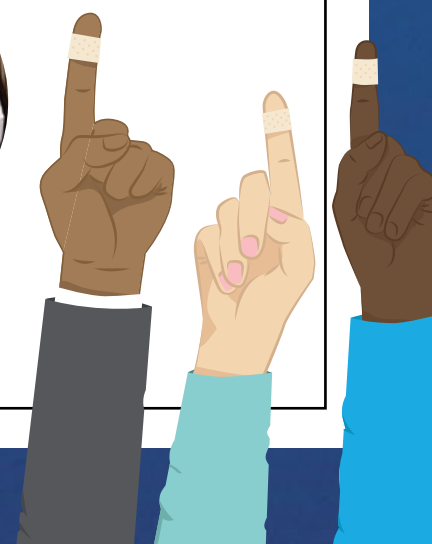
Aarti Jain, MSc, researcher, pricks a patient's finger in the Protein Microarray Laboratory and Training Facility at UC Irvine's Institute for Immunology.

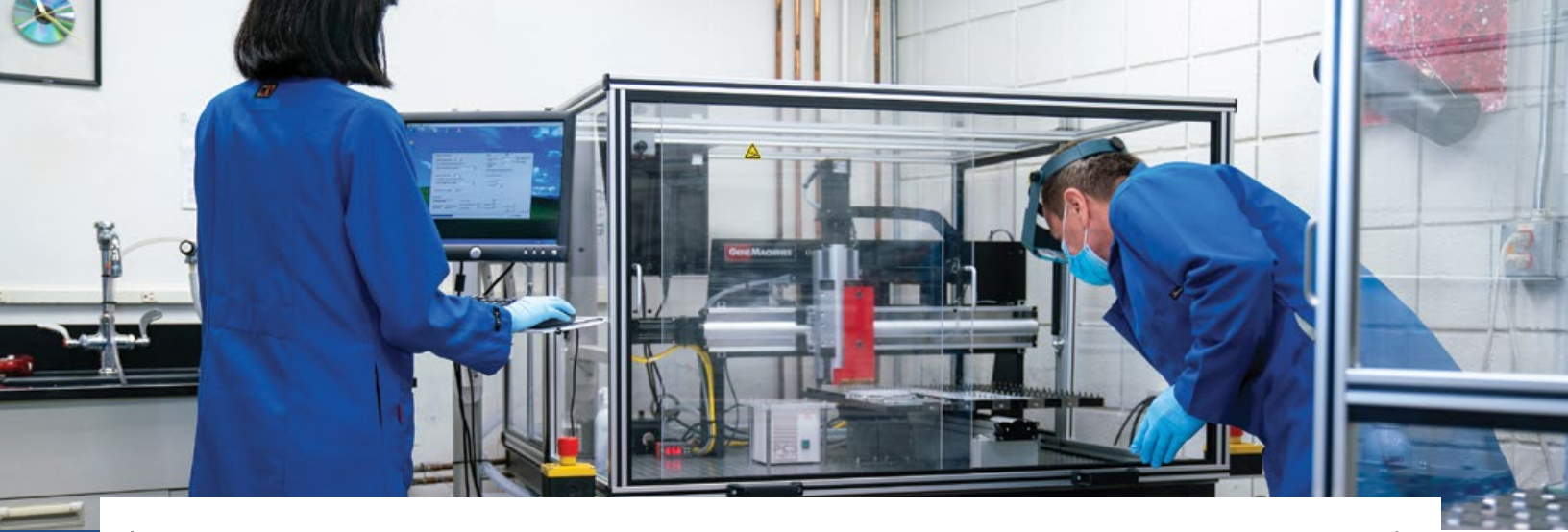


The blood sample is drawn from the patient to find any potential COVID-19 antibodies.

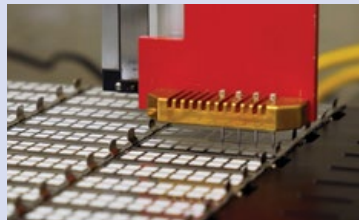


Jain prepares the patient's blood sample.

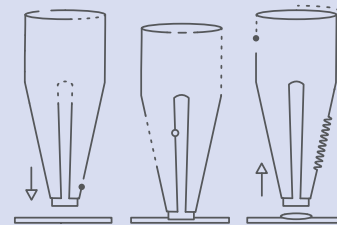




Microarray Chip Fabrication



Each chip holds hundreds of viruses that are then compared to one another to determine a person's exposure to the virus being tested.



1 nanoliter of protein
spotted by contact printing

Sharon Jan, graduate student researcher, enters data while Al Jasinskas, Ph.D., research scientist, examines the microarray printer's accuracy.

The technology was used in a six-month study on UCI healthcare workers beginning in May, to better understand the risk of virus exposure in different areas of the hospital. This study surveyed blood specimens of 4,000 residents collected at 10 drive-through locations across Orange County.

WORKING TOGETHER TO FIGHT ONE BATTLE

In summer 2020, Felgner's startup company, Nanommune, combined forces with another UCI startup company and former Wayfinder* team, Velox Biosystems, to develop a rapid high-throughput COVID-19 serological test. The test detects antibodies within two to three days with more accuracy and provides more information about how the viruses are interacting

within a person's immune system. Both companies, powered by UCI intellectual property*, are aiming to develop a high-quality test.

"It is truly inspiring that Dr. Felgner is always working and trying to help the community and advance the science," said Byron Shen,



Raphael Assis, Ph.D., project scientist, conducts data analysis in the Protein Microarray Laboratory and Training Facility at UC Irvine's Institute for Immunology.

Ph.D., MBA, Velox Biosystems CEO. "And the two companies – Nanommune and Velox – have been working extraordinarily well together to develop rapid COVID-19 countermeasures."

As more information about the virus develops, Felgner pursues more partnerships with fellow academics and companies to learn more about COVID-19 and find ways to defeat this invisible enemy.

"We've been doing tremendous things and to then see that it actually is producing useful information is really rewarding to me," said Felgner. "All the collaborations are just really great to see. When the medical professionals look at the data, it has rewarding level of meaning and importance for them, and for us."

Learn more about UCI's Vaccine R&D Center: vaccine.uci.edu ///

*Resources Mentioned in this Story

Available Technology
innovation.uci.edu/tech

Wayfinder Incubator
innovation.uci.edu/wayfinder

AVAILABLE TECHNOLOGIES

Coming Down the Pipeline

SOME OF UCI'S TOP AVAILABLE TECHNOLOGIES CURATED BY UCI BEALL APPLIED INNOVATION'S RESEARCH TRANSLATION GROUP

The Research Translation Group manages over 1,000 inventions from UCI researchers spanning the areas of engineering, medicine and life sciences, physical sciences, communications and computer sciences. These innovative technologies are available for licensing.

Tech ID #: 32049

PERSONALIZED ONCOLOGY DRUG EFFICACY MONITORING CHIP

Researchers at UCI have developed a novel microfluidic-based platform that enables personalized drug screening of patient-derived cancer cells. This versatile device features real-time, continuous screening of patient samples without the need for expensive labeling reagents, large sample sizes or bulky readout equipment.

Rahim Esfandarypour, Ph.D. / Henry Samueli School of Engineering

Licensing Officer
Maria Tkachuk, Ph.D.
mtkachuk@uci.edu

Tech ID #: 32061

NOVEL REFLECTIVE MICROSCOPE OBJECTIVE LENS FOR ALL COLORS

The researchers at UCI have developed a microscopic lens made entirely of a reflective curved surface, where all the light wavelengths are focused at the same time for better resolution and larger field view of the image.

Adam Hanninen, Ph.D. & Eric Potma, Ph.D. / UCI Department of Chemistry

Licensing Officer
Richard Tun, J.D., Ph.D.
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Tech ID #: 32120

A POINT-OF-CARE METHOD TO DETECT COVID-19 INFECTED AND IMMUNE PATIENTS

The emergence of a novel coronavirus disease (COVID-19) in late 2019 has caused a worldwide health and economic crisis. Determining which members of the population are infected is key to the reopening of schools, universities and nonessential businesses. To address this, researchers at UCI and University of Illinois at Chicago have developed an inexpensive point-of-care test using RNA aptameric technology for detecting COVID-19 infected and immune patients that can be taken at home, like a pregnancy test.

Peter Burke, Ph.D. / Henry Samueli School of Engineering

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NOVEMBER 2020 / UCI BEALL APPLIED INNOVATION / RISING TIDE

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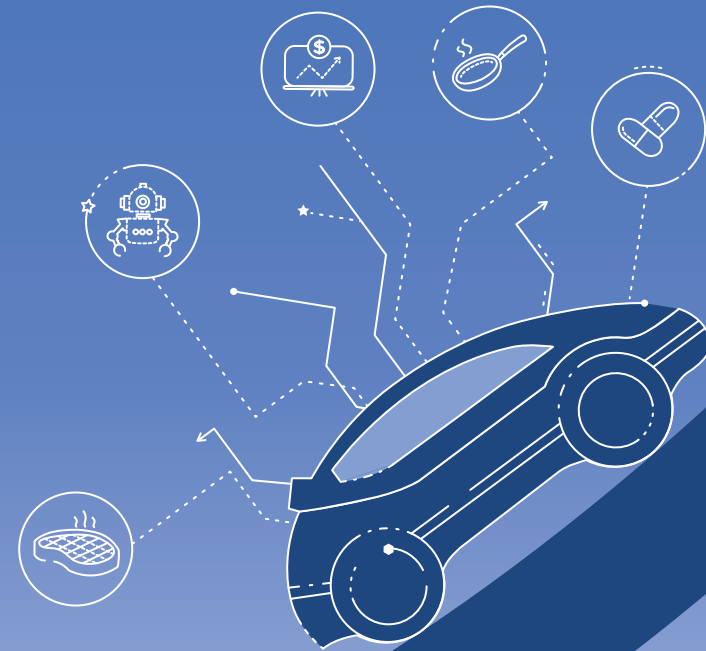
5 Emerging Startup Spaces

ENTREPRENEURS CREATE INNOVATIVE WAYS
TO DISRUPT MARKETS WITH FRESH IDEAS.

New startup spaces are established more frequently than one might imagine. Whether a startup creates a new market, technology, product or service, or applies an existing technology, product or service to a current market, it's all about thinking differently to solve a problem for customers.

Just a few years ago, it would seem unheard of to purchase an affordable mattress online and have it delivered to your door in a box. Now, Casper – one of the original leaders in the direct-to-consumer mattress space – is trading on the New York Stock Exchange. In a similar fashion, some of the freshest ideas today might soon disrupt billion-dollar markets.

Read on for five emerging spaces on the rise in the United States, according to PitchBook, the private capital market data provider.



CELLULAR AGRICULTURE

Cellular agriculture is the term given to lab-grown agricultural products, including milk, eggs and meat. As more focus is put on the vast amount of resources needed to produce these products using traditional agricultural methods, many believe that growing animal products, like beef, in a cell culture is a more environmentally friendly and humane way to produce and consume these animal products.

GHOST KITCHENS

Sometimes referred to as restaurants-as-a-service, ghost kitchens operate much like a restaurant kitchen – but only prepare and cook food for delivery or catering. This business model allows restaurants to increase profit margins by catering to the increased popularity in online food ordering and delivery platforms.

ARTIFICIAL INTELLIGENCE-POWERED DRUG DISCOVERY

Traditional drug discovery in the pharmaceutical industry is an expensive and time-intensive process. Companies in the AI-powered drug discovery space aim to use artificial intelligence to speed up the time it takes to isolate promising drug compounds to enable pharmaceutical companies to develop new drugs faster and at a fraction of current costs.

ROBOTIC PROCESS AUTOMATION

Companies in the robotic process automation space use computer software to streamline and automate tasks typically done by a human, like chatbots on e-commerce sites that gather information and assist customers based on their requests. Robotic process automation, which interacts with existing enterprise software, allows organizations to automate tedious processes cost-effectively and provides workers with more time to focus on higher value work.

DECENTRALIZED FINANCE

Companies in the decentralized finance space use blockchain technology – a secure system in which transactions are recorded and verified over a peer-to-peer network rather than a central location – to provide new ways to access and use financial tools and services.

Achieve your next level of success with help from programs provided by UCI Beall Applied Innovation:
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Source: PitchBook Emerging Spaces: pitchbook.com

Paul Roberts, founder and station manager of OC Talk Radio, amplifies the voices of Orange County's business ecosystem through live podcast shows at the Cove @ UCI.



DEEP DIVE

Paul Roberts Amplifies the Voices of Orange County's Business Ecosystem

OC TALK RADIO FOUNDER DRAWS ON HIS RADIO AND PUBLIC RELATIONS PAST TO HELP TELL LOCAL BUSINESS LEADERS' STORIES.

In spite of the increasingly fast-paced nature of today's media, the art of long-form storytelling still thrives in the form of books, movies, TV and, more recently, podcasts. Paul Roberts, founder and station manager of OC Talk Radio, has been in the business of storytelling for decades. Lately, he spends his days amplifying the voices of the Orange County business ecosystem by helping his clients stream and record their live podcast shows in his studio at the Cove @ UCI*, the headquarters of UCI Beall Applied Innovation.

TEXT: KAITLIN AQUINO / PHOTO: JULIE KENNEDY / ILLUSTRATION: RACHEL NOBLE

Roberts' roots in radio date back to his undergraduate days working for the student-run broadcasting network at the University of Michigan. After earning a degree in political science, Roberts moved from the Midwest to California in search of fame and fortune.

"I thought I was going to be an actor, producer or rock star," said Roberts.

Instead, Roberts found himself storytelling for stars as an entertainment publicist at Reflections, Inc. and Stan Rosenfield Public Relations. Some of his clients included CHiPs star Lou Wagner, rock band The Police and singer Johnny Mathis.

At one point, one of Roberts' public relations firms started to represent entrepreneurs such as Felice and Boyd Willat, founders of Day Runner personal organizers.

"Everybody wanted to know what they did ... their personal story, insights and inspiration," said Roberts. "Suddenly, entrepreneurs were seen as another form of celebrity."

Roberts created OC Talk Radio in 2010 as a media experiment, drawing from his experiences working in radio and representing entrepreneurs. At the time, he noticed the lack of business-oriented storytelling in Orange County and took that as an opportunity to be the county's first and only station with a business bent.

"There were very few business podcasts, very few business radio stations left," said Roberts. "So we [at OC Talk Radio] thought we'll do what

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[THERE WERE] VERY FEW BUSINESS PODCASTS, VERY FEW BUSINESS RADIO STATIONS LEFT. SO WE THOUGHT WE'LL DO WHAT NOBODY ELSE DOES: HELP TELL THOSE STORIES AND BENEFIT NOT JUST THE AUDIENCE, BUT THE PEOPLE INVOLVED IN THE SHOW [BY] TELLING THEIR ORIGIN AND BRAND STORIES IN A WAY NO ONE ELSE CAN."

— Paul Roberts

nobody else does: help tell those stories and benefit not just the audience, but the people involved in the show by telling their origin and brand stories in a way no one else can."

Today, Roberts helps tell the personal stories of local business leaders from behind the soundboard at OC Talk Radio. The online radio station produces 24 shows a week, each covering a variety of business topics, from marketing and branding to entrepreneurial innovation.

According to Roberts, different podcast shows amass different audience sizes. The more niche shows bring in about 1,000 listeners a month, while their more popular shows average over 40,000 per month. Regardless, Roberts cares more about who is listening than how many.

"This isn't a billboard on the freeway that five million people drive by in the hope that five will remember and call you," said Roberts. "This is narrowcasting, not broadcasting ... I'm trying to get people that are really your customers interested and coming back week after week to learn more."

With the help of Roberts and OC Talk Radio, Applied Innovation will soon join the long-form, audio storytelling world with a monthly podcast. The show will cover a variety of topics, ranging from startup advice to developments in faculty research.

Learn more about OC Talk Radio: octalkradio.biz ///

*Resource Mentioned in this Story

Cove @ UCI
innovation.uci.edu/the-cove

Across Campus

SOME OF THE LATEST STORIES FROM THE UCI CAMPUS



SCHOOL OF HUMANITIES

Philosophy professor Aaron James argues in favor of relieving debt by urging the U.S. Federal Reserve Bank to create money “out of thin air” in his recently published book, *Money from Nothing*.

humanities.uci.edu



UCI CAMPUS

In an effort to reduce recidivism, UCI launched the first in-prison B.A. completion program offered by the UC system. Those enrolled will get the opportunity to earn a bachelor’s degree in sociology.

news.uci.edu



SCHOOL OF MEDICINE

A UCI-led study found that the #MDsToo curriculum was successful in helping medical students identify mistreatment during training, an issue that not only poses a threat to student well-being but also patient safety.

som.uci.edu



DONALD BREN SCHOOL OF INFORMATION & COMPUTER SCIENCES

Statistics researchers at UCI released a new online “OC COVID Situation Report” in collaboration with the National Institute of Allergy and Infectious Diseases and the Orange County Health Care Agency to document and predict the spread of COVID-19 in Orange County.

ics.uci.edu



SCHOOL OF EDUCATION

Associate Professor June Ahn received a three-year, \$500,000 grant from the Bill & Melinda Gates Foundation to research the key factors that influence young people to pursue careers in media, technology and other similar industries.

education.uci.edu

COVE PARTNERS

In the Ecosystem

RESIDENTS OF THE COVE @ UCI AT A GLANCE.

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For more information on community partners, visit: innovation.uci.edu/the-cove/ecosystem



UCI BEALL APPLIED INNOVATION
EMPLOYEE FEATURE

with Marco Henkel

MARCO HENKEL DISCUSSES HIS LOVE FOR THE BIG ISLAND OF HAWAII, HIS DREAM OF VISITING ANTARCTICA AND HOW HE LIKES TO BE OUTDOORS WHENEVER HE CAN GET THE CHANCE.

Marco Henkel, Innovation Advisors Manager at UCI Beall Applied Innovation, provides UCI affiliated startups with the guidance and connections to build relationships within the local entrepreneurial ecosystem. When Marco isn’t working, you may find him jogging, mountain biking or listening to music with his daughter.

Q What are some hobbies that you like to do in your spare time?

I like to be outside whenever I can. I like to do outdoor activities such as hiking, mountain biking or jogging. I also like indoor rock climbing, when I have the chance.

Q What are some musical artists you like listening to?

I don’t really have one particular band. It also just depends on my mood, but in general I like more of the rock and heavy kind of music. When I was growing up, I listened to a lot of Nirvana and The Offspring and a little bit of hip-hop here and there. But while in quarantine, I’ve been listening to a lot of Sesame Street Radio with my child.

Q What was your most exciting vacation experience?

I love the Big Island of Hawaii. It’s really cool because of the active volcanoes and accessible lava tunnels, which are completely black to the point where you can’t see anything. That was amazing. The Big Island is so rugged and natural, and always changing. It was really interesting for me to see nature at work.

Q If you could go anywhere in the world that you’ve never been before, where would it be and why?

I would like to go to Antarctica. I think it’d be pretty incredible to see what it’s like, just to be in that part of the world and experience it since it’s vast, quiet and empty. And I like the feeling of being in a cold environment sometimes.

Q What’s your favorite thing about your job?

I like the networking aspect of it. I like connecting two parties together and seeing that it’s a good match – that they actually get value out of it – and seeing an innovation or a startup move forward because I connected people together. It’s really gratifying.

TEXT: SANDRA FLORES / PHOTO: RYAN MAHAR



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WAYS TO GET INVOLVED

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