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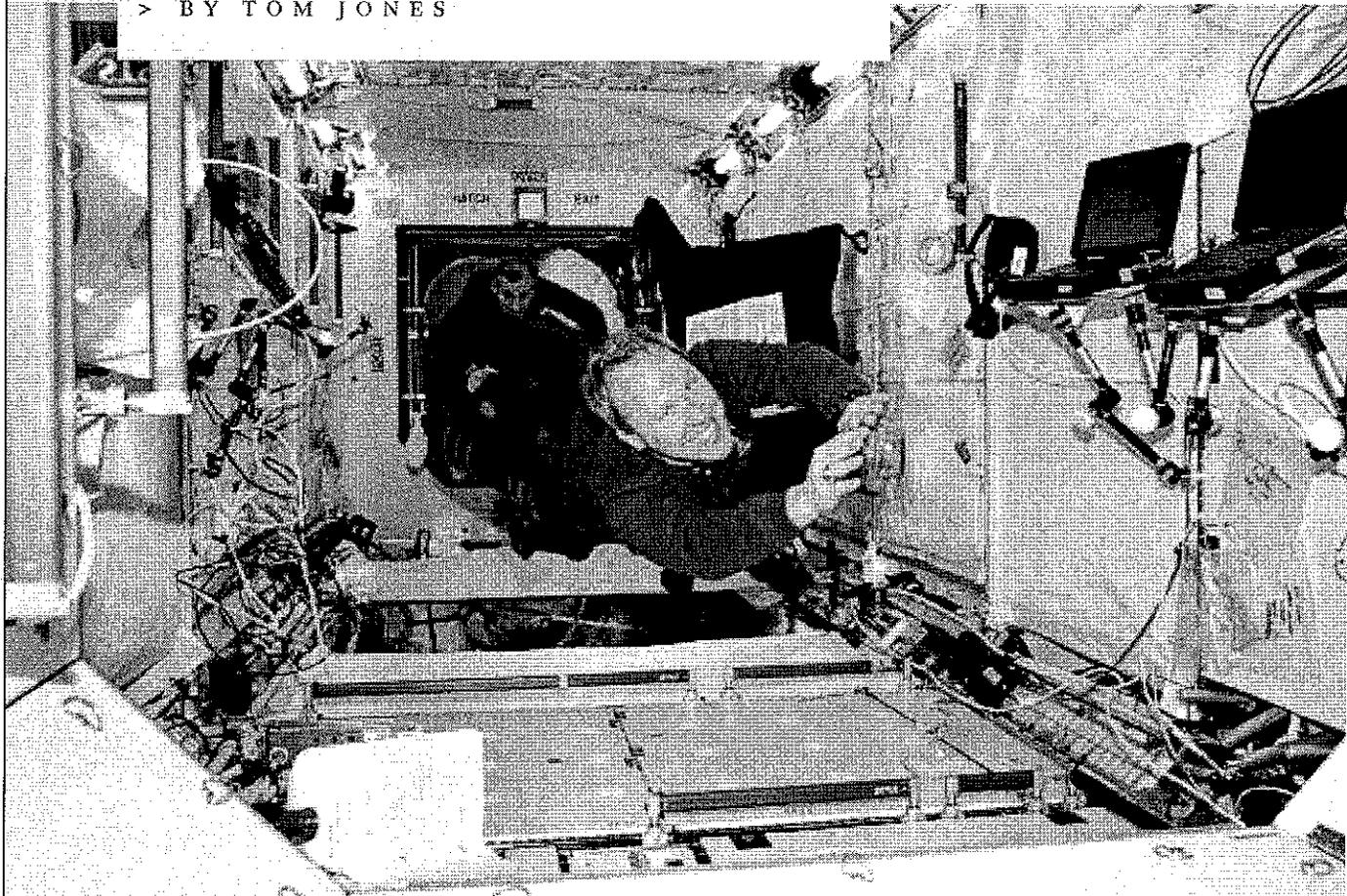
I am a four-time shuttle astronaut, specifically concerned about the safety and cost of committing all our access to low-Earth orbit, and the space station, to untried commercial vehicles. I'm also disappointed about the president's silence on committing the U.S. to human space exploration beyond low Earth orbit. I think this is the first move to eventually end U.S. human spaceflight altogether, in favor of mining the NASA budget to fund other domestic priorities.

Please contact me if I can help with testimony or background information.

Respectfully,
Tom Jones

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> BY TOM JONES



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resident Obama released his fiscal year 2011 budget on February 1, and his policy for NASA's human spaceflight program puts the nation on a course to second-class status in space. Instead of setting our national sights on the moon, nearby asteroids or more distant destinations, the president is declaring that human spaceflight is unimportant to U.S. interests.

He's not saying so directly. But his budget actions speak loudly. He has cancelled NASA's next-generation Constellation program, including the Orion spacecraft and the two rockets that were designed to return American explorers to deep space (see "Mission to the Moon," March 2007).

A little history: In the past 20 years, under three different administrations, NASA has lost more than 25 percent of its buying power. Despite those cuts, the agency managed to operate the shuttle

PM'S RESIDENT ASTRO-NAUT SAYS DRASTIC BUDGET CUTS LEAVE NASA ON A PATH TO NOWHERE.

Tom Jones (foreground), International Space Station, 2001.

and build the International Space Station (ISS). But it lacked a long-term goal in space. That lack of direction and the failure to replace the vulnerable shuttle led in part to the *Columbia* accident in 2003 that killed seven of my colleagues.

Now, seven years later, the presi-

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dent's budget shows that he has already forgotten the lessons of *Columbia*. Without a goal worthy of the serious risks of human spaceflight, we will be putting our astronauts in danger to do nothing more than crew a research outpost. Even though I helped build the space station, it is not an ultimate destination. The ISS is a steppingstone to more ambitious exploration.

It is true that President Obama inherited a Constellation program (a return to the moon and deep space) that the Bush administration had underfunded by more than 35 percent since its inception in 2004. Because of that lack of support, Constellation is badly behind schedule. Those delays also raised costs for the development of the Ares I booster. Yet in October NASA successfully flew an early version of Ares I. While not a long-term successor to the shuttle, this rocket, with adequate funding, could be in service to ISS by 2015, restoring our own access to space.

The new budget seems merely an attempt to disguise the demise of U.S. leadership in space. The president does away with the Orion spacecraft and its Ares I and Ares V rocket boosters. The abrupt cancellation of the Constellation program means the U.S. no longer wishes to send its explorers to the frontiers of knowledge and the heights of spacefaring skill. We are deliberately choosing to have no better space capability than Russia, China or India.

During the peak of the shuttle program in the 1990s, we launched six or seven shuttles and about 40 astronauts per year into orbit for scientific and defense purposes. Starting next year, and for the foreseeable future, just four Americans will make it into space annually—as passengers on foreign rockets. Is this a bold new course for the nation?

After the shuttle orbiters retire by early 2011, American astronauts will rent seats on Russian rockets headed to the space station. We won't field an

alternative spacecraft for five years or more. Instead, the president will farm out the nation's access to low Earth orbit to commercial firms. None of the industry rockets NASA has ordered to deliver cargo to the ISS has yet flown, and betting our nation's sole access to space on industry's ability to replicate 50 years of NASA experience on the fly is unwise. NASA should field its new crewed spacecraft as quickly as possible, then move to commercial firms once they have a proven record of reliable cargo services.

While NASA hopes its commercial effort will produce a ship that can service the ISS, the end of Constellation defers indefinitely the building of a heavy-lift rocket. Without such a Sat-

Augustine Committee last May to review the nation's human spaceflight plans. Of their recommendations, he accepted the move to put our human access to space on a commercial footing, with great uncertainty as to safety, schedule and cost. If this effort fails, the nation has no backup plan.

But the president rejected the most important of the Augustine observations—that a great nation must fund an exploration program worthy of its vision. In fact, the committee recommended an extra \$3 billion per year to renew NASA's human exploration efforts. The president's team, however, chose to add only a billion dollars annually, missing a chance to remedy past underfunding and take the U.S.

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urn V-class launcher, Americans will never get out of low Earth orbit (where we have been marooned for nearly 40 years). Instead, the Ares V heavy lifter has been replaced with "research and development" on building such a vehicle—someday. With no ability to launch humans past the ISS, we will watch, helpless to follow, as China pursues its determination to be the next nation to send its explorers into deep space.

The president's rejection of a clear goal to send humans into deep space by a date certain eliminates a future in space for the brightest of our young scientists and engineers. The spacetalent pool began emptying this winter, as promising innovators turn to careers in other industries. What student would pursue a career in space science or astronautics with the knowledge that the country deems leadership in space unimportant?

The president appointed his

forward in space. Although the administration borrowed \$787 billion last year for stimulus spending, finding \$3 billion this year to stimulate our high-tech economy and talent pool proved impossible.

By proposing a budget for NASA that barely exceeds inflation, and failing to renew a commitment to send the U.S. beyond low Earth orbit, the administration is turning away from the dominance in space technology America has enjoyed since Apollo. This nation once put its confident footprints on the moon. Following the president's misguided course, we will trudge in retreat from the frontiers and promise of space. **PM**

Tom Jones, a member of the PM Editorial Board of Advisors, is a scientist, speaker, author and four-time NASA shuttle astronaut. His latest book is Planetology: Unlocking the Secrets of the Solar System.