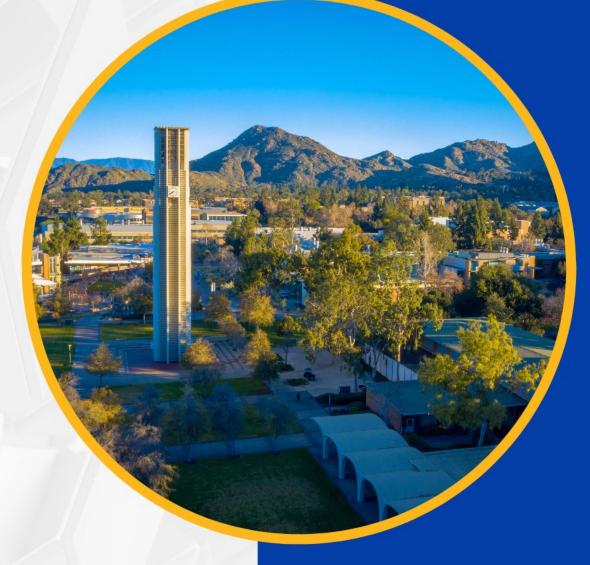
College of Natural & Agricultural Sciences

# STATE OF THE COLLEGE

Wednesday, June 5, 2024





# **CNAS MISSION**

To transform lives through discovery, communication, translation, application, and preservation of knowledge.



# **CNAS VISION**

# To enhance our position as a preeminent research college that epitomizes excellence in all that we do:

- Advancing and communicating knowledge
- Developing and inspiring future leaders
- Transforming communities
- Demonstrating that diversity is both a measure of excellence and a means of achieving it



# CNAS DEAN'S VISION

Due to the excellence of our science research, instruction and outreach, and our diversity, CNAS is the 1st choice for students, faculty and staff.

The destination.



# RANKINGS HIGHLIGHTS

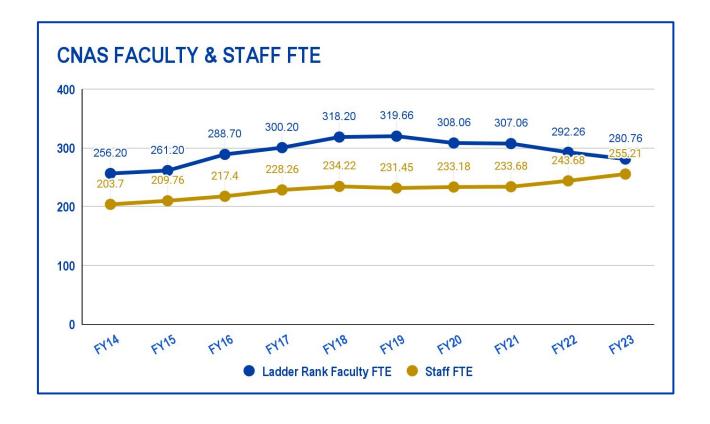
US News & World Report UCR Rankings (Sept. 2023)	#2 in Top Performers on Social Mobility (tie) #36 in Top Public Schools (tie) #76 in National Universities (tie)
US News & World Report Global Universities Rankings (Sept. 2023)	#12 Plant and Animal Science global research reputation (indicator rankings) #31 Plant and Animal Science (subject rankings) #33 Agricultural Sciences global research reputation (indicator rankings) #84 Water Resources (subject rankings)
US News & World Report Graduate School Rankings (Sept. 2023)	#39 in Earth Sciences (tie) #44 in Statistics (tie) #55 in Physics (tie) #66 in Mathematics (tie) #74 in Biological Sciences (tie) #74 in Chemistry (tie)
EduRank (Feb. 2024)	#3 of 1,466: Best Universities for Toxicology in the World #4 of 1,014: Best Universities for Entomology in the World #83 of 1,582: Top 100 Best Colleges for Biology in the United States #75 of 1,407: Top 100 Best Colleges for Chemistry in the United States #58 of 1,598: Top 100 Best Colleges for Environmental Science in the United States #67 of 1,485: Top 100 Best Physics schools in the United States #100 of 1,371: Top 100 Best Colleges for Mathematics in the United States
<b>NICHE</b> (2024)	#9 College with the Best Professors in California #13 Best College for Biology in California #24 Best Hispanic-Serving Institution in America







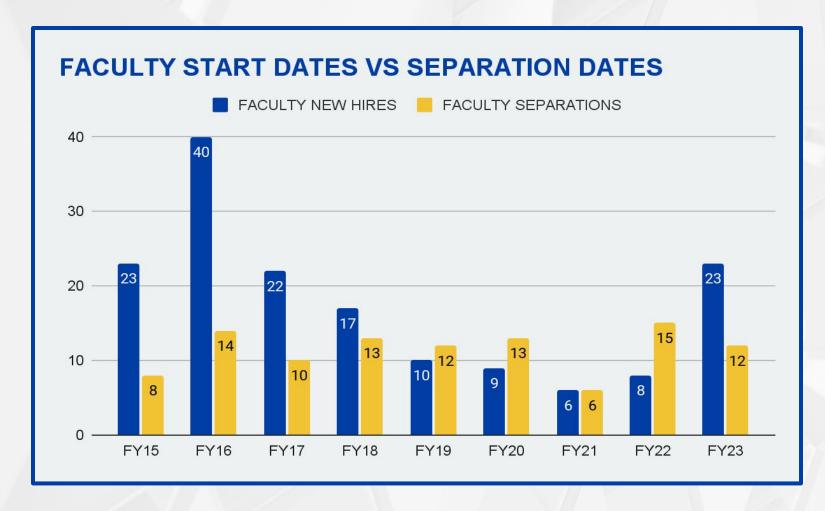
# CNAS FACULTY & STAFF FTE



Category	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Ladder Rank										
Faculty FTE	256.20	261.20	288.70	300.20	318.20	319.66	308.06	307.06	292.26	280.76
Staff FTE			10.000	100100-1-1-1	********	7777418		200		
	203.70	209.76	217.40	228.26	234.22	231.45	233.18	233.68	243.68	255.21



# FACULTY START DATES VS SEPARATION DATES FY23 (as of June 5, 2024)



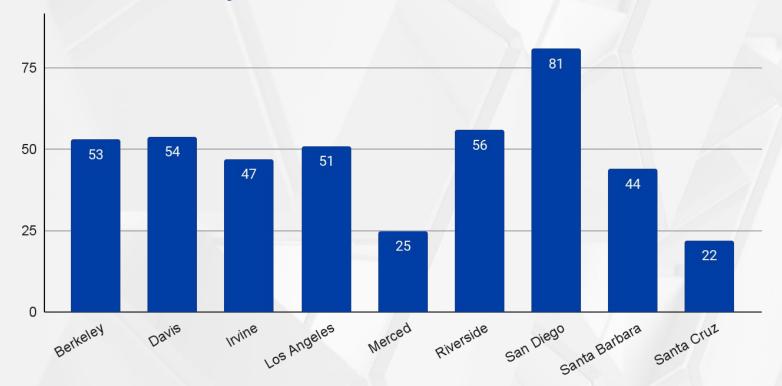


# DEPARTMENT FACULTY GAINS & LOSSES

Division	Department	Faculty Gains 2020-2024	Faculty Losses 2020-2024	Net
PHYSICAL SCIENCES	Chemistry	5	3	2
	Earth & Planetary Sciences	2	2	0
	Mathematics	12	4	8
	Physics & Astronomy	4	8	-4
	Statistics	5	1	4
Total		28	18	10
LIFE SCIENCES	Biochemistry	6	1	5
	Evolution, Ecology & Organismal Biology	8	3	5
	Microbiology & Plant Pathology	4	3	1
	Molecular, Cell & Systems Biology	1	6	-5
Total		19	13	6
AGRICULTURAL SCIENCES	Botany & Plant Sciences	2	11	-9
	Entomology	6	9	-3
	Environmental Sciences	3	5	-2
	Nematology	2	2	0
Total		13	27	-14
Grand Totals		60	58	2

# UNIVERSITY OF CALIFORNIA **NSF CAREER AWARDS**

## **Active University of California NSF CAREER Awards**



## **Ladder Rank Faculty**

**Merced:** 310 (8.0%)

**Riverside: 833 (6.7%)** 

**San Diego**: 1,522(5.3%)

**Santa Barbara**: 919 (4.8%)

**Berkeley:** 1,471 (3.6%)

**Davis:** 1,511 (3.6%)

**Irvine:** 1,383 (3.4%)

**Santa Cruz**: 643 (3.4%)

**Los Angeles**: 1,806 (2.8%)

All FTE Ladder Rank Faculty, UCOP Oct. 2023



# CNAS NSF CAREER AWARDS

In FY 2023, 13 NSF CAREER proposals were submitted, and the following faculty were awarded.



**Ana Bahamonde**, Assistant Professor, Department of Chemistry
Project Title: Advancing Light-mediated Ni Catalysis using Data Science and Physical Organic Techniques



**Emma Gachomo**, Assistant Professor, Department of Microbiology and Plant Pathology Project Title: Contaminants of Emerging Concern in Treated Wastewater Impact Plant-Associated Microbes and Plant Stress Responses



**Wei Liu**, Assistant Professor of Climate Change and Sustainability, Department of Earth and Planetary Sciences Project Title: Unraveling the Role of the Varying Ocean Circulation in Climate Change

## In FY 2024, 11 NSF CAREER proposals were submitted, and the following faculty have been awarded to date.



**Weitao Chen**, Assistant Professor, Department of Mathematics Project Title: Multiscale Model for Cell Morphogenesis and Tissue Development in Plant Leaves

**Brian Collier**, Assistant Professor, Department of Mathematics Project Title: Higgs bundles and Anosov representations



**Kevin Kou**, Assistant Professor, Department of Chemistry Project Title: Innovating Oxidative C–H Functionalization via Rhodium and Cobalt Catalysis



**Timothy Su,** Assistant Professor, Department of Chemistry Project Title: Saturated and Unsaturated Silicon for Single-Molecule Electronics



# HIGHLY CITED RESEARCHERS LIST



**Julia Bailey-Serres**, University of California MacArthur Foundation Chair and distinguished professor of genetics (plant and animal science category). Her lab seeks to harness genetic mechanisms that provide climate change resilience to crops, particularly flooding, drought, and nutrient stress resilience. Bailey-Serres has been included on the Highly Cited list every year since 2014.



**Timothy Lyons**, distinguished professor of biogeochemistry (geosciences category). Lyons' work explores the evolving oceans and atmosphere, and their roles in the origin and evolution of life. As director of UCR's NASA-funded Alternative Earths Astrobiology Center, he is known for developing tools to reconstruct ephemeral landscapes of lost worlds using chemical fingerprints locked in ancient rocks. He was also included on the Highly Cited lists between 2017 and 2020, and again in 2022.

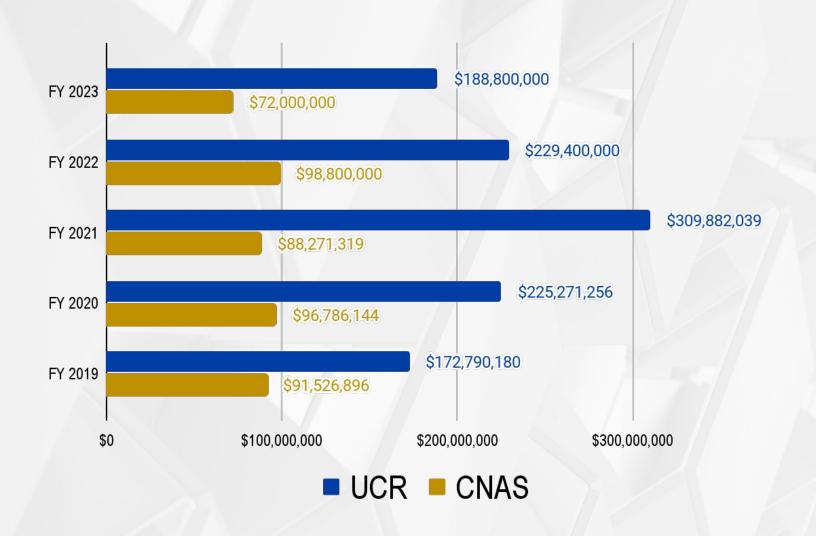
**Prue Talbot**, a professor of cell biology (cross field category). Talbot's laboratory is focused on tobacco-related diseases, electronic cigarettes, stem cell biology, and video bioinformatics. She has been on the list every year since 2020.

**Yadong Yin,** professor of chemistry (cross field category). Yin's laboratory is focused on the synthesis and functionalization of nanostructured materials — a class of new materials with at least one dimension at the nanometer scale. These materials are sometimes referred to as 'artificial atoms.' He has been on the Highly Cited list every year since 2014.



# **GRANTS**

## **UCR & CNAS GRANT AWARDS FY19-FY23**



## **FY23**

Campus-wide: Received \$188.8 million in grants

CNAS: Pls received \$72.0M in grants (38% of grant funding across campus)

CNAS had a 25% funding rate across all submitted proposals



# PROMOTING FACULTY SUCCESS

## **Personnel**

- More senior staff resources into undergraduate and graduate student success
- An additional Financial Project Position to address current bottlenecks and audits
- An Events Manager for outreach activities, including conference organization

## **Mentoring**

• CNAS is providing 100% support for extending the Advancement & Retention in Academe (ARA) CNAS Faculty Mentoring Program for a further 3 years.

## **Fostering Faculty Engagement**

- Revived New Faculty Welcoming Celebration in Fall of 2023
- Commenced end-of-quarter Celebrations with Chairs and Directors in Fall of 2023
- Revived Science Lecture Series



# PROMOTING FACULTY SUCCESS

## **New Initiatives**

- Repurposed a \$4 M investment in Plant Research Facility 1 to make all plant growth rooms available to grow any species of plant.
- Submitted three new buildings for consideration to be added to the campus Capital Programs List

<u>Climate and Natural Sciences Building</u> to replace Spieth Hall (1958). Now #2 on the Campus Capital Programs List from a lower previous ranking.

**Quantum Information Science & Technology Building** to replace the current Physics Building (1963). To be proposed this year.

<u>Agriculture Innovation Instruction and Technology Building</u> to replace old agricultural buildings and research support structures.

## **Agriculture Operations**

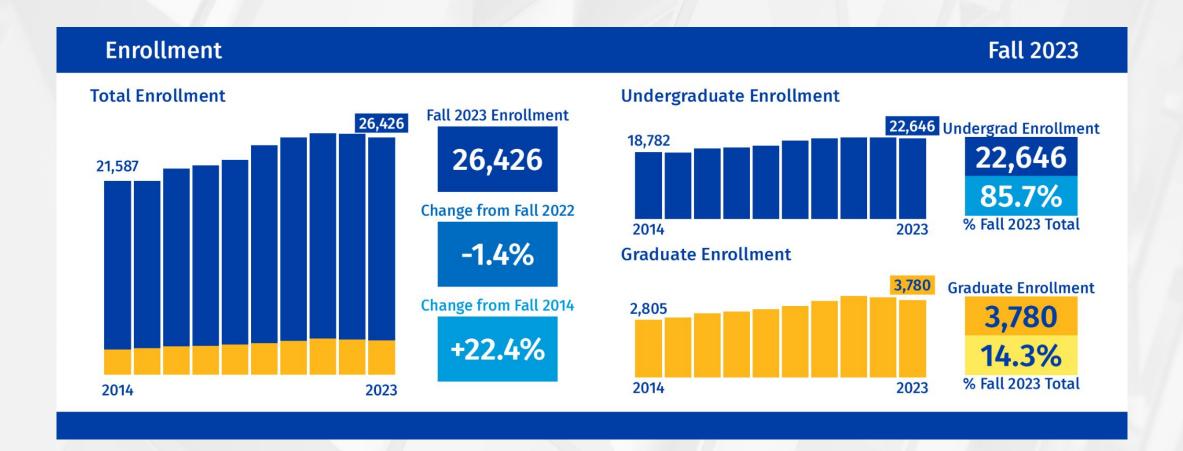
 Strategic plan being developed to, in part, facilitate precision agriculture and regenerative agriculture instruction and research







# UCR FALL 2023 ENROLLMENT



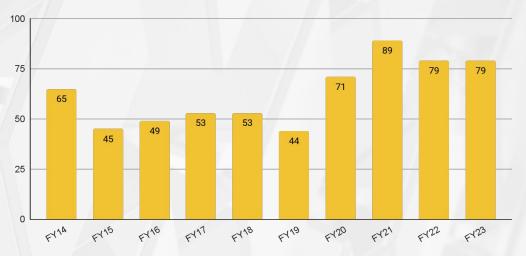


# CNAS FALL 2023 ENROLLMENT

#### **CNAS UNDERGRADUATE ENROLLMENT**



#### **CNAS MASTER'S ENROLLMENT**



#### **CNAS PH.D. ENROLLMENT**





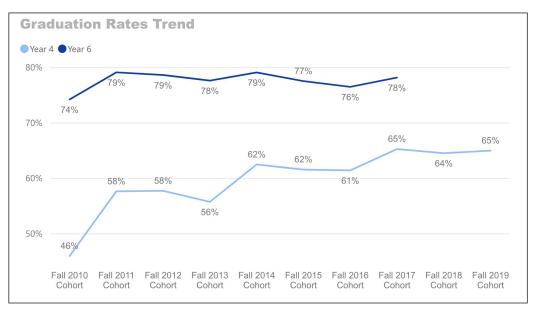
# UCR STUDENT GRADUATION RATES





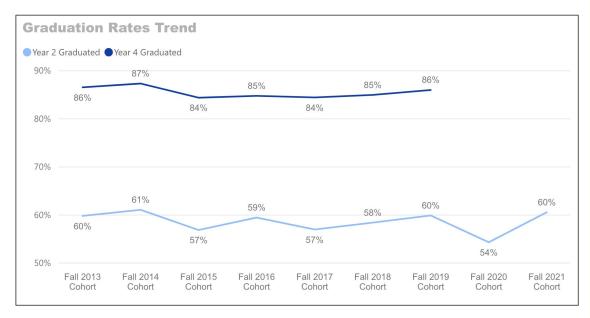
# CNAS GRADUATION RATES

## FIRST-TIME, FULL-TIME FROSH



Selection	Fall 2019 Cohort	Fall 2018 Cohort	Fall 2017 Cohort	Fall 2016 Cohort	Fall 2015 Cohort	Fall 2014 Cohort	Fall 2013 Cohort	Fall 2012 Cohort	Fall 2011 Cohort	Fall 2010 Cohort
Total	1,654	1,754	1,734	1,988	1,502	1,571	1,334	1,243	1,061	1,673
Year 4	64.9%	64.5%	65.2%	61.4%	61.5%	62.4%	55.7%	57.7%	57.6%	45.9%
Year 5		75.5%	75.9%	74.2%	75.2%	77.0%	74.5%	76.2%	77.1%	70.7%
Year 6			78.1%	76.5%	77.5%	79.1%	77.6%	78.6%	79.1%	74.2%

## TRANSFER STUDENTS



Selection Value	Fall 2022 Cohort	Fall 2021 Cohort	Fall 2020 Cohort	Fall 2019 Cohort	Fall 2018 Cohort	Fall 2017 Cohort	Fall 2016 Cohort	Fall 2015 Cohort	Fall 2014 Cohort	Fall 2013 Cohort
Total	1,410	1,977	2,022	1,904	1,867	1,325	1,209	1,250	1,264	1,279
Year 1 Graduated	0.6%	0.5%	0.5%	0.6%	0.3%	0.1%	0.4%	0.4%	0.8%	0.4%
Year 2 Graduated		60.5%	54.3%	59.8%	58.3%	56.9%	59.4%	56.8%	61.0%	59.7%
Year 3 Graduated			77.0%	82.0%	81.4%	81.1%	80.2%	80.6%	83.8%	82.7%

# CNAS DEGREES AWARDED

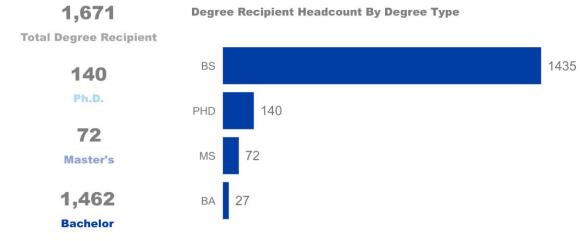
#### **Annual Degree Recipient Headcount By Degree Level**



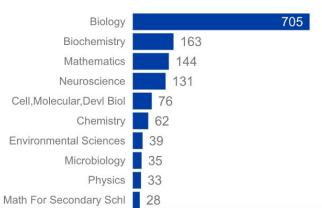
College



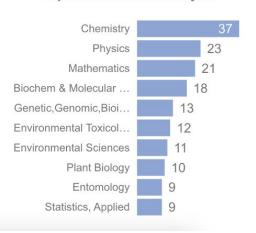
Degree Level/Type (Degree Year 2022-23)



**Top 10 Bachelor Majors** 



#### Top 10 Master's/Ph.D. Majors



# CNAS COMMENCEMENT

## **Graduate Division Hooding Ceremony**

Saturday, June 1, 2024 | 9:00 a.m.

**Student Recreation Center** 

• 153 Ph.D. students graduated or intending to graduate for Fall 2023-Summer 2024

## College of Natural and Agricultural Sciences

Monday, June 17, 2024 | 1:30 p.m.

Toyota Arena in Ontario, California

- Students will receive seven tickets for their guests
- 1,198 BS/BA students graduated or intending to graduate for Fall 2023 Summer 2024
- 15 MS students graduated or intending to graduate for Fall 2023 Summer 2024
- ~45 CNAS Staff and Student Volunteers
- ~20 CNAS Faculty
- ~15 Campus Leadership



# Ph.D. STUDENT RECRUITMENT FY24

Program	Target	Historical Yield	Ph.D. Offers	Ph.D. SIR = Yes	Ph.D. SIR = No	Outstanding Offers
Astronomy	7	0.36	17	9	4	4
ВСМВ	8	0.51	12	8	2	2
ВРНҮ	5	0.67	7	6	0	1
CHEM	35	0.36	86	28	31	27
CMDB	9	0.36	19	8	5	6
EEOB	9	0.54	13	7	4	3
ENSC	6	0.51	12	7	4	1
ENTM	8	0.58	12	8	4	0
ENTX	8	0.56	11	4	7	2
EPS	11	0.58	10	6	3	1
GGB	7	0.41	12	7	5	0
MATH	20	0.4	48	20	27	1
MCBL	9	0.46	11	9	0	2
NRSC	10	0.51	13	9	4	1
PHYS	16	0.36	56	21	27	8
PLBL	14	0.47	20	11	8	1
PLPA	5	0.45	11	3	3	5
STAP	8	0.33	30	15	10	5
Totals	195		400	186	148	70



# MS STUDENT RECRUITMENT FY24

MS PROGRAM	FALL 2024
Biochemistry and Molecular Biology (BCMB)	5
Chemistry (CHEM)	1
Cell, Molecular, & Developmental Biology (CMDB)	1
Evolution, Ecology, and Organismal Biology (EEOB)	2
Environmental Sciences (ENSC)	2
Environmental Toxicology (ENTX)	2
Mathematics (MATH)	5
Applied Mathematics (MTAP)	2
Microbiology (MCBL)	2
Statistics (STAT)	8
TOTAL MS	30

# BS/BA STUDENT RECRUITMENT FY24

FALL 2024	CNAS MAJORS
221	Biochemistry
666	Biology
198	Cell, Molecular, and Developmental Biology
102	Chemistry
8	Data Science
10	Earth and Planetary Sciences
10	Entomology
5	Entomology BS/MS
64	Environmental Sciences
6	Geology
1	Geophysics
68	Mathematics
15	Mathematics for Teachers of Secondary School
47	Microbiology
156	Neuroscience
44	Physics
12	Plant Biology
26	Statistics
2	Statistics BS/MS
93	Undeclared Life Science
17	Undeclared Mathematical Science
48	Undeclared Physical Science
1,819	





# **UCR SERVICE AWARDS**

Staff members who have reached milestones in their service with the University of California are recognized each quarter at the UCR Staff Assembly general meeting. During the Winter, Spring, and Fall 2023 quarters, CNAS celebrated 49 staff members' service to the university.

#### **5 YEAR**

Stephen Abbott, Liliana Aguila-Baajas, Brian Alvarez, Carolyn Anderson, Pete Berru, Karmen Blanco-Chavez, Sandra Burroughs, German Camacho, Erick Contreras, Lauren English, Timm Hannem, Kelly Jones, Carlos Moran, Katrina Preciado, Lorena Quintana, Daniel Reyes, Luz Sandoval Manjarrez, Nicole Tardy, Adrian Valones, Jennifer Vaughan, Jon Wong

## **10 YEAR**

Rachel Alvarez, Debbie Brown, Maria Gonzalez, David Lyons, Norma Palacios, Yolanda Tello, Zachary Thomas

## **15 YEAR**

Janine Almanzor, Ronda Inzunza, Joyleen Salas

#### **20 YEAR**

Kenneth Halama, Jay Palma, Carla Ruiz, Sherice Underwood

## **25 YEAR**

Eric Focht, April Meinzer, Javier Ramirez, Prisciliano Saavedra, Robert Sutton, Guille Vallejo, Douglas Yanega

## **30 YEAR**

Jon Allen, James Andre, Kathy Carrington, Estella Davalos

## 35 YEAR

**Jacques Prudhomme, Sabrina Schuster** 

## **40 YEAR**

**Mark Fisher** 



# UCR STAFF ASSEMBLY

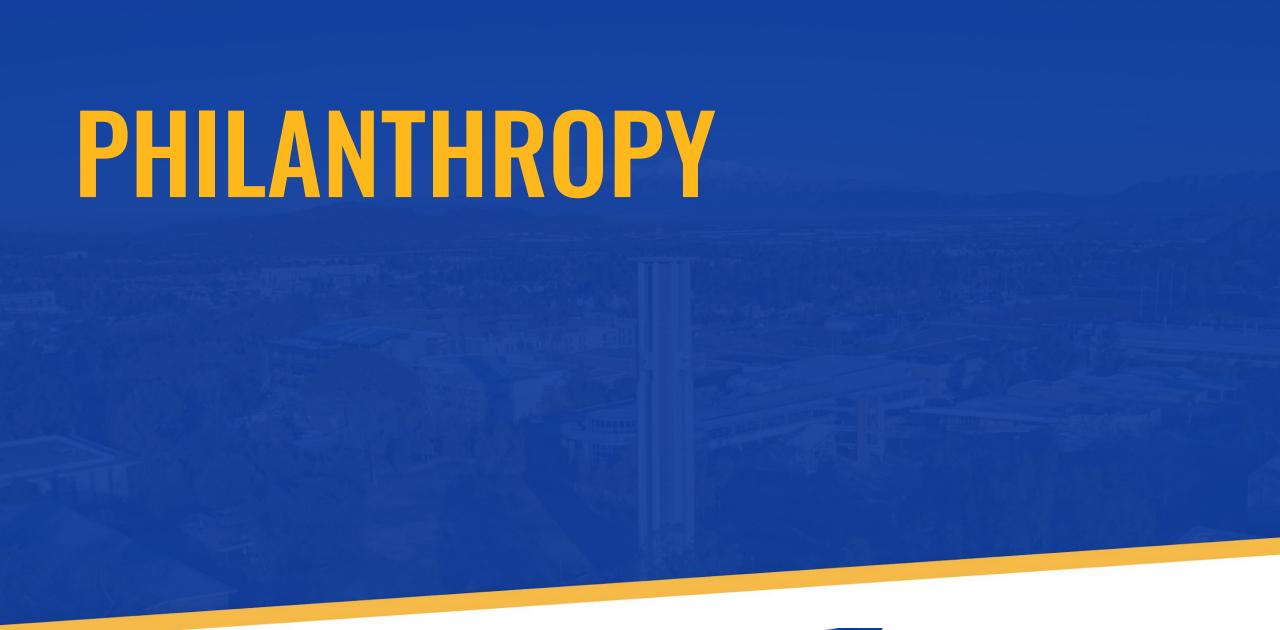
## 2023 OUTSTANDING STAFF AWARDS

**Guille Vallejo**, a financial administrative officer in the Physics and Astronomy department at the College of Natural and Agricultural Sciences, won the **Staff Who Make a Difference Award in the administrative category**. She was described as an ultimate team player and consummate leader who has led initiatives to make it easier for faculty to work with financial analysts and share financial information on a secure cloud platform.

Prisiciliano Saavedra, a laboratory assistant in the chemistry department at CNAS, won the Staff Who Make a Difference Award in the technical category. Prisicilano is described as an invaluable asset to the department in providing physical help and technical advice to researchers and students.

Nominate a CNAS staff member at staffassembly.ucr.edu.







# CNAS FUNDRAISING UPDATES

July 1, 2023 - May 28, 2024

CNAS Fundraising to Date	\$10,746,619
Campus-wide Fundraising to Date	\$25,871,079



# CNAS FUNDRAISING UPDATES

**July 1, 2023 - May 28, 2024 Context** 



# UCR GIVE DAY: April 3-4, 2024

2024 UCR Give Day Campuswide Results: \$797,358 raised, a 55% increase in dollars compared to Fiscal Year 2023



CNAS TOTALS	FY23	FY24
DOLLARS RAISED	\$183,516	\$285,268
NO. OF DONORS	145	155
UNIQUE CNAS FUNDS DONORS GAVE TO	33	38



# CNAS SCHOLARSHIPS

	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	Spring 2024 (Graduate Only)
Total Scholarships Listed	15	18	21	23	28	39	18
Number of Applications	142	1,060	1,409	1,638	1,946	1790	1035
Number of Applicants	142	372	392	440	444	508	188
Number of Students Awards	20	19	46	34	78	49	25
Amount Awarded	\$45,725	\$108,989	\$133,677	\$135,376	\$534,612	\$284,032	\$173,057

As of June 5, 2024

Overall FY23: 26 undergraduate awards and 22 graduate awards Amount Awarded FY23: \$102,510 for undergraduates and \$181,882 for graduate students







# FACILITIES & INFRASTRUCTURE

**Math 003:** Over the years, a growing number of students were placed in ARC 35, a course managed by the Undergraduate Education's Academic Resource Center, for which they did not receive workload credit. The expected enrollment for AY24-25 is approximately 1,200 students. Beginning Summer 24, these students will now be able to enroll the newly offered Math 3 for which they will receive workload credit. This constitutes a major endeavor for the Math Department, which is being supported by the College with new space and resources to face the challenge.

**Webber Hall:** The Provost has graciously assigned additional space to CNAS. The 1st and 2nd floors of Webber Hall are now included in the college portfolio; currently the 3rd floor is occupied by Microbiology & Plant Pathology.

**Facilities Services Projects:** There is currently a backlog of work that stretches out 8-10 months. This includes New Faculty Renovation; which is a priority. We will pass along updates as we receive them.



# FACILITIES & INFRASTRUCTURE

The Batchelor Hall Systems Renewal Project: Mainly complete, with some items that are still being addressed. The renovation focused on mechanical/electrical/plumbing systems; it brought emergency power to the building, updated the HVAC, ventilation/exhaust, and fire suppression systems within the building and the elevator was rebuilt. The building also received modest cosmetic updates in public areas.

**Olmsted Hall:** The CNAS Dean's Office is working on the move to Olmsted Hall. This will consolidate Dean's Office personnel from 3 separate locations [College Building North, Geology, and Hinderaker Hall] into one location. By working alternate hybrid schedules, this will be the first opportunity for all Dean's Office staff to collaborate together in the same space for quite a number of years. The move is planned for late September-early October 2024; light renovations will take place initially with planned renovation taking place over time as funding and schedules permit.

**Boyden Laboratory and Stored Products:** To be demolished before summer 2025.

Physics Building Roof Replacement during summer of 2024. Work commences 6/18/24.



## FACILITIES & INFRASTRUCTURE

Three new buildings proposed to replace aging CNAS buildings (with no funding available at the current time):

- 1. Climate and Natural Sciences Building (to replace Spieth Hall and add space for climate and life sciences research across colleges). Currently ranked 2nd on Campus Capital Planning list.
- **2. Quantum Information Science and Technology Building** (to replace Physics). New proposal.
- **3. Agriculture Innovation Instruction and Technology Building** (to replace remaining aged agriculture buildings). New proposal.







## **BUDGET OVERVIEW**

CNAS projected year-end FY24 position reflects healthy cash balance while operations demonstrate investment in staff, a focus on faculty hiring and an increase in benefits costs.

Growing CFD balances held in departments.

Cash position enables continued faculty hiring & some resilience to potential cuts estimated at 2.9% (\$~3M) in FY25 in response to the California State budget projection.

No immediate budget cuts presented to CNAS units instead opting to gauge recovery period & meet the cut with reserves.

FY25 1st year for CNAS to control GS fellowship funds, campus change in remissions treatment & new contract negotiations ASE. Wage hikes are likely.



## **BUDGET OVERVIEW**

Despite potential budget reductions, Merits & Promotions (M&P) will be funded by campus.

Faculty range increases & non-rep staff increases remain very likely given market.

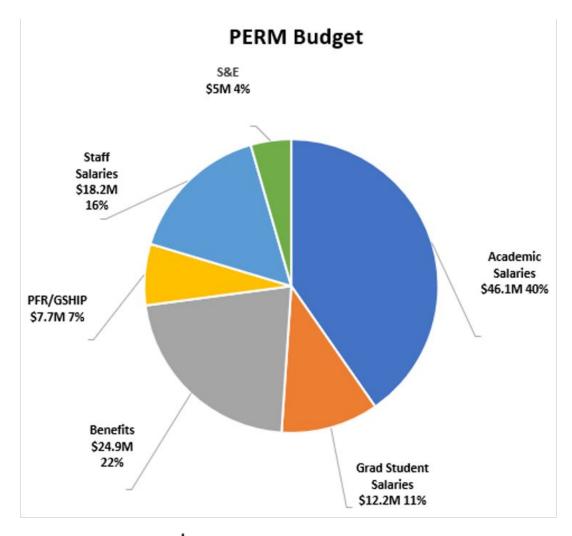
College continued investment in faculty & staff equity actions likely to maintain FTE.

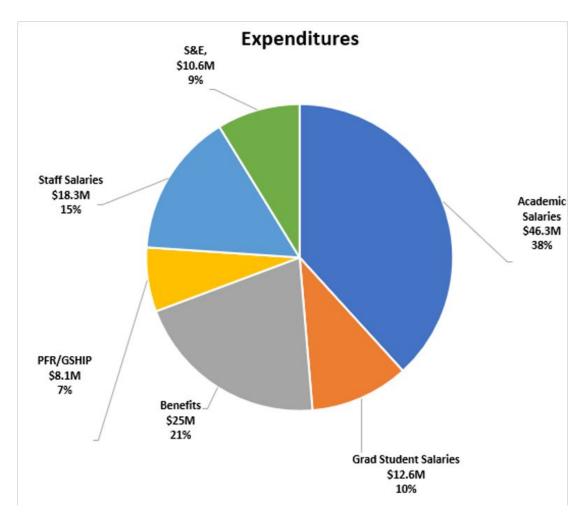
Biggest short-term risks include affordability of grad program growth, faculty start-up packages, faculty & staff FTE maintenance/growth.

Longer term risks are all about facilities, accommodating modern research & infrastructure investment to attract top faculty & students.



## CNAS BUDGET: General Funds by Category FY23 Actuals

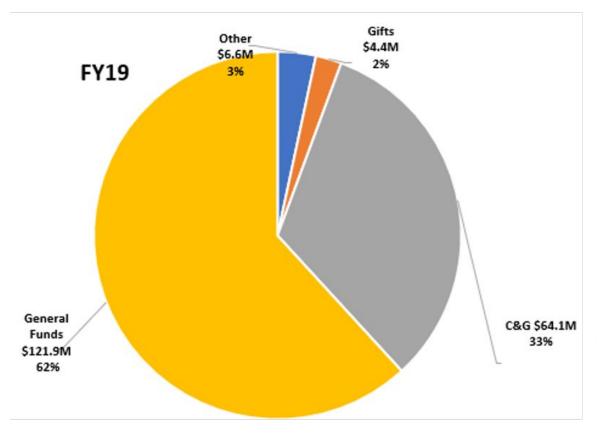


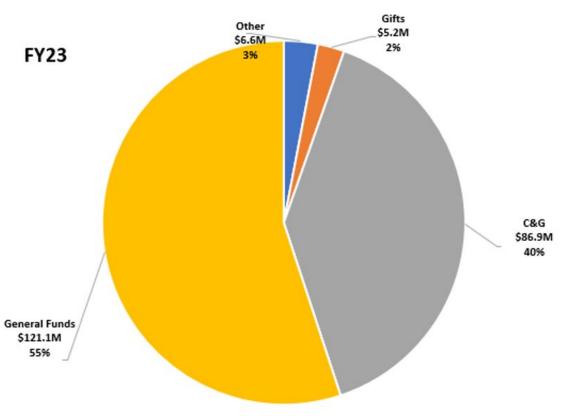


\$114,404,113

\$121,162,052

## CNAS BUDGET: Actual Expenditures by Fund Group FY19 & FY23 Comparison





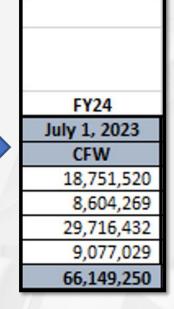
\$197,235,319

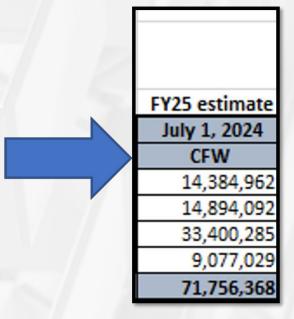
\$220,014,566

## CNAS BUDGET

**Carry Forward History** 

CNAS Org 14 Carry Forward Balance	
All General Funds, All Functions	
FY19-FY25	
	FY19
	July 1, 2018
Department Descr	CFW
CNAS Reserves	(9,061,410)
CNAS IC-Start Up Committed	27,117,114
Departments Controlled CFD	14,876,819
Drawdown from Central Office	8,033,985
Total CNAS CFD	40,966,507







## **CNAS BUDGET: Final Thoughts**







## **OUR CHALLENGES**

- Research infrastructure funding at UC
- Delayed maintenance has a disproportionate effect on CNAS within UCR
- Buildings need to be replaced their current state impedes research
- Faculty numbers are flat or declining relative to undergraduate growth in many majors (biology, biochemistry, neuroscience, cell, molecular and developmental biology are our largest by student FTE and headcount)
- More recently, declines in enrollments (last two years)
- Graduate program growth
- Faculty recruitment (start-up funds)
- Increasing philanthropy



## **OUR OPPORTUNITIES**

#### Our location is our advantage

- The Inland Empire is 12th most populous metropolitan area in the US and 3rd largest in California. However, it ranks in the bottom 1/3rd of the nation in income per capita. Only 20% of adults have a four-year college degree or higher (32% for CA, 30% for the US). We are the UC campus.
- Our environment/ecology is the the future environment/ecology of much of the western United States.
- We must provide our local students with the tools to realize their aspirations in the sciences (= upward mobility).
- We have ample space to grow and (relatively) affordable living.

#### Our college structure is our advantage

**RUSD STEM Academy** 

#1 Best California High School (2024)

- 13 departments and multiple research centers covering the breadth of science. #10 Best U.S. High School (2024)
- Interdisciplinarity is enabled.

#### Our diversity in faculty, staff and students is our advantage

- We tackle contemporary problems and excel.
- We offer many research opportunities to undergraduates.
- We step up to the challenges and opportunities of postgraduate training.





## SHORT TERM PRIORITIES

- Steadily grow undergraduate enrollment, increase retention, and reduce time to graduation
  - Newly developed CNAS Prospective, Admitted and SIR'd Student Campaigns.
- Steadily increase outreach locally
  - Summer workshop at UCR for RUSD teachers to learn about CNAS research to incorporate into new RUSD curriculum on Earth & Space Sciences
- Stabilize Ph.D. funding so we can grow enrollments
- Steadily increase faculty numbers across all departments
- Address deferred maintenance and renovations
- Identify the best structure for the Dean's Advisory Board

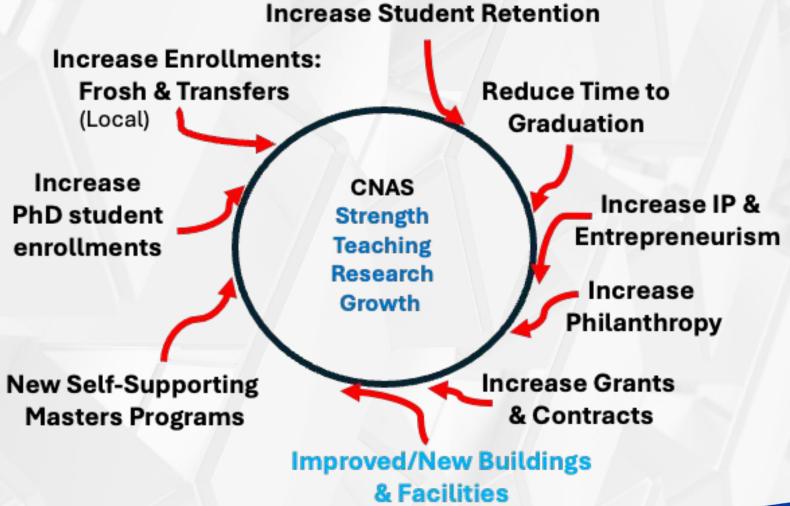


## LONG TERM PRIORITIES

- New buildings
- Integration with the region's growth and priorities
- Instant international and national name recognition
- The destination



## **CNAS GROWTH**





## QUESTIONS?



College of Natural & Agricultural Sciences

# STATE OF THE COLLEGE

Wednesday, June 5, 2024



