FACT SHEET: GRADUATE RESEARCH AND EDUCATION

University of California graduates make their mark on the nation and the world — developing research breakthroughs that lead to major medical advances and other new technologies, shaping ideas about our world and cultures, creating the economic and social infrastructure of our communities, and assuming political and corporate leadership in California and the nation.

The University of California trains and supports more than 26,000 graduate researchers and 6,400 postdoctoral fellows who are engaged in original research in a broad range of academic fields.

Graduate education at UC is the engine of a highly skilled workforce, preparing students for careers in academia, business, government and the nonprofit sector. UC educates graduate students to generate new knowledge that enhances our quality of life, creates industries and meets California and the nation’s workforce needs. UC relies on the federal government as a critical partner in these endeavors and seeks to strengthen federal support for graduate education now and into the future.

The University of California is the third largest state employer and generates more than $46 billion in annual economic activity while contributing $32.8 billion to the gross state product. One in 46 jobs — 430,000 — in California is supported by UC operations and spending by faculty, staff, students and retirees.

UC CALL FOR ACTION

The University of California supports a strong and sustained federal investment in graduate student support, through research funding, fellowship and training grant programs, and student financial support:

- **In research:** UC supports the highest possible levels of federal funding for basic scientific research across all disciplines. A number of federal agencies, including the National Institutes of Health, National Science Foundation, Department of Energy,
Department of Agriculture, Department of Defense, NASA and NOAA, are instrumental in providing research funding that supports fellowships, teaching assistantships and training awards for graduate students at UC.

**In education:** UC supports a renewed funding commitment for graduate student financial aid and new fellowship opportunities, including the Javits and GAANN programs, for highly competitive graduate students to pursue advanced degrees in the arts and humanities. The Department of Education, the National Endowment for the Humanities and the National Endowment for the Arts are critical sources of funding for our graduate students.

**In medical education:** UC supports continued full funding for direct and indirect Graduate Medical Education (GME) to ensure that UC Health is able to sustain its critical role in training physicians, supporting economic growth, and providing access to care in California communities.

### GRADUATE RESEARCH AND EDUCATION AT UC

**Research**
- UC research is critical to our economic health and quality of life. In FY 2012, UC received $3.1 billion in federal research awards, which represents two-thirds of UC’s total research funding for the year.
- The UC campuses combined represent the federal government’s largest university research partner. National Institutes of Health, National Science Foundation, the Departments of Energy, Defense, Agriculture and Commerce, and NASA are the university’s primary sources of research funding.
- UC graduate and postdoctoral students are critical to UC’s research success. UC graduate researchers helped create the biotechnology industry and led industrial breakthroughs in a host of other industries, including electronics, pharmaceuticals, telecommunications, nanotechnology and the special effects film industry. Millions of jobs for Americans at all levels, not just for those with graduate degrees, have been produced through UC’s research leadership.
UC develops more patents than any other university in the nation. Many of UC’s 4,118 active patents have led to the creation of today’s leading industries. UC researchers produced 1,776 new inventions in 2012, an average of nearly five a day. To date, more than 640 startup companies have been formed with UC inventions — 61 in 2012 alone.

UC researchers continue to tackle issues of vital importance, such as identifying disease causes and developing cures and life-enhancing biotechnologies; discovering and developing new knowledge, materials and products for energy, industrial and national security applications; and environmental and agricultural research and outreach to improve air and water quality, farm productivity and human nutrition.

Education
• The U.S. Bureau of Labor Statistics estimates that the number of jobs requiring advanced degrees will grow by 2.6 million before 2020, including an expected 20 percent increase in those requiring a doctorate or professional degree and 22 percent in those needing a master’s.
• Over the next 10–15 years, California’s public and private four-year universities will need to hire an estimated 25,000 new faculty to teach the growing number of undergraduates and to replace retiring faculty. California’s universities depend heavily on UC’s graduate programs to fill their faculties.
• One quarter of all UC and California State University faculty received their Ph.D. from a UC graduate program. At least 10 UC Ph.D.s have been awarded Nobel Prizes in chemistry, economics and physics, recognizing achievements that have brought the greatest benefit to humanity.
• UC trains and supports more than 26,000 graduate researchers and 6,400 postdoctoral fellows who are engaged in original research in a broad range of academic fields.
• UC offers nearly 700 master’s, doctoral and professional degree programs across 10 campuses, in widely diverse fields ranging from aerospace engineering to world cultures and history; from bioinformatics to visual arts; from business for future entrepreneurs to advanced programs for teachers, lawyers, physicians, nurse practitioners and social workers.
UC graduate students are creating new knowledge and innovative solutions to pressing major health, energy, environmental and social problems, enriching the arts, and driving economic growth and development.

Graduate Medical Education

• UC trains more than 3,100 medical students and 4,400 medical residents and fellows, nearly half of the state’s total.
• California has a 69 percent retention rate for medical residents, the nation’s second highest. California ranks fifth in the nation in retention of physicians who graduate from an in-state medical school and complete residencies in an in-state teaching hospital.
• UC Health supports 117,000 jobs, adds $12.5 billion to the gross state product and generates $16.7 billion in economic activity in California.
• UC medical centers receive an average of $100,000 in Medicare Graduate Medical Education (GME) payments for each full time equivalent position annually. This funding supports the higher costs associated with medical education training, the provision of specialized clinical care and the cutting-edge research that are fundamental to the mission of teaching hospitals. GME payments cover only a portion of what it actually costs to train residents, which ranges from $130,000 to $200,000 annually.
• Reductions in GME support would compromise UC’s ability to train physicians in a time where the state and country face staggering physician shortages. Fifty-one of California’s 58 counties have at least one federally designated Health Professional Shortage Area; cutting GME payments to UC would exacerbate patient access to services.
• For every $1 the federal government cuts in indirect GME payments, the hospital’s state economy loses $3.84. Some of the proposed cuts under consideration would result in loss of more than 4,200 jobs in California.