

The Facts: UC Federal Research

The University of California is the world’s largest academic research system, conducting approximately one-tenth of all academic research in the U.S. Through a robust partnership with the federal government, UC is educating the next-generation workforce, advancing scientific and technological breakthroughs, providing world-class medical training, and generating economic growth through new jobs, startup companies and spinoff industries. It’s a partnership that is helping spur innovation and grow the economies of California and the nation.

In Fiscal Year (FY) 2016, UC received nearly \$2.9 billion in federal research awards, representing more than 50 percent of the university’s total research award funding.

Here are some ways that federally funded UC research is impacting California and the world:

CREATING JOBS AND INVENTIONS

UC-affiliated companies employ more than 38,000 workers across a wide range of industries, adding more than \$20 billion in value to the state economy.

- UC researchers produced 1,745 inventions in 2015 – an average of nearly 5 a day.
- UC develops more patents than any other U.S. university. It holds 4,621 active patents, including ones that have led to creation of today’s leading industries.
- Nearly 1,000 startup companies have been formed with UC inventions; 85 in 2015 alone.

TRAINING THE NEXT GENERATION

UC’s breakthrough research depends upon an unsung legion: graduate students. They crunch the data, do the legwork, challenge the accepted and probe the possible.

- UC has more than 54,000 graduate students, who also serve as teachers and mentors to more than 210,000 undergraduate students.
- UC graduate students create almost 600 new inventions a year, from a smarter stethoscope to an app that provides early warning on earthquakes.

**UC Federal Agency
Research Funding**

Federal FY 2016, in millions of dollars

NIH	\$1,805
NSF	\$429
Defense	\$276
Energy	\$131
NASA	\$65
USDA	\$45
Other HHS	\$37
Commerce	\$29
Education	\$14
Other	\$57

IMPROVING HEALTH

UC delivers hope that tumors can be treated, diseases can be defeated and conditions can be cured.

- Highly competitive federal research funds enable UC scientists to advance understanding of the basic biological causes of cancer, cardiovascular disease, diabetes and HIV, among many other conditions, and to find improved therapies for patients, from treating pain to developing an artificial kidney.
- UC is awarded more National Institutes of Health funding than any other institution (more than \$1.8 billion in research funding in FY 2016), helping to find tomorrow's cures and fuel California's biomedical industry.

ADVANCING SCIENCE

UC research generates knowledge and innovations that are beneficial on a global scale.

- CRISPR gene-editing technology, which holds potential for medical, agricultural and other applications, emerged from work funded by a National Science Foundation grant to UC more than a decade ago.
- Agricultural research helps farmers compete globally and meet food demand; one major current focus in California is fighting citrus greening disease, which threatens the state's \$3.3 billion citrus industry.
- Social and behavioral science research has been critical to respond effectively to disasters, improve international relations and educate the STEM workforce.

SECURING OUR FUTURE

From advancing solar power technology to developing smart uniforms that protect soldiers against biological agents, UC researchers are working to create a more sustainable and secure future.

- UC is a leader in energy research that will reduce carbon emissions and their impact.
- UC research is helping to save lives on the battlefield and once soldiers are home.
- UC manages three U.S. Department of Energy national laboratories, whose research addresses national interests and concerns in areas such as energy, environment, health and homeland security.

Research Impact

Inventions per day (avg.) ----- ~5
Inventions (2015) ----- 1,745
Startups founded on UC
patents (to date) ----- 934
Active patents ----- 12,203

**MANY OF CALIFORNIA'S
LEADING INDUSTRIES GREW
FROM UC RESEARCH,
INCLUDING BIOTECHNOLOGY,
COMPUTING,
SEMICONDUCTORS,
TELECOMMUNICATIONS AND
AGRICULTURE.**

Research Funding

Federal FY 2016

Research awards ----- \$4.3B
Federal research awards -- \$2.9B
Federal research
contracts/ grants ----- ~6,500

**UC IS AWARDED MORE NIH
AND NSF FUNDING THAN ANY
OTHER U.S. INSTITUTION.**