Federal Investment in Research

Fiscal Years 2017 and 2018 Federal Budget Update

Fiscal Year (FY) 2017 Federal Budget
During the first week of May, Congress passed and the president signed into law H.R. 244, the Consolidated Appropriations Act, 2017. This omnibus appropriations legislation funds the federal government through the end of FY 2017. The approximately $1 trillion bipartisan agreement includes funding for many programs of importance to the university.

High-level Overview of the FY 2017 Omnibus Spending Package
Below is a high-level overview of the FY 2017 omnibus spending package as it relates to UC's education, research, health care and public service missions:

Higher Education and Student Financial Aid
The FY 2017 omnibus appropriations law funds the Department of Education (ED) at $68 billion, and after accounting for a $1.3 billion rescission from the Pell Grant surplus (now being called the “reserve”), the net cut is $1.1 billion below the FY 2016 enacted level.

The discretionary funding provided for Pell Grants will support a base award of $4,860, which with the available mandatory funding, will raise the maximum grant to $5,920. This is the same level as FY 2016.

UC is very pleased that the omnibus appropriations law reinstates year-round Pell Grants, which could mean an additional Pell grant averaging $1,650 for more than one million students across the country. The law instructs ED—before July 1, 2017—to implement this provision “to maximize flexibility for institutions of higher education and avoid unnecessary administrative burdens while ensuring the best interests of students.” UC has been a strong supporter of the reinstatement of year-round Pell Grants. In November, UC President Janet Napolitano joined with UC Student Association leadership in writing a letter to members of the California congressional delegation to urge support for the reinstatement of year-round Pell Grants. President Napolitano also led an effort with the California Community Colleges and California State University System in calling for the reinstatement.

The following programs are funded at the same levels as in FY 2016:
- Supplemental Educational Opportunity Grants (SEOG), $733 million;
- Federal Work-Study, $990 million;
- Title VI, International Education, $72 million;
- Aid for Hispanic Serving Institutions, $117 million; and
- Teacher Quality Partnerships, $43 million.

The Graduate Assistance in Areas of National Need (GAANN) program is cut by $1 million, to $28 million and the Institute for Education Sciences (IES) is cut by $13 million to $605 million.

The following programs will receive increases for the academic year 2017-18:
- $950 million for TRIO, $50 million above the 2016 enacted level;
• $340 million for GEAR UP, $17 million above FY 2016; and
• $108.5 million for the Office for Civil Rights, $1.5 million more than FY 2016.

The law includes $1.6 billion for the Student Aid Administration, which is an increase of $25 million for ED to maximize the efficiency and effectiveness of the student aid programs. The funding is accompanied by a caveat this year, directing the secretary to assign new loan accounts to loan servicers based on their performance and on their capacity to take on new and existing accounts, and to allow student loan borrowers who are consolidating federal loans to select from the servicer they want to handle their loans. The department is also directed to release common performance metrics to borrowers to inform their servicer-selection decisions.

Arts and Humanities
The National Endowment for the Arts and the National Endowment for the Humanities each received an increase of $2 million and are funded at $149.85 million for FY 2017.

Research
The omnibus appropriations law includes the following research highlights:
• The $2 billion National Institutes of Health (NIH) increase for FY 2017 (including $352 million for the Cures Act programs) is the most significant win for academic research in federal appropriations this year.
• While defense science and technology programs are boosted by $760 million, the 6.1 program that funds basic defense research suffered a $33 million cut.
• National Nuclear Security Administration (NNSA) weapons activities are increased by $471 million.
• The National Aeronautics and Space Administration (NASA) Science Mission Directorate received a $176 million increase.
• Despite the Trump administration’s calls to eliminate Advanced Research Projects Agency-Energy (ARPA-E), the program received a $15 million increase over FY 2016 funding levels.
• Most other federal extramural research programs were held flat or had modest cuts, including National Science Foundation (NSF), U.S. Department of Agriculture (USDA) National Institute Of Food And Agriculture (NIFA), National Oceanic and Atmospheric Administration (NOAA) Office of Oceanic and Atmospheric Research (OAR), Defense 6.1 basic research, Department of Energy Office of Science and Homeland Security Science and Technology.

National Institutes of Health (NIH)
The FY 2017 omnibus budget agreement provides $34.084 billion for NIH, an increase of $2 billion, or 6.2 percent, above the federal funding level enacted in 2016. This includes $352 million for the 21st Century Cures Act. UC has routinely requested that NIH funding levels be predictable and robust. A $2 billion increase in NIH funding will help UC retain talented biomedical researchers, including many early career researchers who depend upon a steady stream of robust NIH funding.

The law also provides for the following funding increases of interest to UC:
• $260 million for the Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative, an increase of $50 million;
• $1.39 billion for Alzheimer’s disease research, an increase of $400 million;
• $5.7 billion for the National Cancer Institute, an increase of $475.8 million; and
• $320 million for the Precision Medicine Initiative, an increase of $120 million.
U.S. Department of Agriculture (USDA) National Institute of Food and Agriculture (NIFA) programs were funded at $1.363 billion, which is $36.4 million more than in FY 2016. These extramural research, extension and integrated activities programs were held roughly flat, except for $375 million for the competitive Agriculture and Food Research Initiative program, a $25 million increase over last year.

National Aeronautics and Space Administration (NASA) is funded at $19.65 billion, a $368 million increase over FY 2016. NASA Space Exploration received $4.3 billion (+$294 million), and the Science Mission Directorate is funded at $5.765 billion, a $176 million increase. Also important to UC, the Space Grant College and Fellowship Program was flat funded at $40 million.

National Science Foundation (NSF) is relatively flat funded at $7.47 billion, an $8.7 million increase over FY 2016. No less than $15 million was provided for a Hispanic Serving Institutions (HSI) program, and $30 million was provided for the I-Corps program. The final law contained no directorate level funding instructions.

National Oceanic and Atmospheric Administration (NOAA) is funded at $5.675 billion, which is a $90 million cut below FY 2016, but $95 million more than the House bill. The Office of Oceanic and Atmospheric Research (OAR) is funded at $477.7 million, a $15.7 million increase above FY 2016. OAR Climate Research ($158 million) and other ocean observing programs important to UC are roughly flat funded.

Department of Defense (DOD) Research is funded at $73.7 billion, $72.3 billion in the base law and $1.4 billion from Overseas Contingency Operations (OCO). The total is $3.7 billion above FY 2016. Highlights include:

- **6.1-6.3 Science and Technology programs:** $14.01 billion, a $760 million increase above FY 2016. Defense basic research (6.1) is funded at $2.276 billion, a $33 million cut (1.4 percent) below FY 2016. The 6.2 and 6.3 research accounts received 5.8 percent and 8.4 percent increases, respectively.
- **Defense Advanced Research Projects Agency (DARPA)** is funded at $2.939 billion, a $48 million increase above FY 2016.
- **Defense Medical Research** is funded at $1.014 billion, which is $137 million below FY 2016.

Department of Energy (DOE) Office of Science: $5.392 billion, which is $42 million above FY 2016.

- **Energy Innovation Hubs:** $24.1 million is provided for the Batteries and Energy Storage Hub run by Argonne National Lab (LLNL and BNL are partners), and $15 million is provided for the Fuels from Sunlight Innovation Hub run by Cal Tech (LBNL, UC Irvine, UC Berkeley and UC San Diego are partners).
- **BioEnergy Research Centers:** $75 million is provided for the three BioEnergy Research Centers, including LBNL’s Joint BioEnergy Institute.

Advanced Research Projects Agency-Energy (ARPA-E) is funded at $306 million, which is $15 million over FY 2016.

National Nuclear Security Administration (NNSA) Nuclear Weapons and Nonproliferation is funded at $9.3 billion for nuclear weapons activities, $471 million more than in FY 2016. The
law also provides $1.9 billion for nonproliferation activities to reduce the threat of nuclear terrorism, which is $38 million below FY 2016.

**Computer Science and Computational Resources**

- **The Lawrence Berkeley National Laboratory National Energy Research Scientific Computing Center** is funded at $92 million.
- **Exascale Computing**: $295 million total, including $164 million in the Advanced Scientific Computing Research Program, and $95 million for the NNSA Advanced Simulation and Computing program. The total is $42 million above FY 2016.

**Department of Homeland Security, Science and Technology Directorate**: Research, Development and Innovation programs are funded at $430.2 million, a $4.6 million cut below FY 2016. University Programs received $40.5 million, an $800,000 increase over FY 2016.

**US Geological Survey (USGS)**: $1.085 billion, which is $23 million above FY 2016. Several USGS programs, though relatively small, are of importance to UC campuses and the UC Division of Agriculture and Natural Resources (UCANR):

- **Earthquake Hazards Program**: $64.3 million, a $3.8 million increase above FY 2016. Of this amount, $10.2 million is included to continue development of the Earthquake Early Warning System. UC campuses and other California universities are instrumental in this work.
- **Global Seismographic Network (GSN)**: $6.653 million, which is $200,000 above FY 2016.
- **Water Resources Research Institutes (WRRI)**: $6.5 million (flat funding) for WRRIs, including the California Institute for Water Resources, which is part of UCANR.
- **Climate and Land Use Change, and Climate Science Centers**: The law provides $149.3 million for Climate and Land Use Change programs, including Arctic research, Landsat 9, and the Land Remote Sensing program. Climate Science Centers are funded at $25.335 million, $1.1 million less than in FY 2016.

**Health**

**Healthcare Workforce Development and Training**: The law includes funding for workforce training for nurses and physicians who practice in underserved areas by appropriating a total of $538.7 million for Title VII (physician workforce) and VIII (nurse workforce) programs. Of this sum, $309.2 million is earmarked for Title VII workforce training in FY 2017 as compared to an extra 1 percent that was enacted in FY 2016 in the amount of $312.4 million. Congress has kept funding for Title VIII workforce training relatively flat in FY 2017 at $229.4 million.

**Agency for Healthcare Research and Quality (AHRQ)**: The law provides $324 million AHRQ. This is 3 percent below the enacted FY 2016 funding level of $334 million. AHRQ’s mission includes producing evidence to make health care safer and of higher quality, as well as more accessible, equitable and affordable. UC’s five academic medical centers are beneficiaries of AHRQ advances.

**Centers for Disease Control and Prevention (CDC)**: The law prioritizes disease prevention, as requested by UC system. The budget agreement would appropriate $7.25 billion to the CDC programs. This funding is nearly flat over the FY 2016 enacted funding level of $7.23 billion.

**National Institute for Occupational Safety and Health (NIOSH) Education and Research Centers (ERCs)**: The omnibus provides $29 million for the National Institute for Occupational
Safety and Health (NIOSH) Education and Research Centers (ERCs). This represents a slight increase over the FY 2016 enacted level of $28.5 million.

**NIOSH Agriculture, Forestry and Fishing Program (AFF):** The omnibus appropriates $25.5 million for the AFF Program. This is a slight increase over the FY 2016 enacted level of $25 million.
FY 2018 Federal Budget
On March 16, President Trump released his budget outline for FY 2018, titled “America First: A Budget Blueprint to Make America Great Again.” The proposal seeks to increase defense spending by $54 billion, to be offset by steep reductions in funding for non-defense programs. It would break the principle of parity in funding between defense and non-defense discretionary programs that was established by the Budget Control Act (BCA) of 2011.

The President's budget request is the initial step in the budget and appropriations process. The White House is expected to send its full budget request to Congress by the middle of May.

Independent of the President’s FY 2018 budget proposal, defense and non-defense discretionary spending caps would fall in FY 2018 under current law. After two years of partial relief enacted under the Bipartisan Budget Act of 2015, the full impact of the lower BCA sequestration caps returns for FY 2018. New changes to the underlying BCA budget law would have to be enacted to alter the overall FY 2018 discretionary spending cap ($1.064 trillion), and to revise the caps for the defense and non-defense categories as proposed by the President.

The University is very concerned that President Trump’s recently released FY 2018 Budget Blueprint proposes significant disinvestments in education and scientific, technological, and medical research that will stifle crucial advancements toward solving our nation’s most pressing needs and challenges. The University strongly urges Congress to make the critical investments in federal programs that will help us ensure that UC continues to provide a world-class education to the next-generation workforce, pursues groundbreaking research to address some of the biggest scientific and technological challenges of our time and delivers cutting-edge medical education and health care services.

High-level Overview of President Trump’s FY 2018 Budget Blueprint
Below is a high-level overview of President Trump’s FY 2018 Budget Blueprint related to UC’s education, research, health care and public service missions:

- **Department of Agriculture**: 21 percent cut (-$4.7 billion)
  - Full impacts on Agricultural Research Service and the National Institute of Food and Agriculture programs are unknown; the competitive AFRI grant program would be funded at $350 million

- **Department of Commerce**: 16 percent cut (-$1.4 billion), with much of that targeted at the National Oceanic and Atmospheric Administration (NOAA)
  - $250 million cut in coastal research programs, including elimination of the Sea Grant Program
  - Eliminates the National Institute of Standards and Technology’s (NIST) Manufacturing Extension Partnership program

- **Department of Defense**: 9 percent increase (+$52 billion), focused on “warfighting readiness”

- **Department of Education**: 14 percent cut (-$9.2 billion)
  - Maintains the current funding level for Pell Grants; calls for the “cancellation” of $3.9 billion in Pell reserve funds
  - Reduces or eliminates more than 20 programs, including grants for teacher training, the Federal Supplemental Educational Opportunity Grant (SEOG), the International Education and the Teacher Quality Partnership programs
  - “Significantly” reduces the Federal Work Study program
Cuts the Federal TRIO Program (funding it at $808 million) and the GEAR UP (funding it at $219 million)

Proposes shifting $1.4 billion toward “investments in public and private school choice”

**Department of Energy:** 6 percent overall cut (-$1.7 billion); however, funding is redistributed to the National Nuclear Security Administration (NNSA), which would increase by 11.3 percent while the rest of DOE programs would be cut by 17.9 percent

- $900 million cut to the Office of Science
- Eliminates ARPA-E and the Advanced Technology Vehicle Manufacturing Program

**Department of Health and Human Services:** 18 percent cut (-$15.1 billion)

- More than one-third of the cuts would affect the National Institutes of Health (NIH)
  - Proposed cuts to NIH represent 19 percent of its budget for discretionary programs
  - Requests a “major reorganization” of the institutes and centers
- Eliminates $403 million in health professions and nursing training programs
- Existing public health, emergency preparedness and prevention programs would be changed significantly, including the Centers for Disease Control and Prevention; a new emergency fund and state block grants are proposed to respond to disease outbreaks

**Department of Homeland Security:** 7 percent increase (+$2.8 billion) for a border wall and immigration enforcement, offset with deep cuts to other programs, including TSA and FEMA emergency grants

**Department of Housing and Urban Development:** 13 percent cut (-$6.2 billion)

**Department of the Interior:** 12 percent cut (-$1.6 billion)

**Department of Justice:** 4 percent cut (-$1.1 billion)

**Department of Labor:** 21 percent cut (-$2.6 billion)

**State Department, USAID and Treasury International Program:** 29 percent cut (-$10.9 billion)

- Reduces funding for Educational and Cultural Exchange programs; maintains the Fulbright Program
- Eliminates the Global Climate Change Initiative and stops payments to United Nations climate change programs

**Department of Transportation:** 13 percent cut (-$2.4 billion)

**Department of Treasury:** 4 percent cut (-$500 million)

**Department of Veterans Affairs:** 6 percent increase (+$4.4 billion)

**Environmental Protection Agency (EPA):** 31 percent cut (-$2.5 billion)

- $233 million cut for Office of Research and Development, particularly for extramural activities, including STAR grants
- Eliminates more than 50 EPA programs, including the Clean Power Plan, climate change research and partnership programs, international climate change programs and Energy Star

**NASA:** 1 percent cut (-$100 million), with funding focused on deep space programs at the expense of earth science and education programs

The budget proposal also eliminates funding for 19 agencies, including the National Endowment for the Humanities ($148 million), the National Endowment for the Arts ($148 million) and the Institute for Museum and Library Services ($230 million).