Seed Central℠ Center of Seed Excellence and Innovation

UCDAVIS Innovation Institute for Food and Health

UCDAVIS Microbiome Special Research Program

UCDAVIS VENTURE CATALYST

2021 Innovators Showcase @ UC Davis

January 21
PITCH SESSIONS
+
PANEL DISCUSSION
on incubator & startup space in our region, with particular focus on seed-to-fork

January 22- 29
ONLINE COMPANY VISITS
See schedule at
www.seedcentral.org/innovators

AFINGEN

Amphasys

AnimalBiome

ARABLE

BCD BIOSCIENCE BETTER CARBOHYDRATE DESIGN

Beeflow

BioConsortia

biolumic

BIOME MAKERS

ceres

computomics®

Digestiva Protease as a Service

FloraPulse

Fortiphyte

GENERAL AUTOMATION LAB TECHNOLOGIES

GreenVenus Accelerating the Green Revolution™

HUDSON RIVER Bio technology

in'Sight Labs

INPUTS

INTRINSYX BIO

JOYN BIO

Lucent BioSciences, Inc.

MyFloraDNA Bringing modern genetics to growers

Pheronym

Peak B Natural Blue Colorants

PHENOSPEX Smart Plant Analysis

RIJK ZWAAN

plantDitech functional phenotyping

PRIMARY BIOAG INNOVATIONS

PHENIX Plot Phenix™

RainIons

redmelon

SeedLinked

SkywayAnalytics

SPECTRAL ANALYTIX

and

UNFOLD

AgStart

Bakar BioIngenuity Hub

BAYER CoLaborator

inventopia

HM•CLAUSE Life Science Innovation Center UCDAVIS

UCDAVIS VENTURE CATALYST

The WG CENTER for Innovation & Technology

WOODLAND RESEARCH & TECHNOLOGY PARK A Live/Work Community

2021 Innovators Showcase @ UC Davis

SCHEDULE (January 21)

	9:00 AM session
9:01	Digestiva
9:04	Hudson River Biotechnology
9:07	BioConsortia
9:10	Biome Makers
9:13	Computomics
9:16	Fortiphype
9:19	GALT
9:22	GreenVenus
9:25	Joyn Bio
9:28	Lucent BioSciences
9:31	Primary BioAg Innovations
9:34	RainIons
9:37	Skyway Analytics
9:40	Unfold Bio
9:43	Amphasys
9:46	BCD
9:49	Intrinsyx Bio
9:52	Phenospex
9:55	Pheronym
9:58	SeedLinked
10:01	Spectral Analytix
10:04	Plant-DiTech

	2:00 PM session
2:01	Progeny Drone
2:04	Animal Biome
2:07	Ceres Imaging
2:10	in'Sight Labs
2:13	The Redmelon Company
2:16	Afingen
2:19	Arable
2:22	BeeFlow
2:25	Biolumics
2:28	FloraPulse
2:31	myFloraDNA
2:34	Peak B
2:37	Rijk Zwaan
	PANEL DISCUSSION
2:40	Moderator's intro
2:42	AgStart
2:44	Bakar BioIngenuity Hub
2:46	Bayer Co.Laborator
2:48	Inventopia
2:50	UC Davis Venture Catalyst
2:52	UC Davis-HM.CLAUSE Life Science Innovation Center
2:54	Western Growers Center for Innovation and Technology
2:56	Woodland Research & Technology Park
3:00	Panel discussion

PANEL DISCUSSION (January 21)

on incubator & startup space in our region, with particular focus on seed-to-fork

Moderator

Sarah Stewart
Manager
Innovator Fellowship Program
Innovation Institute for Food and Health

See additional information on pages 14-16

Panelists

Leanna Sweha
AgStart

Regis Kelly
Bakar BioIngenuity Hub

Alberto Iandolino
Bayer Co.Laborator

Tim Keller
Inventopia

Sukhpreet Sandhu
UC Davis-HM.CLAUSE Life Science Innovation Center

John Hodgson
Woodland Research & Technology Park

Dennis Donohue
The WG Center for Innovation & Technology

Ryan Sharp
Senior Associate Director, Venture Catalyst, Office of Research, UC Davis

ONLINE COMPANY VISITS (January 22-29)

See schedule at
www.seedcentral.org/innovators

Ai Oikawa, CEO/CSO
AOikawa@afingen.org
+1 150 290 8845
www.afingen.org

AFINGEN® is an ag-biotech company spun-off from Lawrence Berkeley National Laboratory and has been working with crop improvement research programs supported by the United States Department of Agriculture (USDA), U.S. Department of Energy (DOE), and the National Aeronautics and Space Administration (NASA). AFINGEN's new biotech platform enables crops to grow faster and healthier. It enhances the production of specialty plant metabolites that can reduce ag-emissions and address urgent public demand to find a realistic way to mitigate climate impact. - For more information, please visit www.AFINGEN.org and the new climate ag-biotech project webpage: www.afingen.org/climate-biosolutions/

Online company visit on Friday, January 22 at 3:00 PM PST

****

Leanna Sweha
Program Director
leanna@agstart.org
www.agstart.org

AgStart is a program of AgTech Innovation Alliance, a registered 501(c)(3) non-profit public benefit corporation based in Woodland, California, focused on advancing innovation in Ag | Food | Health. AgStart has been active in the Sacramento region since 2012, when it was launched through a collaboration that included the University of California Davis. Since 2015, AgStart has supported hundreds of ag- and food-tech startup companies through its combination of mentorship, education, and co-working services in its downtown Woodland incubator.
AgStart recently announced a unique, broad-based public-private collaboration to fund a $1.5M new, shared-use innovation incubator in Woodland. The Lab@AgStart will feature a fully-equipped shared-lab and kitchen space as well as a co-working office space. When completed, the Lab@AgStart facility will house one of the largest shared-use wet-lab facilities for startup companies in the entire Central Valley region.
Innovators interested in the Lab@AgStart facilities can learn more and contact AgStart through their website at www.agstart.org.

Online company visit on Friday, January 22 at 1:00 PM PST

****

Sarah Bieri
Marketing Manager
sarah.bieri@amphasys.com
www.amphasys.com

Amphasys is a biotech start-up providing an innovative technology for the analysis of cellular properties. In the agricultural sector, Amphasys' s high-throughput pollen analyzer enables fast and reliable large-scale pollen quality monitoring. Our technology provides reproducible and accurate results - data that enables our customers to take better decisions and improve their processes in plant breeding and seed production.

Online company visit on Wednesday, January 27 at 9:00 AM PST

****

Carlton Osborne, JD
Chief Executive Officer
carlton@animalbiome.com
www.animalbiome.com

Founded in 2016, AnimalBiome is an early-stage start-up using genomics to create new diagnostics and supplements to restore gut health in cats and dogs. A balanced gut microbiome supports overall pet health and imbalances are associated with numerous health conditions, ranging from gastrointestinal conditions such as inflammatory bowel disease and gastrointestinal lymphoma, skin conditions such as atopic dermatitis, to metabolic conditions, such as obesity and diabetes.
AnimalBiome provides direct to consumer gut function test kits for dogs and cats and creates restorative supplements from material sourced directly from healthy pets to identify and correct imbalances in the gut microbiome.

Online company visit on Friday, January 22 at 2:00 PM PST

****

Ian Bailey
Sales Executive
ian@arable.com
www.arable.com

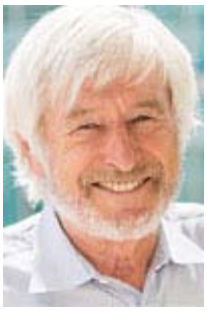
A pioneer in decision agriculture, Arable Labs builds affordable tools that help people collect and synthesize site-specific agricultural data. The company's mission is to achieve global impact by providing the measurements, insights, and predictions that enable growers to recognize and address risk. Through access to ground-truth knowledge, Arable empowers agricultural stakeholders to more effectively manage natural resources and lower food waste throughout the supply chain.

Online company visit on Friday, January 22 at 11:00 AM PST

****

Bakar BioIngenuity Hub

Regis Kelly
Regis.Kelly@ucsf.edu
Website



An inventive project is moving forward at Woo Hon Fai Hall – the creation of a full-service life science incubator known as the Bakar BioEnginuity Hub. The life sciences are one of California's strongest economic engines, and enhancing UC Berkeley's standing in the biotech and life sciences arenas is critical to the future of the university. A donor-developed project, the Bakar BioEnginuity Hub will have private labs for enterprises desiring more dedicated space, wet and dry open lab benches for faculty and student start-up researchers, and a single-story, glass-enclosed addition will add 6,600 square feet of highly-desired office space to support the research function.

****

BCD BIOSCIENCE
BETTER CARBOHYDRATE DESIGN

Maria Maldonado-Gomez
Senior Scientist
mmaldonado-gomez@bcdbio.com
www.bcdbio.com

BCD Bioscience explores and catalogs the untapped world of natural carbohydrates to create selective prebiotics, synbiotics, and immunomodulatory therapies for human, animal and plant health.

Online company visit on Wednesday, January 27 at11:00 AM PST

****

Beeflow

Matias Viel
CEO
matias@beeflow.co
www.beeflow.co/en/

We develop organic molecules compounds to increase crop yields with bee pollination. By feeding bees with our products, we can enhance their immune system and teach them to pollinate specific targeted crops.

****

Damian Curtis
Director of Synthetic Biology and Genomics
dcurtis@bioconsortia.com

Debora Wilk
Senior Scientis, Biocontrol
dwilk@bioconsortia.com
www.bioconsortia.com

BioConsortia, Inc. is developing effective microbial solutions that enhance plant phenotypes and increase crop yields. We are pioneering the use of directed selection in identifying teams of microbes - working like plant breeders and selecting plants based on targeted characteristics, then isolating the associated microbial community. Our proprietary Advanced Microbial Selection (AMS) process enriches the crop microbiome, allowing us to identify organisms that influence the expression of beneficial traits in plants. We are focused on developing products with superior efficacy, higher consistency, and breakthrough technologies in 3 key areas: biopesticides; biostimulants; and fertilizer use efficiency and nitrogen-fixation products. Our products are foliar, drench, seed treatments, liquid in-furrow and granule products for a wide range of crops.

Online company visit on Tuesday, January 26 at 11:00 AM PST

****

Jason Wargent
CSO
jason@biolumic.com
www.biolumic.com

BioLumic UV technology delivers ultraviolet light to seeds and seedlings to trigger biological mechanisms that increase plant growth, vigour and yields. Our world-first technology is clean, green and GM free. BioLumic is a US/New Zealand venture-backed company with one of our R&D locations based at the Bayer CoLaborator in West Sacramento. BioLumic is currently taking our first row crop application in soybean through US field trials, with additional crop applications to follow.

****

Daniel Almonacid
Head Of Data Science & Product Development
almonacid@biomemakers.com
www.biomemakers.com

Biome Makers is a Smart Microbial Discovery startup based in Sacramento. We focus on developing soil analytic tools for more sustainable and productive agriculture. We are leading the precision medicine for plant health by taking advantage of DNA Sequencing technologies and intelligent computing to provide value to farmers. We have developed the first machine learning system integrating microbiome information and AgData.
The first application of our proprietary patent-pending technology is WineSeq®, a microbiome based solution to improve vineyard management. It is a precision oenology tool allowing enologists to create more complex and genuine wines based on a better understanding of their terroir.
Currently, we can drive microbial discovery projects and create microbiome- based solutions benefiting from our internal tool that integrates statistic and machine learning algorithms and a proprietary database including more than 3,000 soil samples coming from 18 different countries, generating almost 2.8M of unique taxonomic units.

Online company visit on Monday, January 25 at 9:00 AM PST
****

John Bourne
Vice President of Marketing
jbourne@ceresimaging.net
www.ceresimaging.net

At Ceres Imaging, we believe the future of agriculture depends on providing farmers with the right tools—to cover more ground, make the most of their resources, and apply skill and experience where they're needed most. That's why we're building farm management solutions that put farmers in control.
Founder Ash Madgavkar launched Ceres Imaging as a graduate student in 2014, inspired by emerging technology in spectral imagery and galvanized by the plight of California growers navigating a severe drought. Today, Ceres Imaging is a venture-backed company delivering solutions for irrigation and nutrient management, pest and disease prevention, and more. From our headquarters in Oakland, California, we serve growers across Australia and the United States.

Online company visit on Monday, January 25 at 11:00 AM PST
****

Alberto Iandolino
Open Innovation Scout and R&D Alliance Manager
alberto.iandolino@bayer.com
www.colaborator.bayer.com

An attractive incubator space for life science start-ups

At Bayer, we are constantly searching for new technologies and creative approaches to develop more effective treatments against diseases affecting humans, plants and animals.
Research and innovation require an appropriate environment. The CoLaborator offers entrepreneurs and young life science companies suitable laboratory and office infrastructure and access to the company's research expertise and infrastructure as well as a first point of contact in the search for partnering options in the pharmaceutical and agriculture industry.

The best partner for your project

You are a young life science start-up with a good idea on basic and early research but you do not have an appropriate laboratory? The CoLaborator Team is awaiting your proposal.

****

Sebastian Schultheiss
Co-Founder and Managing Director
sebastian.schultheiss@computomics.com
www.computomics.com

Computomics was founded in 2012 so our customers can reap the benefits of our machine learning algorithms. By applying AI to genetics, phenotype, microbiome, and environmental datasets, we unlock the diversity of biological life. Computomics is a team of world-leading experts in machine learning, plant research and bioinformatics.
In over 130 projects, we enabled our customers to make data-driven decisions and thereby accelerate sustainable agricultural development that can feed the world. Our advanced machine learning methods enable rapid understanding of genomic data for plant breeding, agricultural, biotech, and microbiome researchers. Computomics has its headquarters in Tübingen, Germany.

****

Joel Cherry
President & CEO
cherry@digestiva.com
www.digestiva.com

Digestiva is a company focused on improving the nutritional efficiency of protein utilization. With a proprietary class of enzymes able to increase the absorption of amino acids critical to muscle growth, the potential to improve the health of those with diminished digestive capacity, such as the elderly and infirm, is exciting. As world population grows, more efficient utilization of protein will become ever more important to sustaining life on earth. Digestiva has a solution that is cost effective and unique.

****

Michael Santiago
CEO
michael@florapulse.com
www.florapulse.com

Although agriculture is thousands of years old, growers still struggle with timing irrigation. There is no way to automatically measure the need for water or 'thirst' of a plant--until now. Based on 10+ years of research at Cornell University, FloraPulse has developed an implantable microchip that directly measures how 'thirsty' a plant is and will provide the most accurate, timely information on when/how much to irrigate. FloraPulse uses this information to give the grower scientifically-backed recommendations for managing their field to consistently maximize crop yield, quality and water savings. The irrigation mystery: solved.

****

Fortiphyte

Alex Schultink
Founder and CEO
alex@fortiphyte.com
www.fortiphyte.com

At Fortiphyte we identify disease resistance traits and develop disease resistant crop varieties. This reduces the need for chemical controls such as fungicides, thereby improving the productivity, safety, and environmental sustainability of agriculture. Our platform is faster than traditional approaches and provides access to a greater diversity of resistance traits, therefore facilitating the discovery of multiple traits to confer durable disease control. We previously developed a tomato variety that is immune to the bacterial pathogens Xanthomonas, Pseudomonas and Ralstonia. Our platform is applicable to all crop species and most plant pathogens, including fungi and nematodes. We're seeking collaborations with seed companies who are interested in adding new disease resistance traits to their elite varieties.

Online company visit on Friday, January 22 at 10:00 AM PST

****

GENERAL AUTOMATION LAB TECHNOLOGIES

Surekha Karudapuram
Senior Director, Marketing
Surekha.karudapuram@galt-inc.com
www.galt-inc.com

Deep insights into microbiome structure and function are the foundation for microbial applications in human health, agriculture, environment, and industry. Antiquated, labor-intensive methodologies currently used to cultivate microbes are a significant barrier to access microbes from microbiome samples for research and product development. The Prospector platform with its highly dense array of > 6000 nanoscale cultivation chambers is integrated with an instrument that automates the workflow enabling researchers to isolate 1000s of microbes in parallel for microbiome analysis at an unprecedented scale. Our high-throughput platform will allow scientists in industrial, academic, and government labs to understand and harness the true diversity of microbial life and open up new opportunities for microbial product development.

Online company visit on Thursday, January 28 at 9:00 AM PST

****

GreenVenus
Accelerating the Green Revolution™

Sekhar Boddupalli
Founder & CEO
Sekhar.Boddupalli@GreenVenus.com
www.GreenVenus.com

Accelerating the Green Revolution
With next-generation plant propagation, speed breeding, and technologies for hybridization of crops, GreenVenus is improving the quality of food for consumers while reducing food waste and preserving valuable natural resources.

****

HUDSON RIVER Biotechnology

Gabino Sanchez-Perez
Business Development Manager
Gabino.Sanchez@hudsonriverbiotechnology.com
www.hudsonriverbiotechnology.com

Hudson River Biotechnology (HRB) is a highly innovative agricultural biotech company located in Wageningen (Netherlands) focused on improving crop productivity and quality, addressing the world's increasing demand for food and natural ingredients. We do this by genetically optimizing crops to increase yields, improve disease resistance & nutritional value. To this end, we employ the latest genetics techniques including CRISPR and our proprietary SuRE platform for unique target identification. HRB has an internal R&D pipeline for development of novel platform technologies and varieties with new traits, and actively seeks partnerships for plant breeding projects.

Online company visit on Tuesday, January 26 at 10:00 AM PST

****

in'Sight Labs

John Jefferson
CoFounder & COO
j@insights.vision
www.insights.vision

We are a leading machine learning company focused on building prediction models for the food industry. Our process is a combination of spectral analysis, chemometrics and deep learning that is deployed for realtime quality control processes. We get you results at the speed of light!

Online company visit on Tuesday, January 26 at 2:00 PM PST

****

INPUTS

Daniel Cathey, CCA
Co-Founder and CEO
Daniel@Inputs.ag
www.Inputs.ag

Inputs is an online marketplace designed for Independent CCAs & PCAs, in-house consultants, and independent farms. Our unique marketplace leverages direct to manufacturer relationships which provides cost efficiency and transparency in pricing. Consultants may increase profitability while extending substantial savings to their farmer customers through our consultant lead pricing model. Our automated procurement system can help independent farms quickly source products direct from manufacturers through our Quick Quote system. Inputs handles all invoicing, collections, and delivery of product. Our goal is to provide unmatched value to independent consultants and their farmer customers.

Online company visit on Tuesday, January 29 at 11:00 AM PST

****

Intrinsyx Bio

Ahsan Ali
CEO
ahsan@intrinsyx.com
www.intrinsyxbio.com

Intrinsyx Bio has spent the last 5 years commercializing over 3 decades of the leading academic research in the plant microbiome. The company has developed products using a groundbreaking collection of naturally occurring microbes living inside the roots, stems, and leaves of plants, fixing atmospheric Nitrogen and enhancing overall mineral nutrient acquisition. These products increase Nutrient Use Efficiency and plant stress tolerance (salt, drought) across crop types, while integrating into existing farming practices for rapid adoption. Intrinsyx Bio will launch its products in California and in the UK markets in 2020.

Online company visit on Wednesday, January 21 at 1:00 PM PST

****

JOYN BIO

Jafar Mammadov
Head, Plant Science Department
jmammadov@joynbio.com
https://joynbio.com

We aim to provide growers with new solutions to feed and nourish the world. By engineering crop-colonizing microbes, we can develop a new class of biologicals that are sustainable and reach unprecedented levels of performance and reliability.
Microbes have evolved alongside plants and contributed to their growth by helping them efficiently access nutrients and protect against pests and diseases. We are plant scientists, microbiologists, synthetic biologists, and data scientists looking to the plant microbiome to drive the development of better and more sustainable solutions for today's farmers.
Our first challenge: Significantly reducing agriculture's reliance on synthetic nitrogen fertilizer
Our first product will be an engineered microbe that enables cereal crops like corn, wheat, and rice to convert nitrogen from the air into a form they can use to grow. This will significantly reduce the industry's reliance on traditional chemical fertilizer, as well as greenhouse gases produced by agriculture.

****

Tim Keller
Executive Director
tkeller@inventopia.org
www.inventopia.org

Inventopia is a member of the UC Davis Venture Catalyst Distributed Research Incubation and Venture Engine (DRIVE™) Program, a network of lean, thematically oriented business incubators.

Online company visit on Thursday, January 28 at 10:00 AM PST

****

Sukhpreet Sandhu
Intellectual Property and Innovation Center Leader
sukhpreet.sandhu@hmclause.com
Website

HM.CLAUSE is global company, dedicated to innovative and sustainable development of the highest quality vegetable seeds. HM.CLAUSE is a leader in the vegetable seed business and #4 worldwide thanks to our parent company, Limagrain. We are a culturally diverse and collaborative team, serving growers on every continent. Committed to our growers, shippers, distributors, and dealers, we are passionate about sustainable agriculture and addressing the needs of the complete value chain. We are focused on innovation, successful solutions, and customer satisfaction.
HM.CLAUSE was formed in 2008 by bringing together Harris Moran, headquartered in Davis, California, and Clause, headquartered in France. We offer over 2,000 varieties of more than 20 vegetable crops, in over 100 countries.
HM.CLAUSE celebrates its partnerships with stakeholders across the value chain for solving today's agricultural challenges with long term, sustainable solutions for the future. We are committed to supporting innovation in the Davis-Sacramento region. The UC Davis-HM.CLAUSE Life Science Innovation Center is a business incubator designed to support innovation driven entrepreneurship. We are proud of our collaboration with UC Davis in providing this resource supporting startups working to transition technologies out of the lab and generating early-stage, commercialization milestones. We look forward to fostering disruptive ideas, inspiring synergies, and strengthening the region's innovation ecosystem.

Online company visit on Wednesday, January 27 at 10:00 AM PST

****

Michael Riedijk
President & CEO
michael@lucentbiosciences.com
www.lucentbiosciences.com

Lucent Biosciences, Inc. based in Vancouver, Canada, is on a mission to address climate impact on global food security and nutrition by developing solutions that regenerate the land and the oceans while capturing carbon to reverse climate change. Soileos, their first sustainable smart fertilizer for agriculture was developed as a response to the global environmental crisis of soil degradation. Lucent also has a revolutionary sustainable livestock food supplement in the development pipeline, as well as Oceaneos, a patent-pending approach to regenerating marine ecosystems to capture carbon and make global fisheries more productive and sustainable.

Online company visit on Monday, January 25 at 10:00 AM PST

****

Don Gibson
Business Developer & Scientific Expert
dongibson@myfloradna.com
www.myfloradna.com

MyFloraDNA Inc. is an ag-biotech, born in Davis, California, offering state-of-the-art customized DNA-analyses combining molecular breeding, Next Generation Sequencing and Intelligent Computing, to all the players in the ag field. With our easy-to-use technology we can help breeders accelerate and optimize their cultivar developing processes. We also work with farmers and nurseries to help them verify the authenticity of plants purchased, produced and sold, as well as scientists who prefer to outsource routine laboratory procedures. Our innovation is to provide a unique, fast and personalized analysis, based on the latest DNA technologies, that will help our clients develop new and sustainable products.

Online company visit on Monday, January 25 at 2:00 PM PST

****

Brock Siegel
Founder & CEO
siegel.brock@gmail.com

We have discovered and developed an engineered enzyme that converts the several anthocyanins contained in Red Cabbage Extract into a single characterizable hypoallergenic component, a Natural Brilliant Blue colorant useful in pharmaceuticals production, food ingredients, fabrics, cosmetics, and many other industrial and consumer applications. The spectrum coverage of Peak B's Blue is essential for Natural based Products and not commercially available, little/no competition.

Online company visit on Wednesday, January 27 at 2:00 PM PST

****

Paul McMahon
Business Development
Paul.McMahon@plantaenexus.com
www.phenospex.com

Phenospex is a sensor company based in the Netherlands. We develop a unique 3D-multispectral laser scanners, specifically designed to assess crops. Our products provide many plant parameters like plant growth, biomass, plant health in real time and automate many processes in plant science, breeding and agriculture where precise information on plants is required. Our sensors are also used in smart farming/ farming automation robots as the "eye" that detects and analyzes the plants.

Online company visit on Tuesday, January 26 at 8:00 AM PST

****

Fatma Kaplan
CEO/CSO
fkaplan@pheronym.com
www.pheronym.com

Pheronym uses pheromones from nematodes (microscopic roundworms) to control agricultural pests. Our first product, Nemastim, significantly improves the efficacy of beneficial nematodes, which are already in the market for insect control. Nemastim makes beneficial nematodes more effective (up to 5x) by telling them to search for new insects to infect. Beneficial nematodes are treated with Nemastim and then the activated nematodes are sprayed on the field. Since we can control nematodes, our second product in the pipeline targets plant parasitic nematodes, Pherocoat, our second product, is a seed coat product that protects young plants from plant parasitic nematodes.

Online company visit on Friday, January 29 at 10:00 AM PST

****

Katrin Jacob
kjakob@cal-ba.net
www.plant-ditech.com

Plant-DiTech was founded based on a technology developed by Professors Menachem Moshelion and Rony Wallach from the Hebrew University of Jerusalem - world renowned experts in plant stress physiology and soil and water science. Their aim was to use their complementary expertise to make a significant difference in securing future food production under global climate change conditions by developing optimal processes and technologies to improve crop yield; particularly under stress.
Their solution, developed over the past decade – Plantarray, simultaneously characterizes phenotypes in order to predict yield performance and provide valuable physiological trait analysis to agro scientists. This output makes it possible to translate complex plant-environment interaction processes into practical, useful and easy to use tools for scientists, researchers and breeders.

Online company visit on Wednesday, January 27 at 8:00 AM PST

****

Pam Marrone
Executive Chairperson and Partner
Pammarrone@bioaginnovations.com
https://bioaginnovations.com

Primary BioAg Innovations, Inc. provides a unique commercialization platform for sincere innovators to commercialize integrated sustainable soil-to-shelf plant health solutions for farmers, globally. Millions of dollars are going into R&D of bioag products globally, however there are few companies that can and will successfully scale. After investing in R&D, these companies find how challenging it is to "cross the chasm" and gain market adoption. The founders of PBI, global ag commercialization business builders and veterans, set up a platform to provide commercialization partnership opportunities to outstanding innovators: a) We take our innovation partners' products to market as a private label; innovation partners can continue with their branded commercialization strategy in parallel if they wish to. Alternatively, with a unique profit-share model, we can fully take care of the global commercialization needs of our partners.

Online company visit on Tuesday, January 26 at 9:00 AM PST

****

Anthony Hearst
CEO
ahearst@progenydrone.com
www.plotphenix.com

Progeny Drone Inc. provides software that enables any agronomist with a low-cost, off-the-shelf drone and laptop to convert raw drone imagery of outdoor small plot field trials into plot-level stand counts, NDVI, and other metrics at the field's edge without needing internet, RTK-GPS, or high-performance computing. Furthermore, it does this 10x faster and more precisely than possible by-eye. For examples, check out our website including a video on doing stand counts for 800 2-row plots of corn (+50,000 plants) with a DJI Phantom 4 RGB camera and laptop in 30 minutes.

Online company visit on Monday, January 25 at 1:00 PM PST

****

Kumar Vaibhav
kvaibhav@ucdavis.edu
www.rainions.com

The RainIons Corporation is a green technology company on a mission to reduce air pollution, combat climate change and save human lives. We achieve our mission by innovating sustainable technologies, from prototype to real-world application, and implementing these solutions across multiple industries worldwide. In concert with our eco-friendly partners, RainIons will work towards restoring momentum to the clean air movement while maintaining ethical practices and responsible management of resources.

****

Pam Marrone
pammarrone@gmail.com
www.theredmeloncompany.com

The Redmelon Company (RMC) revolutionizes ingredient markets by its patented solvent-free extraction method for a rare Southeast Asia fruit, Momordica cochinchinensis (redmelon®), creating a "full natural matrix": Redmelon Oil® containing bio-available vitamins A, E, and C; omega-3,-6,-9, beta-carotene, lutein, lycopene and essential fatty-acids. Redmelon oil can be used as dietary supplements, functional foods and beverages, nutritional additives (including for plant-based protein foods), natural food colorants, and in cosmetics and pet foods. Our founder, Dr. Le Vuong has conducted extensive testing and clinical trials to validate the health benefits of the fruit. RMC holds two patents on the process for oil extraction and our skin health composition, with several additional applications filed.

Online company visit on Tuesday, January 26 at 1:00 PM PST

****

www.rijkzwaan.com

Rijk Zwaan is a plant breeding company. We develop new vegetable varieties and sell the seeds produced from them all over the world. We tap into the rich diversity nature offers us, and combine it with our extensive market knowledge and state-of-the-art techniques. Around 3,000 highly motivated employees in 30 different countries find it both fun and rewarding to work on creating value-added products and services for our partners every day. Three families own approximately 90% of Rijk Zwaan. The remaining 10% of the company is owned by a large group of employees through the employee share scheme. Every year, each colleague has the chance to buy share certificates and hence to participate financially in Rijk Zwaan.

****

Nicolas Enjalabert
Co-Founder & CEO
nico@seedlinked.com
www.seedlinked.com

SeedLinked harnesses the power of citizen science and data analytics to help breed, source, and harvest seeds for a more resilient future. Our innovative platform combines accessible smartphone technology with cutting edge data analytics to create a tool anyone can use to track, share, and learn about regional seed and variety performance. Through our collaborative trialing tool scalable to any sized enterprise or individual, all actors in the seed system – gardeners, farmers, chefs, breeders, and seed businesses - can learn from and support each other simply and efficiently. We work with more than 35 trailing organizations helping them to: discover the power of collaborative trialing, efficiently conduct participatory testing with hundreds of growers using the SeedLinked app and web platform; Test new breeding lines, build traction pre-launch, and refine their current offerings. On the other side, growers can search for seed using SeedLinked Seed Finder powered by collective insights.

Online company visit on Friday, January 29 at 9:00 AM PST

****

Pedro Bello
Seed Technology Specialist
pbello@ucdavis.edu
https://getskywayanalytics.com

We provide the technology, training and support our customers need to harness the power of multispectral imaging in their labs and facilities. Our team combines years of experience in seed research, product design and industrial automation to serve today's agricultural operators.

Seed Analytics

Traditional methods of seed quality assessment are effective but often time-consuming, labor intensive, destructive and require highly trained experts. We combine multispectral imaging and machine learning to provide a fast, non-destructive and versatile seed evaluation system. This system produces information that vastly improves the efficiency of your purity, germination, vigor, disease and coating analysis processes.

Online company visit Friday, January 22 at 9:00 AM PST

****

Christian Nansen
Founder
christian.nansen@gmail.com
www.spectralanalytix.com

Striving to be a world leader in integration of hyperspectral, machine learning and robotics.
The saying – an image is worth a thousand words – is gaining ever deeper meaning, as hyperspectral camera technologies, customized lighting, robotics, and machine learning are integrated and used to produce frontier solutions in the 21st Century. Spectral Analytix Inc. was founded in 2019 as a company that develops and commercializes classification and sorting solutions based on integration of hyperspectral imaging, robotics, and machine learning.
Spectral Analytix Inc. focuses on classification and sorting of objects - "optical solutions" - such as, seeds, insects, food products, pharmaceutical products. Optical solutions are customized to specific client needs can be offered as service (objects sent to Spectral Analytix for analyses) or as installation of a system (purchase of hardware and software and training of personne).

****

Ryan Sharp
Senior Associate Director
rsharp@ucdavis.edu
https://research.ucdavis.edu/offices/vc/

As part of the Innovation & Technology Commercialization division in the UC Davis Office of Research, Venture Catalyst focuses on helping faculty, students, staff, alumni and technology licensees launch new startup companies based on translational research, technology, and innovative ideas developed at the university. The unit provides a suite of tools, resources, and connections to accelerate technology commercialization and position startups for early-stage growth and success with the goal of enabling societal and economic impact. Over the seven year since its formation, Venture Catalyst has built a robust infrastructure to help bridge the canyon of death faced by many innovators and early-stage science- and technology-based startups, including proof-of-concept funding, new ventures support services, incubator space partnerships, and ecosystem connections.

****

John Purcell
CEO
john@unfold.ag
https://unfold.ag/

Unfold is 100 percent focused on the vertical farming industry. We combine leading seed genetics with the agronomic expertise to dramatically advance productivity, flavor and other consumer preferences. We serve the vertical farming market through partnerships with vertical farming operators, technology providers and others across the produce supply chain. Leaps by Bayer and Temasek have jointly formed Unfold to focus on innovating vegetable seeds with the goal of lifting the vertical farming space to the next level of quality, efficiency and sustainability.

****

Dennis Donohue
Director
ddonohue@wga.com
www.wginnovation.com

The Western Growers' Center for Innovation & Technology® (WGCIT) celebrates its one-year anniversary as a premier technology incubator aimed at bringing entrepreneurs together with farmers to develop innovative solutions to the biggest challenges facing agriculture.

****

John Hodgson
President
The Hodgson Company
jhodgson@thehodgsoncompany.com
woodlandresearchpark.org

Northern California's agricultural innovation is anchored by the cutting-edge research and development at UC Davis – the nation's premier agricultural research institution. Woodland Research Park, a proposed 350-acre project located just seven miles from UC Davis, offers the opportunity for established companies and startups focusing on agriculture innovation to expand or put down roots in Northern California's agriculture and food science epicenter.
Planned as a thriving work/live campus with over 2 million square feet of research park office and lab space, 1,600 single and multi-family homes, parks and open space, Woodland Research Park will foster collaboration and build capacity for innovative tenants and partners seeking to be part of one of the world's leading ag and food tech hubs.
With City approval anticipated in early 2021 and construction expected to start in 2022, companies and institutions can build Woodland Research Park into their plans for expansion now.

****

See below:

- "**Which small towns attract start-ups and why?**",
  a November 2020 news release from Iowa State University

- "**estimated entrepreneurial quality by city in California**",
  a graph on from a 2015 paper in *Science*

Which small towns attract start-ups and why?

Iowa State University news release
November 1, 2020

Storefronts in small midwestern downtown.

While many small rural towns face economic distress, some manage to overcome the odds to succeed in attracting new firms and job opportunities.

It's well-known that small rural towns often face economic distress. Along with losses of established businesses, rates of self-employment have fallen in rural towns of all sizes. Towns with a population of 10,000 or less had the largest decline and an even greater decline in employment rates.

Attracting new business startups in small towns is difficult, but some communities continue to survive and even thrive. What characteristics do these towns have that cause firms to locate there?

A new study led by economists at Iowa State University examines data consistently collected over two decades on a sample of 98 typical small Iowa towns that don't share a border with a metropolitan city. The study looks at which factors encourage or discourage new firm entry in these towns and suggests policy implications for addressing economic distress in small rural towns.

Peter Orazem, University Professor of Economics at Iowa State, said, "Since 2000, the only areas that consistently added new firms and increased employment were metropolitan areas. In contrast, the communities losing the most employees and entrepreneurs were towns under 10,000 population. But some of these small towns bucked the trend and were able to continue to attract new firm entry and employment."

The research is reported in a recent article in the American Journal of Agricultural Economics, "Which small towns attract start-ups and why? Twenty years of evidence from Iowa." Orazem's co-authors were the late Georgeanne Artz, associate professor of economics at Iowa State; Peter Han, social science analyst with the U.S. Department of Housing and Urban Development; and Younjun Kim, associate professor of economics at Southern Connecticut State University.

According to the authors, the small towns that attract new firms are characterized by having atypically large numbers of nearby companies, services, and industries (and benefit from the cost reductions and gains in efficiency that result from them), and a larger proportion of college-educated workers in the local labor supply.

“For example, in Iowa, the town of Carroll has a population of 10,000. It has held onto its employment base in part because it has a few large employers that have allowed it to have the infrastructure necessary to attract and hold onto firms. On average, similar sized or smaller communities have lost 4% of their employment since 2000,” Orazem said.

Using new firm location decision data from the National Establishment Time Series (NETS), the study looked at all firms entering any of the 98 towns in 1995, 2005 or 2014. The sample was restricted to firms with a clear profit motive and excluded government agencies, nonprofit organizations, public service firms, such as historical sites or museums, and those in agriculture and mining. Each town was surveyed in 1994 and then resurveyed in 2004 and 2014.

The survey results show that higher concentrations of educated people and higher median household income attract firm entry. Higher education levels also lead to greater disposable income, which improves the local customer base. Localities that have greater endowments of natural amenities also attract new firms, and county seats are more attractive than other small towns. However, distance to a metro market does not significantly affect firm entry.

The study’s authors suggest that rural economic development strategies targeting these communities would be more successful than policies trying to encourage firm entry in every town.

****

Which Small Towns Attract Start-Ups and Why? Twenty Years of Evidence from Iowa

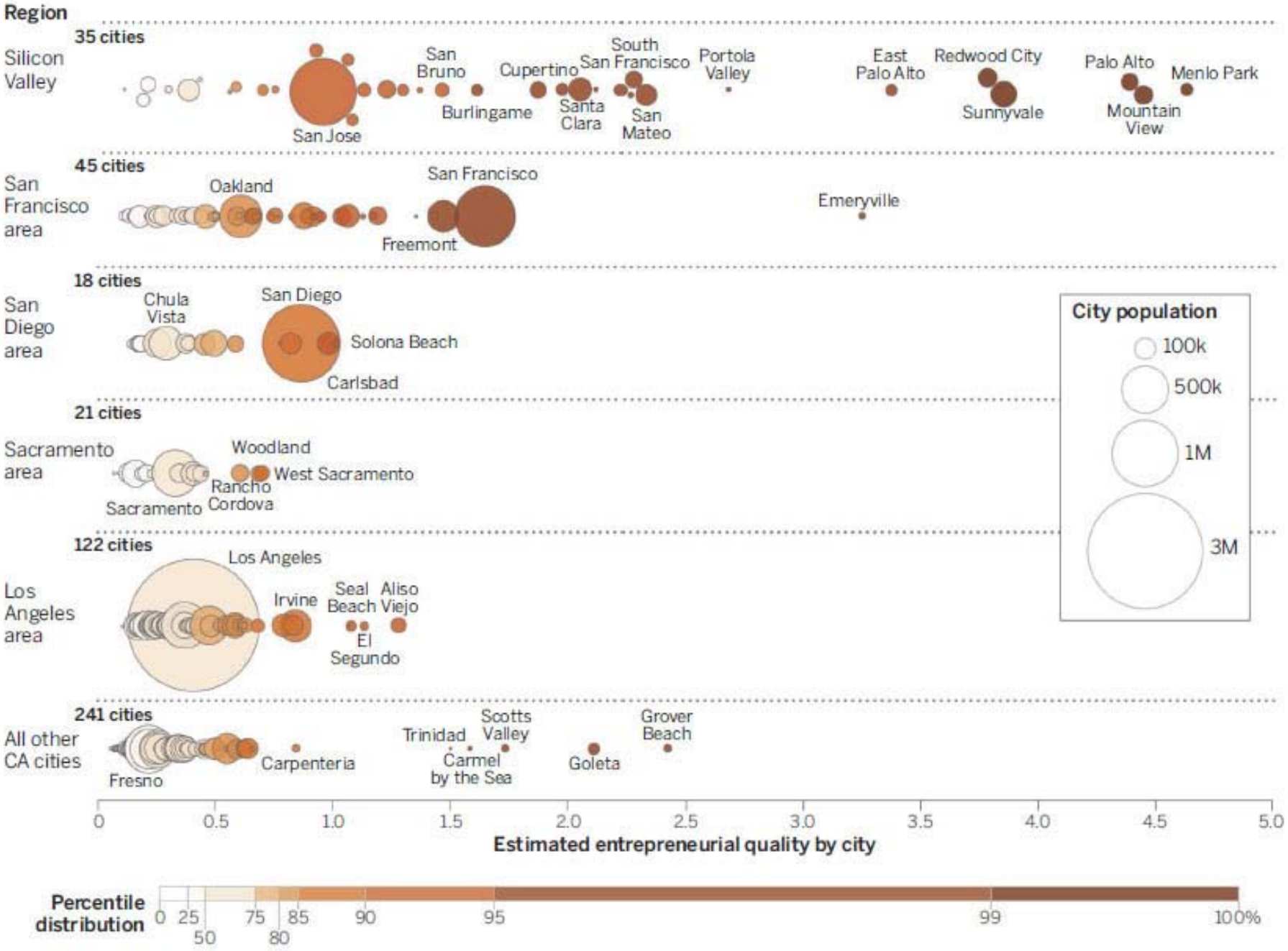
Georgeanne M. Artz, Younjun Kim, Peter F. Orazem, Peter J. Han
Wiley Online Library
First published 24 September 2020
https://doi.org/10.1111/ajae.12144

https://onlinelibrary.wiley.com/doi/10.1111/ajae.12144

Abstract

Using data on a sample of small Iowa towns consistently collected over two decades, we investigate how agglomeration economies, social capital, human capital, local fiscal policy, and natural amenities affect new firm entry. We find that human capital and agglomeration are more conducive to new firm entry than are natural amenities, local fiscal policy, or social capital. The impact of local fiscal policy is too small to overcome the locational disadvantages from insufficient endowment of human capital and agglomeration. A rural development approach that encourages firm entry in rural towns with the largest endowments of human capital and market agglomeration would be more successful than trying to raise firm entry in every town.

California quality is all over the map



Soruce: Where is Silicon Valley? Jorge Guzman and Scott Stern, Science, February 6, 2015