

A photograph of the University of California, Berkeley campus. The Sather Tower (Cathedral of Learning) is the central focus, a tall, white, Gothic-style clock tower with a green roof. The tower is set against a clear blue sky with a few wispy clouds. In the background, there are rolling hills and other campus buildings. The foreground is filled with lush green trees and a red-tiled roof. A dark teal, semi-transparent banner with a white geometric pattern is overlaid on the right side of the image, containing the title text in white.

**University of
California, Berkeley
Sponsored
Projects
Annual Report
Fiscal Year 2019**

Sponsored Projects Annual Report, Fiscal Year 2019

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Published by the Research Administration and Compliance Office

University of California, Berkeley

510/642-0120

<https://rac.berkeley.edu>

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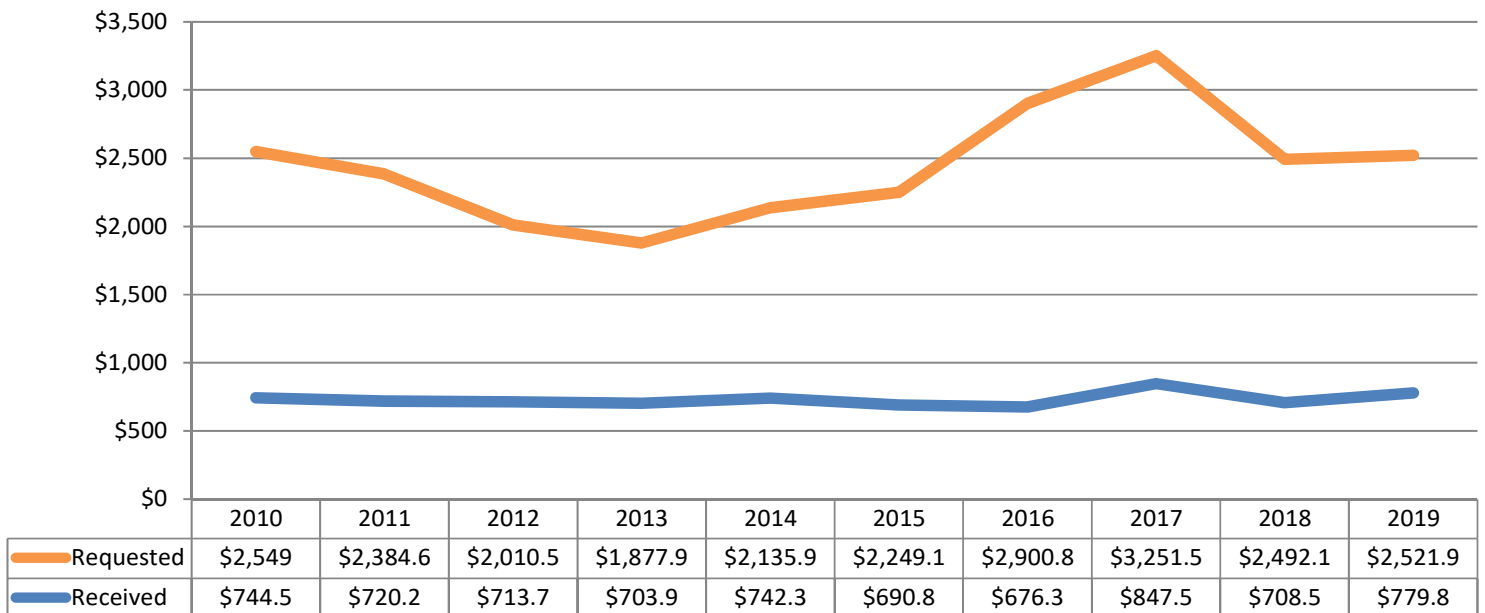
University of California, Berkeley / Sponsored Projects Overview

The **University of California, Berkeley** is one of the world's leading universities in research, teaching, and public service, with an enrollment of over 30,800 undergraduates and over 11,600 graduate students. The campus employs 1,621 full-time and 826 part-time faculty in 184 academic departments and programs and 129 research units. UC Berkeley is divided into 14 colleges and schools, most of which are subdivided into departments. The campus offers over 10,000 undergraduate and graduate courses in more than 350 degree programs, and ranks among the top five Ph.D.-granting institutions.

The Sponsored Projects Office (SPO) at UC Berkeley is responsible for endorsing and authorizing proposals to and interpreting, negotiating, and accepting contracts and grants for projects funded by federal and state agencies, foundations, and other public and private sources. SPO prepares and negotiates all subawards for collaborative research. SPO is part of the Research Administration and Compliance Office (RAC), under the Vice Chancellor for Research.

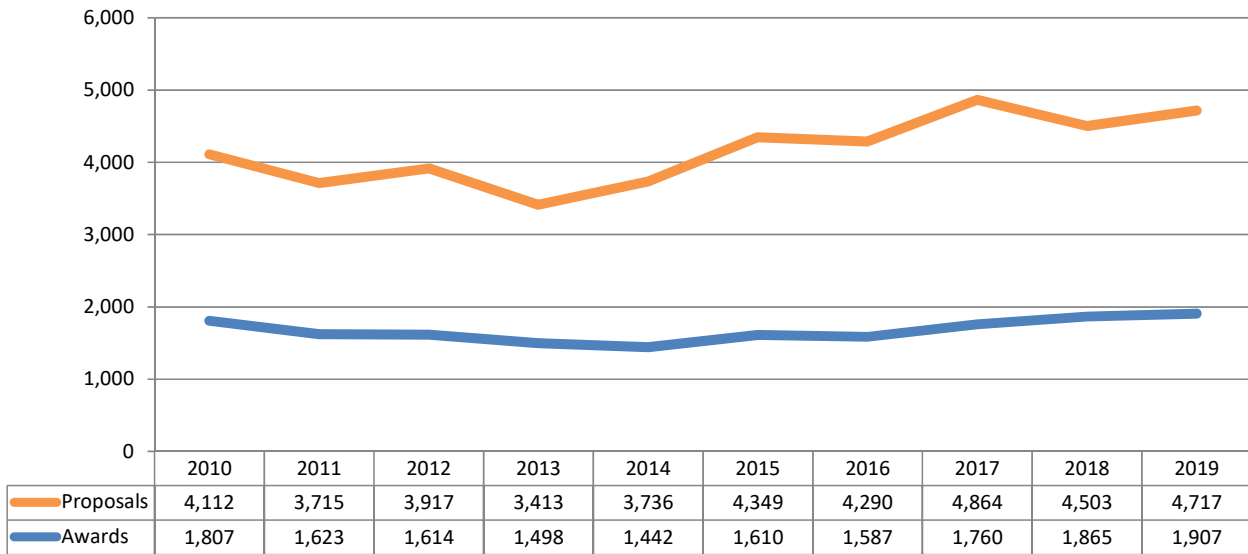
Proposal and Award Overview

Ten-Year Comparison of Funding Requested and Funding Received, FY 2010-2019
(dollars in millions)

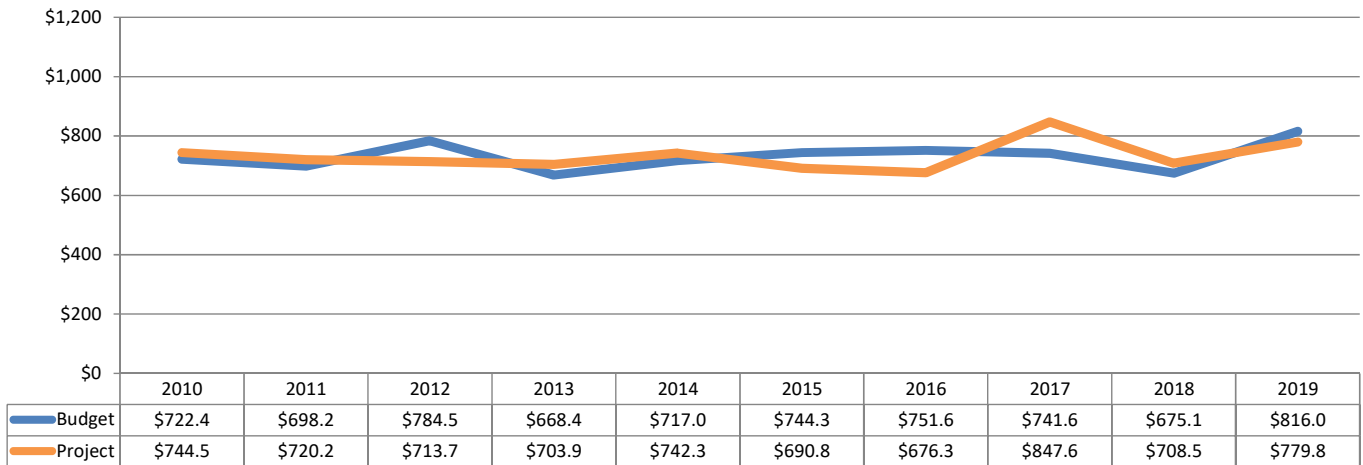


Proposal and Award Overview

Ten-Year Comparison of Proposals Submitted and Awards Received, FY 2010-2019



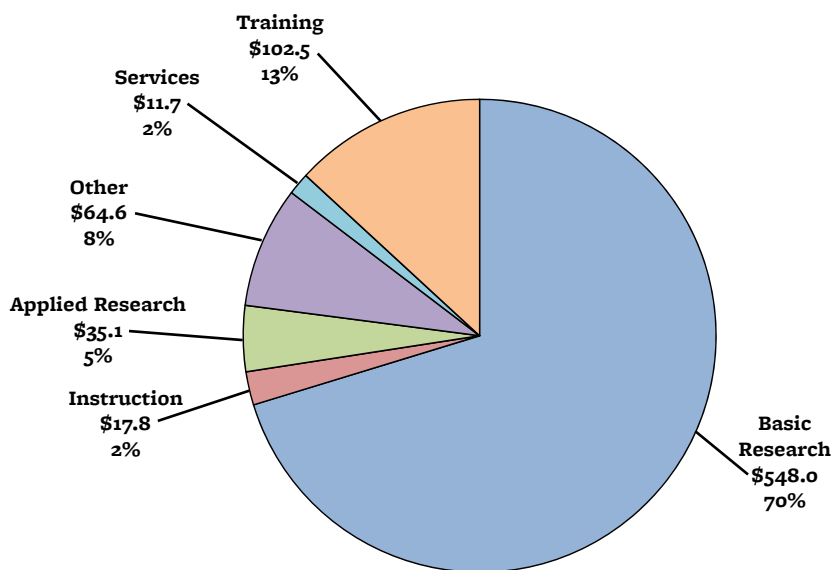
**Ten-Year Comparison of Project and Budget Period Funding, FY 2010-2019
(dollars in millions)**



Project period funding includes all funding anticipated for a project, reporting in the fiscal year of its begin date. Budget period funding reports each budget period for a project in the fiscal year of its begin date. Budget period funding increased by 21% in fiscal year 2019, while project period funding increased by 10%.

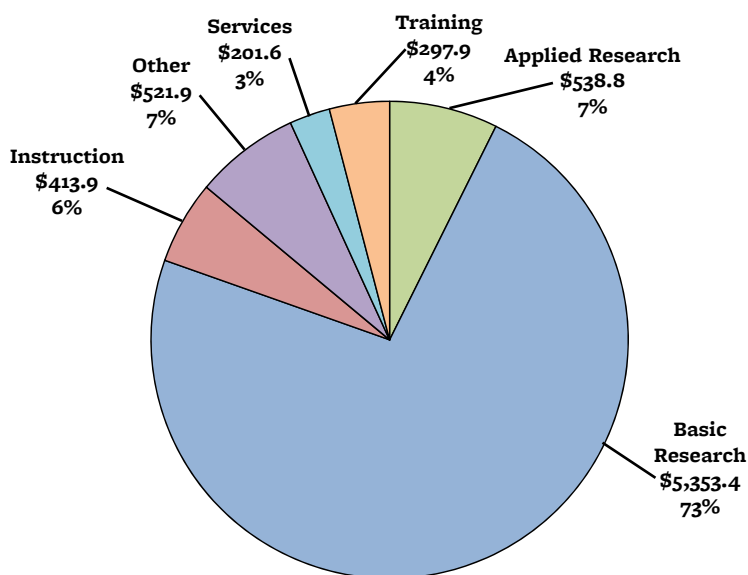
Proposal and Award Overview

Fiscal Year 2019 Funding Summary by Activity Type
 (\$779.8 million total - dollars in millions)



Activity type “Other” primarily includes funding transferred from the Lawrence Berkeley National Laboratory for administrative purposes, along with projects that span multiple activities or do not cleanly fit into the five other categories.

Ten-Year Funding Summary by Activity Type, FY 2010-2019
 (\$7.33 billion total - dollars in millions)



Proposals and Awards by Campus Control Unit

UC Berkeley colleges, schools, and divisions include the Colleges of Chemistry, Engineering, Natural Resources, and Environmental Design, as well as Optometry, Law, Journalism, Public Policy, Public Health, Education, Business, Social Welfare, and others.

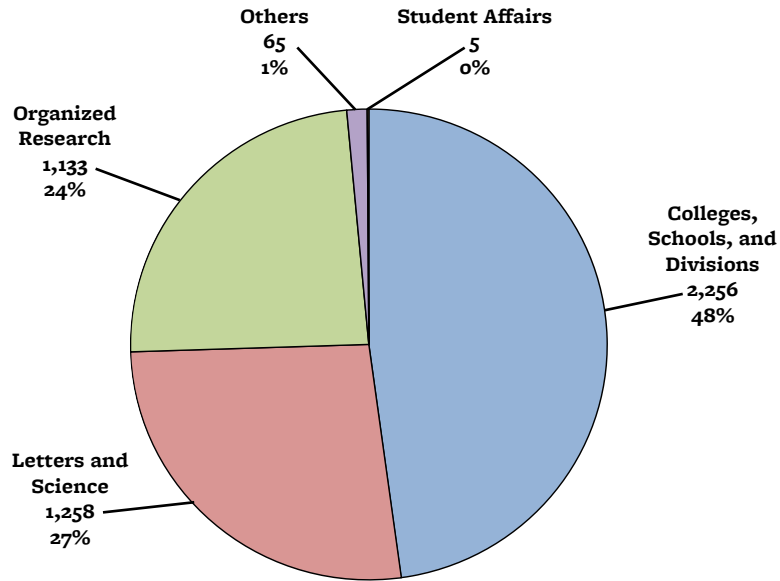
The College of Letters and Science, or L&S, includes Biological, Physical, Social Science, and Arts and Humanities Divisions.

Organized Research Units (ORUs) report to the Vice Chancellor for Research and are organized around broad substantive research topics, e.g., international affairs, information technology and science, and the environment. As such, they draw into their research programs faculty and students from multiple departments and disciplines. These institutes, centers, and departments exist primarily to conduct research, and include the Space Sciences Laboratory, the Institute of Transportation Studies, the Berkeley Seismological Laboratory, and many others.

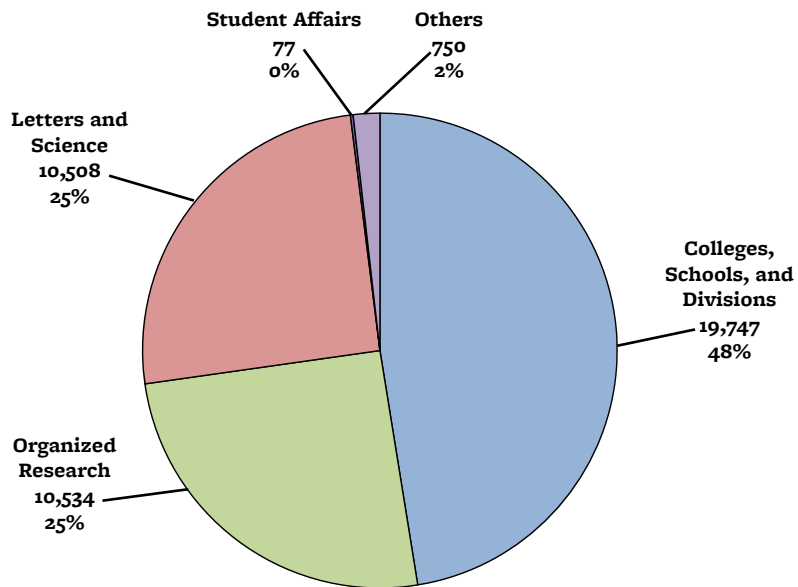


Proposals by Campus Control Unit

**Fiscal Year 2019 Number of Proposals Submitted by Control Unit
(4,717 total)**

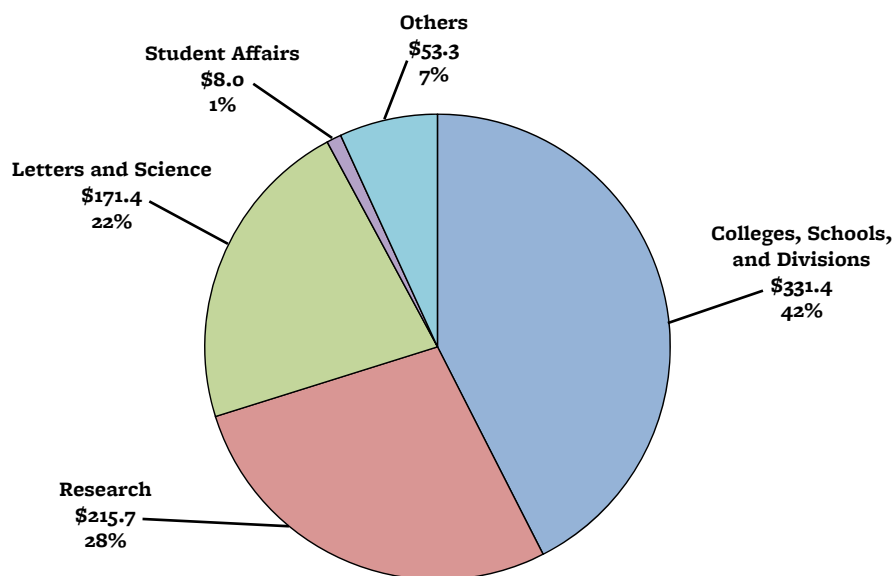


**Ten-Year Number of Proposals Submitted by Control Unit, FY 2010-2019
(41,616 total)**

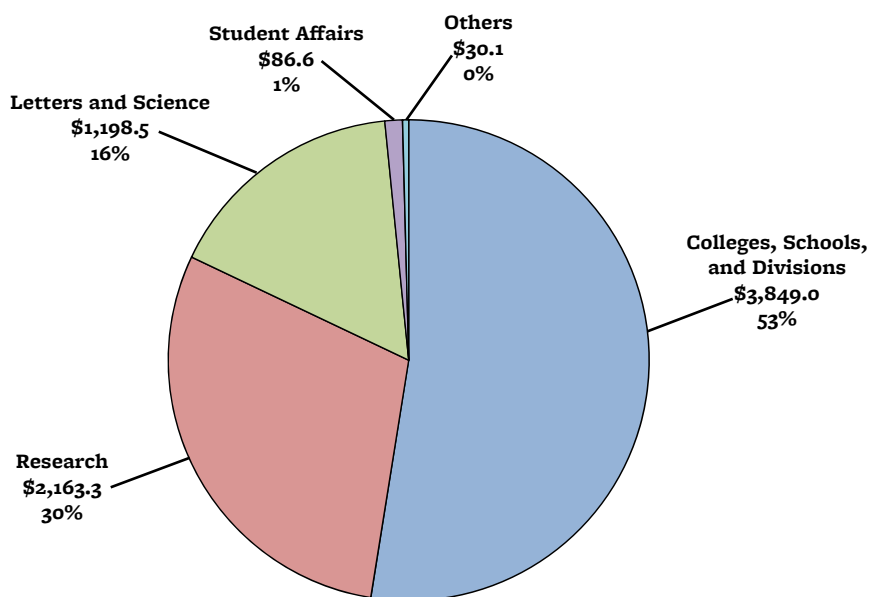


Funding by Campus Control Unit

Fiscal Year 2019 Funding Summary by Control Unit
(\$779.8 million total - dollars in millions)

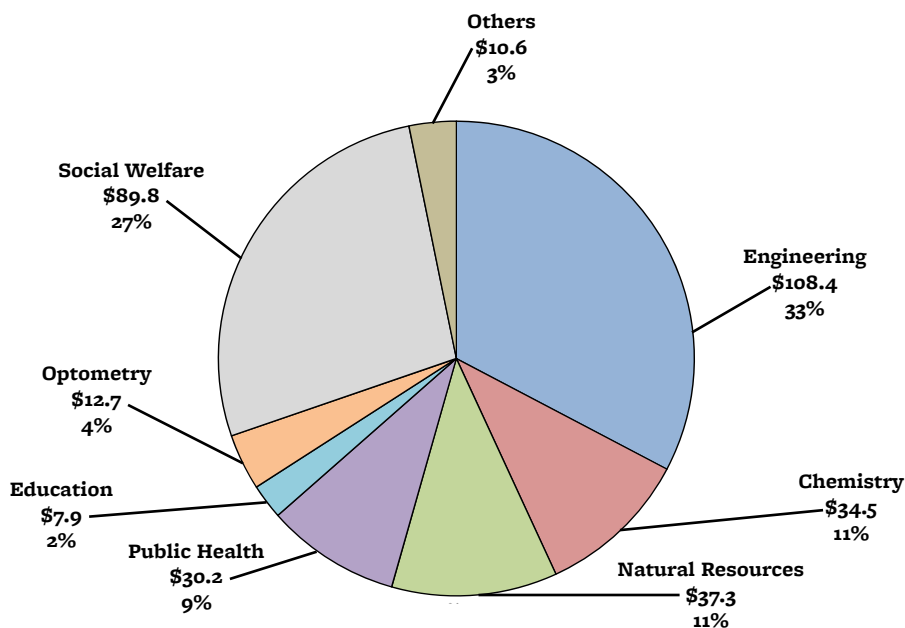


Ten-Year Funding Summary by Control Unit, FY 2010-2019
(\$7.33 billion total - dollars in millions)

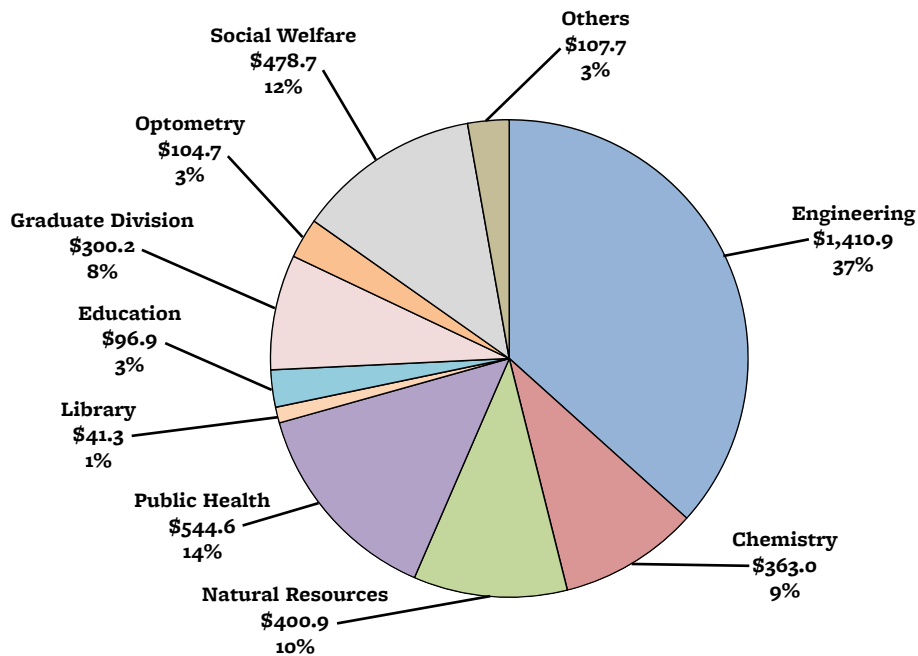


Funding by Campus Colleges, Schools, and Divisions

Fiscal Year 2019 Funding Summary by Colleges, Schools, and Divisions
 (\$331.4 million total - dollars in millions)



Ten-Year Funding Summary by Colleges, Schools, and Divisions, FY 2010-2019
 (\$3.8 billion total - dollars in millions)



Awards by Funding Source Overview - All Sponsors

In fiscal year 2019, federal funding declined by 2% from fiscal year 2018, at \$414 million. Federal funding again made up the largest portion of total funding received with 53% of the total.

Funding from nonprofit organizations in fiscal year 2019, including foundations, charities, research institutes, and institutions of higher education, remained the same as last year with a total of \$146 million.

After reaching its lowest total in 10 years in fiscal year 2018, State of California funding increased by almost 300% in fiscal year 2019, to a total of \$119 million. Funding from other governmental sources totaled 7 million, less than half than in fiscal year 2018. Funding from corporate sponsors increased by 5% to a total of \$71 million.

Award Highlight

The Molecular Basis of Cell Function

The Molecular Basis of Cell Function (MCF) training program is a multi-disciplinary program within Molecular and Cell Biology (MCB) that is funded by a T32 training grant from the National Institutes of Health. A 2018 award of \$8.24 million from the NIH National Institute of General Medical Sciences in supports the program for the next five years.

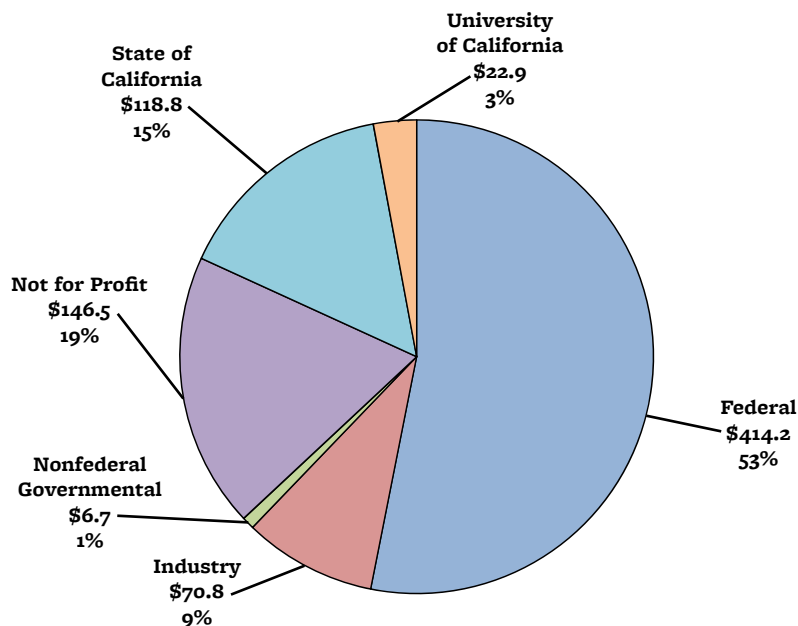
The long-standing philosophy of the MCF program is to provide an early and persistent emphasis on multidisciplinary training for a flexible and individually-directed path to an innovative research career. The program fosters cross-disciplinary interactions by uniting faculty from the five research divisions within MCB to create an extremely collaborative environment among faculty, students, and research groups. Students are trained for a diversity of careers and prepared to meet present and future biomedical, scientific and societal challenges.

<https://mcb.berkeley.edu/grad/molecular-basis-cell-function-training-program>

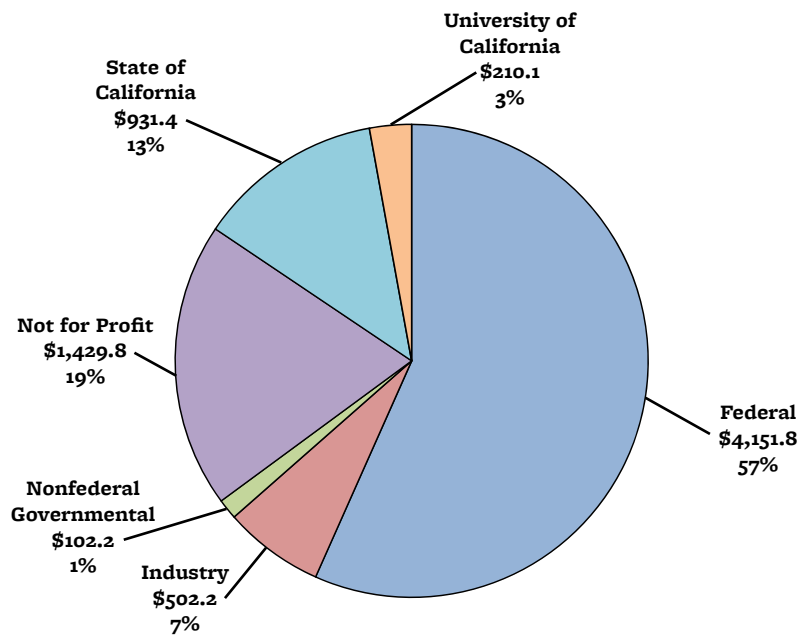
Molecular & Cell Biology

Overview - All Sponsors

Fiscal Year 2019 Funding Summary - All Sponsors
 (\$779.8 million total - dollars in millions)

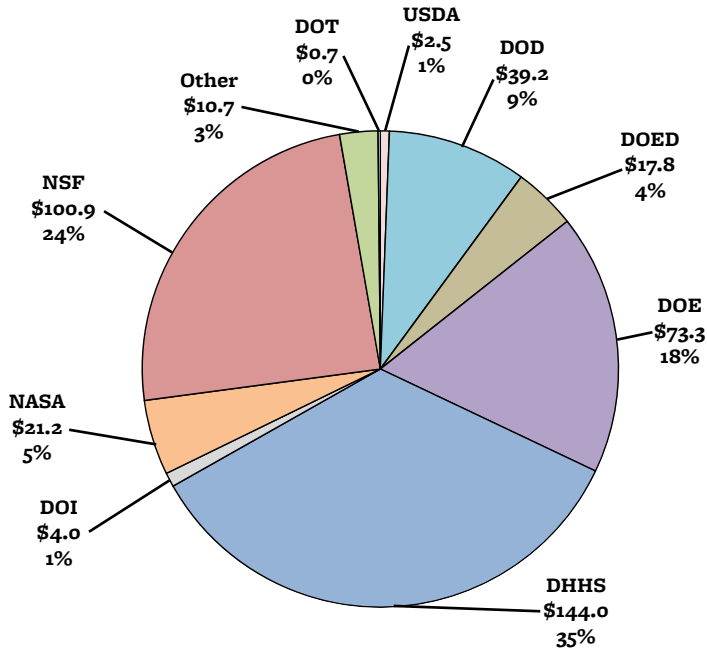


Ten-Year Funding Summary - All Sponsors, FY 2010-2019
 (\$7.33 billion total - dollars in millions)



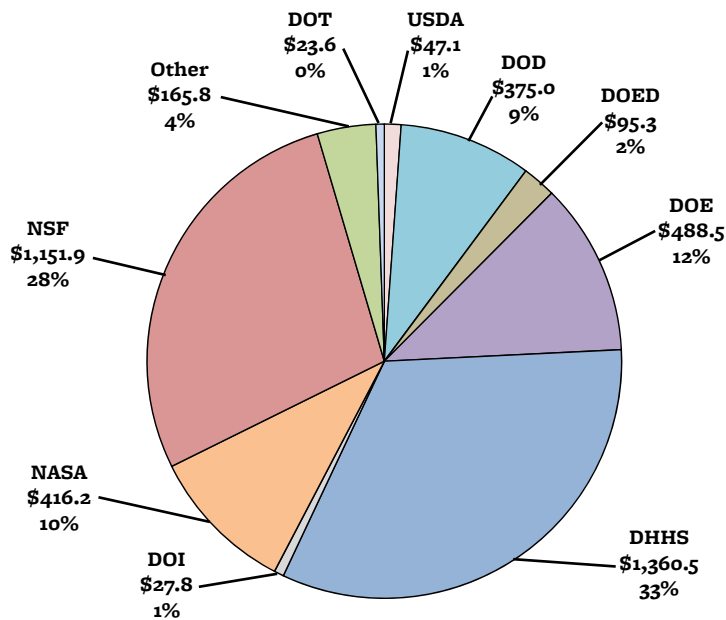
Federal Agencies

Fiscal Year 2019 Funding Summary - Federal Sponsors
 (\$414.1 million total - dollars in millions)



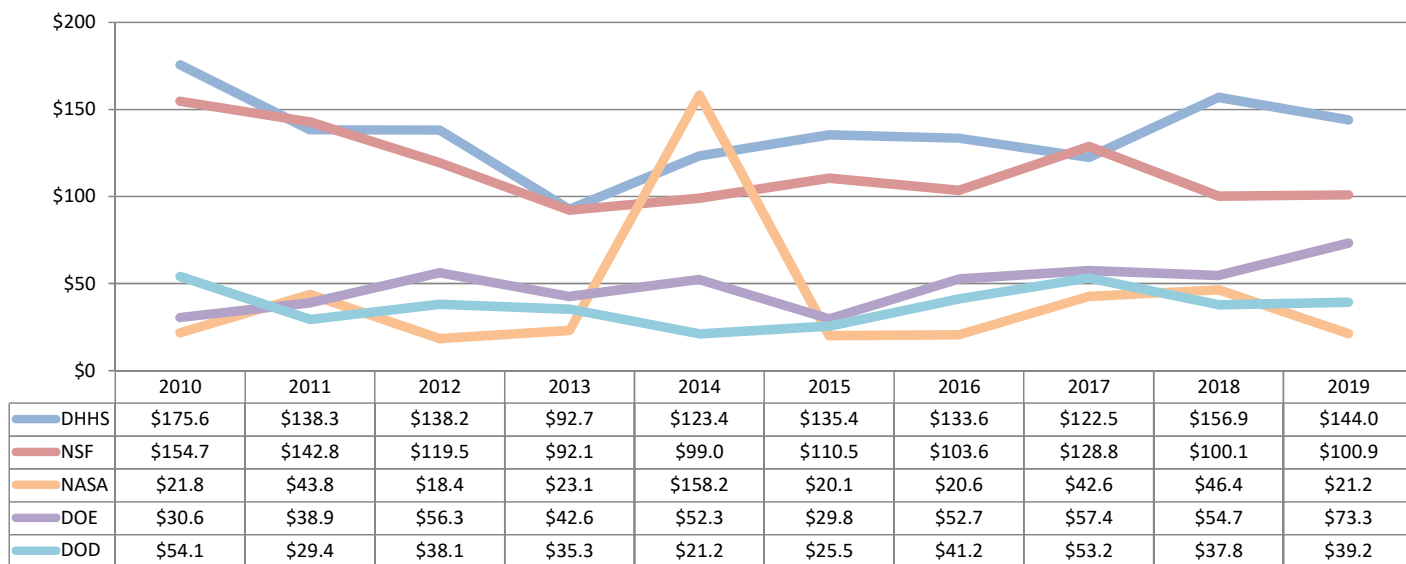
In fiscal year 2019, the Department of Health and Human Services was the largest source of federal funds, with \$144 million, a 9% decrease from fiscal year 2018 and 38% of the federal total. The National Science Foundation was the second largest with \$101 million, essentially flat from fiscal year 2018. Federal funding again made up the largest portion of total funding received with 61% of the total.

Ten-Year Funding Summary - Federal Sponsors, FY 2010-2019
 (\$4.15 billion total - dollars in millions)



Federal Agencies

Ten-Year Funding Summary for Top-Five Federal Sponsors, FY 2010-2019
(dollars in millions)

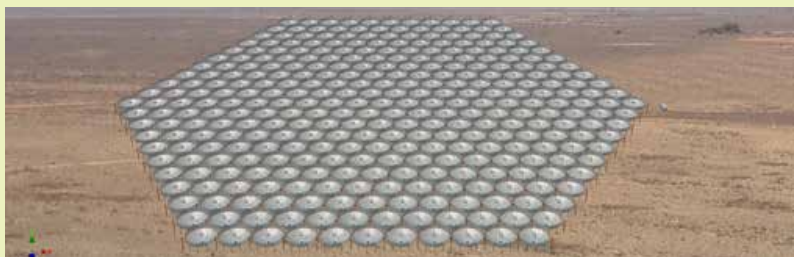


Award Highlight

HERA: Unveiling the Cosmic Dawn

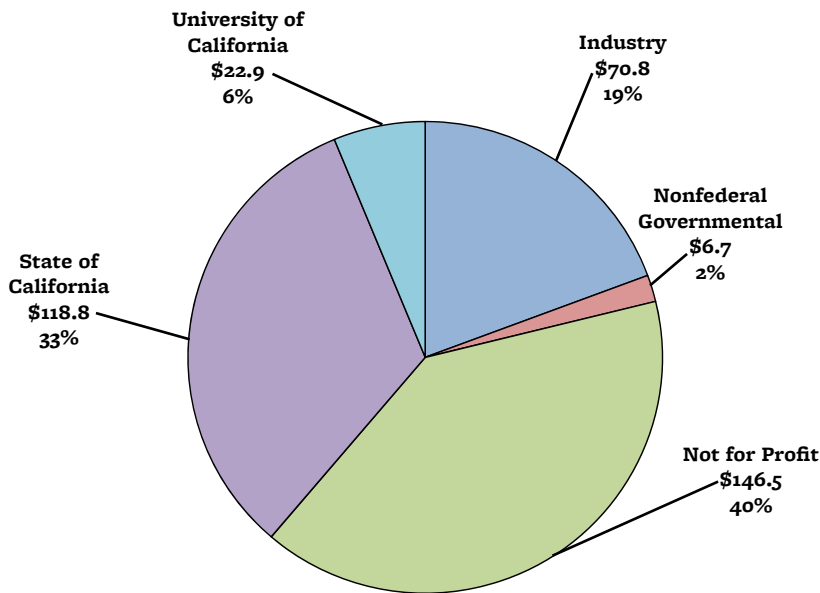
The Hydrogen Epoch of Reionization Array (HERA) is a radio telescope dedicated to observing large scale structure during and prior to the epoch of reionization. Cosmic reionization corresponds to the epoch when the neutral intergalactic medium is reionized by the first luminous objects (stars, black holes). In 2018 the National Science Foundation awarded \$7.2 million to the project.

<https://reionization.org/>



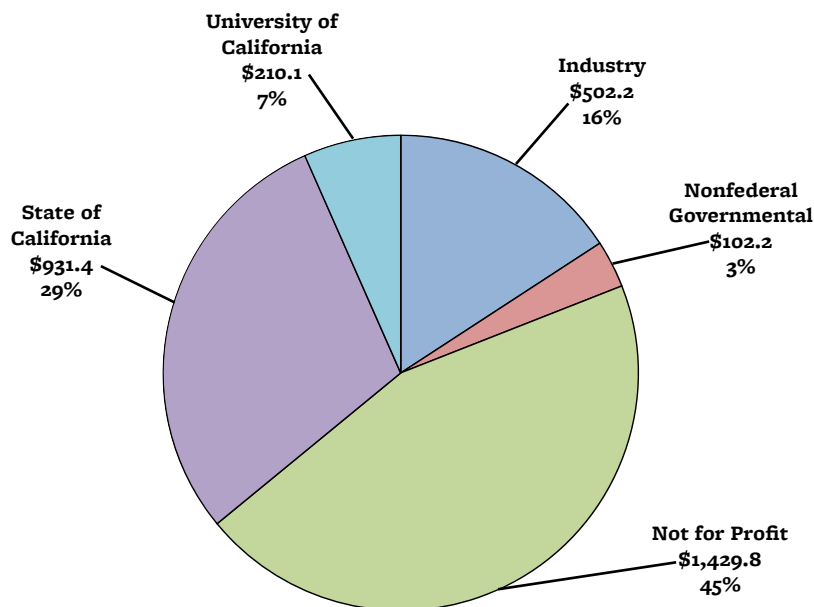
Nonfederal Agencies

Fiscal Year 2019 Funding Summary - Nonfederal Sponsors
 (\$365.61 million total - dollars in millions)



Over the last ten years, funding from the nonprofit sector has made up almost 45% of nonfederal funding. In fiscal year 2018, that sector provided 51% of the \$286.4 million received from nonfederal sources.

Ten-Year Funding Summary - Nonfederal Sponsors, FY 20010-2019
 (\$3.18 billion total - dollars in millions)



Largest Awards, Fiscal Year 2019

Jeffrey Edleson, Social Welfare, "Title IV-E Social Work Training Program," California Department of Social Services (Administration for Children and Families prime sponsor), \$78,172,644

Jeffrey Edleson, Social Welfare, "Regional Training Academy Coordination Project FY18-21," California Department of Social Services, \$10,217,929

David Mongeau, Data Science Institute, "Data Science Innovation Program," Janssen Pharmaceuticals, Inc., \$8,469,758

Matthew Welch, Molecular and Cell Biology, "The Molecular Basis of Cell Function," National Institute of General Medical Sciences, \$8,129,854

Andrew Siemion, Astronomy, "Breakthrough Listen Activities: Second Triennium," Breakthrough Prize Foundation, \$7,914,683

Aaron Parsons, Radio Astronomy Laboratory, "HERA: Unveiling the Cosmic Dawn," National Science Foundation, \$7,173,107

Alexandre Bayen, Institute of Transportation Studies, "I-210 Hard Pilot Deployment and Operation ICM 5 - Revised," California Department of Transportation, \$7,000,000

Trevor Darrell, Electrical Engineering and Computer Sciences, "BAIR OCR Participation Agreement," Facebook, \$6,200,000

Richard Allen, Berkeley Seismological Laboratory, "CEEWS 2018 Seismic Station Build Out," California Emergency Management Agency, \$5,500,000

Hillel Adesnik, Molecular and Cell Biology, "High Speed, High Precision Volumetric Multiphoton Neural Control," National Institute of Neurological Disorders and Stroke, \$5,098,104

Norman Ying Yao, Physics, "Driven Quantum Matter for Metrology (DQM2)," Defense Advanced Research Projects Agency, \$4,290,769

John Hartwig, Chemistry, "Discovery and Development of Organic Reactions Catalyzed by Transition Metals Valuable for Medicinal Chemistry," National Institute of General Medical Sciences, \$3,993,336

David Bilder, Molecular and Cell Biology, "Polarity, Growth, and Morphogenesis of Epithelia," National Institute of General Medical Sciences, \$3,976,473

Janet Luhmann, Space Sciences Laboratory, "In-Situ Measurements of Particles and CME Transients (IMPACT) Extension," National Aeronautics and Space Administration, \$3,599,170

Ming Hsu, Social Science Matrix, "Dopaminergic Mechanisms Underlying Human Social Behavior: A Multimodal Approach," National Institutes of Health, \$3,450,127

Richard Kramer, School of Optometry, "NEI Center CORE Grant for Vision Research," National Eye Institute, \$3,140,000

Richmond Sarpong, Chemistry, "Strategies and Methods for Complex Molecule Synthesis," National Institute of General Medical Sciences, \$3,089,100

Trevor Darrell, Electrical Engineering and Computer Sciences, "BAIR Open Research Commons," Honda, \$3,000,000

Lisa Barcellos, California Institute for Quantitative Biosciences, "ICLIC-MS for Enhancing Outcomes Research and Clinical Care in Multiple Sclerosis," National Institutes of Health, \$2,913,012

George Brooks, Integrative Biology, "Aging Mitochondrial Fragmentation and Metabolic Inflexibility," National Institute on Aging, \$2,849,066

Dennis Levi, School of Optometry, "Training Program in Vision Science," National Eye Institute, \$2,683,223

Marcia Linn, School of Education, "Collaborative Research: Supporting Teachers in Responsive Instruction for Developing Expertise in Science," National Science Foundation, \$2,604,685

Award Highlights

Connected Corridors Program: The I-210 Pilot

The objective of the I-210 Pilot project is to reduce congestion and improve mobility in a section of the I-210 corridor in the San Gabriel Valley of Los Angeles County. This objective will be achieved by coordinating the principal elements in the corridor and managing them as an integrated and cohesive whole. To attain these operational improvements, the project team will design, develop, implement, and evaluate a pilot Integrated Corridor Management system that will help transportation system managers in their decision-making tasks and enable operators, control systems, vehicles, and travelers to work together in a productive and coordinated way.

In 2019, the State of California Department of Transportation awarded \$7 million in funding to the I-210 Pilot.

<https://connected-corridors.berkeley.edu/i-210-pilot-landing-page>



Berkeley SETI: Breakthrough Listen Initiative

The Breakthrough Listen Initiative, funded by the Breakthrough Prize Foundation, is the most powerful, comprehensive and intensive scientific search ever undertaken for signs of intelligent life beyond Earth. The project is using the Green Bank radio telescope in West Virginia and the Parkes Telescope in Australia to search for radio transmissions from advanced civilizations. In addition, the Automated Planet Finder at Lick Observatory is being used to search for optical laser transmissions from other technological civilizations.

The Breakthrough Prize Foundation provided funding of \$7.9 million to the Berkeley SETI Research Center in 2018.

<https://seti.berkeley.edu/listen/>

Breakthrough Listen
at UC Berkeley