

JCANR Statewide Network



Connecting California to their University for over 100 year
Academics on UC campuses
Local advisors in 50+ California county offices

Highly trusted professionals in their communities
9 research & field innovation hubs statewide
Statewide programs and institutes

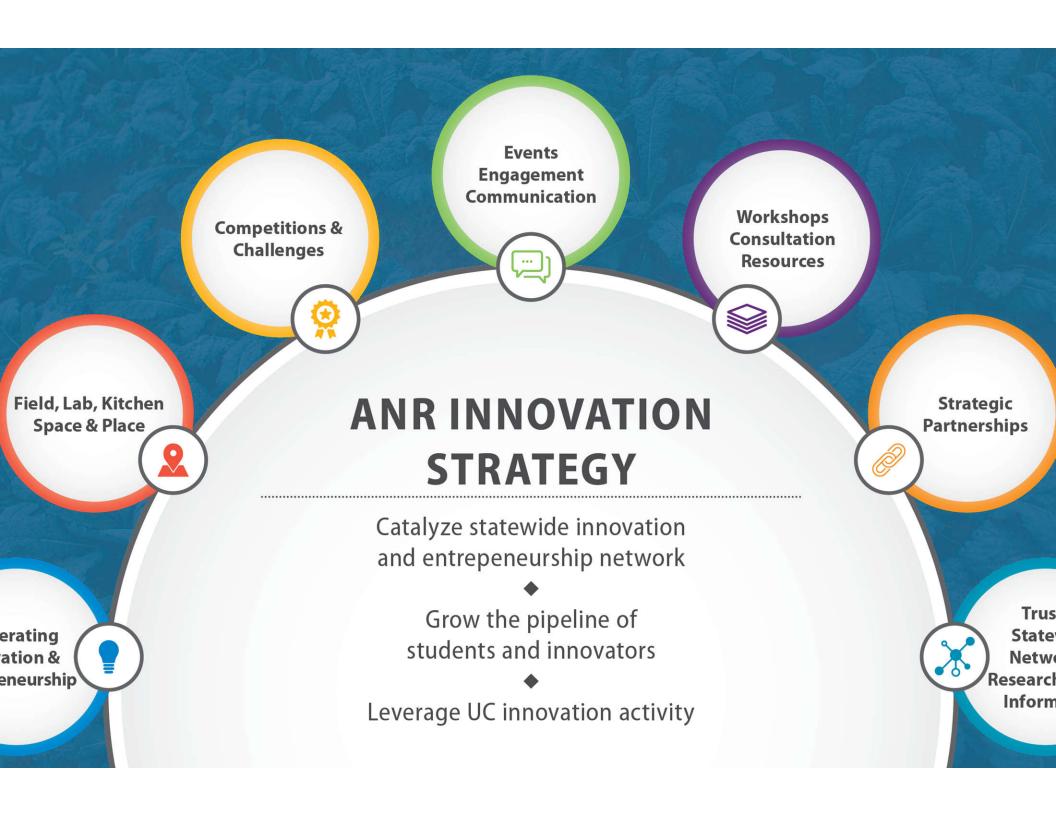
- Water, Nutrition, Agronomy, Technology, Pests
- Sustainability, Food Systems, Economics, Youth, Naturalist



Background

- For over 100 years, UC ANR has led innovation in Ag and Natural Resources in California turning science into solutions.
- Under President Napolitano, the UC is expanding the role of innovation by promoting entrepreneurship
- Glenda Humiston joined as VP of UC ANR and charged ANR to serve as a catalytic leader for innovation and entrepreneurship in agriculture and natural resources.
- Gabe Youtsey appointed as Chief Innovation Officer to drive this strategy





ovation goals for California and the World

Enhance economic prosperity for all

Feed a rising population abundant, nutritious food

Sustain our precious environment and natural resources

lyze a statewide innovation & entrepreneurship network

ubation, Acceleration, and Funding partnerships that align academia, industry, and

/ernment



ategic Partnerships will be the foundation of this strategy. No "wheel re-creation







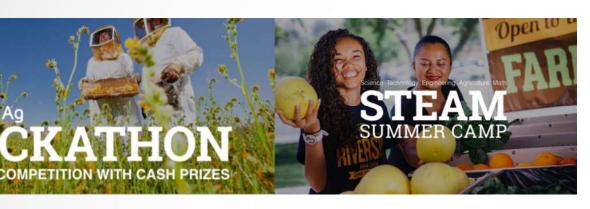
Id, Lab, Kitchen, Maker, Office and other innovation spaces are a crucial to fhelping entrepreneurs creating new agriculture and natural resources ventures, becially in rural communities.





the pipeline of innovators

mps, Competitions and Challenges



ents, Engagement, and Communication





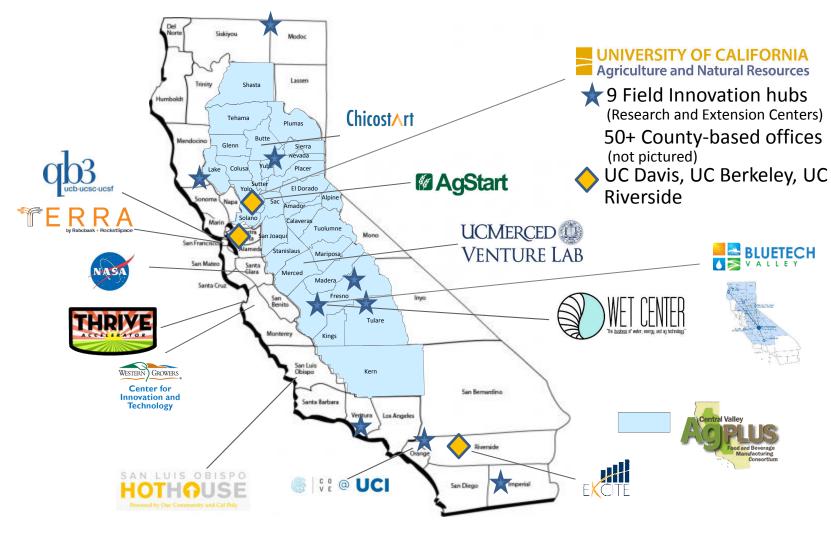


rage UC science and innovation activity

sted Statewide Network & Research-Based Approach are the cornerstones of UC R's more than 100-year legacy, and will be a tremendous asset and key differentiator ANR's innovation strategy. By leveraging the power of trust relationships innovators get access to farmers, government officials, and a wealth of published material from specialists, advisors, and faculty erts on almost any scientific topic.

rkshops, Consultation, Resources form the backbone of support needed to help repreneurs succeed. A variety of expertise, training, tools and other port to get innovators to launch, in whichever direction they go.







ritical challenges

- Less farms and less labor
- Water rights, availability, contamination and
- regulation
- Soil health
- Pests and pesticides
- Climate

ne AgTech toolbox: precision, precision, precision loT

Big Data, analystics, machine learning, Al

CRISPR/CAS9 – Genomics

Production and post-harvest robotics

Plant biotechnology

Rural broadband

Automation and decision support

roblems with AgTech

- Lots of point solutions, no integration
- Heavy marketing, dubious science
- Startups are coming fast and furious at everyone
- Silicon and food valleys need one another, but cultures are
- very different
- Need patient capital model, VC isn't enough
- Accelerators aren't build for Ag
- Need a world-class innovation ecosystem to pull it all together.



Example partners









The Mixing Bowl CONNECTING INNOVATORS IN FOOD, AG & IT









tule















Fields, labs, incubators, maker spaces









Outreach, communication, and events







Vision: Precision Breeding "System"

INTEGRATION OF BIOLOGY × ENGINEERING × COMPUTER SCIENCE

Crop Genetic Gain and Resilience

Genomics

Plant, Animal, Human and Microbial

Gene and Trait
Associations

Phenomics

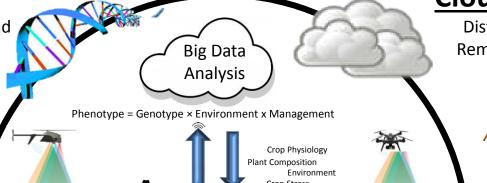
Phenotype Reference Standards (Lab & Field)

> High Resolution Crop Phenotypes

Sensors

Plant, Root, Soil, Microbial and Environmental





TERRA Enables:

Microbiome

Nutrients

- Crop Breeding
- Field Research
- Farm Management
- Conservation
- Market Connectivity

High Throughput Field Data Acquisition

Cloud Computing

Distributed Databases, Remote Access, Scalable

> Prediction Algorithms

<u>Data</u> <u>Analytics</u>

High Performance Information Pipelines AI - Machine Learning

Robotics

Field Deployable, Scalable and Economical

ting Summary

Jncommon collaboration is key to transformative nnovation

Bridging Silicon Valley & CA's "food valleys" is key to

nnovation in food and agriculture

A statewide ecosystem that amplifies and connects

nnovation hubs is needed

The VINE is California's new innovation network

or food and agriculture



iet Involved!

Mentor

Startup

Corporate innovator

Educator

Researcher and extension

Non-profit



TheVINE.io is coming so gdyoutsey@ucanr.edu
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