



State of the College

College of Natural Resources

David Ackerly, Dean

September 5, 2019





Notes

- The State of the College is designed to share a range of data and perspectives on the past, present, and future of CNR.
- Please excuse the length of the PowerPoint – for this first presentation, I wanted to cover a range of topics to serve as a baseline for future updates.
- The ‘Notes’ slides provide brief annotations for those who didn’t hear the talk, to provide context and commentary.
- Thanks. – David Ackerly



Presentation Outline



- CNR ‘by the numbers’
- Faculty Updates + Initiatives
- Student Updates
- Diversity, Equity, and Inclusion
- Buildings and Facilities
- Development and Finances
- Signature Initiatives

College of Natural Resources: Berkeley's Land-Grant Legacy

Abraham Lincoln signs
Morrill Act, creating land-
grant university system

1863

1868

University of California
founded: College of
Agriculture, Mining and
Mechanical Arts (one of the
founding colleges)

Department of
Forestry created

1912

1947

School of
Forestry created

College of Natural
Resources formed
from merger of
College of Ag and
School of Forestry

1974

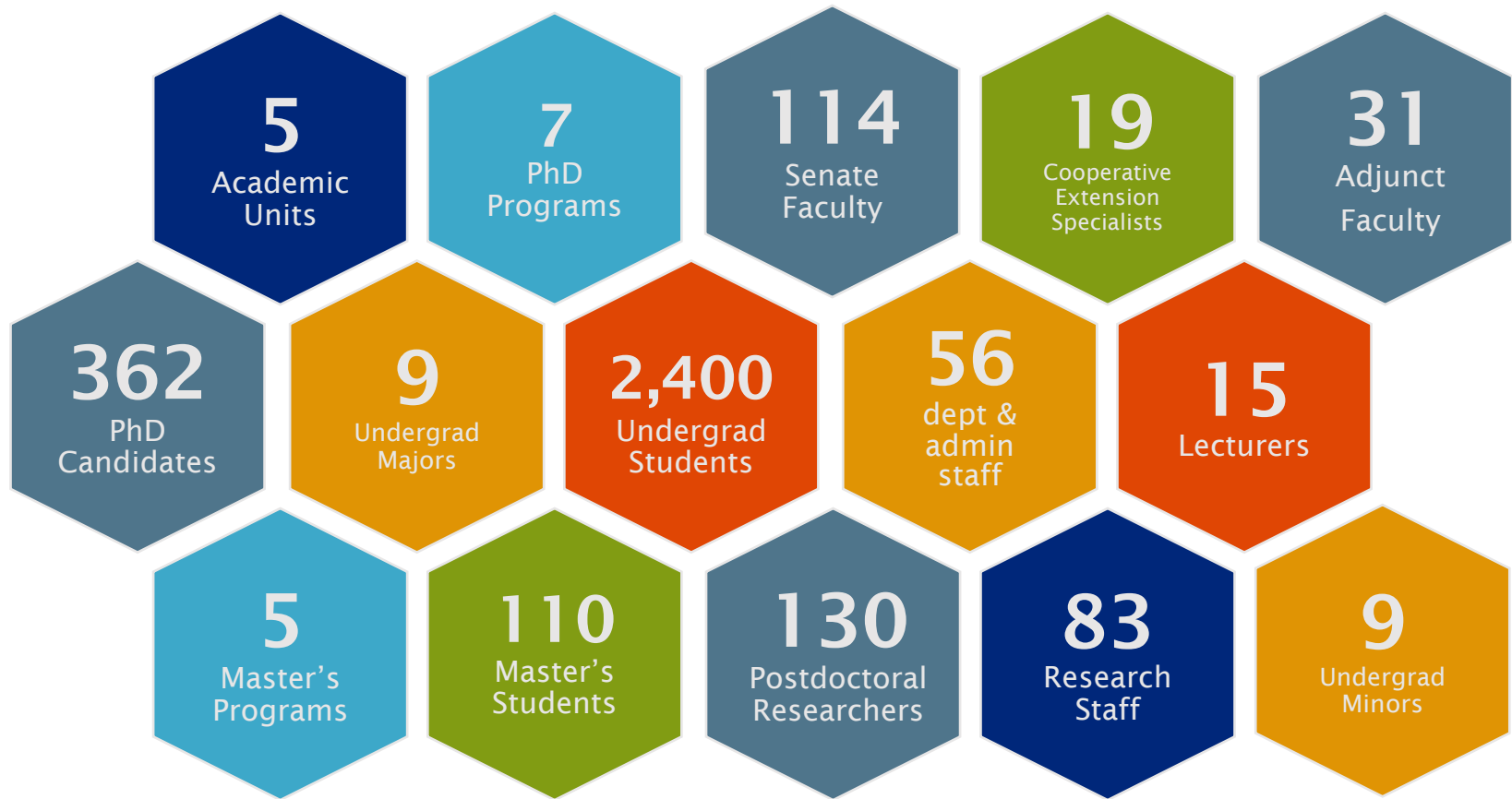
Berkeley
UNIVERSITY OF CALIFORNIA

College of
Natural Resources

Department Overview

	ARE	ERG	ESPM	NST	PMB
# Faculty/ CE specialists	16/1	5/-	46/15	12/1	23/1
MDP	PhD	PhD	PhD	2 PhD	2 PhD
Master's of Development Practice		Master's	Forestry & Range Master's	Metabolic Bio Master's	
Undergrad Majors	EEP		S&E, CRS, MEB, EMF, ES	NS-D, PM, Tox	GPB
Undergrad Minors	EEP	Sustain- ability	CRS, FS, FNR, GIST	NS, Tox	

CNR by the numbers



CNR by the numbers



19

members of the
National Academy
of Sciences

30

American Association
for the Advancement
of Science Fellows

3

Wolf Prize
Winners

10

members of the
American Academy
of Arts and Sciences

7

Macarthur
Fellows



CNR by the numbers



Spring 2019: largest ever graduating class
500+ seniors (~30% *junior transfers*)



Fall 2019: largest ever incoming class
529 *First-year students* **124** *Junior transfers*



CNR has a diverse student body

65% Of undergrads
identify as female

54% Of undergrads
identify as URM & Asian

54% Of grad students
identify as female

24% Of grad students
identify as URM & Asian

CNR by the numbers



\$56M

operating budget



\$37.5M

sponsored research
funding



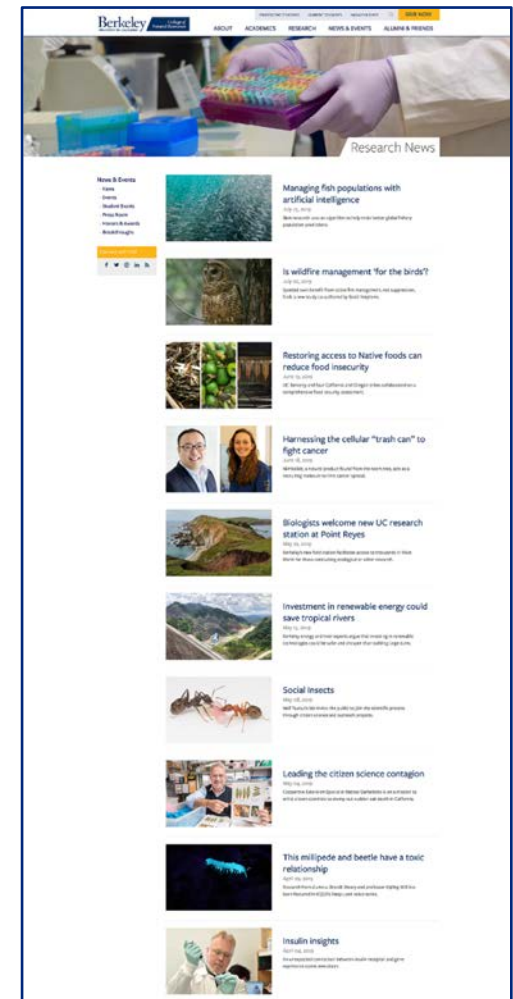
\$121M

endowment

Research Highlights

- Mojave birds crashed over last century due to climate change
- Environmental regulations drove steep declines in U.S. factory pollution
- Smallest life forms have smallest working CRISPR system
- Berkeley's soda tax election changed drinking habits months before prices went up
- A reversible switch for algal photosynthesis
- Harnessing the cellular “trash can” to fight cancer
- Independent solar power could offer reliable electricity to sub-Saharan Africa

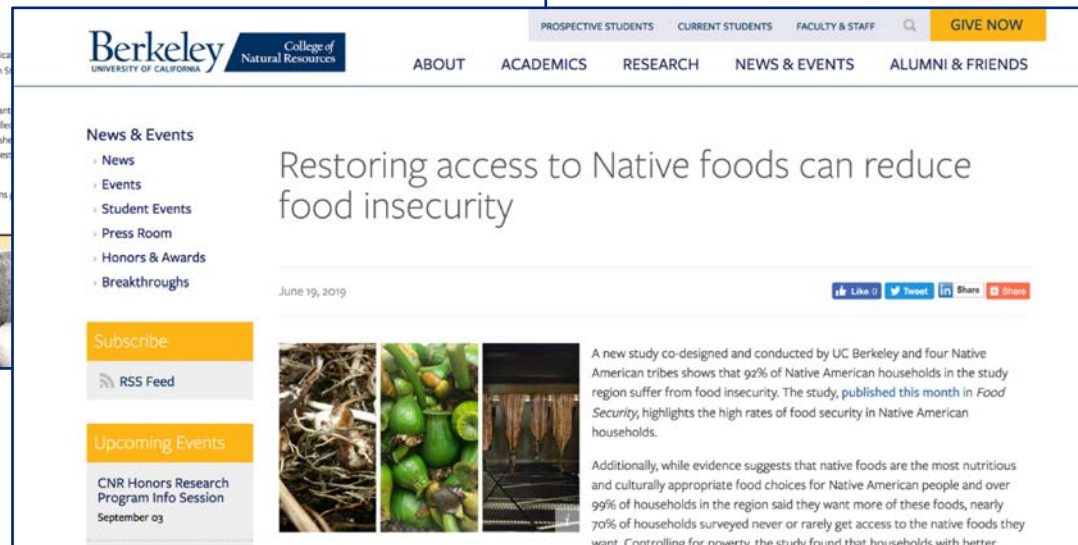
More online at nature.berkeley.edu/news



Features on CNR's news site



More online at
nature.berkeley.edu/news



Julie Gipple
CNR Communications



‘CNR in the News’ Highlights

- **America’s new recycling crisis, explained by an expert**
Kate O’Neill (ESPM) on *Vox* (also *Wall Street Journal*, *Aljazeera*, *NPR Marketplace*, and dozens more)
- **Op-Ed: Why Housing Policy Is Climate Policy**
Dan Kammen (ERG) in the *New York Times*
- **What is extinction? The answer is complicated.**
Steve Beissinger (ESPM) in *National Geographic*
- **The End Of The Longest-Running Warming Experiment**
John Harte (ERG, ESPM) in *Forbes*
- **Can California avoid a third year of fire catastrophe?**
Scott Stephens (ESPM) in the *San Francisco Chronicle*

More online at nature.berkeley.edu/press-room

2018-19 Honors and Awards

nature.berkeley.edu/honors-awards



External Awards

- **David Zilberman** (ARE) awarded the Wolf Prize in Agriculture
- **Steve Beissinger** (ESPM) & **John Harte** (ERG) elected Fellows of the Ecological Society of America
- **James Olzmann** (NST) appointed Chan-Zuckerberg Biohub Investigator and Presidential Early Career Award
- **Inez Fung** (ESPM) and **Brian Staskawicz** (PMB) elected foreign members of Royal Society
- **Allen Goldstein** (ESPM) elected Fellow of American Association for the Advancement of Science
- **Ron Amundson** (ESPM) elected a Fellow of the American Geophysical Union

Internal Awards

- **Rachel Morello-Frosch** (ESPM) received Chancellor's equity and inclusion award
- **Kay Burns** (ERG), **James Sallee** (ARE), and **Ricky Vides** (CNR) recognized for advising excellence
- **Alastair Iles** (ESPM) honored with Chancellor's sustainability award for his research, teaching, and outreach and for his role as the founding co-director of the Berkeley Food Institute
- **Students of Color Environmental Collective** selected for the Student Group - Civic Engagement award from the Chancellor for their contributions to the campus community



Notes

- The previous three slides highlight research, news coverage, and prizes and awards won by members of the college.
- Many thanks to Julie Gipple and the communications team for managing our news, press, and other web pages, and for editing and publication of Breakthroughs, our twice yearly magazine.



College Leadership – 2019-20

Dean



David Ackerly

Associate Deans



Nick Mills



Lew Feldman



Lynn
Huntsinger

Assistant Deans



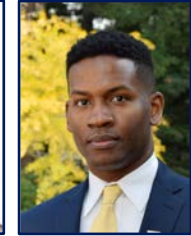
Lee
Borrowman



Kathryn
Baldwin



Mio Owens



Marques Redd

Department Chairs



Jeff Perloff
ARE



Dan
Kammen
ERG



Hei Sook Sul
NST

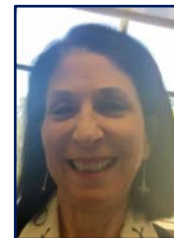


Paolo
D'odorico
ESPM



John Coates
PMB

Dean's Office Senior Staff



Adrienne Hink



Ard Loch



Tony Gamez

CNR Executive Committee

Newly elected for 2019-2021 terms



Aprajit Majaran
ARE, Chair



Duncan Callaway
ERG



Celine Pallud
ESPM



Maggi Kelly
ESPM



Neil Tsutsui
ESPM



Marc Hellerstein
NST



Michi Taga
PMB



Kathleen Ryan
PMB



Scott Stephens
ESPM



CNR Advisory Board

Alumni, Retired Faculty and CE, and Students



◆ Stacey Baba



◆ Richard Beahrs



◆ Arianna Carughi



◆ Mike Cheng



◆ Caroline Maser
Chair



◆ Steven
McCormick



◆ Cliff Ohmart



◆ John Pardee



◆ Michael Colvin



◆ Josh Fisher



◆ David Gilbert



◆ Kathleen Green



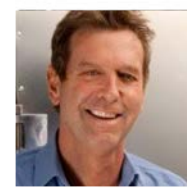
◆ Vince Resh



◆ Sandeep Sacheti



◆ Linda Schacht
Gage



◆ John
Scharffenberger



◆ Caryl Hart



◆ Kathy Hartzell



◆ Deborah Hicks



◆ Stephen Hurst



◆ David Warner



◆ Bryan Wilson



◆ William Woods



Viana Pham



Chloe Cho



◆ Michael Jani



◆ Janet King



◆ Vernard Lewis



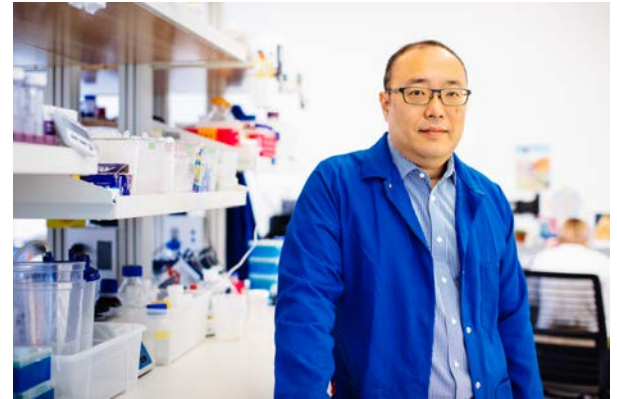
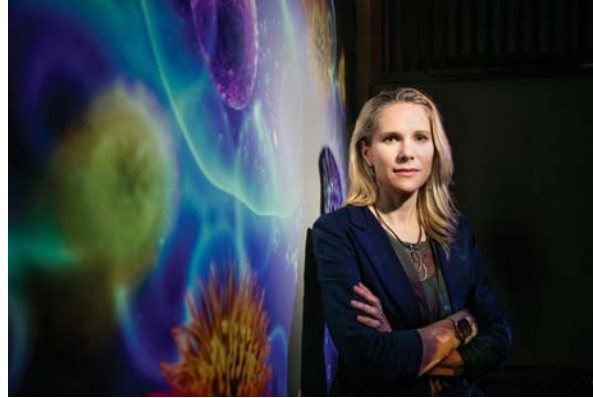
◆ William Liu
Vice Chair



Notes

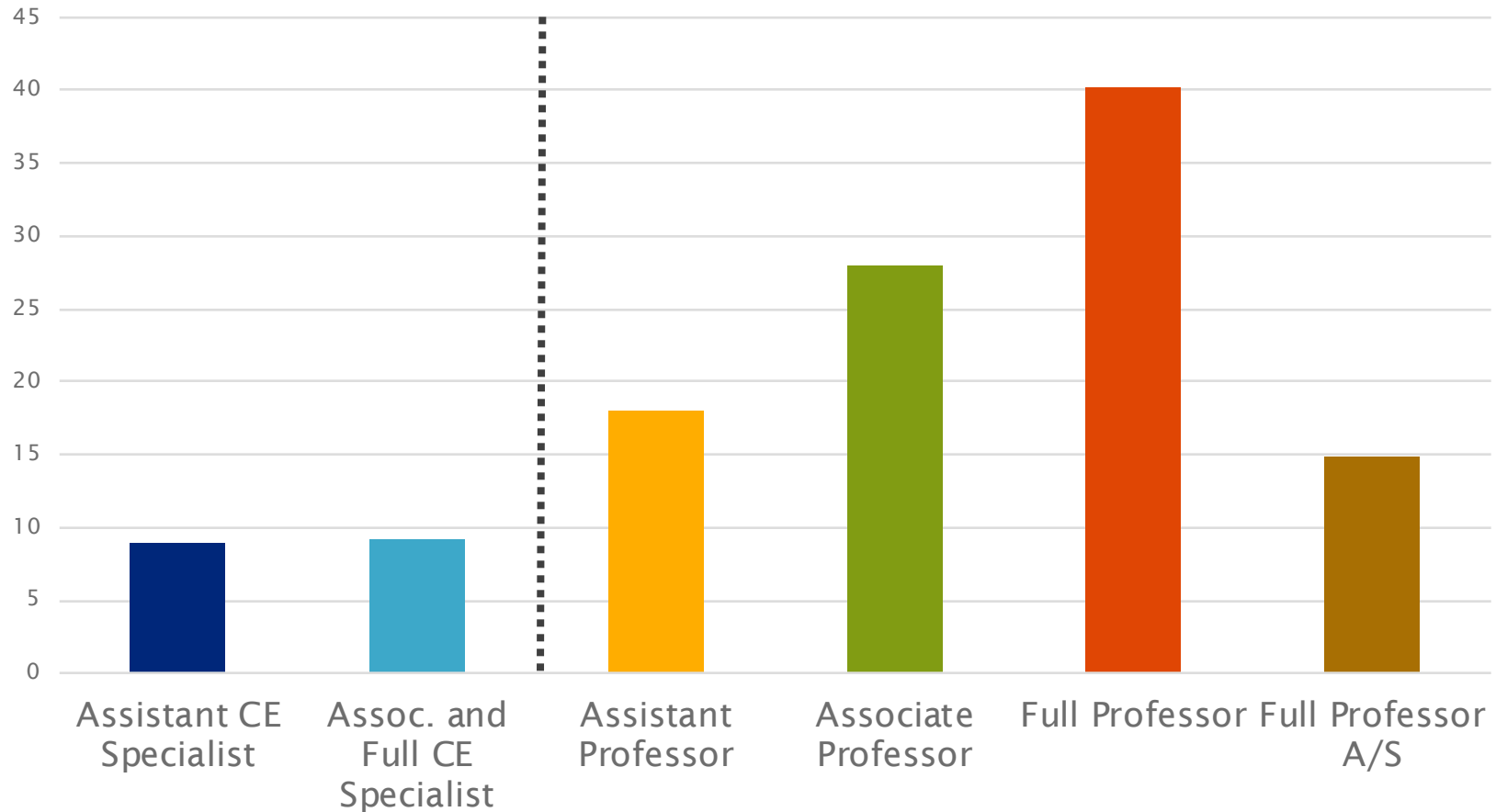
- The CNR Executive Committee represents the faculty. They reviewing curricular proposals, research centers, and some student petitions or concerns.
- The CNR Advisory Board meets twice a year, providing advice and support to the Dean for new initiatives, philanthropic efforts, and alumni perspectives on our research, training and service activities.



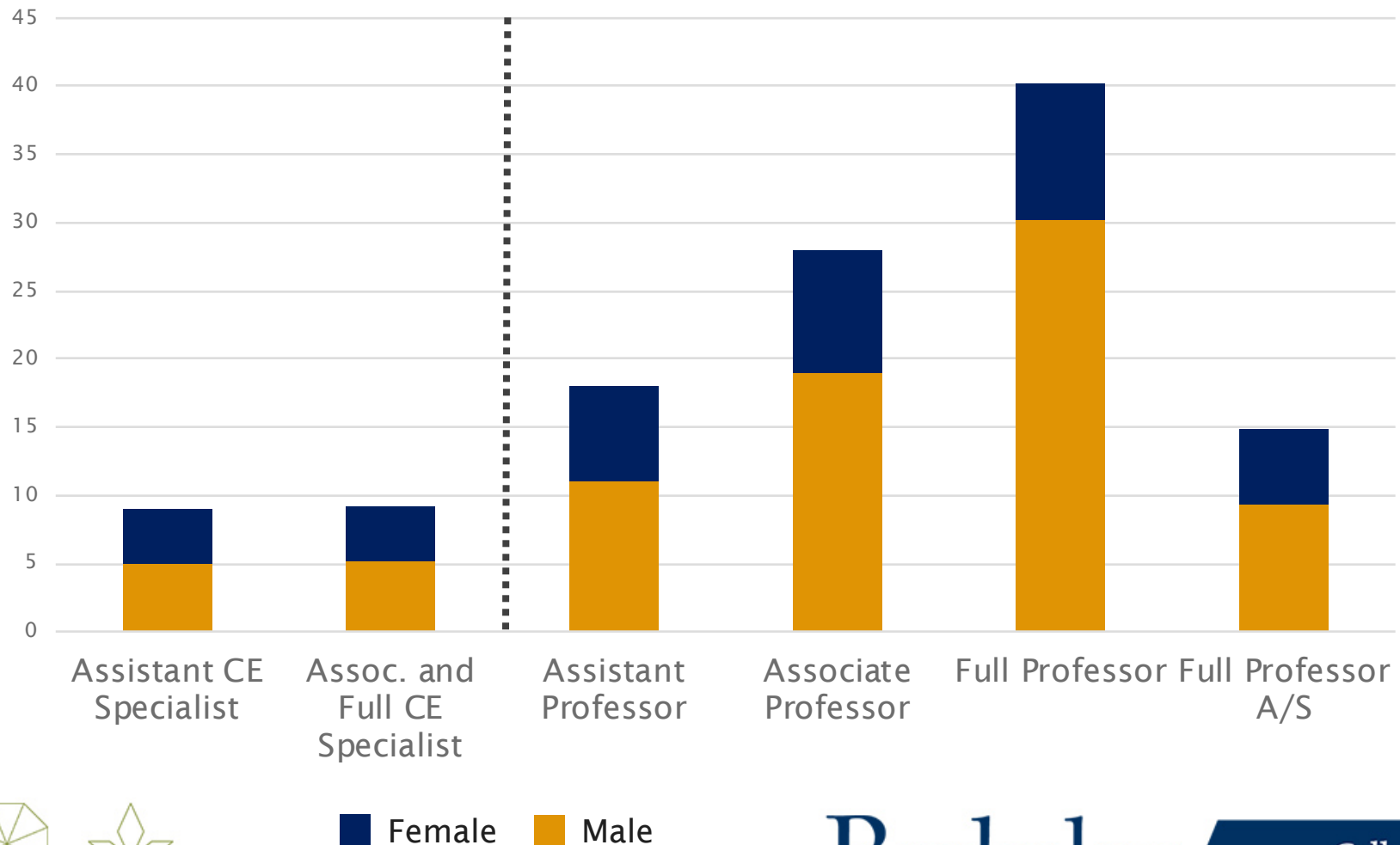


The Faculty and CE Specialists

CNR Faculty by Rank/Step



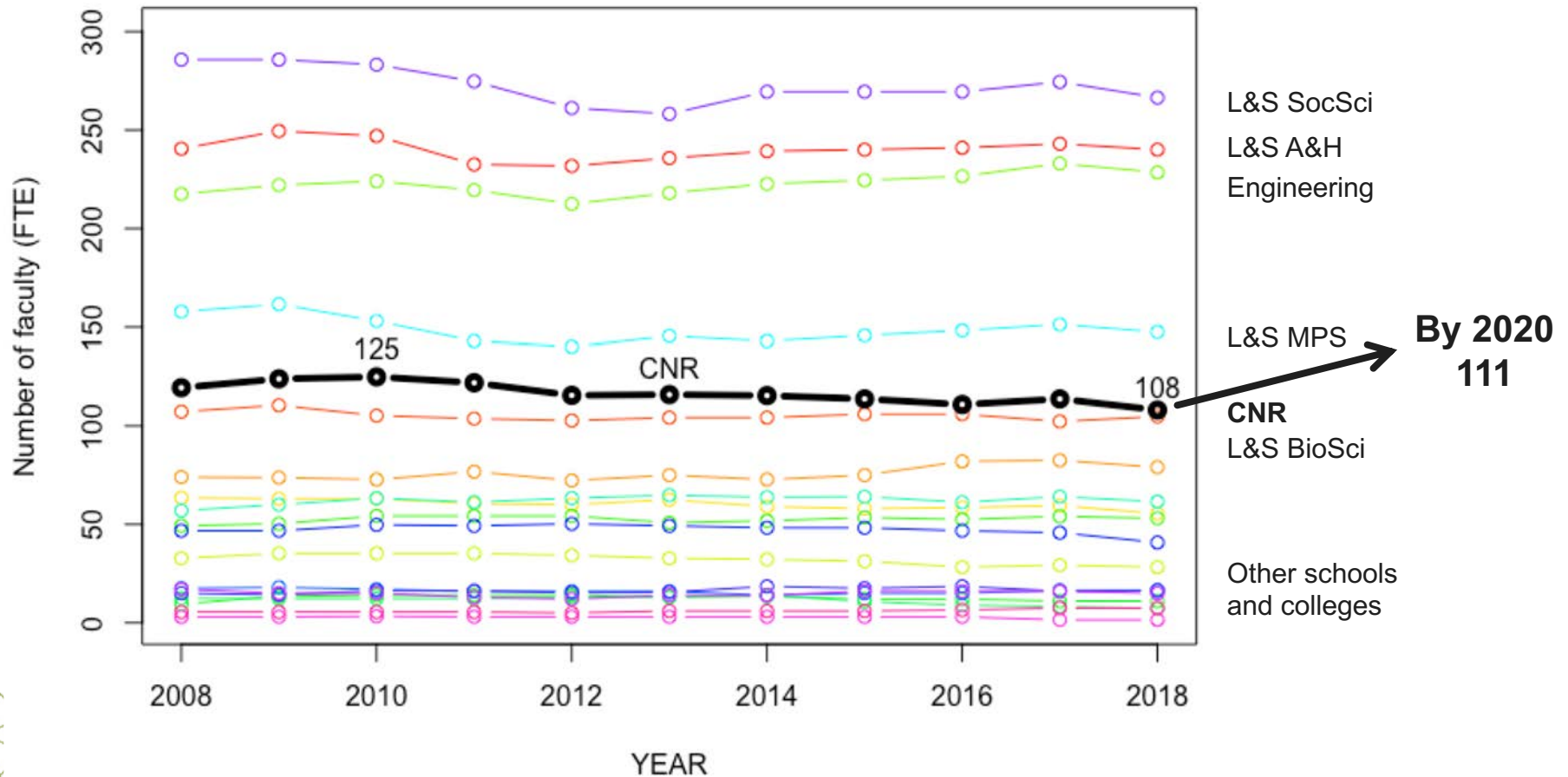
Faculty Members per Rank, by Gender



Notes

- These slides show the distribution of faculty and Cooperative Extension specialists, by gender and career stage.
- The distribution of faculty across career stages is balanced overall. Faculty spend fewer years as Assistant and Associate, and more as Full Professors. A small number advance to Professor Above/Scale as a mark of long and distinguished Berkeley careers.
- Across the college, 31% of faculty and 44% of CE specialists are female. The proportion is higher for Assistant and Associate ranks. Assuming these trends continue in current hiring, the gender balance will (slowly) become more even.

Faculty Trends 2008-2018

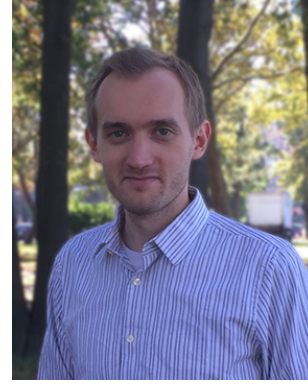
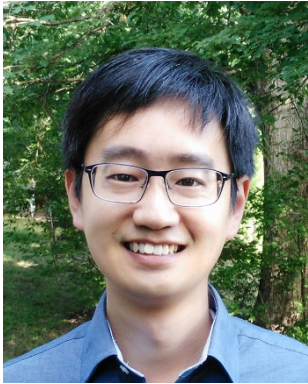




Notes

- The total size of the UC Berkeley faculty has shrunk by about 75 positions since the 2008 financial crisis. The decline was larger in CNR, relative to our size, as hiring has not kept pace with retirements and separations.
- If all currently authorized searches are successfully filled, the college will have net growth in the next year.





Faculty Hiring

Life Sciences Initiative and Cluster Hire Proposals





Faculty & CE hiring – 2018-19

- Environmental Sciences, Policy, and Management
 - Open search – **in progress**
 - Life Sciences Initiative – **Ben Blonder**
 - HIFIS search – **in progress**
- Nutritional Science and Toxicology
 - Engineering of Human Metabolic Health (open rank) – **in progress**
 - Computational Approaches to EHMH (.5 with CCB) – **Denis Titov**
 - Cooperative Extension Specialist – **Susana Medrano**
- Plant and Microbial Biology
 - Fungal biology – **in progress**
 - Adaptation and Response to Climate – **Ben Williams**
 - Life Sciences Initiative – **<announcement soon>**





Life Sciences Faculty Initiative

- Five positions in life sciences across CNR, L&S Biological Sciences, and Chemistry
- “candidates [with] **commitment to equity and inclusion.**”
- Require statement outlining **Contributions to Diversity**
- 250 passed first review out of 1,000 applicants
 - PMB and ESPM recruiting successful candidates
- *ESPM and PMB followed same procedures*



Notes

- CNR participated in the **Life Sciences Faculty Initiative**, piloting innovative search practices to seek faculty with joint excellence in research and demonstrated commitments to diversity, equity and inclusion.
- We will draw on best practices and lessons learned from the initiative in future searches.





Cluster Hire Proposals

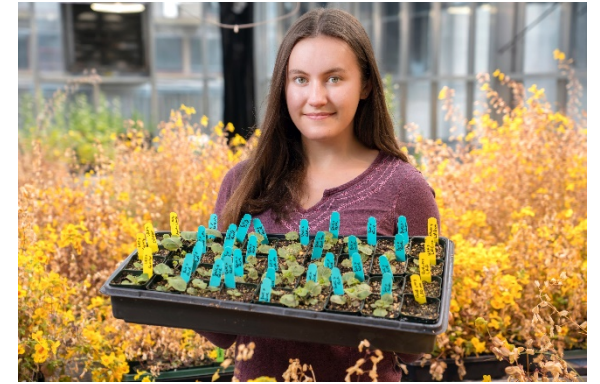
- Campus has committed to 5 clusters over 5 years:
 - “Five scholars each working on social, historical, cultural, and other **topics related to populations that have been historically underrepresented...**”
- CNR participating in one cluster, with two more under review:
 - Native American Studies – ESPM search approved for Teaching Year 2020-21
 - Climate Equity and Environmental Justice – revised proposal invited
 - Latinx and Democracy – revised proposal invited



Faculty Searches – 2019-20

- Agricultural and Resource Economics
 - Broad Search (NT)
- ESPM/ERG (50:50)
 - Sustainability and Equity (NT)
- Environmental Science, Policy, Management
 - Vegetation Dynamics in Changing Environments (NT)
 - Native American Studies and the Environment (NT)
- Plant and Microbial Biology
 - Plant Biochemistry/Metabolism (NT)*

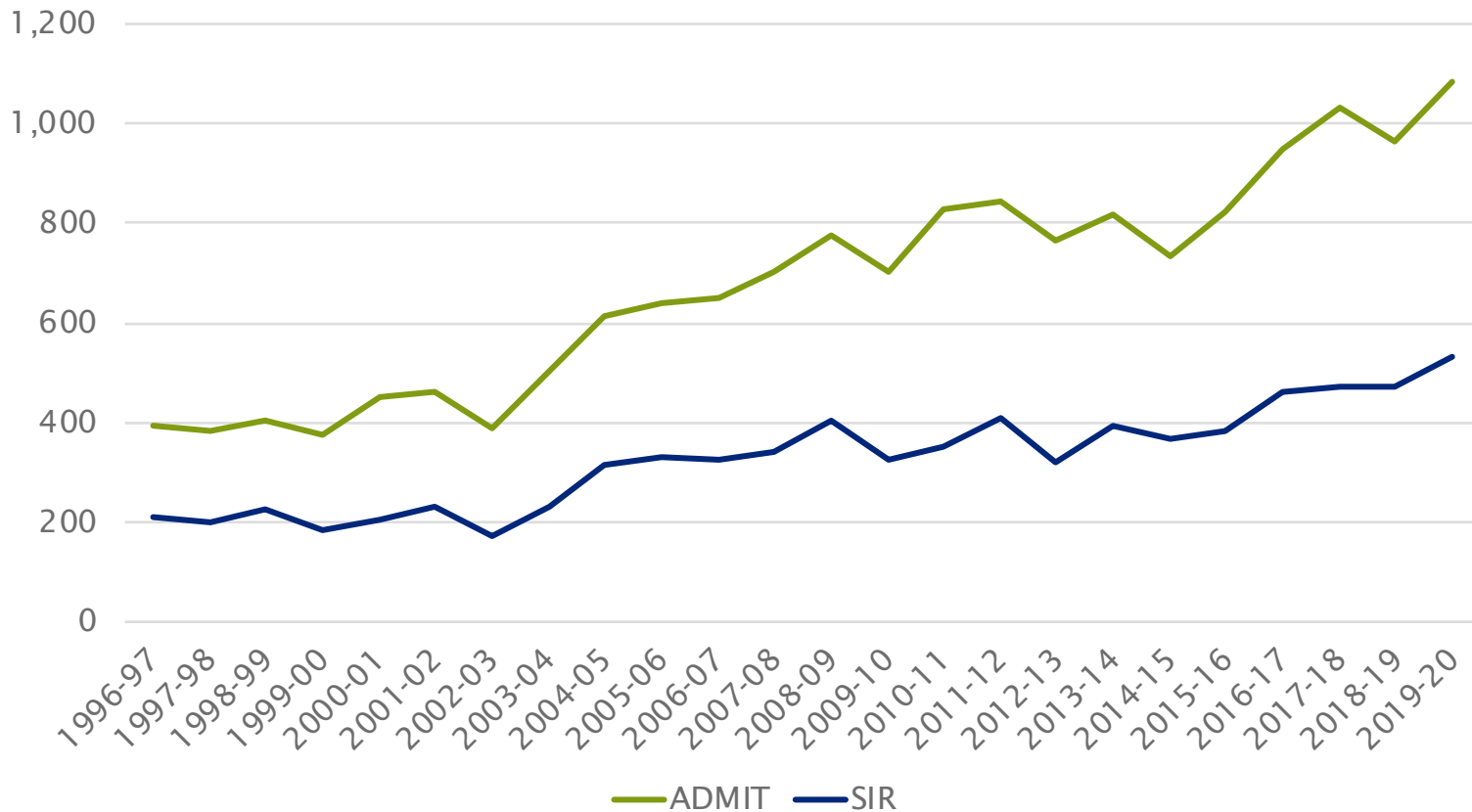
****Grace Kase** STEM Chair*



Students

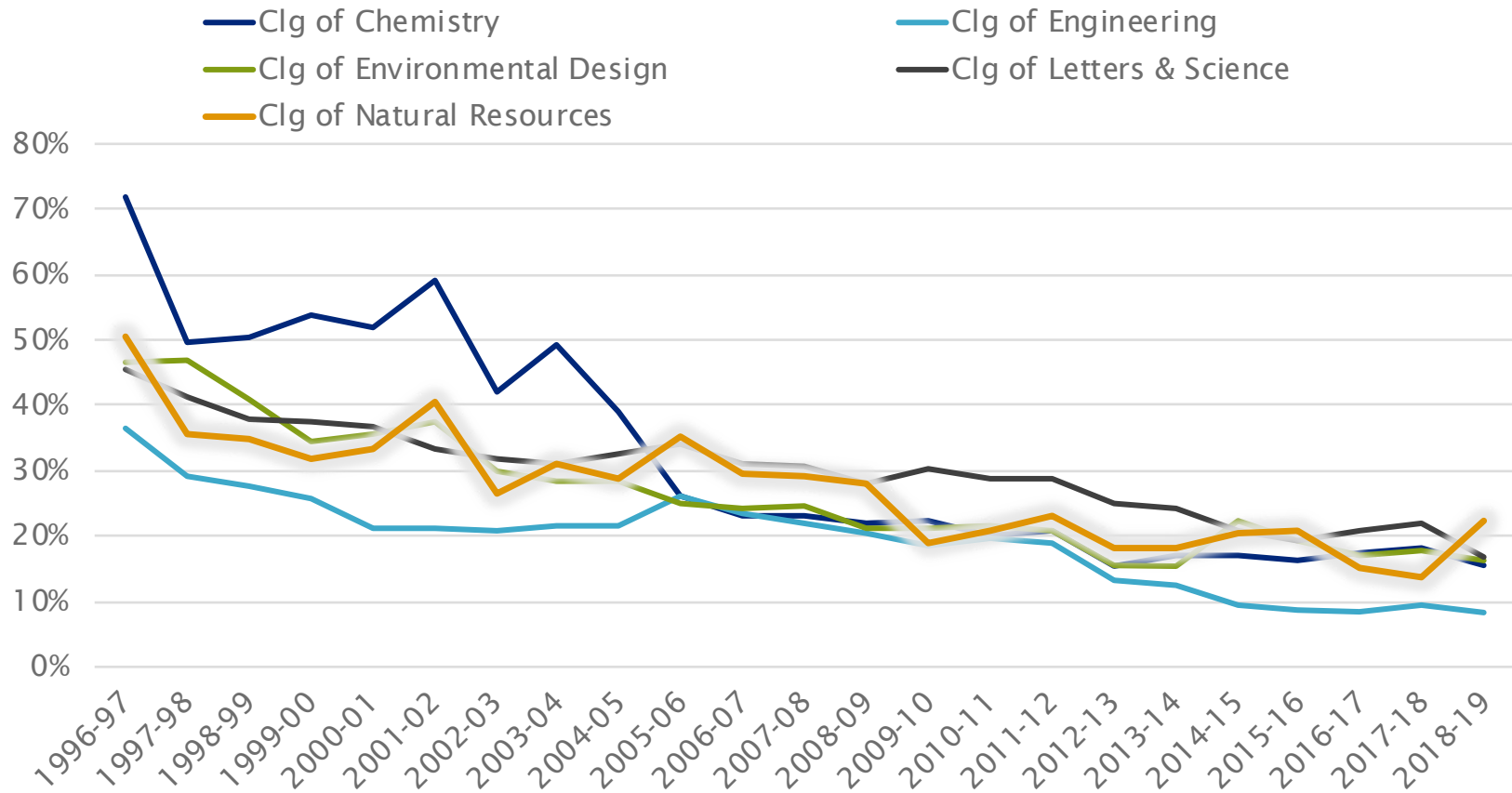
Admissions and Experience

Admits and Registered



Campus Admission Rates

Teaching Years 96-97 to 18-19



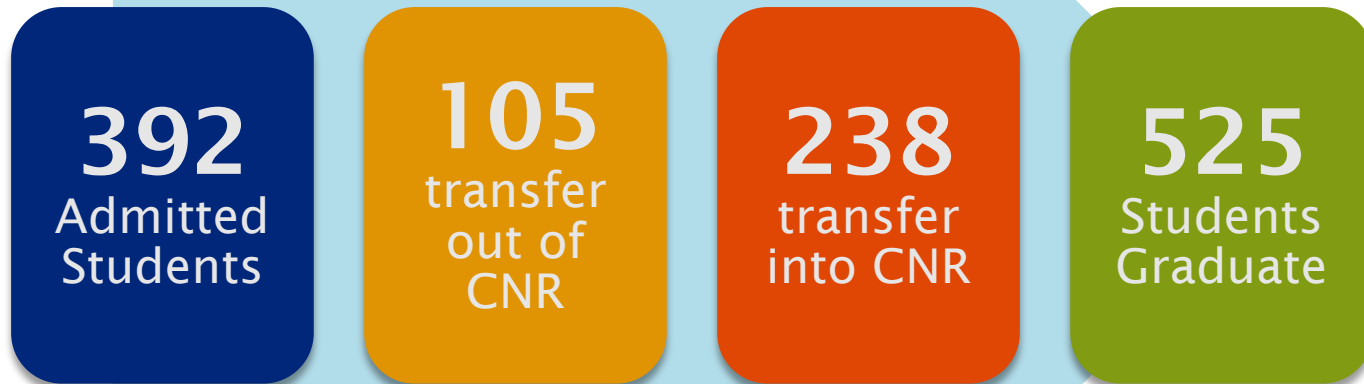
Notes

- CNR has expanded enrollment almost three-fold since the early 2000s. Over that time admissions rate have declined, reflecting the even greater increase in the number of students applying.

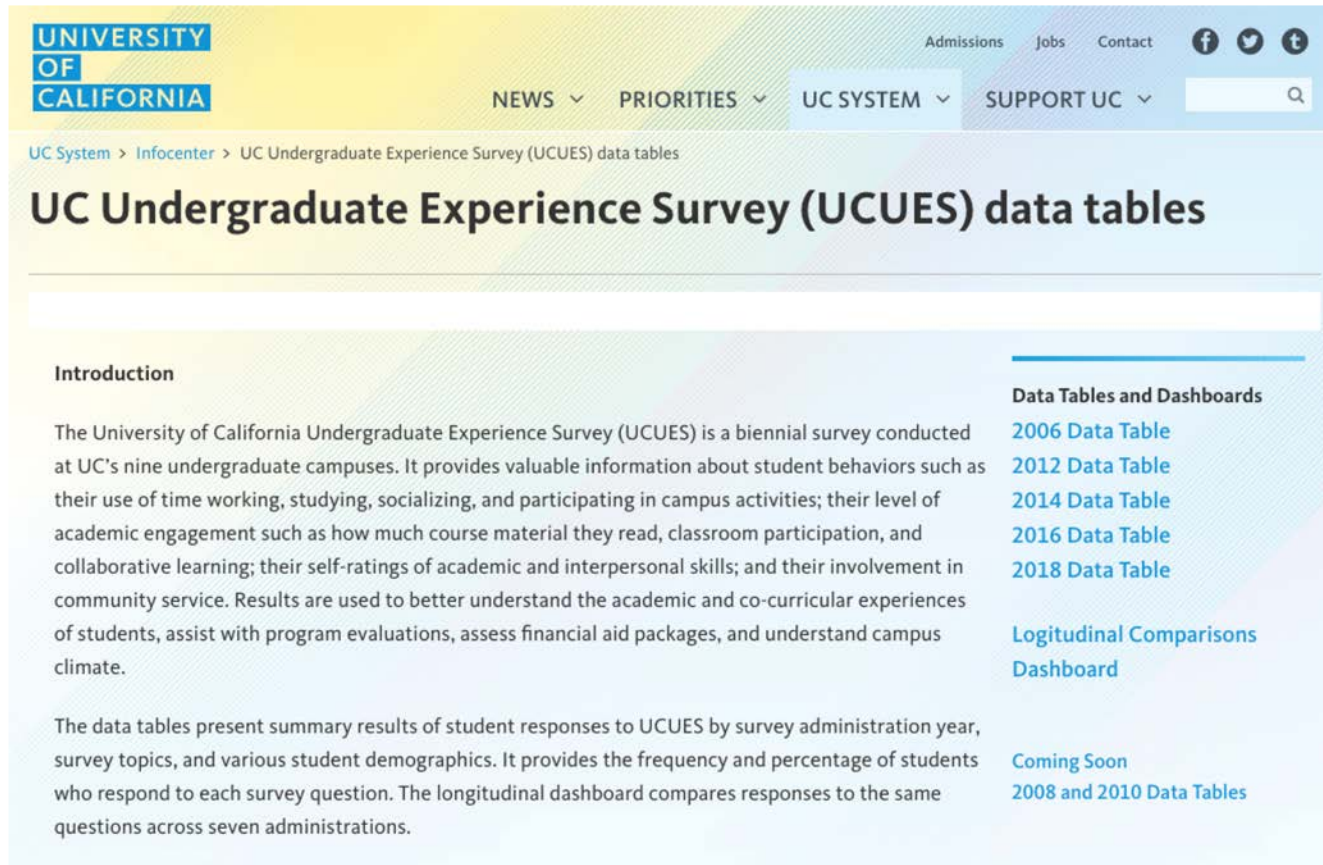


Where They Were From

Class of 2017



UC Undergraduate Experience Survey (UCUES) Data Tables



The screenshot shows the UC Undergraduate Experience Survey (UCUES) data tables page. The header includes the University of California logo, navigation links for Admissions, Jobs, Contact, NEWS, PRIORITIES, UC SYSTEM, and SUPPORT UC, and a search bar. The breadcrumb trail reads: UC System > Infocenter > UC Undergraduate Experience Survey (UCUES) data tables. The main heading is "UC Undergraduate Experience Survey (UCUES) data tables". The page is divided into two columns. The left column contains an "Introduction" section with two paragraphs. The right column contains a "Data Tables and Dashboards" section with links to various data tables and a longitudinal dashboard, followed by a "Coming Soon" section with a link to 2008 and 2010 data tables.

UNIVERSITY OF CALIFORNIA Admissions Jobs Contact f t

NEWS ▾ PRIORITIES ▾ UC SYSTEM ▾ SUPPORT UC ▾

UC System > Infocenter > UC Undergraduate Experience Survey (UCUES) data tables

UC Undergraduate Experience Survey (UCUES) data tables

Introduction

The University of California Undergraduate Experience Survey (UCUES) is a biennial survey conducted at UC's nine undergraduate campuses. It provides valuable information about student behaviors such as their use of time working, studying, socializing, and participating in campus activities; their level of academic engagement such as how much course material they read, classroom participation, and collaborative learning; their self-ratings of academic and interpersonal skills; and their involvement in community service. Results are used to better understand the academic and co-curricular experiences of students, assist with program evaluations, assess financial aid packages, and understand campus climate.

The data tables present summary results of student responses to UCUES by survey administration year, survey topics, and various student demographics. It provides the frequency and percentage of students who respond to each survey question. The longitudinal dashboard compares responses to the same questions across seven administrations.

Data Tables and Dashboards

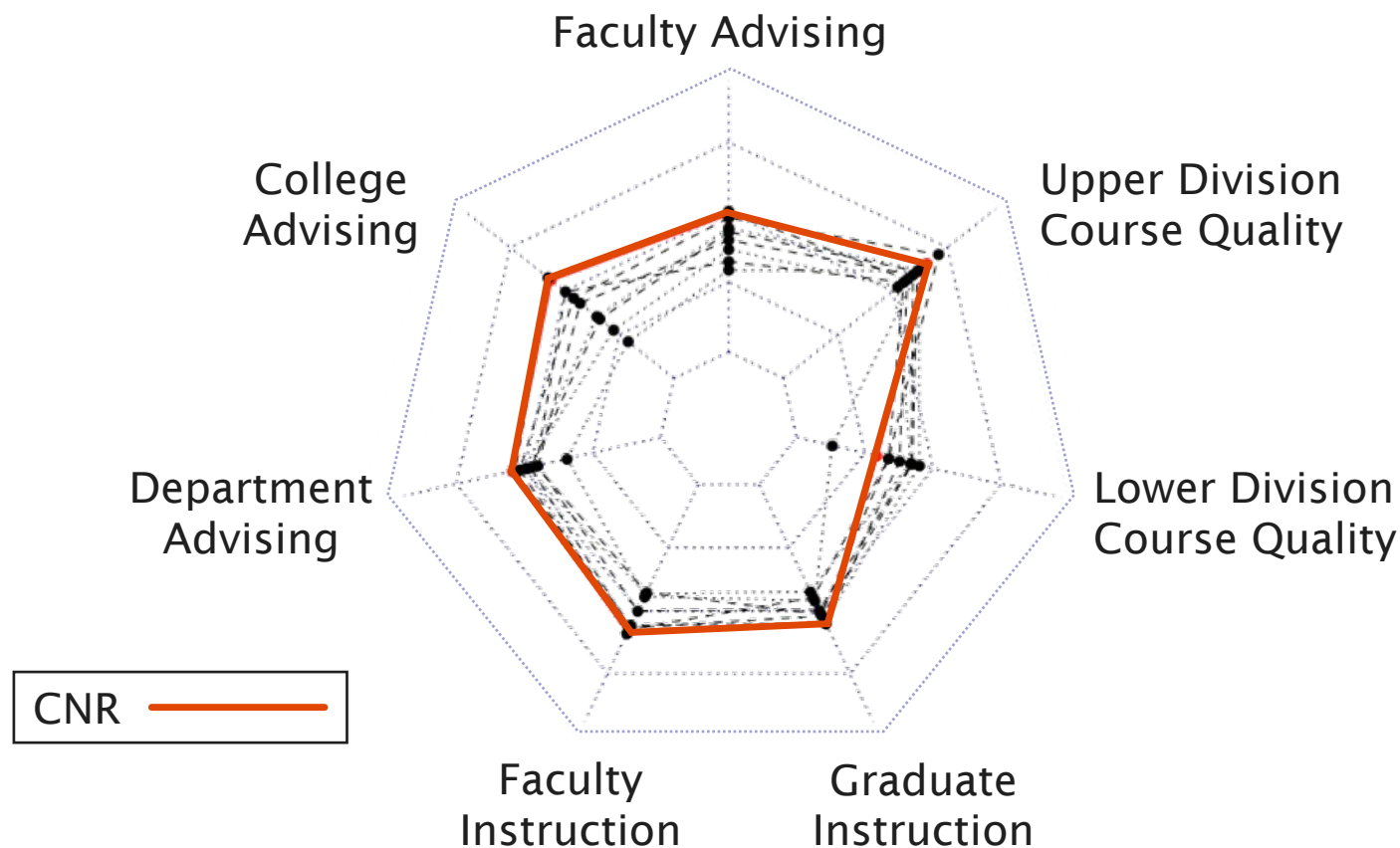
- [2006 Data Table](#)
- [2012 Data Table](#)
- [2014 Data Table](#)
- [2016 Data Table](#)
- [2018 Data Table](#)

Logitudinal Comparisons Dashboard

[Coming Soon](#)

[2008 and 2010 Data Tables](#)

UC Undergraduate Experience Survey (UCUES) Chart – Faculty, Course Quality

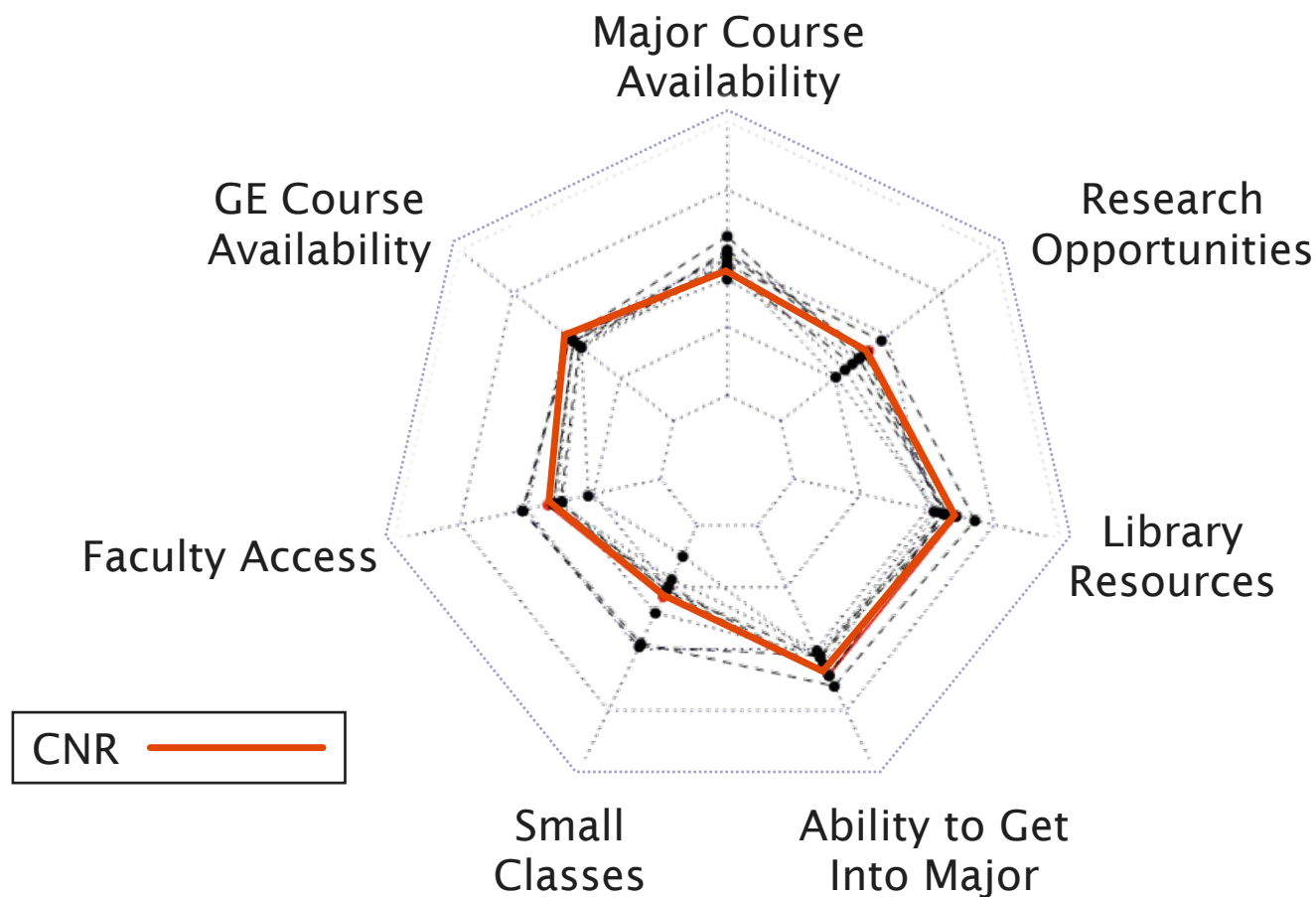


Notes

- The UCUES survey is administered every two years to current students.
- CNR consistently receives very high scores for advising and instruction.
- The ‘spider plot’ shows averages for each College or division of Letters and Sciences. Values increase away from the center of the circle for each measure.



UC Undergraduate Experience Survey (UCUES) Chart – Academic Experience



Notes

- We don't outshine the other colleges in all respects, and the UCUES provides lots of data to reflect on where we can continue to improve.



Self-Reported Proficiency

Example

Academic and Personal Development

Please rate your level of proficiency in the following areas when you started at this campus and now.

	Very Poor	Poor	Fair	Good	Very Good	Excellent	Total
Analytical and critical thinking skills when you started here	116 1%	491 5%	3,170 31%	4,060 40%	1,845 18%	551 5%	10,233 100%
Analytical and critical thinking skills now	44 0%	84 1%	739 7%	3,145 31%	4,473 44%	1,718 17%	10,203 100%

Mean on arrival

Mean @ graduation

+11 more questions

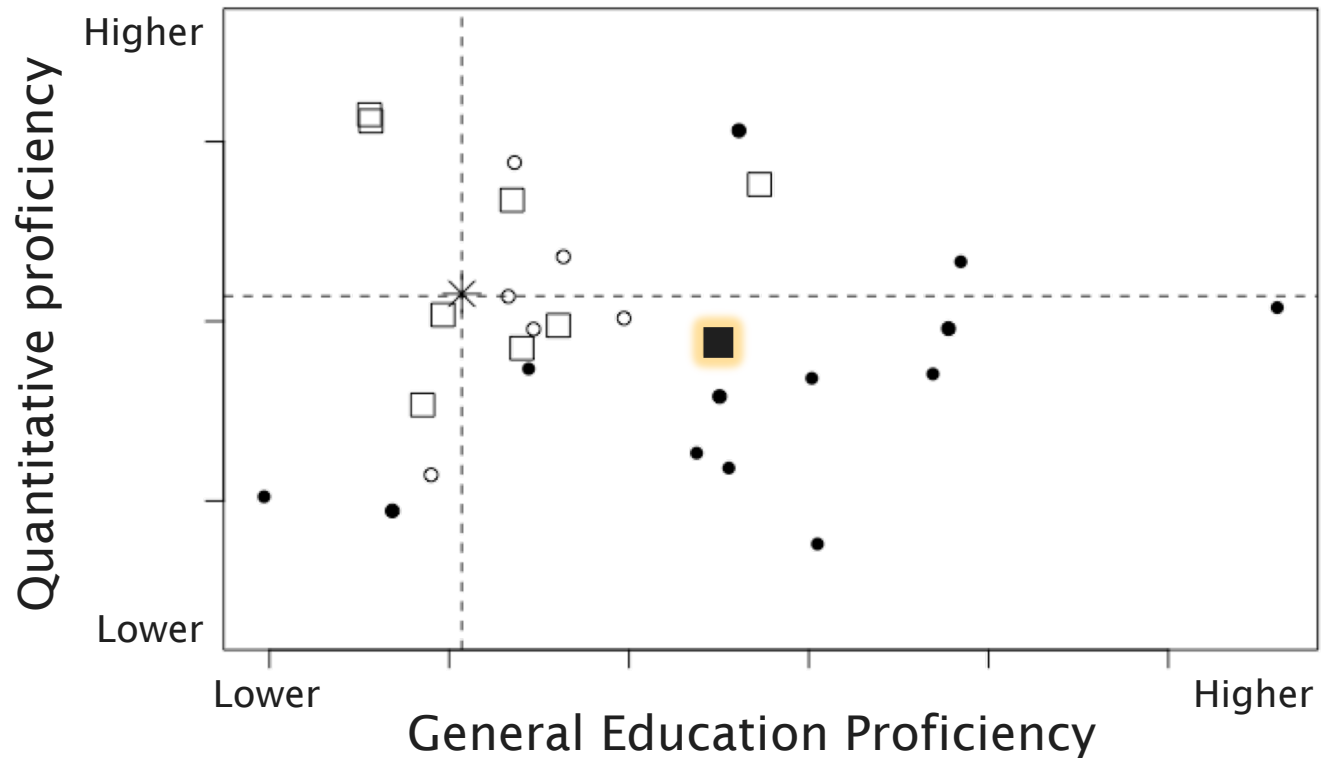
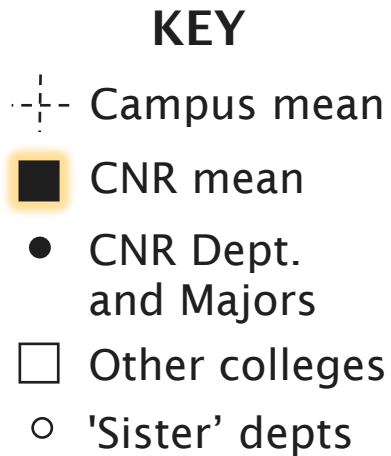
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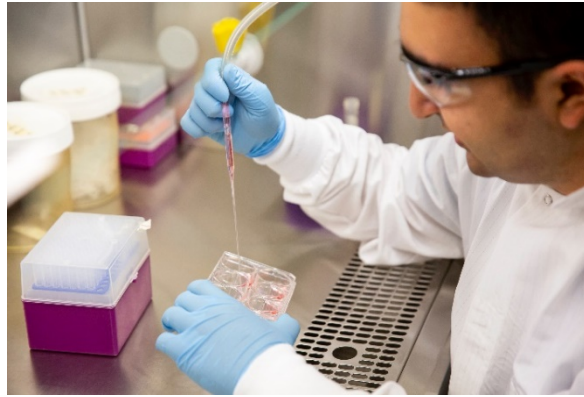
- Students are asked to report proficiency in a dozen different categories, once upon arrival and again at graduation.
- The increase represents self-reported improvement in skills in proficiency.
- The next slide shows a Principal Components Analysis (PCA) of mean improvement across colleges and L&S Divisions, CNR departments, and several 'sister departments' (MCB, IB, Geography, Economics, etc.)
- CNR has the highest mean improvement score in the first PCA axis, which captures most measures. We are close to university averages on PCA axis 2, which mostly reflects quantitative skills.



UCUES Self-Reported Skill Advancement

Principal Components Analysis

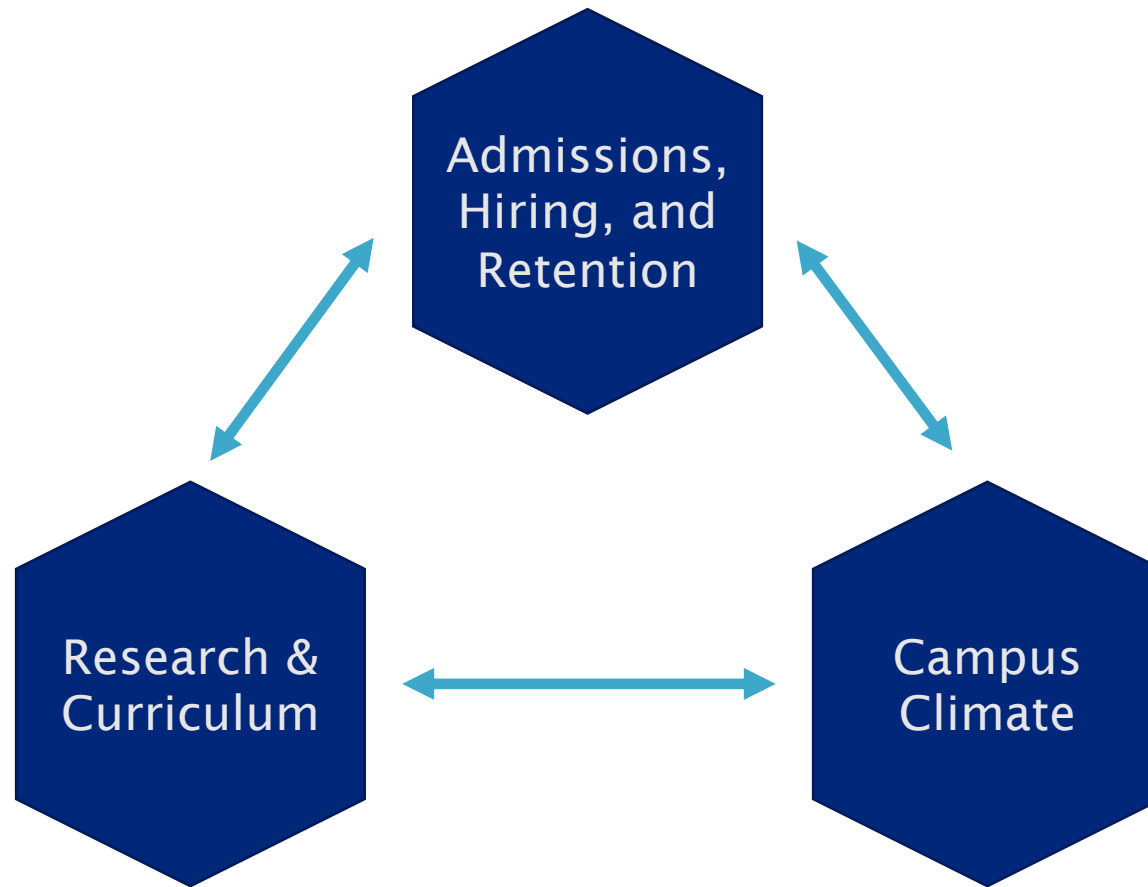




Diversity, Equity, and Inclusion (DEI)

Initiatives and Programs

Diversity, Equity, and Inclusion



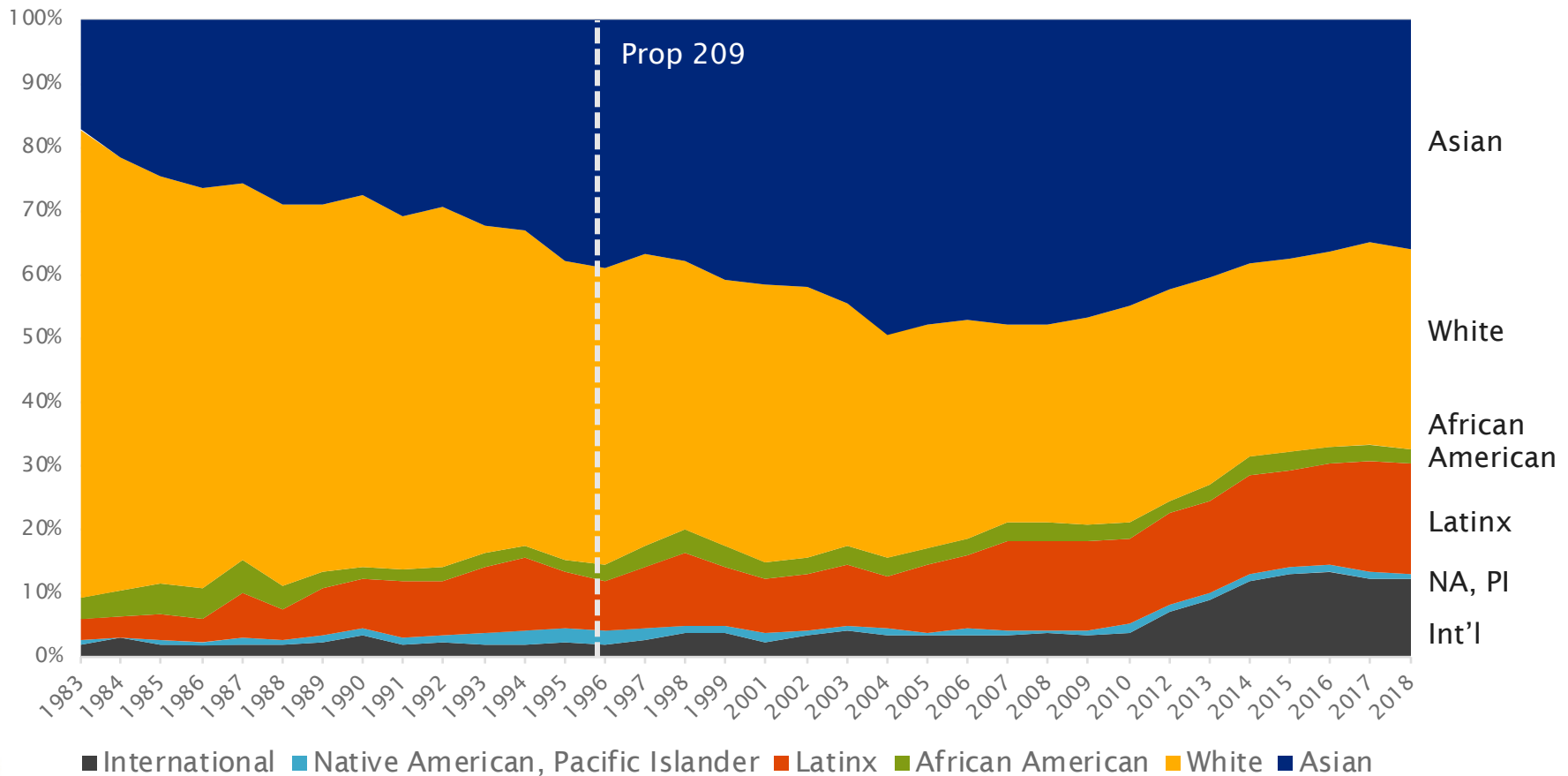


Notes

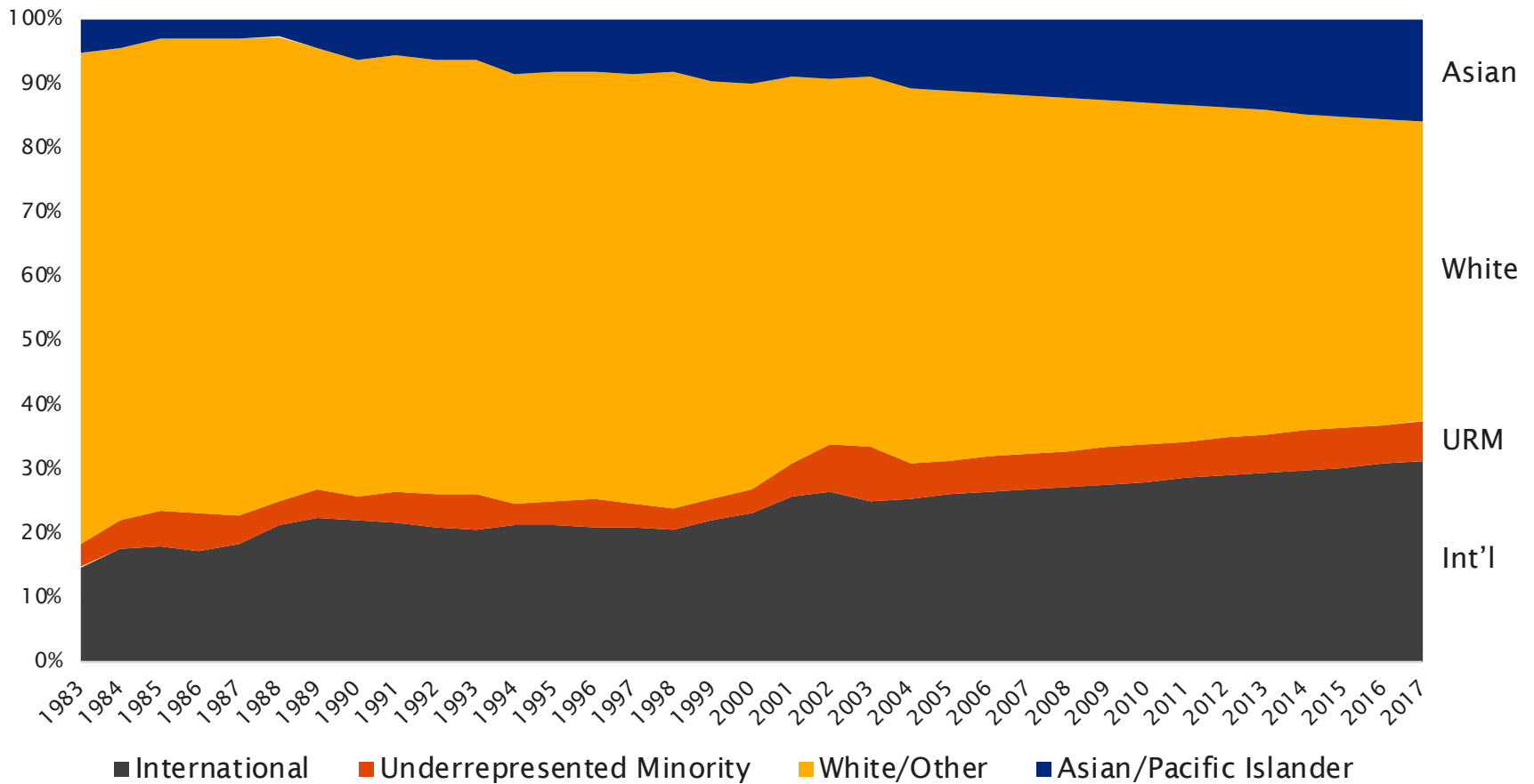
- Diversity, equity, and inclusion are integral to all aspects of our mission and community.
- Admissions, hiring, and retention shape student, staff, and faculty diversity.
- Research and curriculum captures both what and how we study and teach.
- Campus climate captures all aspects of our community culture and respect for individuals of diverse backgrounds.
- The three are intertwined and interdependent.



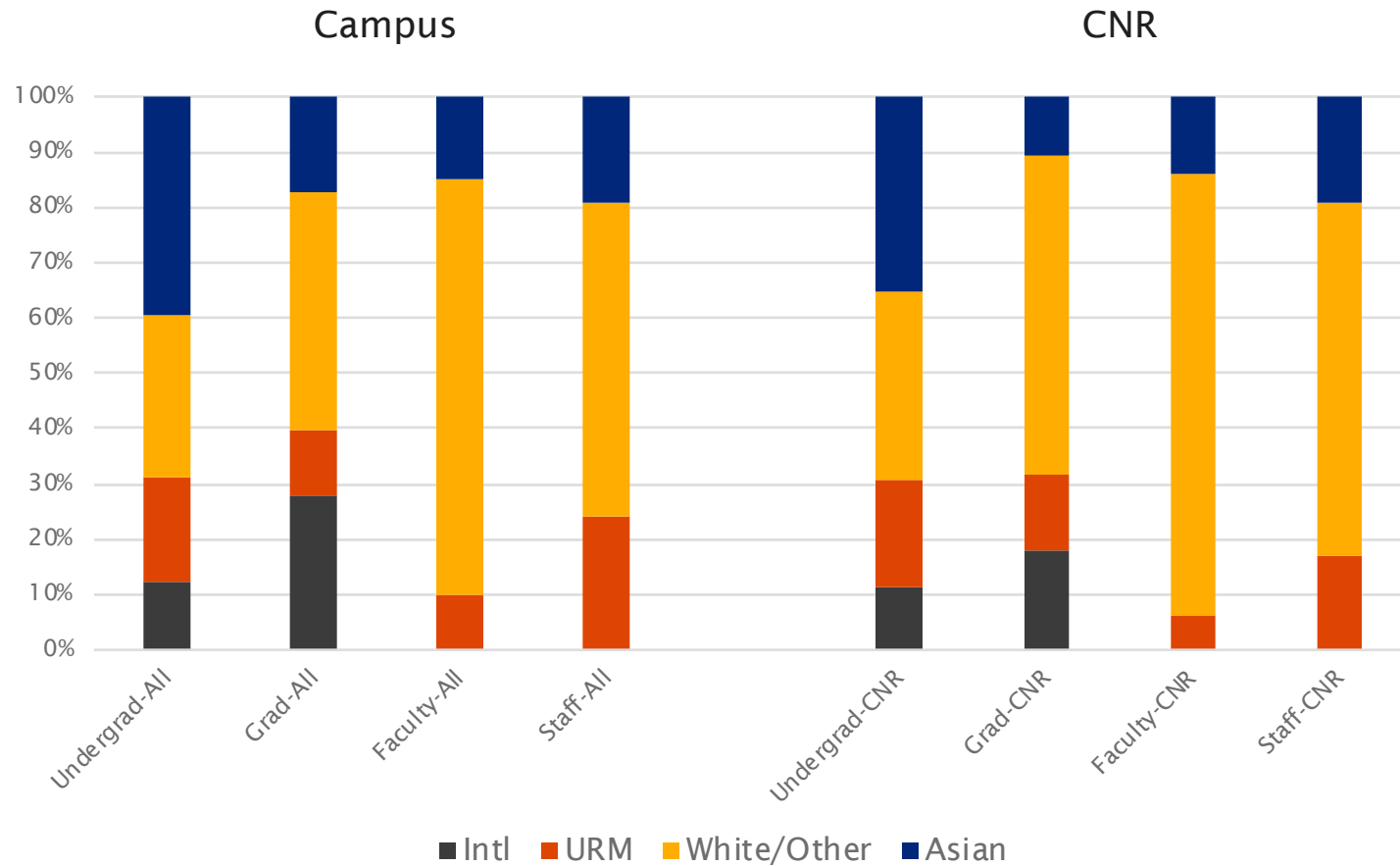
CNR Undergraduate Student Diversity



CNR Graduate Student Diversity



Student and Faculty Diversity





Notes

- Staff data updated since the presentation – apologies for the delay.
- Diversity of race and ethnicity is highest among undergraduates, then graduate students, staff, and lowest among faculty.
- Trends in CNR are similar to campus as a whole.
- Lower diversity among faculty reflects very slow turnover, especially compared to the undergraduate population, as well as historic inequities in education and opportunity leading to academic careers.



DEI Highlights – 2018-19

Department initiatives

- Equity and Inclusion strategic planning

Dean's Office initiatives

- Life Sciences Initiative (above)
- Summer internship support
- 'How to be a CNR scientist' seminar
- Inclusive pedagogy seminar (Dean Sork, Life Sciences, UCLA)



Two initiatives arising in CNR

- Latinx and the Environment Second Annual Summit
- **Students of Color Environmental Collective** mentorship DeCal and program (received Student Engagement Award)

DEI: 2019-20 Initiatives

Partial List

- Faculty hiring procedures – embedding **diversity review** in all faculty searches
- Workshops and discussion opportunities (e.g., implicit bias)
- Develop **inclusive pedagogy** resources
- Student support via OISA programs
- Develop **DEI web pages** and list-serve
- Develop **DEI portfolio** for donors



May '19 Retreat

DEI: 2019-20 Initiatives

Announcing creation of CNR Associate Dean for Equity and Inclusion



AVC
Oscar Dubón



CoE AD
Kara Nelson



L&S BioSci AD
Gian Garriga



CNR AD



Notes

- In Fall 2019, we will solicit nominations for a faculty member to serve in a new position of Associate Dean of Equity and Inclusion.
- This position will join others recently created on campus.
- The position will include play a key leadership role guiding college and departmental DEI initiatives.





Buildings and Facilities

Northwest Campus, Tolman, Oxford Tract

Notes

- Campus has initiated a major review of capital strategies for new construction and seismic renovations, focused on renewal of STEM facilities across CNR, Engineering, L&S, and Chemistry.
- Tolman demolition was first step, and eventually Evans is targeted for replacement, requiring numerous steps to surge current occupants to new locations (temporary or permanent).

Northwest Campus

KEY

- New construction or full renovation
- Ongoing renovation and renewal
- Wellman: Seismic VI
- Potential capital projects

A. Oxford Tract
B. Tolman
C. CNR Quad



Tolman Replacement

- Identified as top priority for campus
- Size and purpose of new buildings not yet decided
- Key decision-making planned for Fall 2019



CNR Quad



Rendering of Quad with a 4th building matching historical style

Notes

- The CNR Quad has been identified as an opportunity for new construction, depending on financing.
- This drawing is from the campus long range development plan many years ago, showing what the Quad could look like with a fourth building.
- The recent announcement that Wellman was a seismic 'VI' adds a new dimension as it will also require eventual renovation.

Oxford Tract Facility

nature.berkeley.edu/oxford-facility

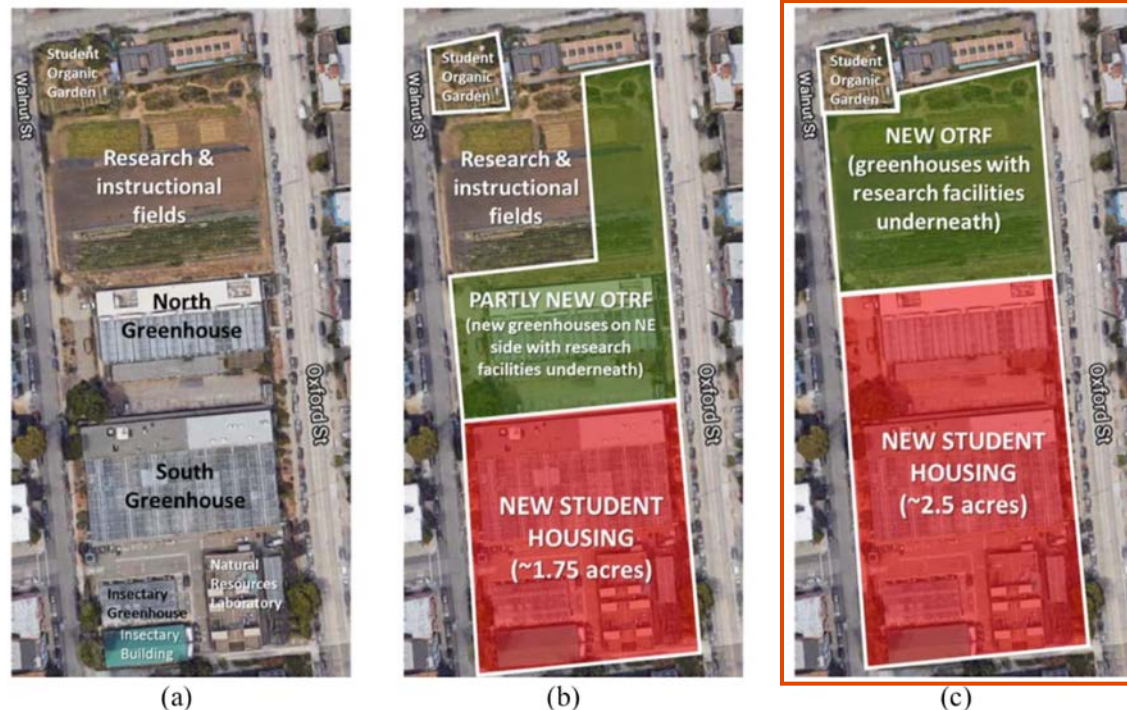


Figure 1: Satellite (Google Earth) images of Oxford Tract: (a) current (b) Option 1, (c) Option 2.

Scenarios presented in 2018 Planning Committee Report

Discussions with administration continue.

Scenario 2
presented in 2018 report is being used as starting point



Notes

- Campus is committed to building a student dormitory on part of the Oxford Tract.
- ‘Plan B’ from the 2018 planning committee currently serves as the starting point for planning.
- Dormitory and greenhouse designers will begin work to propose how the two projects will share the site.



Smyth-Fernwald

Site of a future student garden?





Notes

- Smyth-Fernwald, just north of Clark Kerr, had graduate dormitories which were removed after the 1989 earthquake.
- The site sits on the Hayward fault and is unlikely to be a site for development.
- An opportunity exists to explore development of a student garden and/or research field.





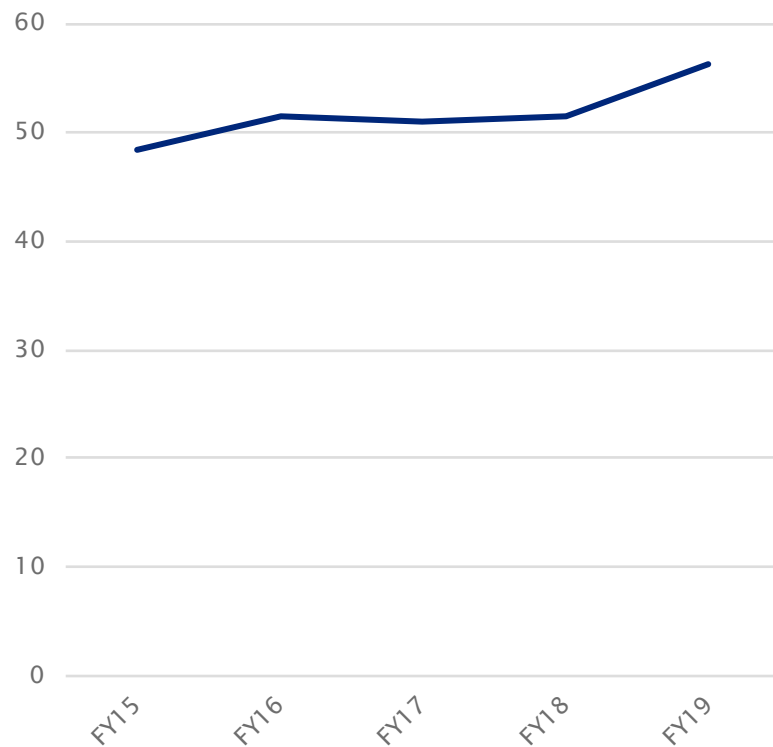
Development and Finances

Philanthropy, Funding, and Revenue

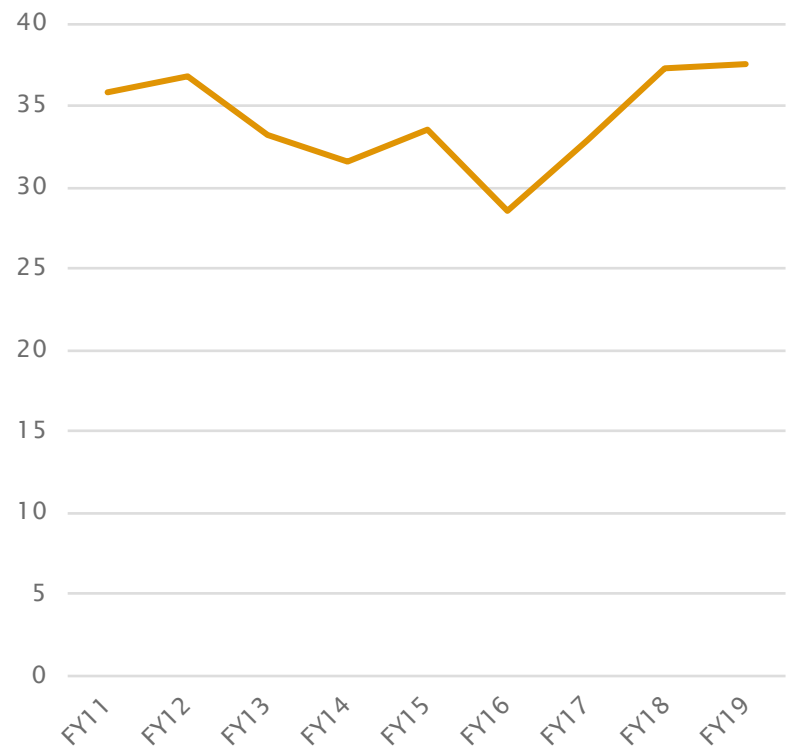
Expenses – Recent Trends

In Millions

5-Year Total Expense Trend

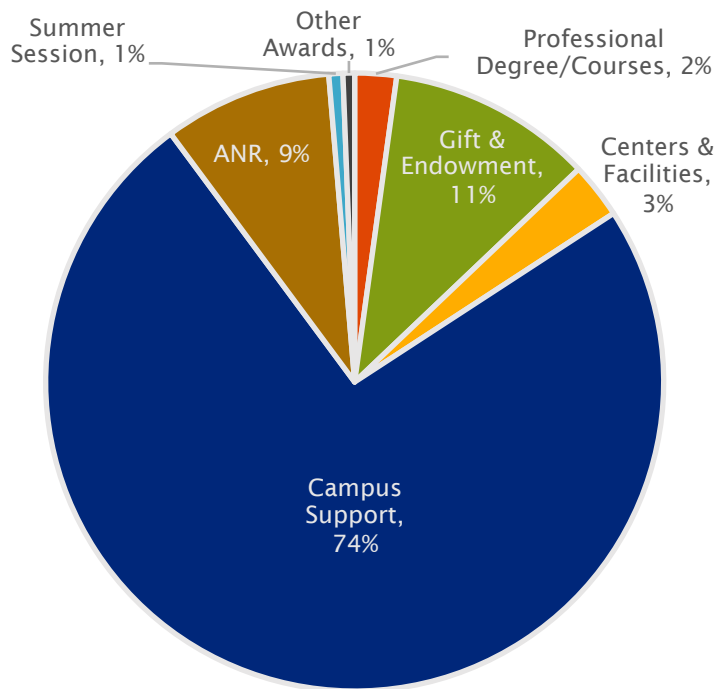


Contracts and Grants

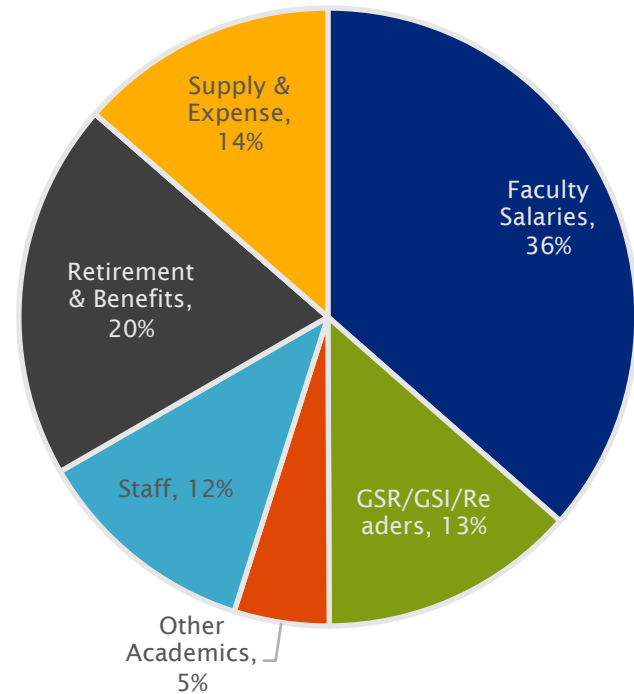


Revenue and Expenses

FY19 Revenue & Operating



FY19 Expenses



Notes

- CNR's total revenue and expenses (excluding research grants) have grown to \$56M in fiscal year 2019 (ending 7/1/19).
- Campus funding (tuition and state funds together) is the most important revenue source.
- UC Division of Agriculture and Natural Resources (ANR) funds the Cooperative Extension program.
- About 85% of expenses are salary, benefits, and retirement for faculty, staff, lecturers, and graduate student instructors.



Annual Giving to CNR

All Types of Gifts

FISCAL YEAR 2019

at a glance.. (as of 8/26/2019 5:29:55 AM)

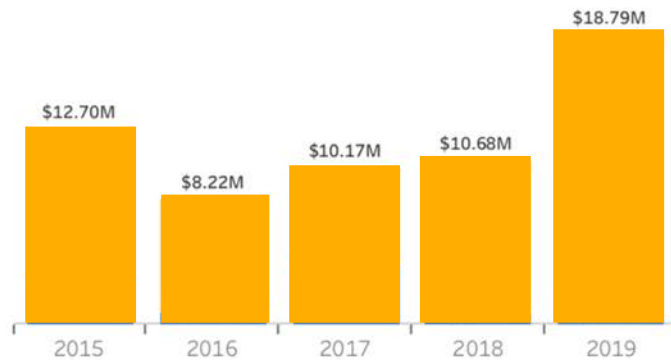
Fiscal Year
2019

Summary Area of Giving
Natural Resources - Col..

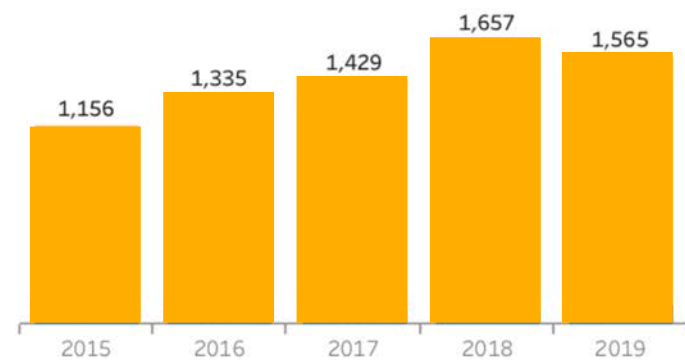
Area of Giving
All

Department
All

AMOUNT

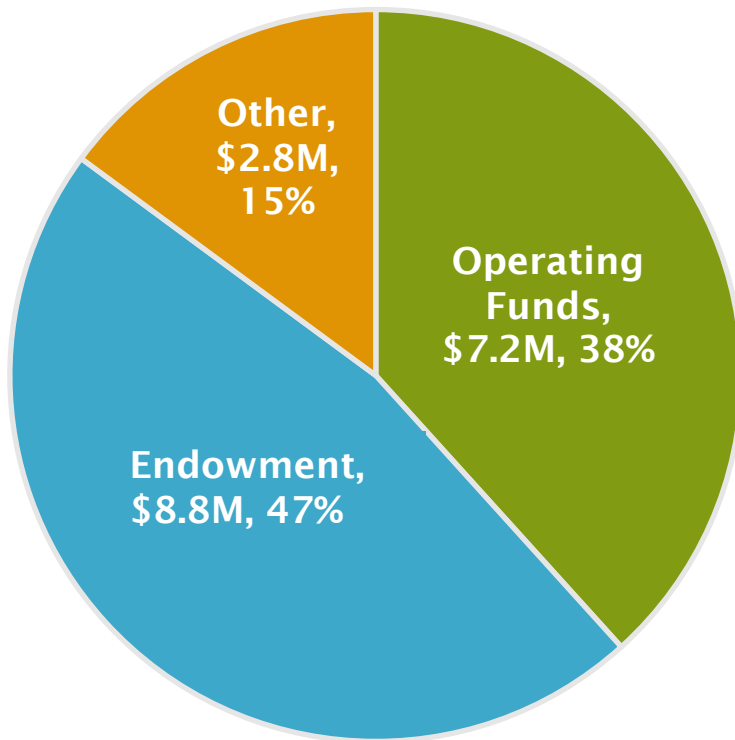


DONOR COUNT

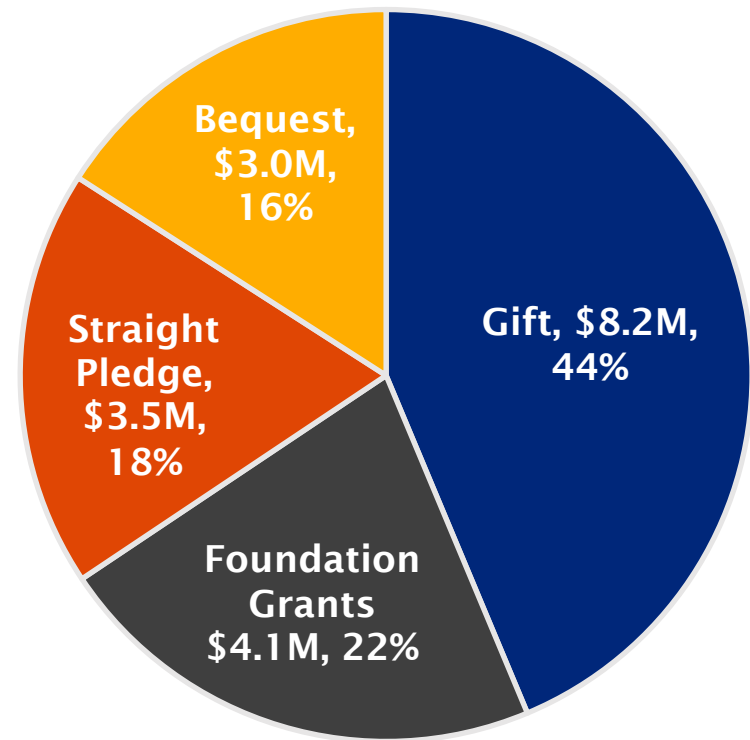


Donations and Foundation Grants 2018-19

Fund Type



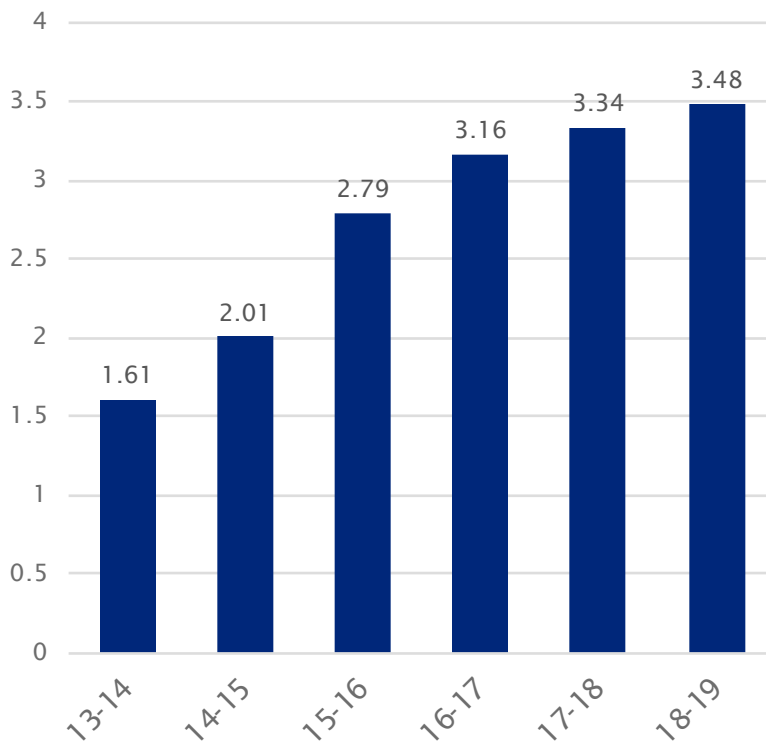
Gift Type



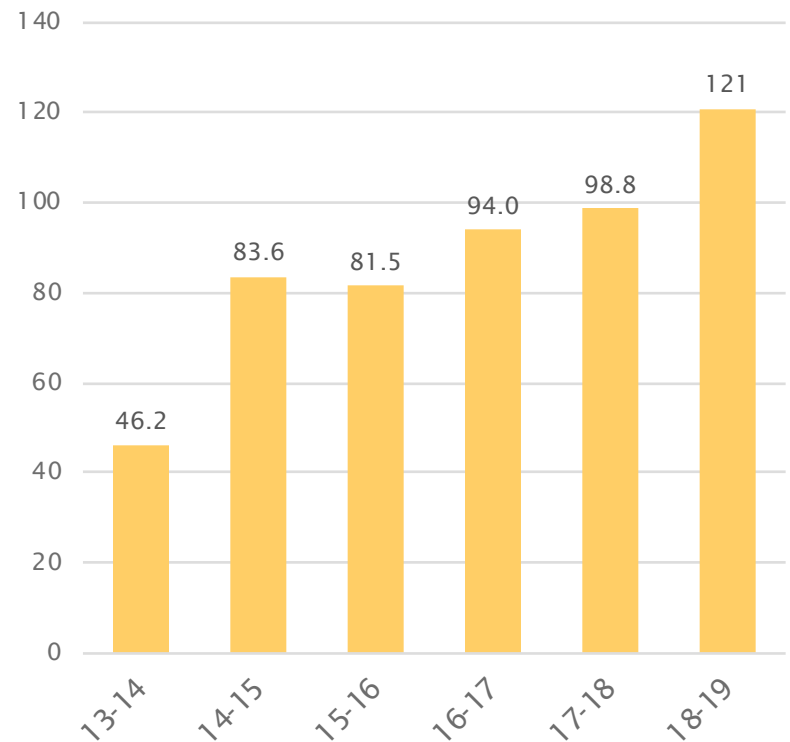
Funds and Market Value

Dollars in Millions

Funds Distribution



Market Value



Notes

- CNR philanthropy had a record year in FY19, with \$18M in total giving.
- Gifts included ~\$9M added to the endowment and \$7.2M in operating funds (including \$4.1M in foundation grants).
- CNR's endowment has reached \$121M market value, with an annual payout of almost \$3.5M.



Development and Philanthropy

- **Grace Kase** and **Harry Tsujimoto** (\$3M)
 - Endowed Faculty Chair
 - New Assistant Professor position in PMB
- Kelso Endowment - \$5M
 - \$1M as matching fund to build up grad student endowment funds
 - \$4M unrestricted
- Endowments critical for faculty recruitment and renovation, grad fellowships, etc.
- CNR Annual Fund supports SPUR and other Dean's Office initiatives



Strategic Planning

Signature Initiatives and Implementation



Campus Strategic Plan 2019

strategicplan.berkeley.edu



UC Berkeley

Berkeley Strategic Plan

[Publications](#)

[Implementation](#)

[Structure and timeline](#)

[Recent updates](#)

[FAQ](#)

[Submit feedback](#)



Charting a path forward
at our sesquicentennial



Signature Initiatives

Environmental Change, Sustainability and Justice

- Earth's Future: Advancing Climate Science for Action
- Accelerating the Clean Energy Transition
- Answers for Adaptation: Sustainable and Just Solutions for the New Normal

Charting a New Course to Health and Well-being

- A Sustainable and Equitable Food System for People and the Planet
- Healthy Development from Infancy through Adolescence
- Charting a New Course for Neurodegeneration & Aging



Our shared mission...



Notes

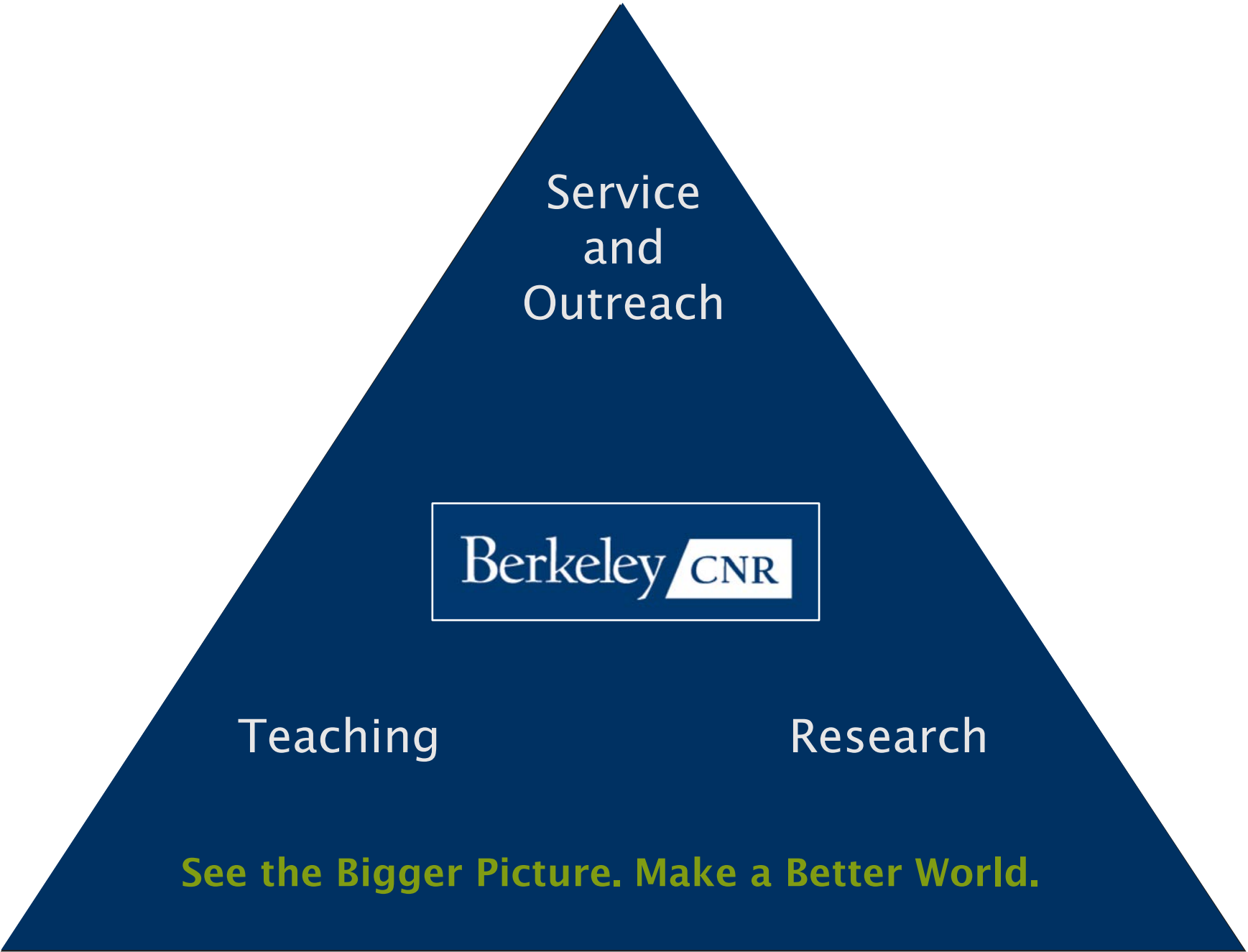
- The triangle on the next slide represents our historic mission focused on food, forestry, and Californian agriculture.
- Over time (the following slide), these have expanded into diverse aspects of microbial and plant biology; nutrition and metabolic disease; energy, climate, and sustainability; land use, conservation, forest management, and wildlife biology; environmental economics and policy; equity and environmental justice; and more!





Berkeley CNR





Service
and
Outreach

Berkeley  CNR

Teaching

Research

See the Bigger Picture. Make a Better World.



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And all of you!

Thank you