

College of Natural & Agricultural Sciences

STATE OF THE COLLEGE

Dean Kathryn E. Uhrich

Faculty Presentation: February 2, 2021

Staff Presentation: February 5, 2021



5 Year Review

Thank you!

Increased Transparency:

- Exploring decision-making roles with graduate students and junior faculty

Enhanced Communication:

- Currently selecting and recruiting members of the new Dean's Staff Advisory Committee
- Quarterly Staff Meetings will be implemented
- Dean's Office Hours for CNAS Staff will continue on Fridays, 2 - 3 p.m.

State of the College

University Updates

CNAS Budget

Faculty

Grants and Awards

Enrollment

Student Success

Staff

Philanthropy

Community Outreach

Infrastructure

CNAS in 2021

Q&A



UCR: COVID-19

Academic Continuity & Campus Operation

Testing Update (As of January 22, 2021)

- ~ 21,000 tests performed
- Clientele include undergraduate students living on campus; SHS and MRB testing lab staff; Athletics (NCAA regulations); some essential workers (Early Childhood Services, etc.)
- Process 400-600/day (capable of processing 900/day)

Vaccination Update (As of January 28, 2021)

- UCR Health is offering the COVID vaccine to individuals who qualify based on approved California Department of Public Health (CDPH) tiers. Starting Friday, January 29, vaccines offered first to healthcare workers and employees/students over 65 years old (Tier 1B).
- Appointments offered on a first-come first-served basis to employees who qualify based on approved CDPH tiers
- For the most up-to-date information, please visit campusreturn.ucr.edu/vaccines



UCR ACCOMPLISHMENTS

No. 1 university in the U.S. for social mobility two years in a row. – U.S. News & World Report

No. 1 for Hispanic enrollment among selective universities. – Urban Institute

No. 2 in the country for financial aid. – Business Insider 2019

The country's most transformative public university. – Money Magazine 2019

Top 10 colleges that pay off the most in big cities. – CNBC

One of the nation's top 12 public universities. – Forbes "America's Best Value Colleges"

No. 4 in the country for social mobility. – Education Reform Now

Top 1 percent of universities worldwide. – Center for World University Rankings 2019-20

No. 15 among public universities. – Washington Monthly

One of the Top 30 public institutions contributing to the public good. – Washington Monthly

No. 2 in Entomology research in the world – Center for World University Rankings

One of America's best value colleges. – Princeton Review

No. 3 in Hispanic STEM graduates in the nation. – National Science Foundation

No. 26 in the world in plant and animal sciences. – U.S. News & World Report



AMERICA'S
**FASTEST
RISING**
UNIVERSITY

CNAS Budget

Timeline

April/May 2020

Budget discussions with chairs and directors

July 1, 2020

Start of new fiscal year

August/September 2020

Resource Allocation Committee created

December 15, 2020

Notice from Provost of 11% permanent cut (\$11.4M) to CNAS' operating budget

January/February 2021

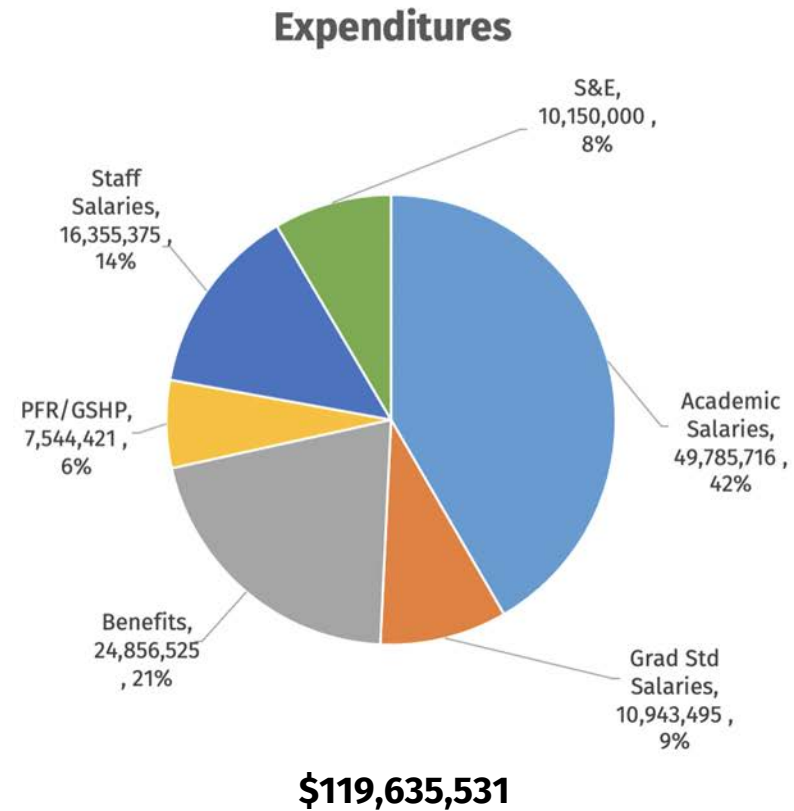
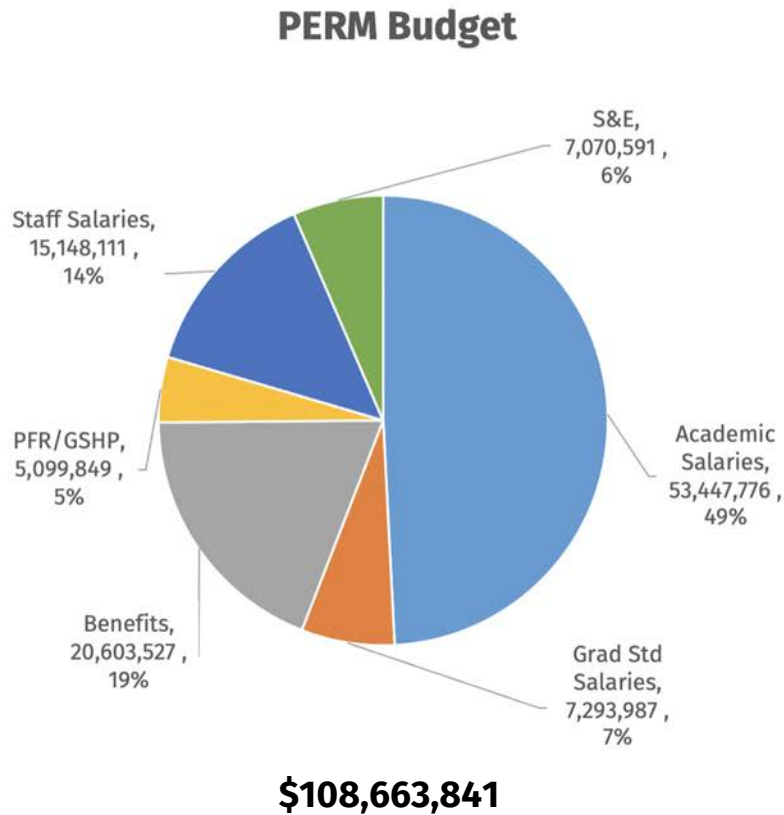
Campus to take 50% (~\$5.7M)

July 1, 2021

Start of new fiscal year with significantly reduced budget (from ~\$110M to ~\$98M)

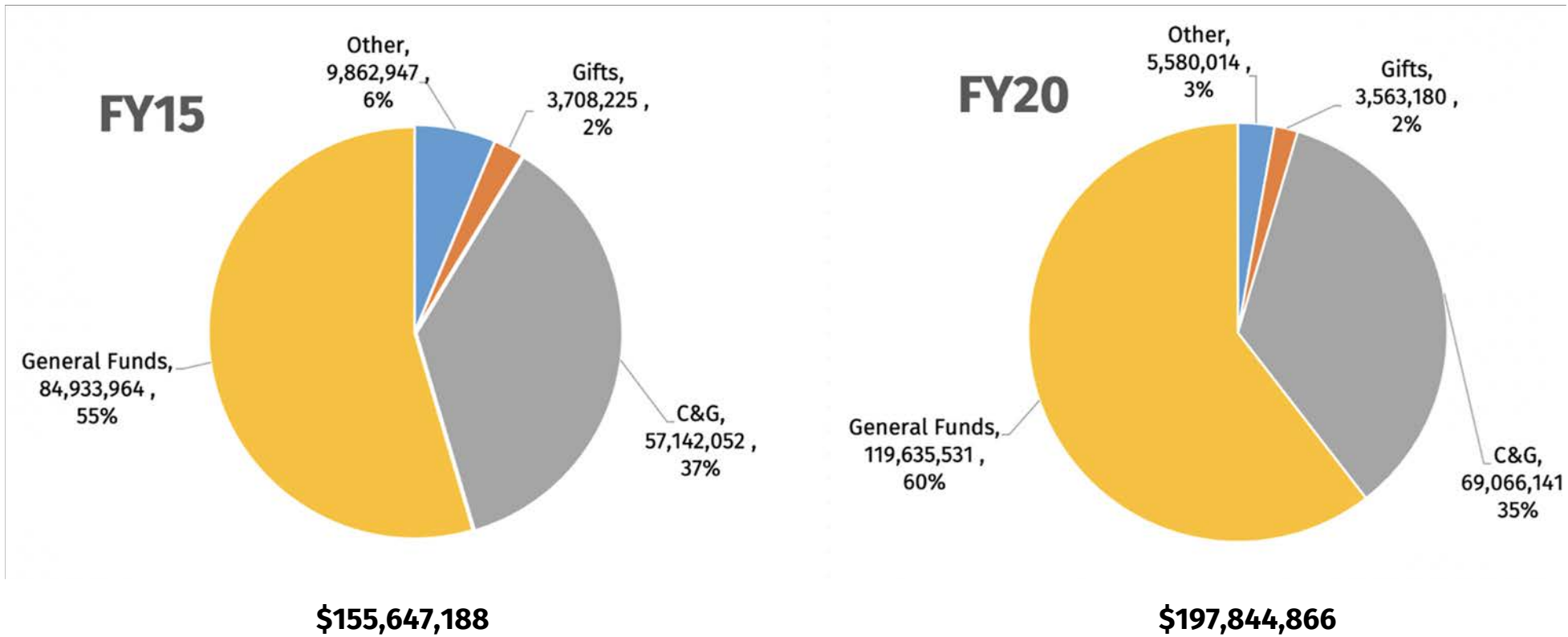
CNAS Budget

General Funds by Category FY20 Actuals



CNAS Budget

Actual Expenditures by Fund Group FY15 & FY20 Comparison



CNAS Budget

CNAS Budget Reduction Summary FY21 (data as of 1/27/21)

FY21 Reduction	Amount	Status
Staff Actions	788,714	Done
Commitments Deferral FY21	518,833	Done
Chairs Compensation FY21 with 12.5% Cut	153,950	Done
TA Winter and Spring 21 10% Reduction (Math 7%)	615,499	Done
GSR 50% Reduction	437,815	Done
Carryforward (CFD) Department - 25% Pullback	791,884	Done
F&A - 10% Departments Pullback	1,515,782	Done
Sales and Service Reduction	385,500	Done
Curtailement Savings 6 days in Spring *	500,000	
Total Reduction	5,707,976	

CNAS will not impose additional cuts to departments in FY21 to make up shortfall
Instead, we'll continue temporary cuts each year until we meet permanent reduction



CNAS Budget

Opportunities for Departments to Increase Revenue

Enhance Master's Programs

- **Academic Master's**
 - Revenue as tuition dollars from the state (“state- supported”)
 - Teaching in Master's program counts towards regular faculty teaching load
- **Professional Master's**
 - Professional schools with more of a vocational angle
 - E.g., MBA; Entomology – pest control industry
- **Self-supporting Master's – can be for either Academic or Professional**
 - Instruction on top of normal faculty teaching load
 - After instructors and admin staff are paid, program keeps remaining revenue

Offer Summer Session Courses

Increase International and Non-resident Student Enrollment

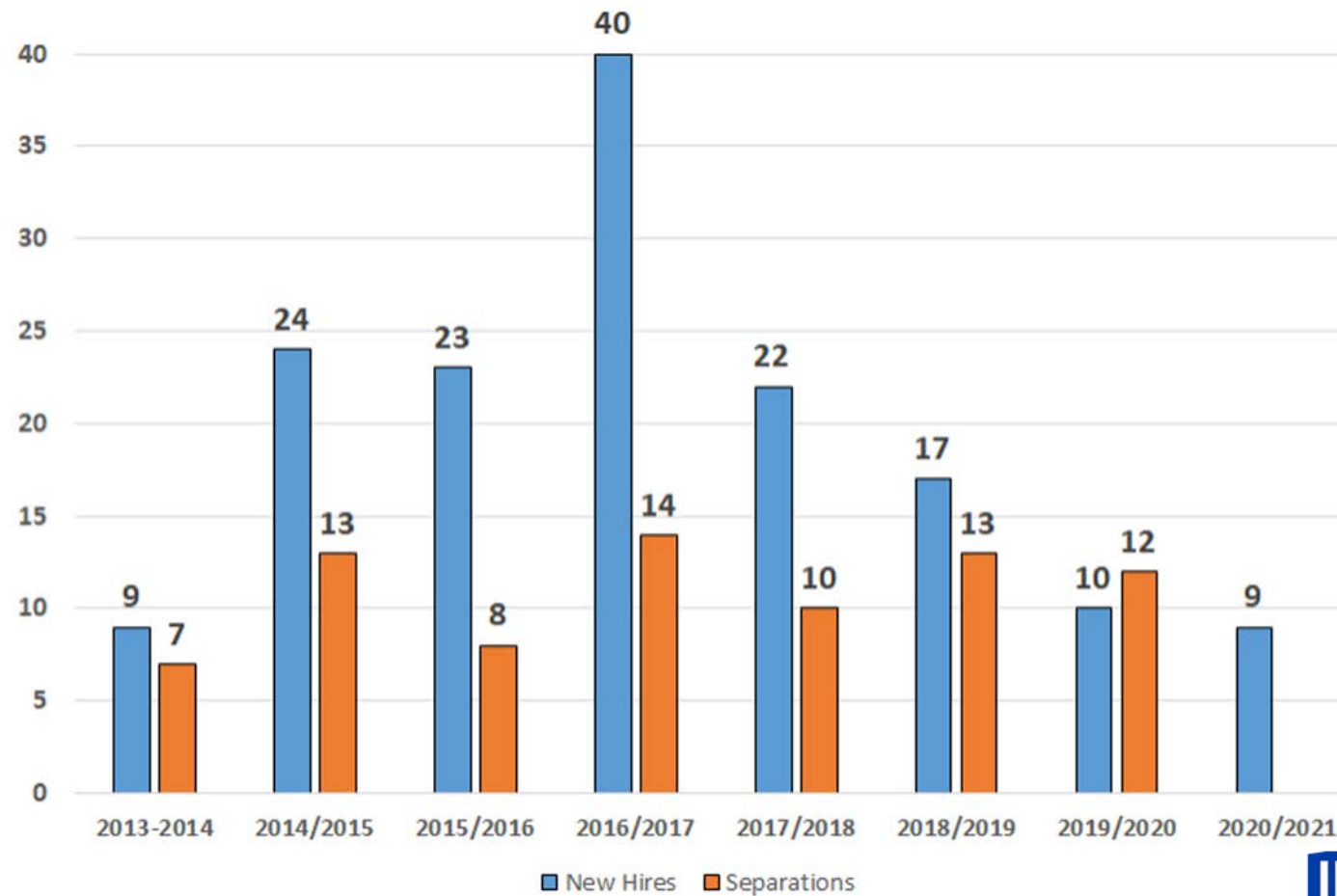
CNAS Vision

Elevate CNAS Status

- ***Enhance Faculty Visibility***
- Improve Student Experience
- Embrace Community

Faculty

Start Dates vs Separation Dates FY20 (as of February 1, 2021)



New CNAS Faculty

(start dates as of February 1, 2021)



Miguel Arratia, assistant professor of physics in the Department of Physics & Astronomy



Ana Bahamonde, assistant professor of organic chemistry in the Department of Chemistry



Brian Collier, assistant professor in the Department of Mathematics



Analisa Flores, assistant professor of teaching in the Department of Statistics



Patricio Gallardo, assistant professor in the Department of Mathematics



Estela A. Gavosto, professor of teaching in the Department of Mathematics and special advisor to the dean of CNAS in STEM initiatives



Ysabel Giraldo, assistant professor in the Department of Entomology



Jia Gou, assistant professor in the Department of Mathematics



Eloísa Grifo, assistant professor in the Department of Mathematics



Amy Murillo, assistant professor in the Department of Entomology



Edward Schwieterman, assistant professor of astrobiology in the Department of Earth and Planetary Sciences

UC: NSF Career Awards

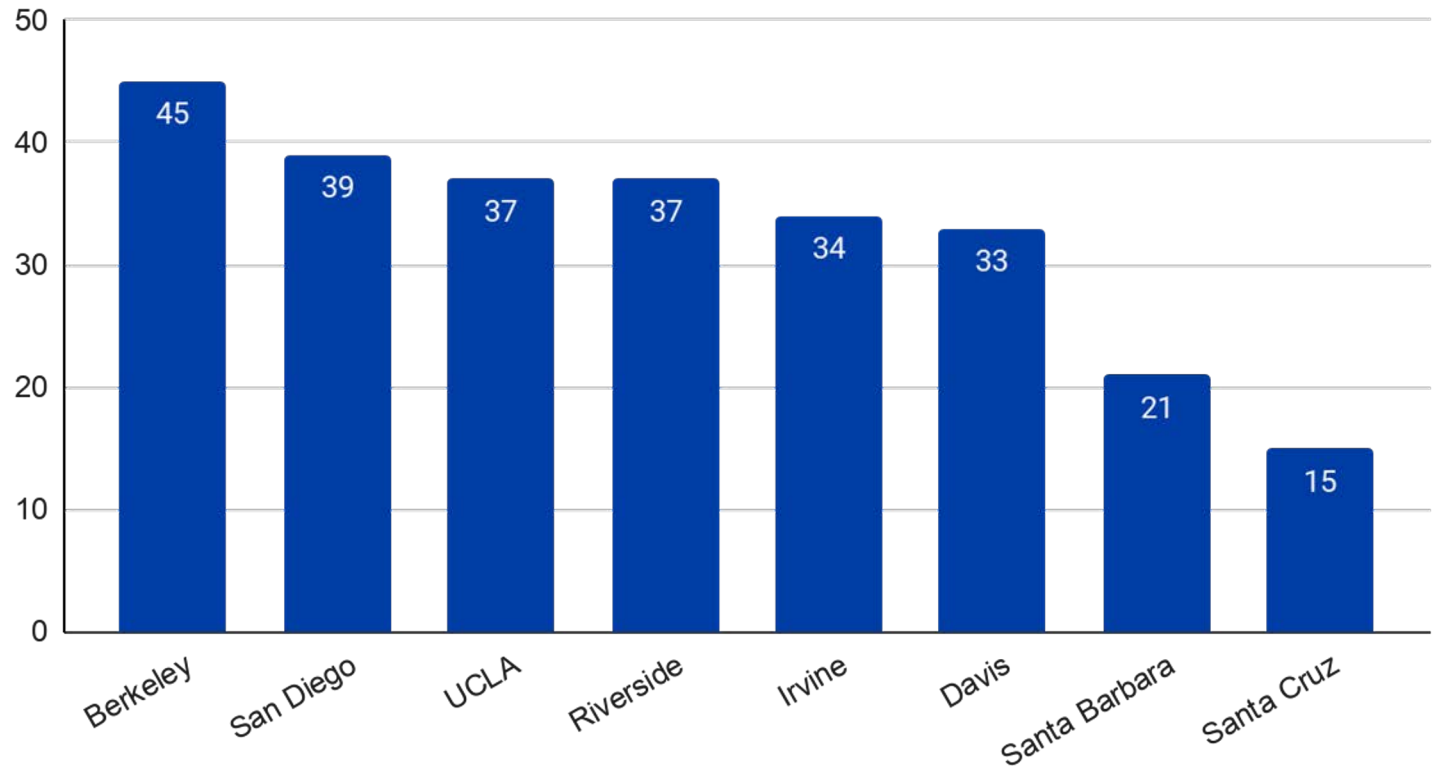
2020-2021

Ladder Rank Faculty at UCR (FTE 2020) = 792

Ladder Rank Faculty at UCI (FTE 2019) = 1,065

Ladder Rank Faculty at UCLA (FTE 2020) = 1,842

Active UC NSF Career Awards



CNAS NSF Career Awards

In 2019, 20 proposals were submitted by CNAS faculty; 7 were awarded
In 2020, 12 proposals were submitted, announcements expected soon

Hoori Ajami (Environmental Sciences) Dr. Ajami's project will investigate the most important drivers of groundwater recharge in the Kaweah River watershed in southern Sierra Nevada, and will quantify surface water and groundwater responses to climate variability, droughts, and changes in vegetation.

Jeffrey Diez (Botany and Plant Sciences) Dr. Diez will examine how changes in the timing of life events of plants, such as blooming time, may influence their competition with other plants, which in turn may influence the types of plants that will be found in an area.

Joshua Lui (Physics & Astronomy) Dr. Lui's research explores strong interactions between excitons and other particles in atomically thin semiconductors and how such interactions can lead to novel quantum states and phenomena.

Dawn Nagel (Botany and Plant Sciences) Dr. Nagel's project seeks to understand how extreme temperature affects circadian clock function and growth in plants.

Jessica Purcell (Entomology) Dr. Purcell's group will investigate characteristics of a supergene that controls social organization in a group of ants. The project will specifically investigate how an ancient supergene changes in form and function in a group of related species.

Carolyn Rasmussen (Botany and Plant Sciences) Dr. Rasmussen will investigate how dynamic structures within plants promote proper positioning of the new cell wall, how proteins that help position the division move within cells, and how mechanical and biochemical cues regulate the position of the division plane.

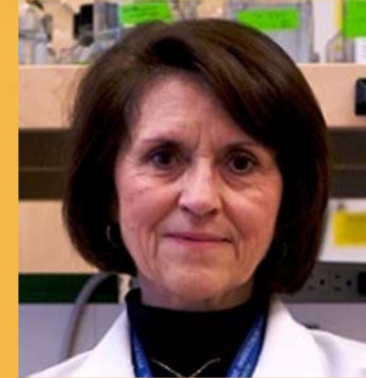
Laura Sales (Physics & Astronomy) Dr. Sales will conduct a detailed study of the dark matter content of dwarf galaxies found in galaxy clusters.



Faculty Honors and Awards

Oliver Johnson Award for Distinguished Leadership in the Academic Senate

Manuela Martins-Green, chair of the Department of Molecular, Cell and Systems Biology at UC Riverside, has received the 2020 Oliver Johnson Award for Distinguished Leadership in the Academic Senate. The award is the highest honor given out by the University of California, bestowed biennially to a member of the UC faculty who has performed outstanding service to the Academic Senate at both the systemwide and campus levels.



AAAS Fellows

The American Association for the Advancement of Science, or AAAS, has elected UCR mycologist **Jason Stajich** to its 2020 class of fellows for his research into the evolution of fungi and other microorganisms. In 2020, he was also elected to the American Academy of Microbiology and elected as a fellow of the Mycological Society of America this summer, a distinction awarded for a record of solid research, successful teaching, and significant service to society.



Highly Cited Researchers List (2020 Clarivate Analytics)

8 out of 10 UCR researchers are from CNAS



Julia Bailey-Serres (plant and animal science category)



Sean Cutler (plant and animal science category)



Pingyun Feng (cross-field category)



Timothy Lyons (geosciences category)



Bahram Mobasher (space science category)



Sang-Youl Park (plant and animal science category)



Prue Talbot (social sciences category)



Yadong Yin (chemistry category)

CNAS in the Media

National headlines featuring CNAS faculty and research

Study on the dangers associated with **soybean oil** sets all-time record for media news site

CNAS researchers are at the forefront of the **COVID-19** conversation

CNAS scientists work to save the citrus trees from **Huanglongbing (HLB)**

News outlets feature **exoplanet research**

National headlines to save **native bees** highlights the work of CNAS faculty

Forbes 

The New York Times



REUTERS

Los Angeles Times

THE WALL STREET JOURNAL.

Cooperative Extension Specialist

UCR is one of three land-grant campuses of the UC system, which is administered centrally through the University of California division of Agriculture and Natural Resources (ANR). The division of ANR has Cooperative Extension (CE) programs in every county in California providing direct connections between the University and the people of California. CE and Agricultural Experiment Station (AES) faculty conduct research, teaching, and community engagement programs with linkage to our communities through county-based CE programs.

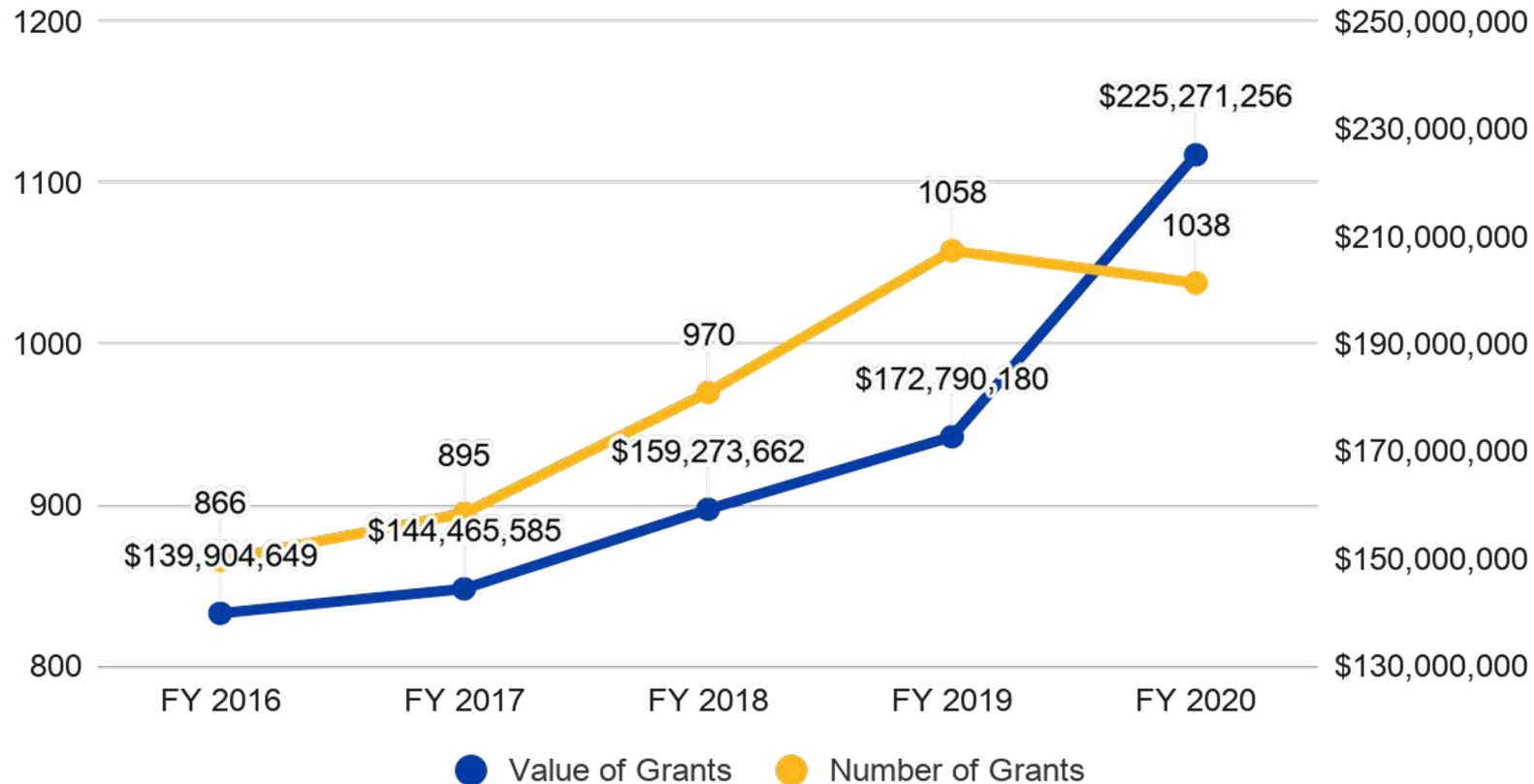
Houston Wilson, CE Specialist with the UCR Department of Entomology, was recently named the Presidential Director for the University of California's Organic Agriculture Institute, which was established in January 2020 with a \$500,000 endowment by Clif Bar and a matching \$500,000 endowment from UC President Janet Napolitano.

Dr. Wilson is the second CE Specialist in the UC System to hold an endowed position like this in ANR. In 2019, **Georgios Vidalakis**, a CE Specialist in Microbiology and Plant Pathology, was named a Presidential Researcher for Sustainable Citrus Clonal Protection. The \$1M endowment was provided by the Citrus Research Board with funds matched from UC.



Grant Awards

Campus-wide Grant Awards

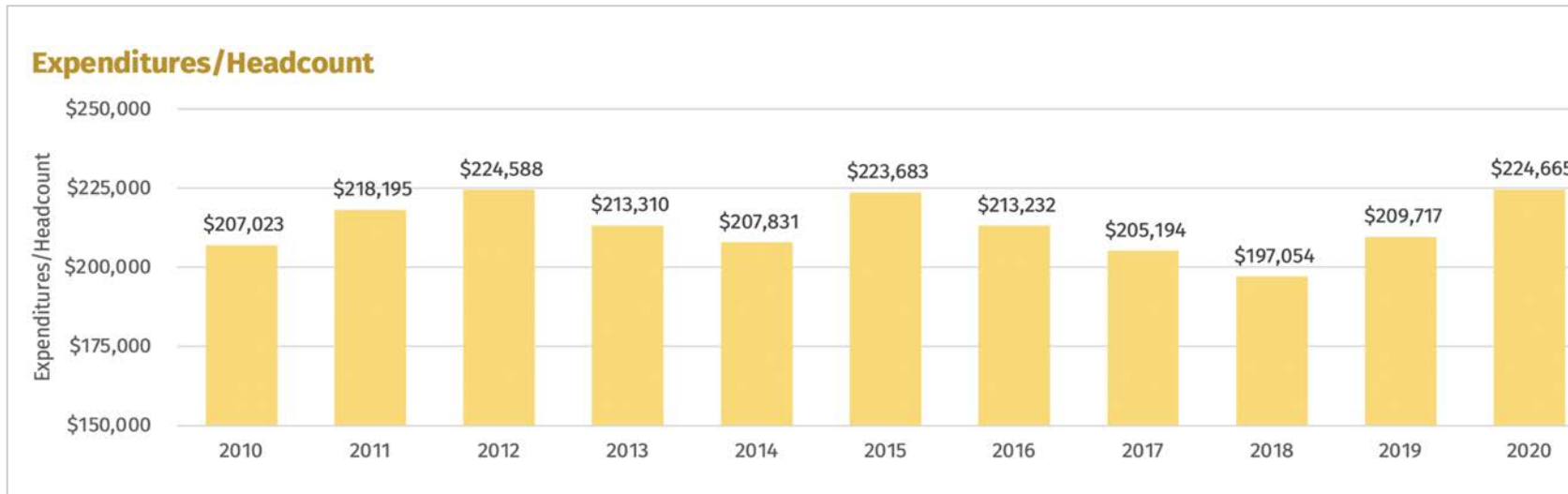
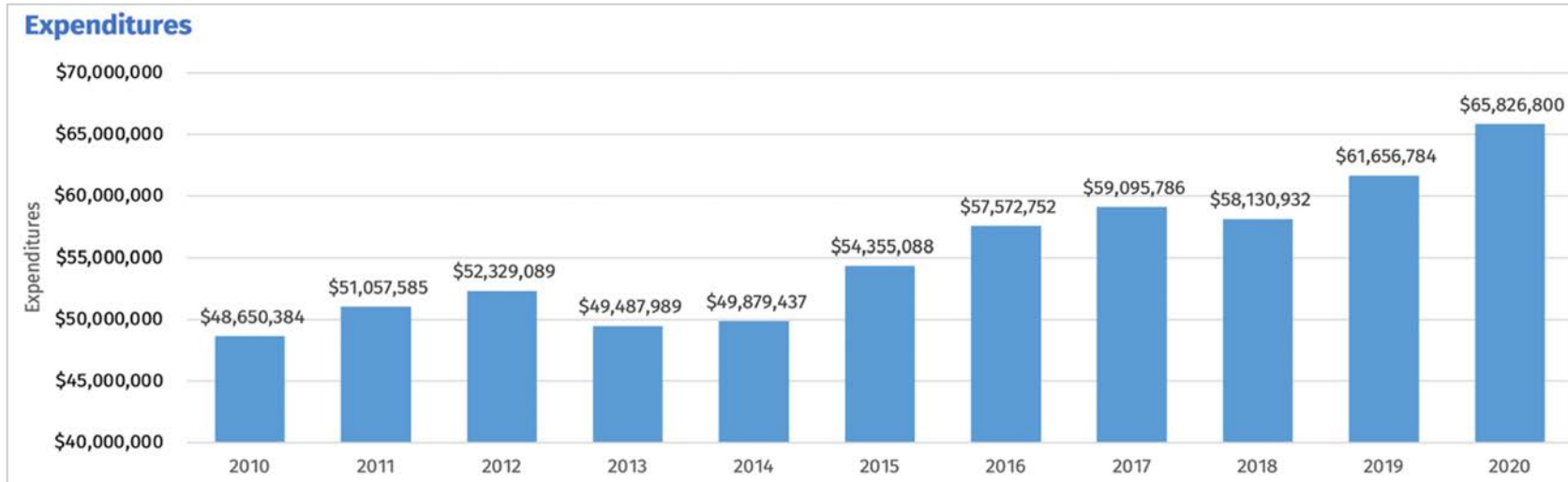


CAMPUS-WIDE GRANT AWARDS FY20

Number of Grants: 1,038 Grants
Value of Grants: \$225M

CNAS PIs submitted 53%
of total proposals
and received 43%
of total grant funds

CNAS Contract & Grant Expenditures



Research Grants

Highlighting CNAS Research Grants

USDA NIFA Specialty Crop Research Initiative, \$4.4 million

PI Patricia Manosalva, Assistant Professor of Microbiology and Plant Pathology

Grant Title: Reducing avocado losses to major challenges by improving resistance selection and disease management using next generation technologies

Co-PIs Jim Adaskaveg (MPP), Hyoseung Kim (BCOE), and Ashok Mulchandani (BCOE)

About: This grant is focused on examining two important problems plaguing American avocado orchards, Laurel Wilt and increased salinity levels in water and soil

NIH Outstanding Investigator Award, \$1.8 million

PI Adler Dillman, Associate Professor of Nematology

Grant Title: Molecular Mayhem: Immune modulation and eicosanoid signaling during infection

About: This grant is focused on understanding host-parasite interactions, with an emphasis on elucidating the molecules used by parasitic nematodes to manipulate host immunity



Research Grants

UC Multicampus Research Programs and Initiatives (MRPI)

UCR as Host Campus

PI Roya Zandi, UCR Co-PIs: Thomas Kuhlman (CNAS), Umar Mohideen (CNAS), Marcus Kaul (SoM)

Title: UC Coronavirus Assembly Research Consortium

Total Budget: \$1.9 million

PI Boris Bar, **UCR Co-PIs: Kerry Mauck (CNAS)**, Hyoseung Kim (BCOE), Vassilis Tsotras (BCOE)

Title: Strengthening honey bee health and crop pollination to safeguard food availability and affordability

Total Budget: \$900k

UCR as Collaborating Campus

PI: Barbara Jacak (UCB), **UCR Lead PI: Miguel Arratia Munoz**, **UCR Co-PIs: Kenneth Barrish (CNAS) and Richard Seto (CNAS)**

Title: California Consortium at the Electron-Ion collider

UCR Budget: \$760k



CNAS Vision

Elevate CNAS Status

- Enhance Faculty Visibility
- ***Improve Student Experience***
- Embrace Community

UCR: Enrollment for Fall 2020

Fall 2020, UCR welcomed 8,106 total new students

- 6,943 undergraduates
- 4,677 new resident first year students
- 2,086 transfer students
- 1,163 graduate students

Total Enrollment at UCR

- 26,434 students
- 3% increase from last year



CNAS: Enrollment for Fall 2020

Fall 2020, CNAS welcomed 7,553 total students

- 871 Ph.D. students
- 46 M.S. students
- 6,636 undergraduate students
 - 923 are transfer students

New CNAS students

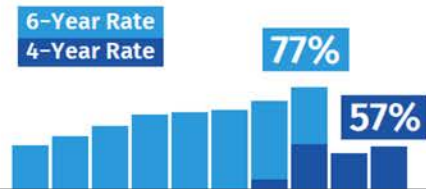
- 1,710 first-year students
- 394 transfer students
- 166 graduate students



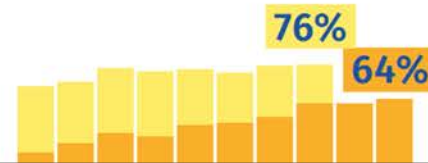
UCR: Student Graduation Rates

Frosh Graduation Rates by Starting College

BCOE



CHASS

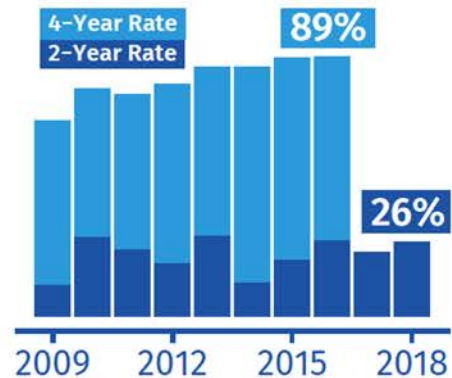


CNAS

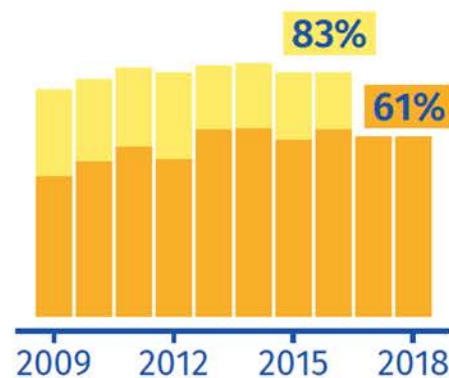


Transfer Graduation Rates by Starting College

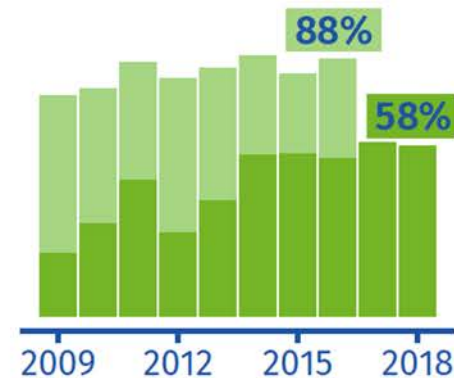
BCOE



CHASS



CNAS

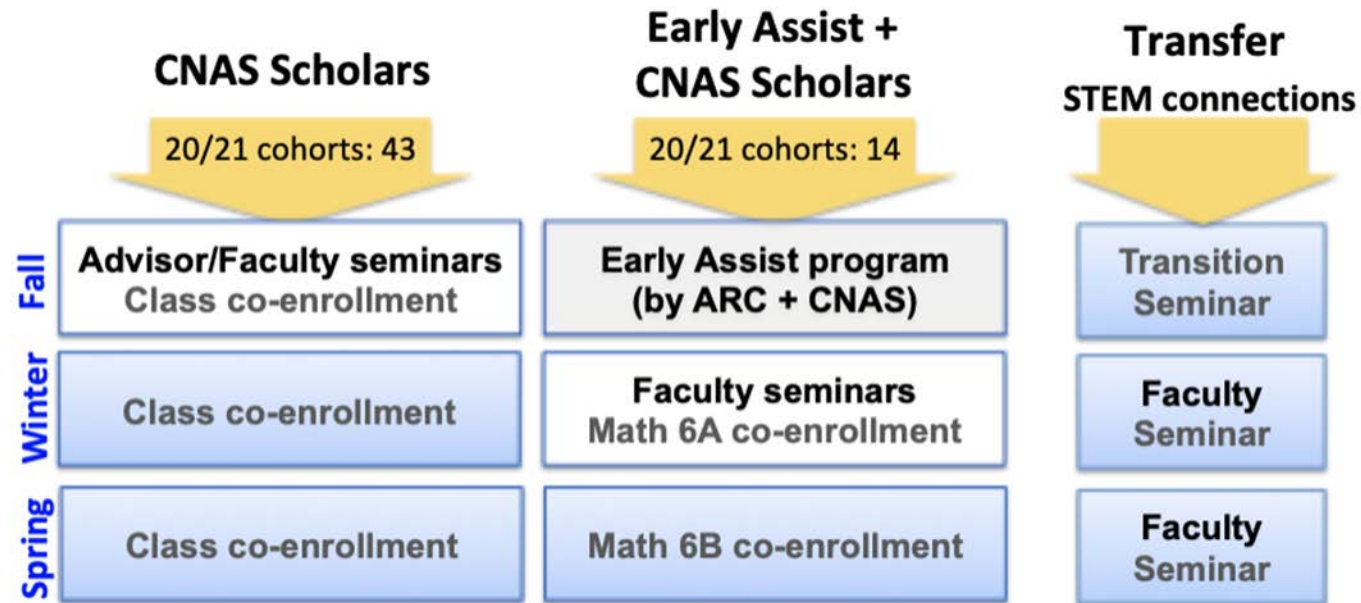


Student Success

Learning Communities

Goal: all CNAS first year students participate in an Academic Learning Community (CNAS Scholars, Early Assist, or Honors)

- All incoming first years were automatically placed in LC groups this year, with an opt out option
- 2020-21: **90.5%** CNAS FR in a LC, with 19% in CNAS Early Assist LC



Also includes: Supplemental Instruction, Peer mentoring, RISE opportunity

Undergraduate Student Awards

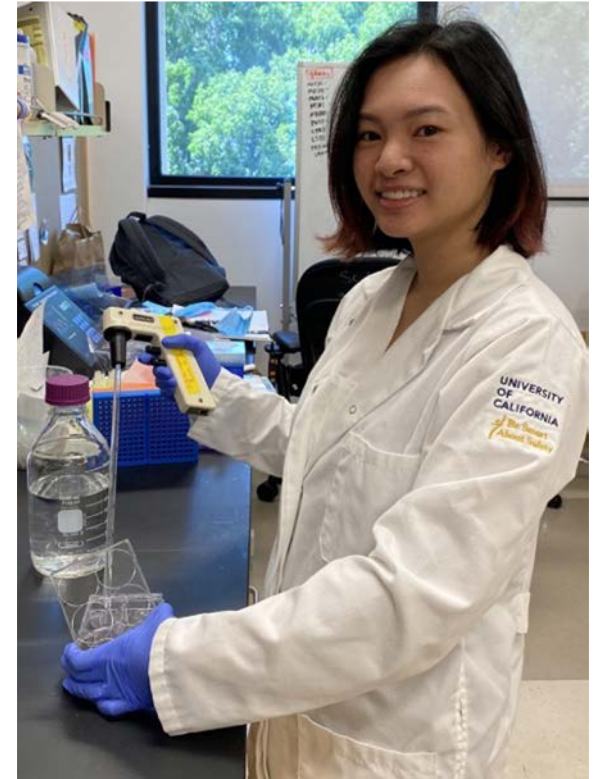
Spotlight on CNAS undergraduate student Jennifer Le

Donald A. Strauss Public Service Scholarship

Biochemistry major, **Jennifer Le**, was awarded the Donald A. Strauss Public Service Scholarship for a project seeking to close the gender gap in STEM. The award provides \$15,000 scholarships to college sophomores and juniors to fund public service projects they proposed. Jennifer submitted a proposal to work with female faculty members and students at UCR to create a mentorship program for Riverside County high school students.

Barry M. Goldwater Scholarship

While working in the Murn Lab at UCR, Jennifer was also awarded the Barry M. Goldwater Scholarship, one of the most prestigious and competitive awards in the science, technology, engineering, and mathematical fields, or STEM. From a pool of over 5,000 sophomores and juniors, 1,343 students were nominated by 461 academic institutions to compete for the 2020 Goldwater scholarships, ultimately awarded to 396 recipients. Each scholarship comes with a one-time award of up to \$7,500.



Graduate Student Awards

Kavya Samudrala and William Ota

UC Riverside graduate students, Kavya Samudrala and William Ota, have each been named winners of the **2020 STEM Solutions in Public Policy Award**, which recognizes an outstanding proposal for new California state legislation from University of California graduate students in STEM fields. The winners received a \$1,000 research stipend and get to confer with legislators and legislative staff in Sacramento.

William currently works in Anderson's lab in EEOB and collaborates with Dr. Marilyn Fogel and the EDGE Institute.



Susan Nguyen

Susan Nguyen, a graduate student at UC Riverside, has been awarded a **predoctoral fellowship by the American Epilepsy Society**. The one-year fellowship, which began July 1, will support part of Nguyen's thesis work. Her research looks at how an innate immune receptor present in the brain changes after brain injury and its role in the development of posttraumatic epilepsy and the potential behavioral effects it may have on pattern separation. The \$30,000 fellowship will provide her with funding to perform experiments and allow her to travel to national and international conferences to present her findings and collaborate with the scientific community.

Susan currently works in the Santhakumar Lab.

NSF Fellowships

3 CNAS students out of 5 UCR students received a 2020 Graduate Research Fellowship from the NSF

Dylan Enright, a doctoral student in microbiology doing research at the Glassman Lab, primarily on the effects of wildfires on soil microbial communities. A first-generation student, Enright called the fellowship life-changing and a validation of many years of work.

Kayla Rodriguez, a graduate student researcher in the Hemmerling Lab, is studying atomic-molecular-optical physics, which she hopes to continue researching. Last year, she worked on a laser-cooling molecules experiment and is now working on an electron-trapping experiment.

Tyler Smith studied physics as an undergraduate at UCR and was an undergraduate researcher in both Igor Barsukov and Yanou Cui's lab before pursuing his doctorate in physics at UC Irvine this past fall 2020. Last summer, he continued his work at NASA's Jet Propulsion Lab, returning as an intern to work on its Wide Field Infrared Survey Telescope's Coronagraph Instrument team.



CNAS Vision

Elevate CNAS Status

- Enhance Faculty Visibility
- Improve Student Experience
- ***Embrace Community***

Staff

UCR Staff Assembly Awards



Annual Staff Who Make a Difference Award – Service (2020)
Bill Sutton, Purchasing/Facility Specialist, Department of Entomology



Staff Assembly Get Recognized Award (January 2020)
Ronda Inzunza, Administration Office, Dean's Office



Staff Assembly Get Recognized Award (November 2019)
Silvana Payne, Purchasing Assistant, EMN Administrative Unit

43 Staff reached service milestones, celebrating 590 years of experience
Two staff received Staff Assembly Scholarships for Personal Development

Staff

Challenges

Staff levels dropped due to retirements and vacancies not filled

Hopeful to return to prior staffing levels beginning in January 2022

Increase in financial & logistical complexities with fewer staff resources

CNAS funding sources, C&G proposals, and awards all on the rise

UCPATH now fully implemented with all 10 campuses creating some inefficiencies

Shift to remote work model created need for countless process changes



Staff

Resilience in Action

Lab prep/technical staff tackled the transition to online instruction and organized transition materials

Support staff built new protocols for purchasing and contactless delivery to keep research on track

CNAS EMC partnered with Registrar's Office to streamline online enrollment processes

UAAC created greater opportunity for student self-service & automation in advising

Financial Staff partnered with CNAS IT to improve PIWRS functionality campus-wide

HARVEST continued to adapt to UCPATH process with **no decline** in service levels

Tremendous manual effort/auditing from CNAS staff to maintain accuracy

Countless additional "above & beyond" efforts in support of CNAS mission



Philanthropy

Living the Promise

Living the Promise: UCR's First Comprehensive Fundraising Campaign Ended December 31, 2020

Campus-wide Campaign Goal: \$300,000,000

Total Raised: \$312,949,758

CNAS Campaign Goal: \$100,000,000

Total Raised: \$102,356,329



Philanthropy

Advancing Inclusivity in Entomology Scholarship Fund

The Advancing Inclusivity in Entomology Scholarship Fund provides undergraduate students who experience social, cultural, and financial barriers with a scholarship that will support their ability to participate in laboratory research under the guidance of a Department of Entomology principal investigator.

Scholarship Update: The Advancing Inclusivity in Entomology Scholarship Fund has raised **\$37,425**.



Philanthropy

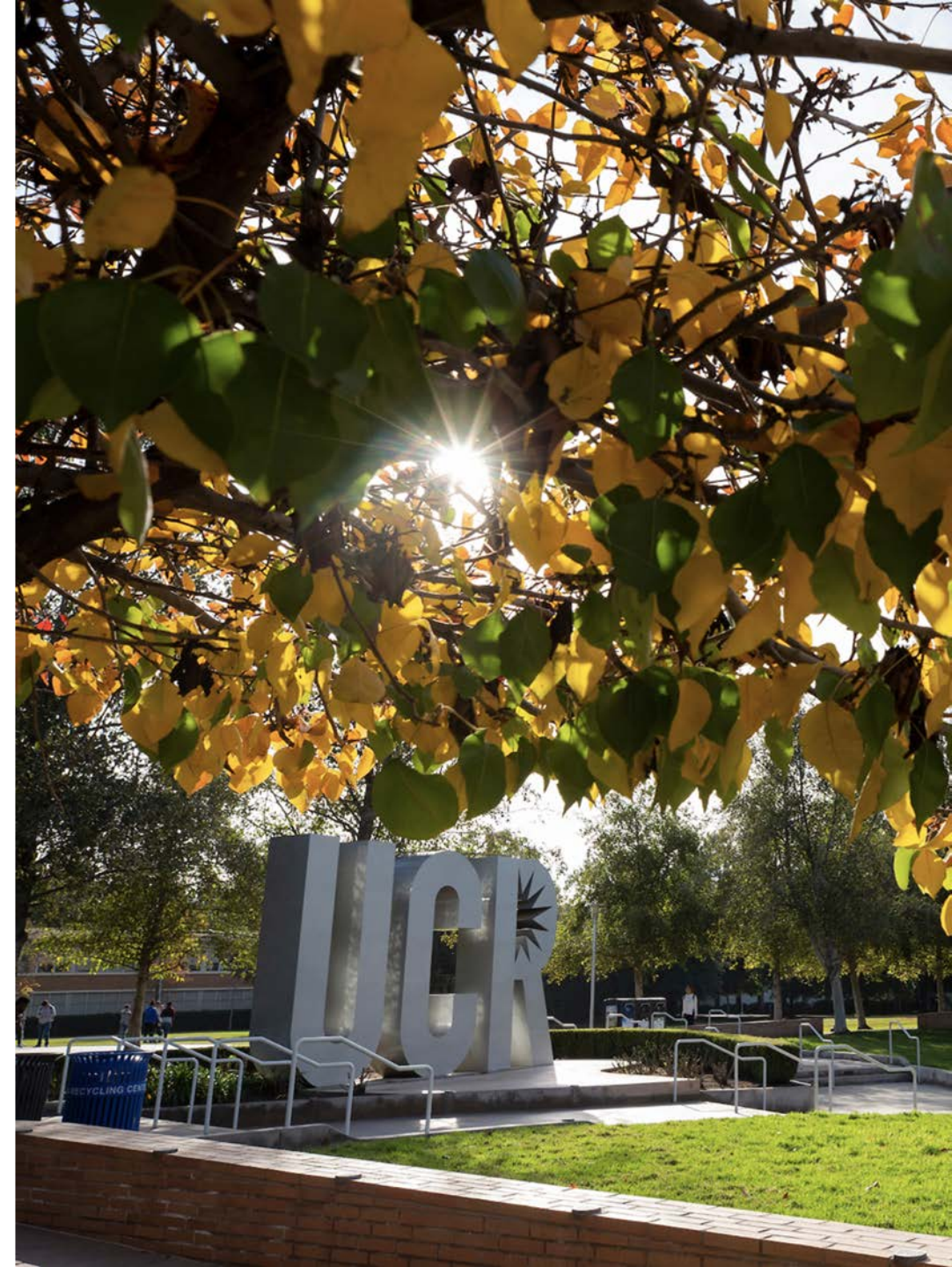
CNAS Scholarships

CNAS Scholarships increase in total number of applications

- 2018-19: 142 applications
- 2019-20: 1,060 applications
- 2020-21: 1,409 applications

CNAS Scholarships increase in total amount awarded

- 2018-19: \$45,725 was awarded
- 2019-20: \$108,989 was awarded
- 2020-21: \$133,677 was awarded



Philanthropy

Endowed Chairs: \$26M Endowment, 19 Endowed Chairs, 6 Chairs to Fill

Nomination	Nominee	Department
Harry W. Johnson, Jr. Founder's Chair in Chemistry	Pingyen Feng Professor of Chemistry	Chemistry
Hartland H. Schmidt Founder's Chair in Chemistry	Francisco Zaera Distinguished Professor of Chemistry	Chemistry
F. Burton Jones Chair in Pure Mathematics	John Baez Professor of Mathematics	Mathematics
Wilber W. Mayhew Endowed Chair in Geo-Ecology	Tim Lyons Distinguished Professor of Biogeochemistry	Earth & Planetary Sciences
Singletary Family Endowed Chair in Agriculture	Howard Judelson Professor of Plant Pathology & Plant Pathologist	Microbiology & Plant Pathology
Endowed Chair for Inclusive Excellence	Roya Zandi Professor of Physics	Physics & Astronomy



Community Outreach

Science Ambassadors

Science Ambassadors Overview: The Science Ambassadors (SA) assist the college during official functions, presentations, and act as a student liaison with various communities that CNAS serves both on and off-campus, with a particular emphasis on recruiting events and activities. UCR faculty grad students, and staff present professional development workshops at monthly SA meetings. As a group, the SA are working to develop scholarship programs for the students they are mentoring.

Science Ambassadors Projects: Delta SiFy, Little Einsteins, SISTERS, SMASH

Program Highlight: SISTERS

- Sixty 7th & 8th grade girls are nominated by their Riverside Unified School District (RUSD) teachers
- STEM speakers and interactive science activities
- Mentorship with Science Ambassadors and the 7th and 8th girls
- SA produce a monthly SISTERS newsletter for the girls



Community Outreach

Science Lecture Series

Science Lecture Series: April 2021
Topic: COVID-19 Research



Community Outreach

UCR Botanic Gardens

Visitors

- January - March 2020—6,500 visitors per month
- UCRBG closed to the public 3/16/20
- Reopened 6/29/20, weekday mornings, 2 Sundays/month
- Current visitor count averages ~100 per day (about half normal)

Education

- Pre-campus closure: Hundreds of docent-led school tours, thousands of grade 3-12 students received CA-approved environment education curriculum
- 2020-21: Produced new interactive GIS Story Maps and video recorded BPSC 11 docent-led lab tour

Outreach

- Pre-campus closure: Garden Market & Plant Sales (~3,000 attendees), Twilight Tours (close at ~100 attendees), Bird Walks (~25 attendees), Rose-pruning workshop (public, ~120 attendees)
- 2020-21: Online plant sales, in-person pickups (100s of shoppers; virtual succulent wreath workshop (sold out at 35 attendees); in-house rose-pruning (24 trained ANR Master Gardeners); educational video produced to be posted



Community Outreach

R'Garden

Established in 2012, R'Garden is **three acres** in total, including a community garden area, row crop area, Valencia citrus orchard, and greenhouse.

In 2020, R'Garden donated **23,000 pounds** of food to R'Pantry and other local community food banks in the city of Riverside.

R'Garden received the **2021 Beautification Award** from Keep Riverside Clean & Beautiful (KRCB) and the Greater Riverside Chambers of Commerce (GRCC). The Beautification Awards was presented at the Mayor's State of the City Address on January 28, 2021.



Infrastructure

Campus Projects

Batchelor Hall Renewal Project

Construction expected to start SP21

Pierce Hall

Construction expected for completion late SP21

NRS (Natural Reserve System)

Prop 84 Funded Projects completed in 2020. New building and upgrades to existing facilities at Sweeney Granite Mountains Desert Research Center and Boyd-Deep Canyon Desert Research Center





Infrastructure

CNAS Projects

CVC – CUPS

Construction to start W21, with expected completion SP21 and occupancy S21

Plant Growth (PG1)

Occupancy expected SP21

New Greenhouse [Field 16]

Exterior completed; shades and benches in progress

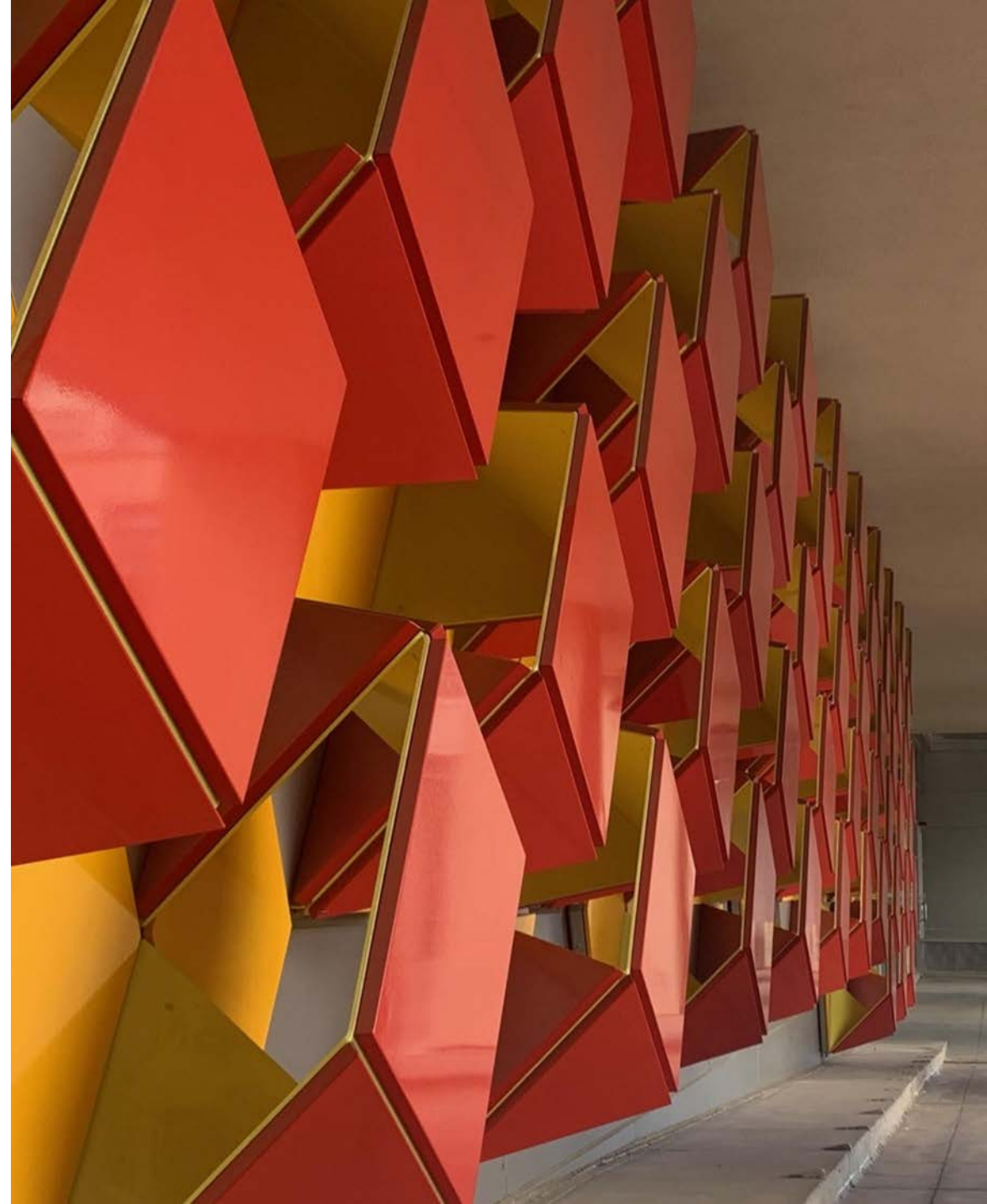


CNAS in 2021

Teaching Policy (January - March)

**Resource Analysis of CNAS
Supported Academic Cores** (April - June)

CNAS Strategic Plan (July - December)



An aerial photograph of the University of California, Riverside campus. The central focus is the tall, white, cylindrical clock tower. Surrounding it are green lawns, paved walkways, and various university buildings. In the foreground, a large 'UCR' sign is visible. The background shows rolling hills and a highway under a blue sky with scattered white clouds.

THANK YOU