

# National

## NASA faced with budget cuts; Voyager 2 project in jeopardy

WASHINGTON — The space agency is facing budget cuts so severe that it is considering abandoning the Voyager 2 spacecraft now heading toward a 1986 rendezvous with Uranus, a space agency source said Wednesday. The Galileo project, scheduled for later this decade, also is in jeopardy because of anticipated cutbacks, the source said. This project is designed to send a satellite into orbit around Jupiter

and to probe its atmosphere. Such actions would leave the space telescope project as NASA's only major new scientific effort. The telescope, which has been given top priority among NASA's scientific projects, is scheduled to be orbited by the space shuttle in 1985. The Washington Post reported Wednesday that abandoning the highly successful Voyager spacecraft would save the National Aeronautics and Space Administration

\$222 million in the next eight years. This would be the amount required to control and track the spacecraft and analyze its data from Uranus and when it goes on to Neptune in 1989. Neither Uranus nor Neptune has yet been explored by a spacecraft from Earth. Voyager 2 already has returned valuable scientific data from Jupiter and Saturn. The agency source said NASA had not made a decision on aban-

doning Voyager 2. Space agency officials met Wednesday to discuss the budget situation. NASA has been directed to cut an additional \$367 million from its spending plan for the current year, the source said. In addition, the White House Office of Management and Budget has told NASA to expect sizable reductions in funds sought for fiscal 1983 and 1984, he said.

## Monkeys used to determine effects of space travel on bone

DETROIT — Monkeys carried through space in a USSR satellite will be used in an international study dealing with the abnormal bone loss suffered by men on extended stays in space, an American researcher says. Dr. Michael Parfitt, head of Henry Ford Hospital's Bone and Mineral Research Laboratory, said he will be given bone samples from the monkeys in the Soviet satellite and may be able to experiment with live specimens when the monkeys return from space. Astronauts who have spent as little as a month in space have suffered an abnormal rate of bone loss — up to 5 percent of their bone mass — and its cause remains unexplained. Parfitt, who already has conducted extensive experiments on bone loss, has received a \$145,000 grant from the National Aeronautics and Space Administration to study the effects of weightlessness on bones. Parfitt said solving the bone loss puzzle not only will help astronauts but could help treat elderly persons suffering from "brittle bones." Brittle bones fracture

easily and require a long mending time, he said. NASA studies show the effects of spaceflight and the absence of gravity on bone is similar to what occurs in people during prolonged bed rest. Bone loss in either case can and does increase the possibility of fractures. "If we can understand why the bone loss occurs, we can try to prevent it," Parfitt said. Nearly \$1 billion is spent annually on treating bone fractures, Parfitt said. Hip fractures are the 12th most frequent cause of death in the United States, he added. "The human skeleton is constantly being repaired," he said. "As a piece of bone ... becomes (worn out), it is removed by the action of cells called osteoclasts. Then, in the cavity that is created (in the bone) new bone is replaced by cells called osteoblasts." Parfitt said the body's repair mechanism of replacing worn out bone is normally effective but "after the age of about 45 the repair mechanism is defective," he said. "The amount of bone put back is less than the amount taken out. Each repair site is therefore only

partially repaired." In the astronauts, however, bone loss occurs at an accelerated rate. Parfitt said overall bone mass loss is 2 to 3 percent or five times faster in astronauts than in a normal aging human. He said the deterioration most severely affects the heel bone in astronauts, a bone commonly referred to as "spongy." In many cases the heel bone had not regenerated three months after the astronaut had returned to Earth, he said. "One question bothering scientists is whether bone loss proceeds at a steady rate or stabilizes after a few months in space. "If it (bone loss) increases at the same rate, it would place a serious limitation on the duration of space flight," Parfitt said. "On the other hand, it's entirely possible that in a few months you'd lose all you're going to lose. Recent Soviet experiences on the Salyut 6 space station in which men have been weightless for six months at a time suggest the bone loss is no greater at six months than it is at three.

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1100 Carter Creek Parkway, Bryan 823-8073  
Dr. Robert Leslie, Pastor  
Barbara Ridlen, DCE  
**SUNDAY:**  
Worship at 8:30 AM & 11:00 AM  
Church School at 9:30 AM  
College Class at 9:30 AM  
(Bus from TAMU  
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Youth Meeting at 5:00 PM  
Nursery: All Events

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Texas murders down, overall crime up  
AUSTIN — The number of murders in Texas decreased in the first six months of the year but Department of Public Safety officials report major crime is up 3.3 percent from the same period last year. DPS Director Jim Adams said aggravated assaults were up 3.8 percent, and rape and robbery increased 3.5 percent, leading to the overall 3.3 percent increase. "Although this is a significant increase, it does indicate that the volume of major crimes in our state is rising at a lower rate than we saw last year," Adams said.

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