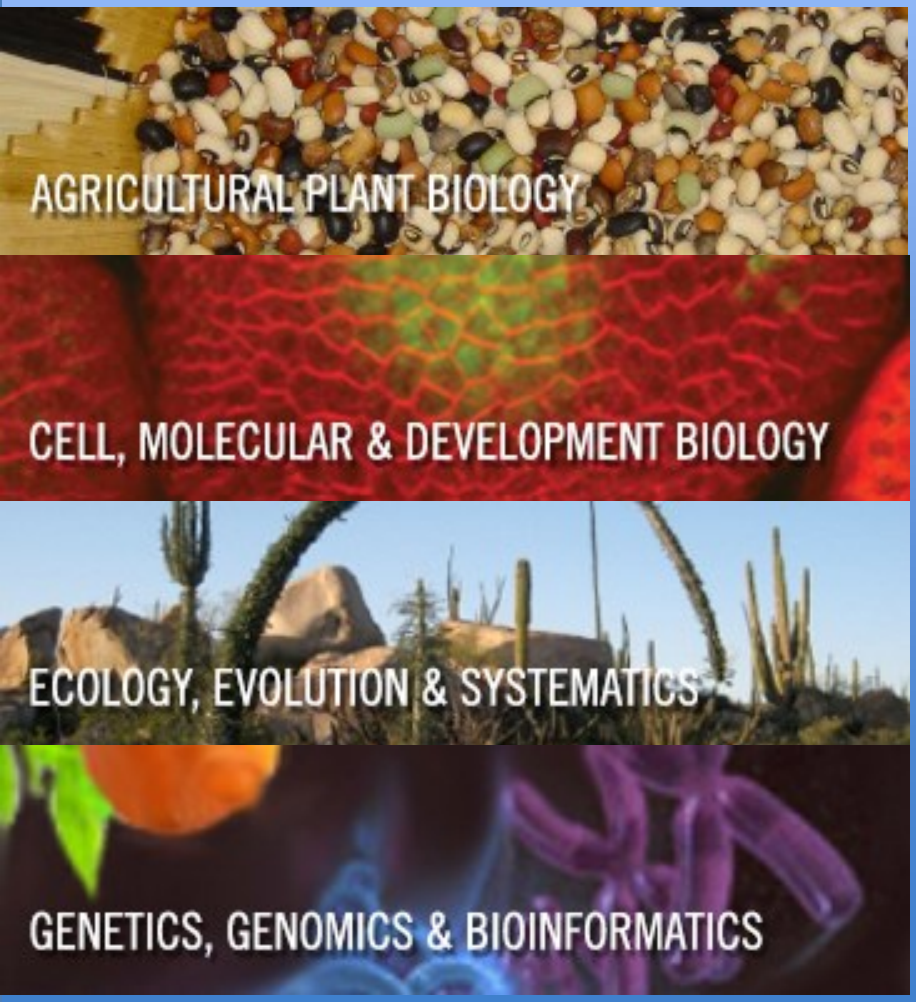
UNIVERSITY OF CALIFORNIA
UC RIVERSIDE

Botany & Plant Sciences



One of the best plant biology programs in the US featuring a wide range of research areas

Contact:

Plant Biology Undergraduate Program

Undergraduate Faculty Advisors:
Dr. Thomas Eulgem (thomas.eulgem@ucr.edu)
Dr. Darrel Jenerette (darrel.jenerette@ucr.edu)

Plant Biology Graduate Program

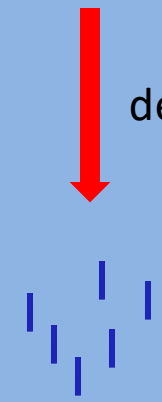
Graduate Staff Advisor:
Laura McGeehan (laura.mcgeehan@ucr.edu)

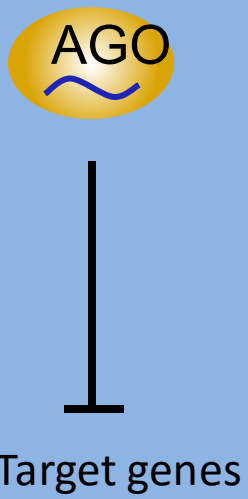
Graduate Advisor for Recruitment:
Dr. Sean Cutler (sean.cutler@ucr.edu)

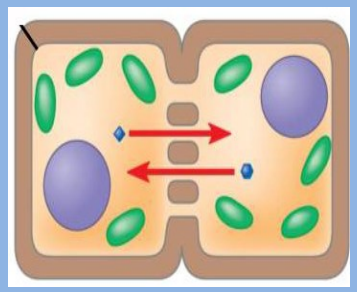
Department Chair

Dr. Patricia Springer (bpschair@ucr.edu)

Research in Xuemei Chen's lab aims at uncovering mechanisms underlying the metabolism, activities, and cell-to-cell movement of microRNAs using Arabidopsis as a model

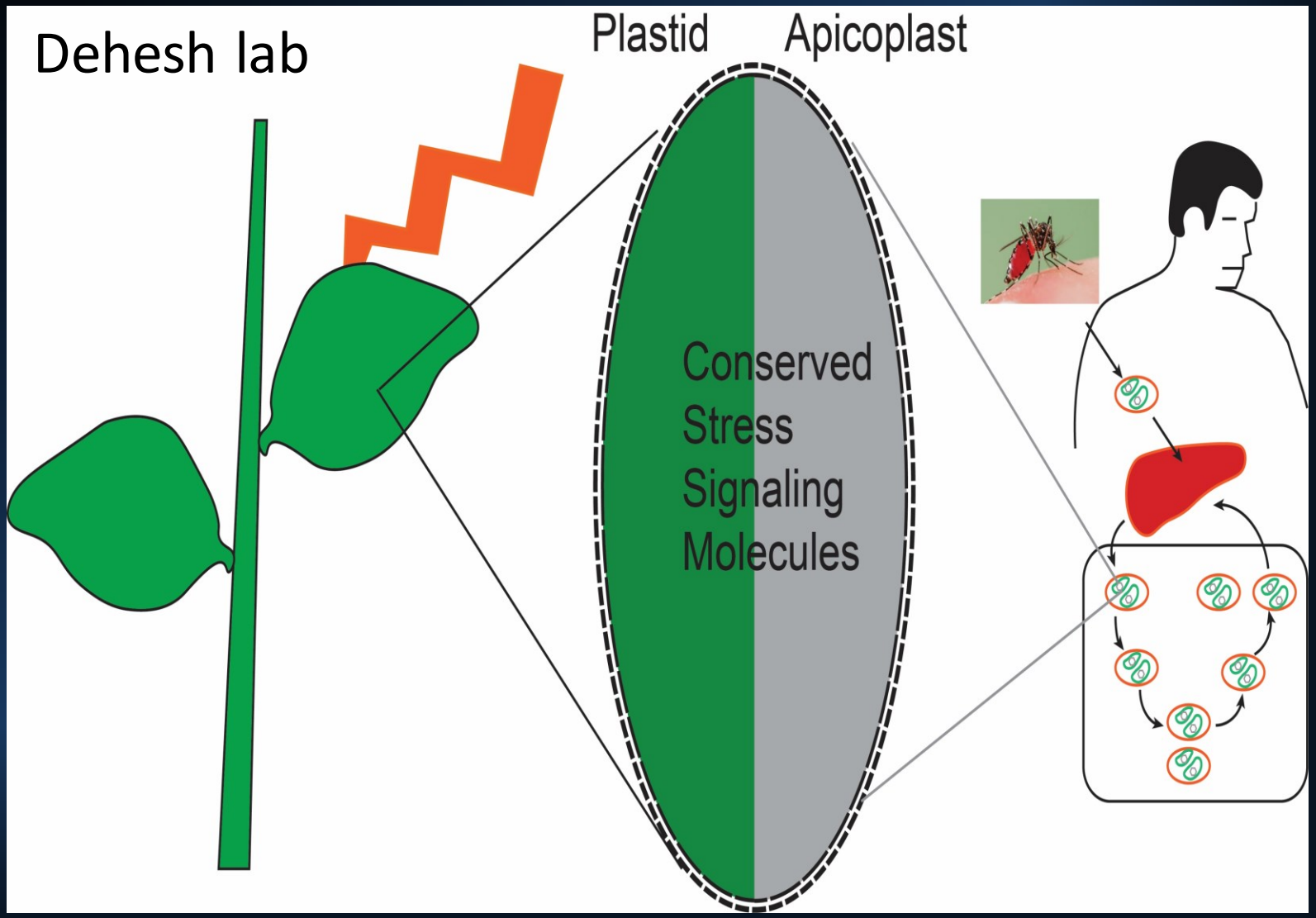






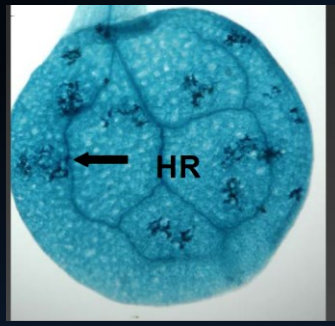
PI: Xuemei Chen - xuemei.chen@ucr.edu

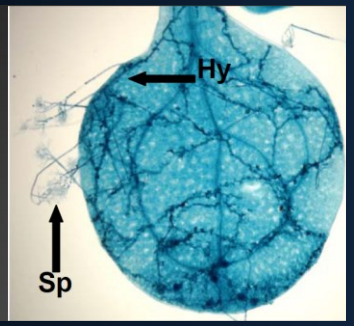
Unravel the function of conserved stress signaling molecules in plants and human pathogens

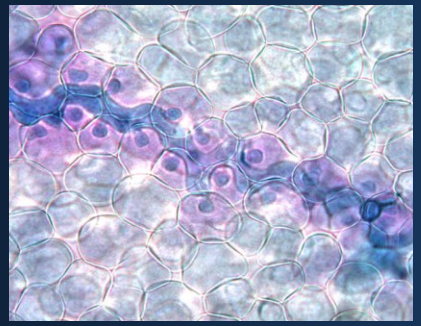


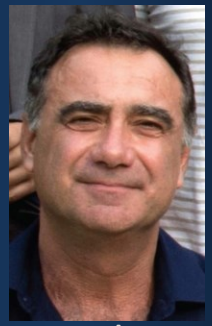
PI: Katie Dehesh - katayoon.dehesh@ucr.edu

Eulgem Lab: Plant Immunity/Defense Gene Regulation





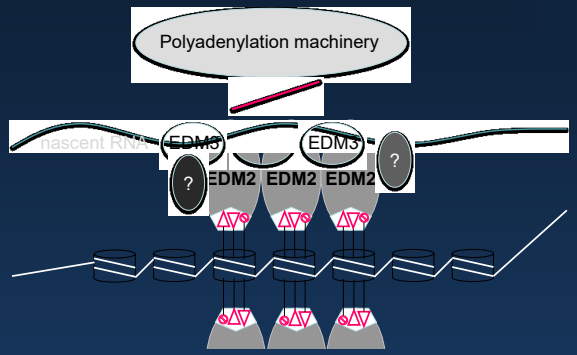


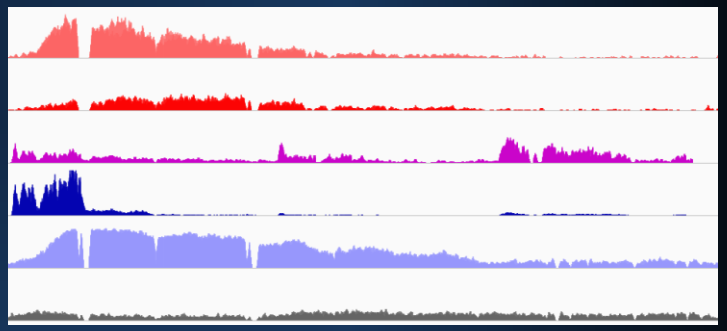


PI: Thomas Eulgem
thomas.eulgem@ucr.edu

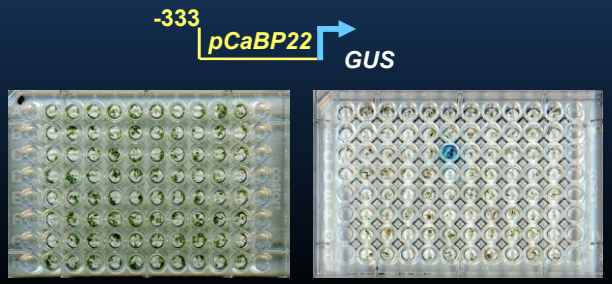
Main research areas:

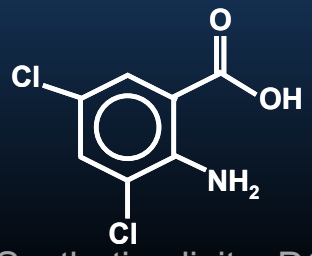
- Epigenetic mechanisms of plant immune receptor gene expression





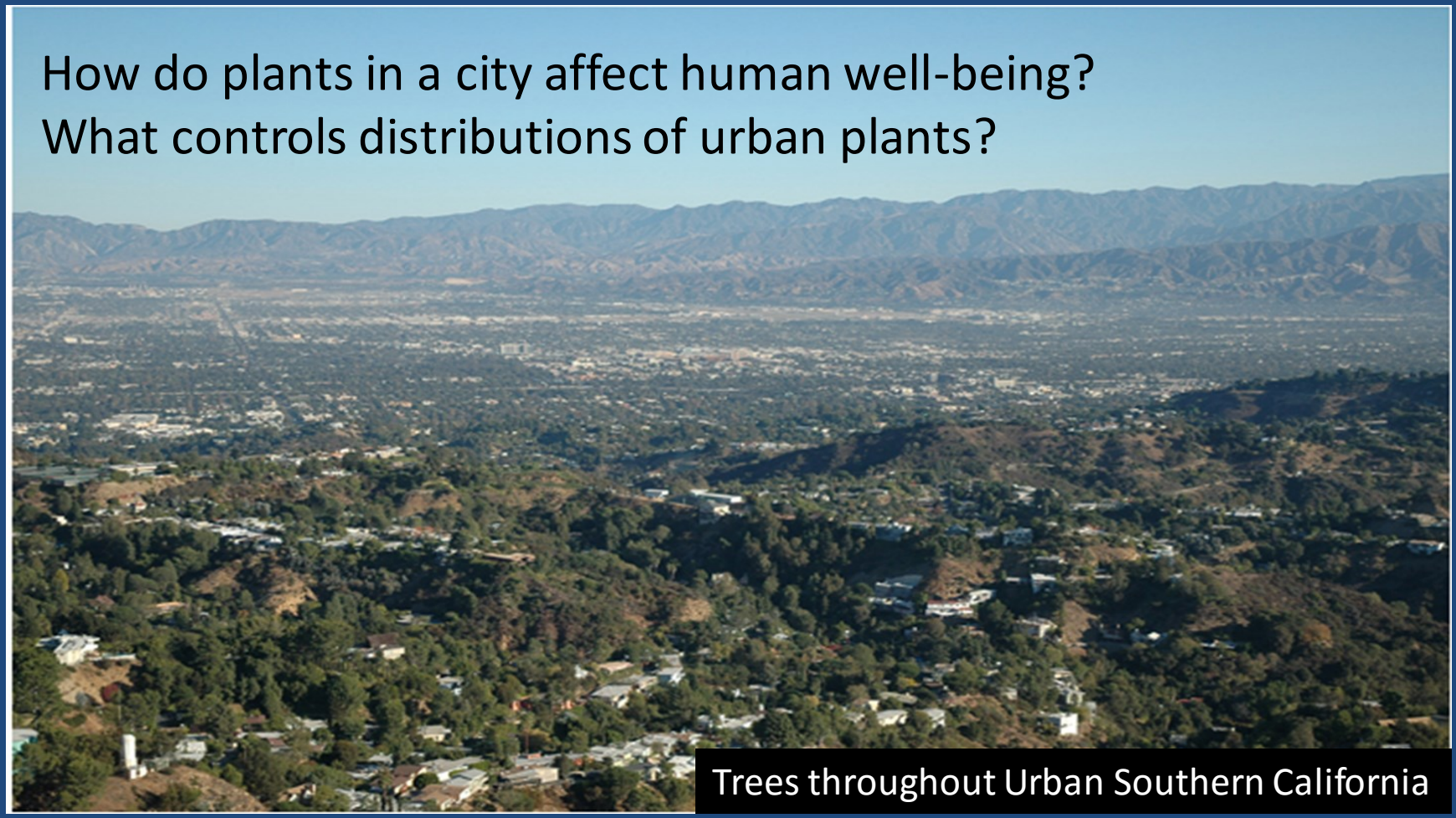
- Synthetic elicitors as innovative pesticide alternatives





Synthetic elicitor DCA

Jenerette Lab UC Riverside – Landscape and Ecosystem Functioning



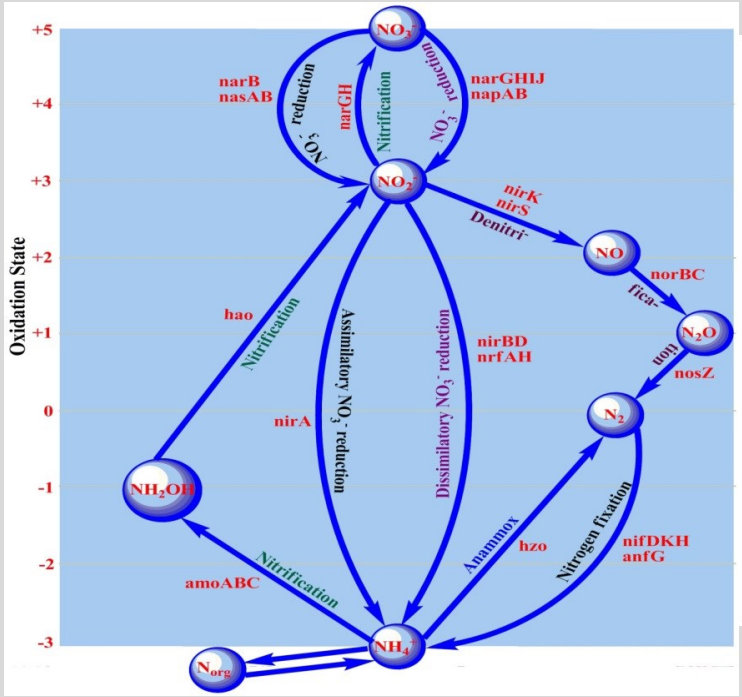
Remote Sensing – Environmental Sensors – Field Surveys – Modeling

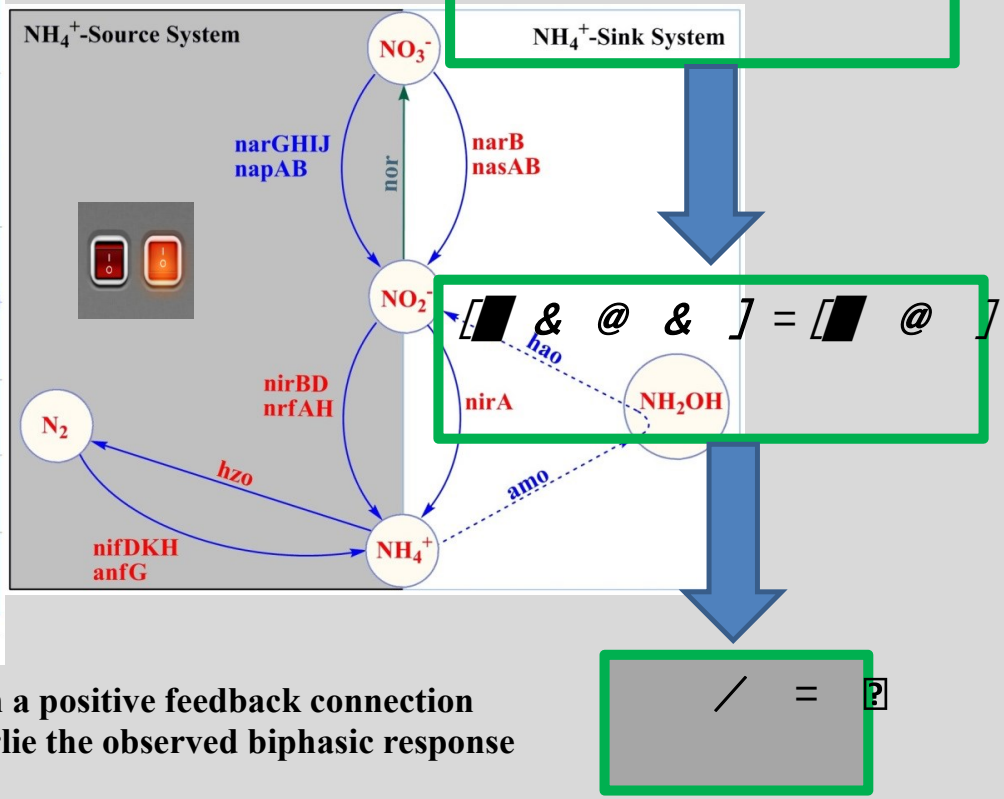
PI: Darrel Jenerette - darrel.jenerette@ucr.edu

Li Lab: Modeling Ecological Complexity

---Integration from genomes to ecosystems

Belowground Nitrogen metabolic pathways





Bistable switch-like control has emerged through a positive feedback connection between N-source and N-sink systems that underlie the observed biphasic response of the nitrogen biochemical network.

http://dx.doi.org/10.1098/rsos.160768

https://doi.org/10.1016/j.isci.2018.03.007

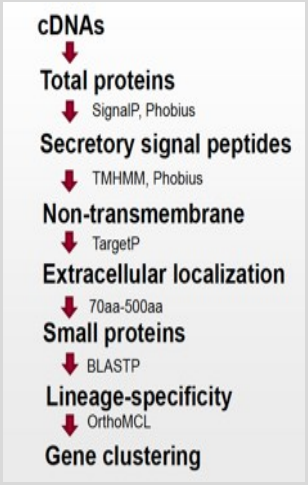
[Conservation cycle]

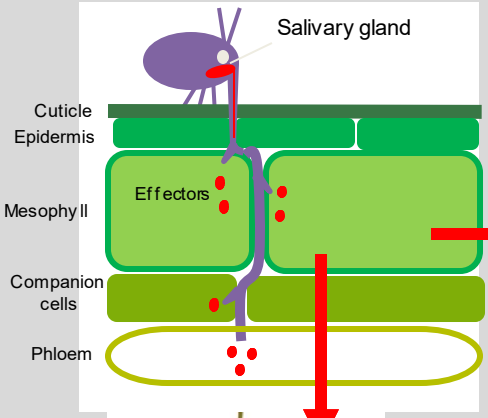
PI: Bai-Lian (Larry) Li - bai-lian.li@ucr.edu

Comparative and functional genetics of insect effector proteins

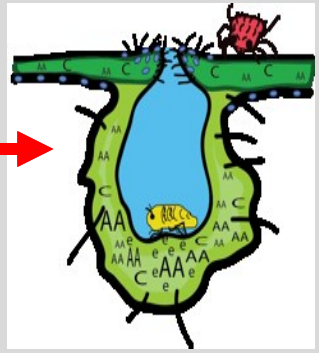
www.nabitylab.org
PI: Paul Nabity
pauln@ucr.edu

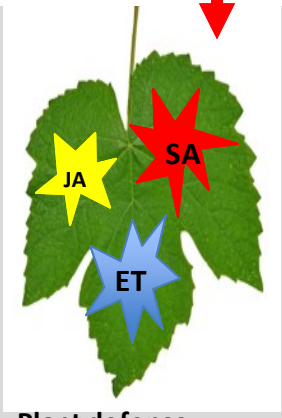
- **Model and Non-model Organisms** (Arabidopsis, grape, woody plants)
- **Bioinformatics of Next Generation Sequencing**
- **Functional and Molecular Genetics** (protein interactions, CRISPR)
- **Interdisciplinary** (entomology, plant biology, evolutionary biology)





Gall formation

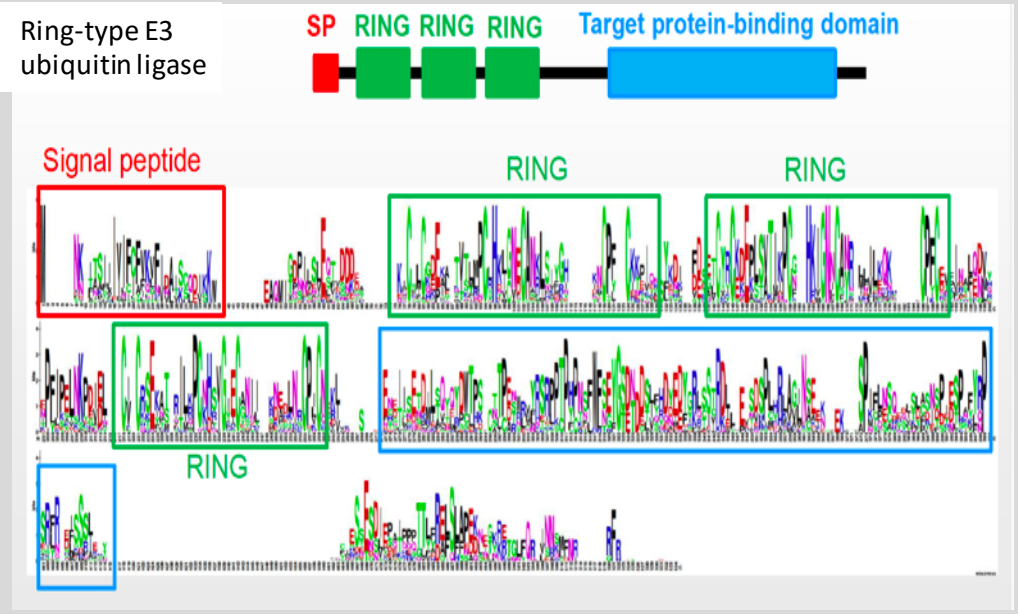




Plant defense

Dr. Paul Nabity and lab

Ring-type E3 ubiquitin ligase



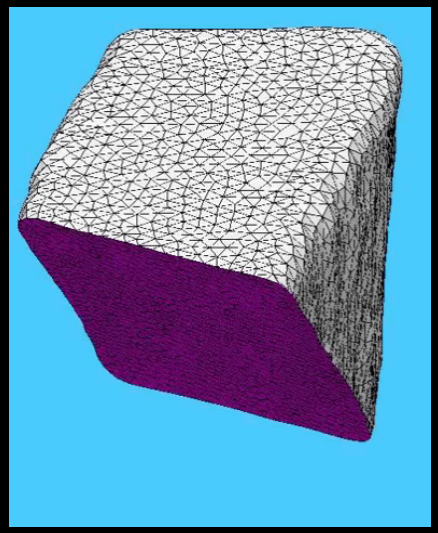
Insect effector targeting plant ubiquitination

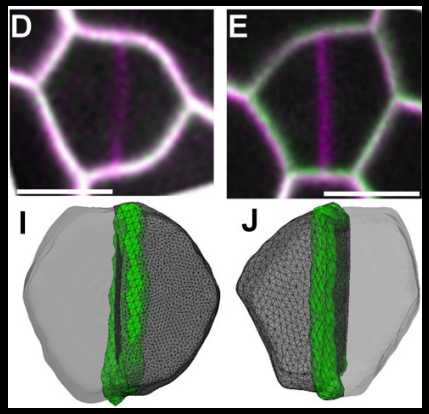
Plant cell division – Rasmussen Lab at UC Riverside

PI: Carolyn Rassmussen
carolyn.rasmussen@ucr.edu

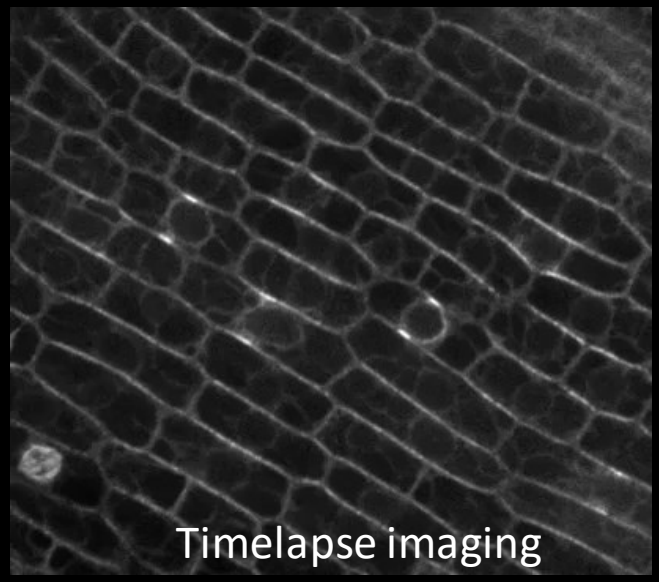
Maize

Arabidopsis

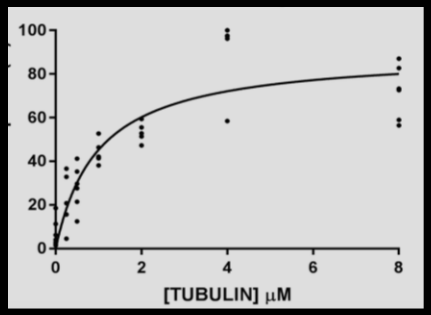




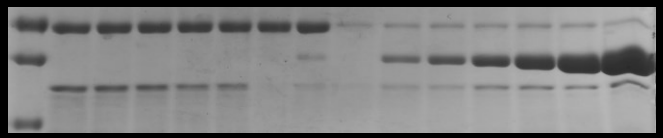
Mathematical modeling and division plane prediction



Timelapse imaging



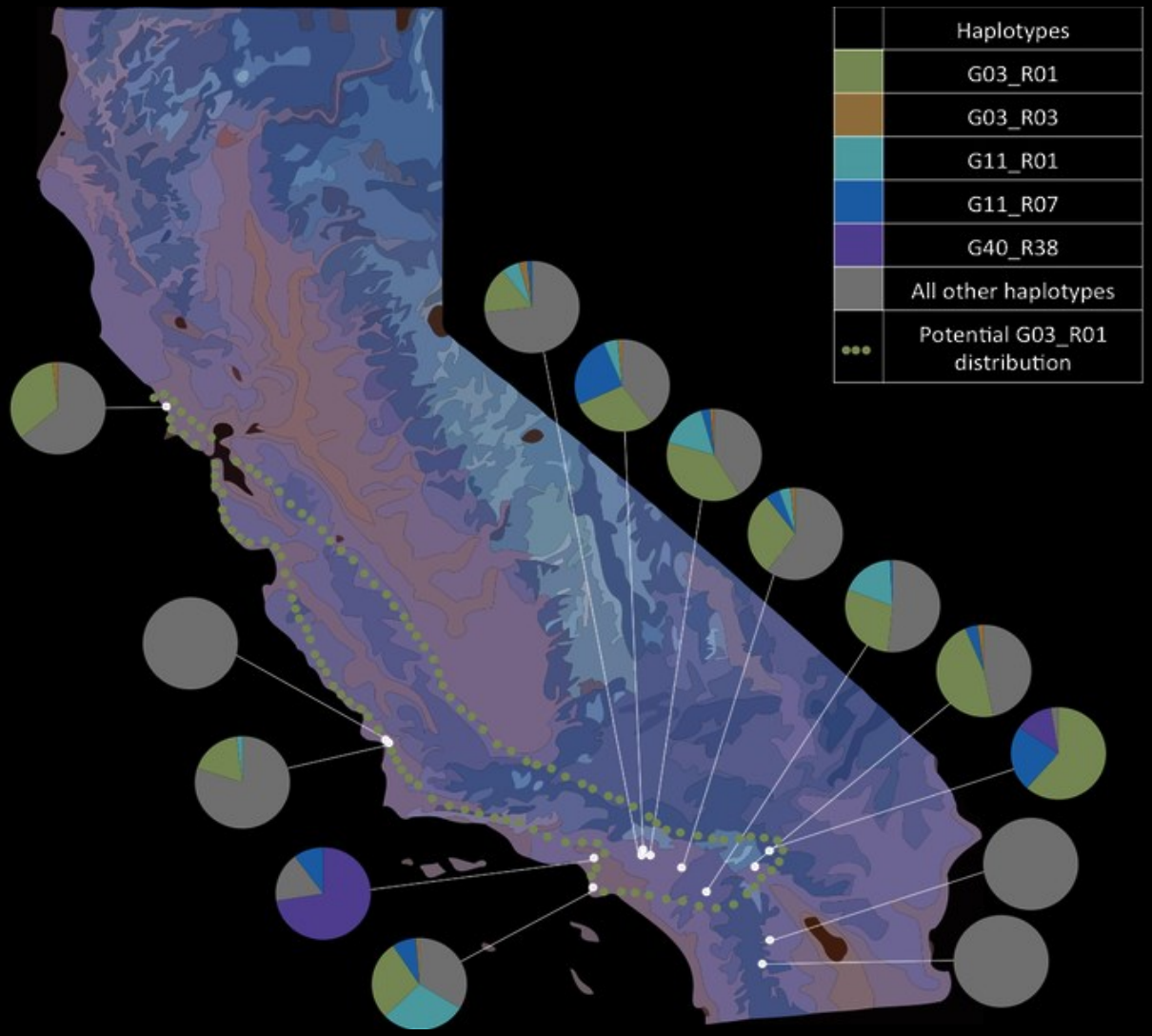
Quantitative Biochemical Analysis

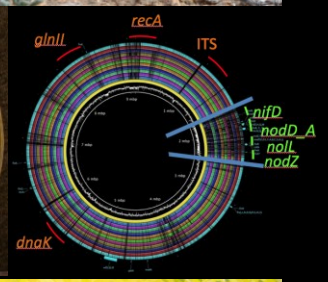


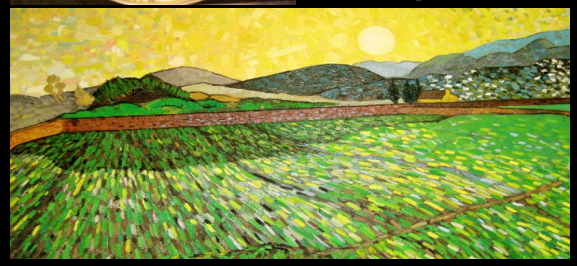
Sachs Lab – UC Riverside

How do soil bacteria promote plant growth?

How can we harness these benefits to help humanity?





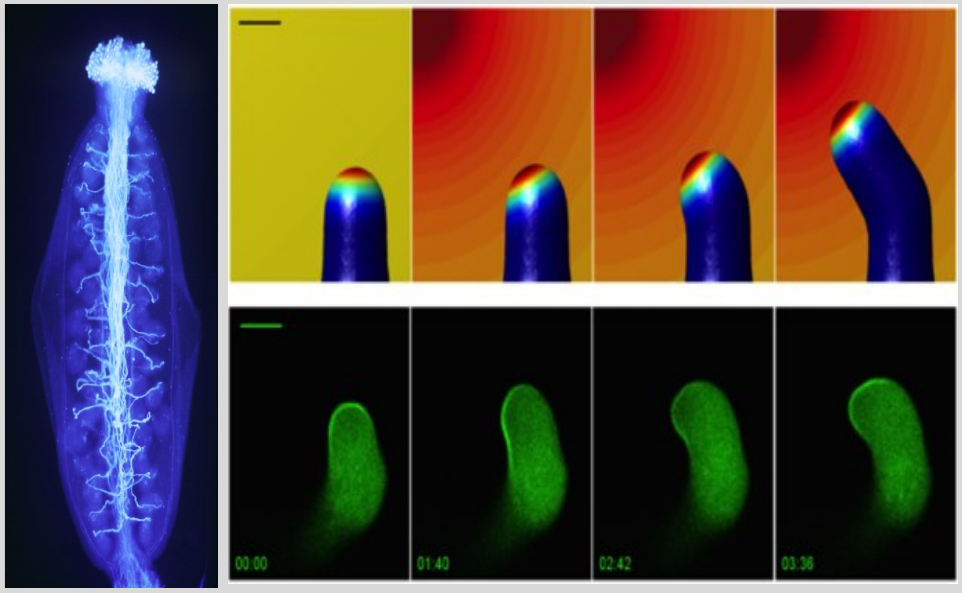


PI: Joes Sachs - joel.sachs@ucr.edu

Zhenbiao Yang, Professor of Cell Biology

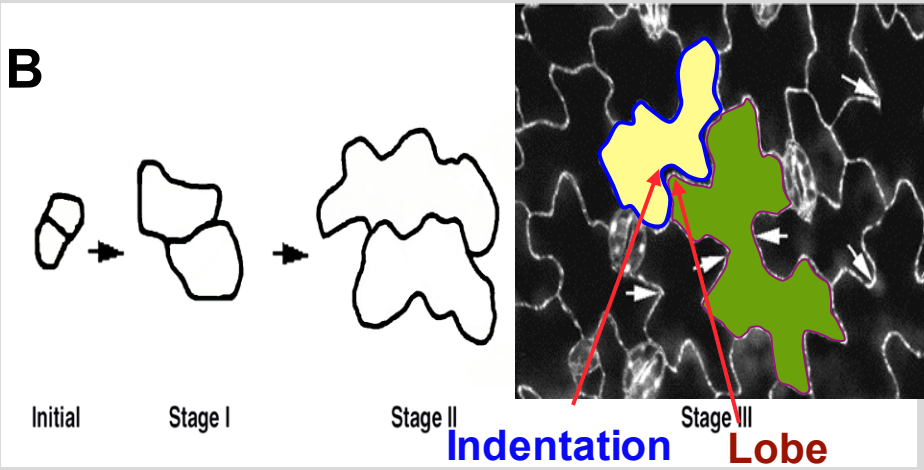
Zhenbiao Yang's laboratory aims to understand how **long distance signals** (signals diffused over the length of a tissue/organ), **local signals** (from neighboring cells), and **intracellular signals** (e.g., kinase, GTPase, calcium) control polar and directional **cell growth and shape** formation using **pollen tubes** (A) and **leaf epidermal pavement cells** (B) as model systems.

A



Pollen tubes (stained white, left) penetrate the stigma and style, and are guided to ovules by diffusible long distance signals. Mathematical modeling (right top) is integrated with experimentation to investigate how these signals regulate the spatiotemporal changes in the ROP1 GTPase activity right bottom) to attract pollen tube growth.

B



Leaf epidermal pavement cells form the puzzle-piece shape. This process is activated by the plant hormone auxin. The Yang's lab is investigating how auxin activates this process and how neighboring cells coordinate with each other to generate the interlocking lobes and indentations.

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Botany & Plant Sciences

For information about additional Plant Biology faculty members participating in our program, please go to https://plantbiology.ucr.edu/people/faculty.html

Or google for “UCR BPSC faculty”

For specific information on our international Plant Biology program contact

Dr. Thomas Eulgem (thomas.eulgem@ucr.edu)
Dr. Darrel Jenerette (darrel.jenerette@ucr.edu)