hike annual stipends for three graduate research and teaching fellowship programs from $18,000 to $21,500. That's $1000 above the agency's request and in line with Colwell's goal of making them more competitive (*Science*, 30 March, p. 2535).

Appropriators also took the rare step of committing hard cash—$5 million apiece—for two proposals to bolster undergraduate science and engineering that are still working their way through Congress. One, for scholarships to undergraduates who agree to be science teachers, is described in a bill (H.R. 1858) by Representative Sherwood Boehlert (R–NY), chair of the House Science Committee; the other (S. 1549), championed by Senator Joe Lieberman (D–CT), would reward universities that promise to produce more science and engineering majors. The Administration's new science and math partnerships program to link universities and local public schools was funded at $160 million rather than the $200 million requested.

–JEFFREY MERVIS

SPACE STATION

Partners Protest U.S. Plans to Shrink Crew

A U.S. plan to scale back the international space station has triggered a revolt among the project's foreign partners, who fear the cuts would ruin their research programs. Led by Canada, the partners are demanding a meeting with U.S. officials to try to reverse cost-saving moves that could leave the station with half its planned six-member crew.

A scaled-back station "would virtually eliminate the partners' collective ability to use" the station, declares a diplomatic note sent on 1 November by Canada to the U.S. State Department. A three-person crew would limit Canada to "30 minutes per week—which is not enough time to conduct any meaningful science," according to notes accompanying the message.

The outcry came as key lawmakers and a senior White House official tacitly agreed at a 6 November congressional hearing to support—at least temporarily—a less capable station with half the planned crew. The idea was put forward earlier this month by a panel led by retired aerospace executive Thomas Young (*Science*, 9 November, p. 1264). Meanwhile, lawmakers last week also approved a 2002 space station budget that cuts $75 million from the station's $2 billion annual budget and leaves little room for additions to reach its planned design (see previous page).

The partners, whose allocation of research time is based on the size of their investment in the station, say that the idea for a less capable version was hatched without their participation. In its note, Canada proposes a meeting of all the station participants to express their concern. That meeting, which has the backing of European and Japanese officials, likely won't take place until January.

The timing of the Young report is particularly awkward for the European Space Agency (ESA). Ministers from 15 states—including 11 that are members of the station effort—are meeting this week in Edinburgh to approve a $900 million research program for the station from 2002 through 2006. ESA's Columbus laboratory is slated to be launched at the end of 2004. But with routine maintenance and operations taking up more than 80% of the time of a three-member crew, there will be little opportunity for research. That's why the original plan to have six or seven astronauts on board is "an essential requirement," says Hebert Diehl, chair of the European partners' coordinating committee, in a 2 November letter to a senior State Department official.

Japanese officials were working on a similar statement. Japan is preparing to launch a laboratory module that will require a significant crew to conduct experiments in a wide range of materials and life sciences areas.

U.S. officials testifying last week assured Congress that the cuts need not affect the station's ultimate role as a research platform. The Young plan is "a good course of action" that the Bush Administration could endorse, says Sean O'Keefe, deputy director of the Office of Management and Budget. If NASA comes up with a credible way to complete the original version in the next 2 years, he added, "then there will be no diminution" of the space station's capability. House Science Committee Chair Sherwood Boehlert (R–NY) also expressed cautious support for the Young panel's suggestions, noting later that Congress was "in no mood" to boost spending on the station until NASA demonstrates better management oversight.

–ANDREW LAWLER

CREDIT: D. DUCROS/ESA

Goodbye Columbus? European scientists hope that U.S. cuts won't cramp their use of the Columbus lab module.

PALEOCLIMATE

A Variable Sun Paces Millennial Climate

Most scientists have long assumed that the sun shone steadily, its unvarying brightness the one constant in a climate system that seemed to lurch willy-nilly from one extreme to another over the millennia. From time to time, a few brave souls would suggest that the sun actually waxes and wanes with a steady beat, driving earthly weather or climate in predictable cycles. But the proposed correlations between sun and climate would usually collapse under closer scrutiny. Now, prospects are brightening for the putative connection between a varying sun and climate change on the scale of millennia.

In a paper published online this week by *Science* (www.sciencexpress.org), paleoceanographer Gerard Bond of the Lamont-Doherty Earth Observatory in Palisades, New York, and his colleagues report that the climate of the northern North Atlantic has warmed and cooled nine times in the past 12,000 years in step with the waxing and waning of the sun. "It really looks like the sun has mattered to climate," says glaciologist Richard Alley of Pennsylvania State University, University Park. "The Bond *et al.* data are sufficiently convincing that [solar variability] is now the leading hypothesis" to explain the roughly 1500-year oscillation of climate seen since the last ice age, including the Little Ice Age of the 17th century, says Alley. The sun could also add to the greenhouse warming of the next few centuries.

The new sun-climate correlation rests on a rare combination of long, continuous, and