

To apply:

Information about congressional fellowships sponsored by AIP and its member societies is available on the Web at <http://www.aip.org/pubinfo>. Applications for the 2003–04 term are due in early 2003. For information about the AIP State Department fellowship, see <http://www.aip.org/mgr/sdf.html>.

the US and potential partners “aimed at longer term assistance, in which our aid will be mostly for [developing countries] to help themselves.” Another area Ripin has been involved with is visas for foreign students. Under a pending executive order, visa issuance could depend on the content of a student’s intended major, says Ripin. “I agree with much of what brought this about, but if it’s not done delicately with a surgical instrument, I am worried that the visa issues will permanently damage the US science enterprise—not just the academic infrastructure, but also the S&T infrastructure.”

Fellows in both the State Department and Congress say that one of the toughest parts of their times in government was learning how to be effective in a culture other than the academic environments they were used to. “I want to be thorough and factual,” says Kulinowski. “But sometimes you need a sound bite. Different priorities require you to be savvy about how information is presented.” Adds Ripin, “It’s a long and arduous process gaining consensus. That can be frustratingly slow, and in some cases, unnecessarily complex. On the other hand, when you finally come out with a policy, you know that this speaks for the US, not just for you or your little office.”

TONI FEDER

NEWS NOTES

Keck doors opened. In exchange for grant money to build instruments, the world’s largest ground-based infrared and optical telescopes have been induced to offer observation time to the wider US astronomy community. The twin 10-meter Keck telescopes on Mauna Kea, Hawaii, won \$3.89 million from NSF’s new Telescope System Instrumentation Program, which is intended to strengthen the connections between publicly funded tele-

scopes and independent observatories—like the privately funded Kecks.

Over the next two years or so, US astronomers can compete for a total of 41 nights on one of the Keck telescopes. The accessible observing time is set to be worth half the value of the instrumentation grants, with time on a Keck valued at \$47400 a night. Observation time will be awarded through the National Optical Astronomy Observatory in Tucson, Arizona.

Keck will apply the NSF grants toward building an integral field spectrograph and designing a near-infrared imager and multi-object spectrograph. Next year, NSF will again make about \$4 million available for a trade of instruments for time on private ground-based telescopes. —TF

Super-K restarts. About a year after an accident stopped the world’s largest neutrino detector in its tracks, Super-Kamiokande in Japan is on schedule to start up again in January. The surviving photomultiplier tubes in the central detector have been redistributed and enclosed in individual protective casings to prevent a repeat of the chain reaction that popped some 7000 PMTs (see PHYSICS TODAY, January 2002, page 22). The detector will run at about half its original density—which reduces its sensitivity to low-energy solar neutrinos—for a few years, until the made-to-order 50-cm detectors can be replaced. The \$20 million for these repairs is expected to be covered by Japan’s Ministry of Education, Culture, Sports, Science and Technology. The full restoration of the smaller, outward-facing PMTs that monitor the coaxial outer detector was paid for with about \$2 million from the US Department of Energy.

Refilling the detector with 50 000 tons of water is slated to be completed by mid-December. Super-K is already keeping an eye out for neutrinos from supernovas. In January, an experiment to look for neutrino oscillation using a manmade beam from the KEK proton accelerator 250 kilometers away in Tsukuba will resume. —TF

Venus Express will fly. A compromise in early November between Italy’s space agency and the European Space Agency has cleared the way for Venus Express to fly. ESA will pay up to \$8.5 million toward the completion of several Italian-led instruments, including VIRTIS, a visible infrared thermal imaging spectrometer for studying Venus’s atmosphere, in exchange for Italy’s opening the

instrument to expanded European participation. VIRTIS is one of Venus Express’s core instruments—its most expensive one—and, says David Southwood, ESA’s director of science, “there was no way we were going to fly without it.” Venus Express will be launched in 2005. Its total tab is around \$150 million. (See PHYSICS TODAY, August 2002, page 24.)

In other ESA news, the scientific program committee nixed a proposal by the agency to contribute about \$15 million to DIVA, a German precursor mission to ESA’s GAIA, which is supposed to measure the positions of a billion stars. The German space agency is seeking contributions for DIVA from other sources, including NASA. The agency must decide by 31 December whether to go ahead with the \$60 million craft. —TF

New astrobiology director. Australian paleontologist Bruce Runnegar has been selected as the next director of NASA’s Astrobiology Institute (NAI), succeeding Nobel laureate Baruch S. Blumberg. For the past four years, Runnegar has been the director of the Center for Astrobiology in the Institute of Geophysics and Planetary Physics at UCLA. Established in 1998, the NAI is a virtual organization comprising NASA field centers, universities, and research organizations that collaborate to study the nature of life in the universe. When he takes over the directorship in January, Runnegar will lead the NAI’s effort to answer three fundamental questions: How does life begin and evolve? Does life exist elsewhere? What is life’s future on Earth and beyond? “The answers to these questions will not come quickly,” Runnegar said. “That’s why NASA needs to attract bright young people to the field of astrobiology.” Runnegar received his PhD from the University of Queensland in Australia and became a fellow of the Australian Academy of Science in 1987. Blumberg, the NAI director since 1999, announced last year that he would step down at the end of 2002. Blumberg won a Nobel Prize in 1976 for his work on the hepatitis B vaccine. —JLD



RUNNEGAR

UCLA

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ATP grants given. NIST has granted 40 awards through its Advanced

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Technology Program (ATP) that could total up to \$101.6 million in funding to private companies over several years. The ATP awards are intended to help high-risk industrial R&D projects that have the potential to significantly help the US economy, but are too risky to receive full industry funding.

For the entire \$101.6 million to be granted, the companies involved would have to contribute \$92 million in shared costs. The awards are made on the basis of "rigorous competitive peer review considering scientific and technical merit," according to NIST. The 40 awards are the first of what is expected to be three sets of grants funded with fiscal year 2002 money.

Republican members of Congress have tried for several years to kill the program; they contend that the federal government shouldn't selectively choose and support some private companies over others in a competitive marketplace. Supporters of the program assert that it stimulates the development of critical leading-edge technology that otherwise might not be developed. The current awards cover research in biometrics, biotechnology, medical therapeutics, materials processing, and nanotechnology. —JLD

New NSF centers. NSF is establishing five new Centers for Learning and

Teaching. Three will focus on K-12 curriculum development and teacher training, and two will concentrate on education practices and faculty development at universities and colleges. Each center will receive \$10 million over the next five years.

The three new K-12 centers, at the University of Georgia at Athens, Washington University in St. Louis, Missouri, and the American Association for the Advancement of Science in Washington, DC, will bring to 10 the number of NSF K-12 learning and teaching centers nationwide. The seven existing centers were established in 2000 and 2001. The NSF plans to spend about \$100 million overall to increase the numbers, professionalism, and diversity of K-12 math and science teachers through the learning and teaching program.

The higher-education centers are a new component of the NSF program and are designed to focus on undergraduate education in science, mathematics, technology, and engineering, with the goal of developing future faculty. "We want to increase the mathematics and science achievement levels of our students and prepare them for a society increasingly shaped by science and technology," said Judith Ramaley, NSF's assistant director for education and human resources. —JLD ■

WEB WATCH

http://www.agu.org/sci_soc/MediaGuide.pdf



Getting your message across in an interview or press conference can be quite challenging, especially on live TV or radio. If your media savvy needs a boost, take a look at *You and the Media*, a 32-page booklet published by the American Geophysical Union and written by Herbert Funsten, a space physicist from Los Alamos National Laboratory.

<http://www.aip.org/history/syllabi>

On its *Learning History of Physics* page, AIP's Center for History of Physics has collected sample syllabuses from several noted experts. Among the offerings is *Science from Aristotle to Newton*, a course that Stephen Brush began teaching two years ago at the University of Maryland, College Park.



<http://www.exploratorium.edu/cooking/webcasts>



The Exploratorium in San Francisco produces a series of Webcasts on the science of food and cooking. Appropriately for the holiday season, December's program takes champagne as its topic. *Sparkling Science: Champagne* airs on the Web at 4 PM PST on 28 December. Audio and video recordings of the show will be available if you miss the live action.

To suggest topics or sites for Web Watch, please phone me at (301) 209-3036.
Compiled by CHARLES DAY