The Facts: UC Federal Research

The University of California is the nation’s largest academic recipient of federally-sponsored funding for research and other university-based projects, conducting approximately one-tenth of all academic research and development 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. The UC-federal partnership is helping spur innovation and grow the economies of California and the nation.

The federal government is the university’s largest source of research funding, accounting more than half of UC’s total research awards. In fiscal year (FY) 2018, UC received more than $2.95 billion in federal agency research funding.

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

**CREATING JOBS AND INVENTIONS**
A 2016 report found that UC-affiliated companies employ more than 38,000 workers across a range of industries, adding more than $20 billion in value to the state’s economy.

- UC averages 5 inventions per day, and in UC FY 2017, UC researchers produced 1,716 inventions.
- UC develops more patents than any other U.S. university, and holds 12,528 active patents in its portfolio, including ones that led to the creation of many of today’s leading industries.
- More than 1,100 startup companies have been founded on UC inventions; 96 in 2017 alone.

**TRAINING THE NEXT GENERATION**
UC’s breakthrough research depends upon an unsung legion: graduate students. They crunch the data, conduct research, challenge the accepted and probe the possible.

- UC has more than 57,000 graduate students, who also serve as teachers and mentors to more than 222,000 undergraduate students.
- More than 300 startup companies have been launched by UC graduate students or emerged directly from their discoveries.
- UC graduate students create almost 600 new inventions a year, from a smarter stethoscope to an app that provides early warning on earthquakes.
- On average, every two weeks, a startup is formed based on a UC graduate student invention.

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**UC Federal Agency Research Funding**

Federal FY 2018 in millions of dollars

<table>
<thead>
<tr>
<th>Agency</th>
<th>Amount</th>
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<tbody>
<tr>
<td>NIH</td>
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<td>Other</td>
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**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 (NIH) funding than any other institution – nearly $1.864 billion in NIH research funding in FY 2018—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 the National Science Foundation and NIH.
- Agricultural research helps farmers compete globally and meet food demand; one major issue in California is fighting citrus greening disease, which threatens the state’s $2.4 billion citrus industry. UC is integrally involved in conducting research on citrus greening and other agricultural diseases and challenges.
- Social and behavioral science research is critical to responding effectively to disasters, improving international relations and educating 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 and create the latest energy technologies.
- 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.