# Testimony for Fiscal Year 2013 NASA Budget
# Submitted to the Subcommittee on Commerce, Justice, Science, and Related Agencies
# Committee on Appropriations
# United States House of Representatives
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## Submitted by
## Representative Judy Chu

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Chairman Wolf, Ranking Member Fattah, and Members of the Subcommittee: Thank you for the opportunity to testify on the National Aeronautics and Space Administration's fiscal year 2013 budget. I am Congresswoman Judy Chu and I represent California's 32nd district in Los Angeles County. My district currently neighbors Pasadena and the California Institute of Technology (Caltech), which manages NASA's Jet Propulsion Laboratory (JPL). In fact, these two prestigious institutions are only a few blocks from my district line. As you can imagine, although Caltech and JPL are not physically located in my district, they are extremely important to the community I represent, and to the region at large, employing over 5,000 Angelinos with good high-paying jobs. In fact, because of the impact, expertise, and research at JPL, that the San Gabriel Valley is considered the brain trust of the LA Area.

Over forty years ago, the "Space Race" captivated our nation and human space exploration inspired a generation of scientists and engineers. Today, it is the robotic exploration of far-away planets, like Mars and Jupiter that excites Americans. In fact, the Mars Exploration program has been one of NASA's treasures, producing many of its most awe-inspiring achievements over the last decade. When the Mars *Spirit* rover landed in 2004, the mission's website saw nearly one billion hits. From the Mars rovers *Spirit* and *Opportunity*, which analyzed soils on the Martian surface, and the *Phoenix* lander that confirmed the presence of water, to the recently-launched *Mars Science Lab*, which will seek to discover whether or not life has existed or can exist on Mars, NASA's planetary science program continues to make scientific breakthroughs and to "wow" us all.

More immediately, to the people of my district and throughout the region, this high-skilled, cutting-edge work means jobs at Caltech and JPL, and in spin-off industries and businesses, as well as indirect jobs throughout the community. As you may know, L.A. County has one of the highest unemployment rates in the country. Many of the thousands of JPL employees who work on the Mars Exploration program and other NASA programs live in my district; they shop, and invest, and pay taxes in the community. Yet the economic benefits do not stop there. These are exactly the kinds of jobs America needs to protect and promote to spur innovation and real economic growth. The spin-off technologies created by the Mars program can translate to skilled jobs throughout the U.S. The need for experts in science, technology, mathematics and engineering that a sustained Mars program and Planetary Exploration demand translates to the

kind of emphasis on education that has long made America the global leader in innovation, discovery and development.

At JPL, scientists and engineers take on the toughest assignments and solve problems with new technologies that benefit us all. In fact, JPL is the only place in the world that has successfully landed a mission on Mars. But this unique capability to perform high-end entry, descent, and landing on another planetary body is at risk. The proposed cuts to NASA's budget would devastate JPL's workforce and would require our nation's best and brightest to look elsewhere for work. With a dramatically reduced Mars Exploration program, the U.S. is in danger of losing the intellectual capital it needs to land missions on another planet.

The National Research Council's decadal survey for planetary science (*Vision and Voyages for Planetary Science in the Decade 2013-2022*)—released in March, 2011 and authored by the nation's most preeminent planetary scientists—sets as the field's highest priority a Mars rover mission in 2018 that would lead to bringing back rock and dust samples to Earth. This mission, along with the critical science orbiter which was intended for launch in 2016, would preserve the nation's global technological and scientific leadership while maintaining the unique national capability built over the last sixty years to successfully and safely land a rover on the surface of another planet.

Unfortunately, the President's budget request for Fiscal Year 2013 would disproportionately single out and cut planetary science. The Mars Exploration program would receive an irrevocably damaging cut of nearly 40 percent. Not only is it unfair to single out one scientific discipline like this, which dissuades both active scientists and future scientists from pursuing a career in planetary science, it is equally unfair that the US should lose its longstanding leadership role in planetary exploration as a result of NASA's shortsightedness. How can we let NASA's dominance in planetary exploration slip, especially as other countries are challenging our leadership? NASA's Space Science program has been successful over the last 20 years because its balance has allowed the scientific community to plan future missions while encouraging new scientists to enter the field. But this NASA budget is <u>not</u> balanced.

I understand that we need to set priorities, and we all need to make difficult choices. But how can exploring the universe and investing in game-changing technologies are and must remain top priorities. The return on investment for these programs is so great that we would be negligent if we did not continue to support this program. The technologies developed to execute these missions are important economic drivers and play a role in Americans' everyday lives. The Mars mapping technology developed at JPL is now used to conduct high-resolution 3D mapping here on Earth by businesses, emergency managers, and policy makers. [1] Additionally, the technology generated from building the Mars rovers at JPL has lead to the creation of military combat robots used by American service members in Iraq and Afghanistan to search buildings and clear caves and bunkers, while keeping American troops out of harm's way.[2] These cutting-

[1] *Mars Mapping Technology Brings Main Street to Life*. NASA: Spinoff 2008. Web. 2008. Web. 09 March 2012. http://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20090002482_2009001785.pdf.
[2] *All-Terain Intelligent Robot Braves battlefront to Save Lives*. NASA: Spinoff 2005. 2005. Web. 08 March 2012. http://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20060022037_2006145860.pdf.

edge spinoffs are important economic drivers, many of which support small businesses—a key player in today's economy.

Despite the fact that NASA's Mars Exploration program is so remarkable, in both its past accomplishments and its ability to inspire those of us on Earth, NASA's proposed budget would completely devastate the program. The Mars Exploration program, as well as other key scientific missions like a mission to Jupiter's exciting moon Europa, are key recommendations from the National Research Council's planetary science decadal survey. Planetary expeditions, like the Mars Sample Return and a journey to Europa, not only provide an economic return on investment, but they also help humankind understand the Universe and our place within it. I ask you to support the planetary sciences at NASA at the level of $1.44 billion, slightly below the amount we committed in Fiscal Year 2011, which would allow the U.S. to continue to explore our Solar System and keep the knowledge and technical capability to do so right here in the United States, instead of overseas. At a time when Americans are looking for its leaders to grow the economy and help create job opportunities, to protect and expand American leadership, and while many of our partners and competitors alike are expanding their investments in space exploration and technology, it does not make sense to cut one of our most promising and successful NASA programs.

I hope this committee will carefully weigh the benefits of the Mars program as it considers the Fiscal Year 2013 budget.

Thank you.