WHAT'S ON THE WATCH LIST

VIRUSES

Crimean-Congo hemorrhagic fever virus, Eastern equine encephalitis virus, Ebola viruses, equine morbillivirus, Lassa fever virus, Marburg virus, Rift Valley fever virus, South American hemorrhagic fever viruses (Junin, Machupo, Sabia, Flexal, Guanarito), tick-borne encephalitis complex viruses, *Variola major* virus (smallpox virus), Venezuelan equine encephalitis virus, viruses causing hantavirus pulmonary syndrome, yellow fever virus

BACTERIA

Bacillus anthracis, Brucella abortus, Brucella melitensis, Brucella suis, Burkholderia (Pseudomonas) mallei, Burkholderia (Pseudomonas) pseudomallei, Clostridium botulinum, Francisella tularensis, Yersinia pestis

RICKETTSIAE

Coxiella burnetii, Rickettsia prowazekii, Rickettsia rickettsii

FUNGI

Coccidioides immitis

TOXINS

Abrin, aflatoxins, botulinum toxins, *Clostridium perfringens* epsilon toxin, conotoxins, diacetoxyscirpenol, ricin, saxitoxin, shigatoxin, *Staphylococcal enterotoxins*, tetrodotoxin, T-2 toxin

sarily have to be filched from a lab.

A proposal to bar nonresident aliens from possessing a select agent also troubles some researchers. "People we may need to work with—including Canadian and British research—could be affected by this," says Atlas, who was expected to testify this week before a Senate committee on behalf of the American Society for Microbiology (ASM). He notes that the bill (H.R. 3160), which passed the House last week, allows the Secretary of Health and Human Services to issue waivers but worries that the process could be "cumbersome."

One idea getting better reviews is to create a national registry to track select agents. Bioterrorism experts have long urged Congress to require researchers who possess deadly materials to register their collections with CDC, and the agency has been embarrassed by its inability to specify how many U.S. labs might have produced the anthrax that has contaminated U.S. mailrooms. A 1996 law requiring the CDC to license laboratories that ship or receive select agents didn't include an inventory reporting requirement; it also exempted researchers who had stockpiled strains in freezers but weren't planning to share them. The current attacks, says ASM's Janet Schumaker, make it prudent "to reexamine all the issues surrounding possession."

–DAVID MALAKOFF AND MARTIN ENSERINK

U.S. SCIENCE POLICY

Marburger Shakes Up White House Office

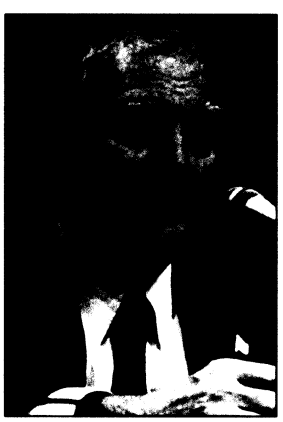
After winning unanimous Senate confirmation last week, presidential science advisor John Marburger has moved swiftly to make radical changes to his office.

Marburger has eliminated two of the four senior positions within the Office of Science and Technology Policy (OSTP) that he heads, subsuming environmental matters and national security under either science or technology. "I felt the office was too fragmented to be effective, and I wanted to have more direct control," says Marburger.

The changes have unsettled some members of the science and technology community. Eliminating the national security position "is a big blow" to forging links to the powerful National Security Council, says one former OSTP official. The need to incorporate science into the burgeoning war on terrorism suggests that Marburger "is moving in the wrong direction," says Al Teich, head of science and policy at the American Association for the Advancement of Science (which publishes *Science*). Dropping the environmental job, Teich adds, is a "surprising move" given the importance of global warming and related issues.

Several science policy analysts and former OSTP officials also expressed concern about the nomination of Richard Russell, now OSTP chief of staff, to serve as technology chief. Russell worked for nearly 7 years on the House Science Committee, but unlike most of his forerunners, he does not have an advanced scientific degree or extensive experience in industry. Russell declined comment, but Marburger acknowledges that researchers have questioned the choice.

"This is not an academic appointment, and dealing with academic aspects of technology is only part of what we do," says Marburger, the former director of Brookhaven National Laboratory in Upton, New



CREDIT: MARTY KATZ

In charge. John Marburger says new OSTP structure gives him "more direct control."

ScienceScope

NIH Grapevine Cancer researchers are circulating a rumor that President George W. Bush favors Andrew C. von Eschenbach to be the next director of the National Cancer Institute (NCI). Von Eschenbach, a leader in prostate cancer treatment and a clinical researcher at the University of Texas M. D. Anderson Cancer Center in Houston, is close to the Bush family and has been active in the American Cancer Society. Ruth Kirschstein, acting director of the National Institutes of Health (NIH), says she has no information about the search for a new NCI director, although other NIH leaders say the White House has already made its decision. Von Eschenbach declined comment through a spokesperson.

PAC 'Em In Spurred by the recent creation of a political action committee designed to fund only Republicans (*Science*, 7 September, p. 1747), three Washington science advocates last week set up their own—but this one will be fervently nonpartisan. Called U.S. Science (www.us-science.org), the organization will contribute cash to U.S. political candidates who place a high priority on government support for science.

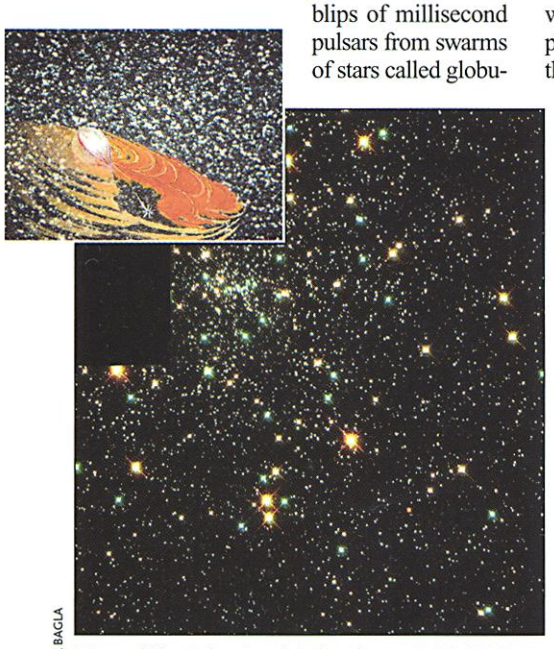
The first order of business will be to set up an advisory board of eminent science supporters who will decide who gets donations, says Kevin Marvel, an American Astronomical Society spokesperson who is one of the three co-directors. "If there is a referee-type process, then scientists will be willing to give money," he says. Once the board is in place, they intend to go after contributions. He adds that while they applaud SciPAC, the Republican-only group, "we felt it is more important to broaden support for science."

Brain Gain The Royal Society of London is launching a program designed to lure top postdoctoral researchers from the United States to the United Kingdom. Beginning in June 2002, it will fund 10 American postdocs to work in leading British laboratories for up to 3 years.

The program, the product of years of discussion with the U.S. National Academy of Sciences, is aimed at sharing talent between the two nations. "We want to do it in the context of brain circulation, not just brain gain," says Sir Brian Heap, vice president and foreign secretary of the society. Stipends will be commensurate with those available in the U.S., he says. Postdocs interested in making the jump must apply by next February. Full details available at www.royalsoc.ac.uk/funding/ig_fr.htm.

and images from the Hubble Space Telescope (HST) suggest that the pulsar, called PSR J1740-5340, distorts its companion so severely that gas overflows the star's gravitational confines. Some of this gas may have swirled onto the neutron star in the recent cosmological past, accelerating its once-leisurely spin to 274 revolutions per second. "If that's true, it would be extraordinary," says astrophysicist Deepto Chakrabarty of the Massachusetts Institute of Technology in Cambridge.

The millisecond pulsar is one of a dozen unveiled within the last year by a sensitive new survey at the Parkes radio telescope in New South Wales, Australia. Radio astronomers are hunting for the faint radio blips of millisecond pulsars from swarms of stars called globular clusters. The clusters are nurseries for exotic pulsar systems because the tightly packed stars interact, often forming close binary pairs. Such pairs give birth to all millisecond pulsars, astrophysicists believe, as gas from one star spirals into the deep gravitational pit of the neutron star and spins it up until some unknown trigger switches on the powerful, coherent radio beacons characteristic of a pulsar. Their spins are so rapid and stable that the pulsars can shine for billions of years. However, astrophysicists have never gotten close to seeing this theorized process happen.



Binary blip. Pulsar in globular cluster NGC 6397 appears to pull gas from a distended stellar partner.

CREDITS: (LEFT TO RIGHT) BOLOGNA ASTRONOMICAL OBSERVATORY; F. SEPINSKY *ET AL.*/VILLANOVA UNIVERSITY/NASA; PALLAVA BAGLA

In a pair of papers in the 1 November issue of *Astrophysical Journal Letters*, an international team reports that PSR J1740-5340 may offer that chance. Radio astronomer Nichi D'Amico of the Bologna Astronomical Observatory and his colleagues analyzed the pulsar's radio signature and found that it disappears nearly half the time, presumably eclipsed by a thick shroud of gas from its companion. Moreover, radio signals from the rest of the pulsar's 32-hour orbit around its neighbor are sketchy, as if the pulsar never fully exits the cloud of debris. Orbital calculations suggest that the companion has about 20% the mass of our sun—big enough to be a small star in its own right. In contrast, all other eclipsing millisecond pulsars found to date circle tiny objects, such as white dwarfs.

To learn more about the companion, astronomer Francesco Ferraro, also at Bologna, led an analysis of previously obtained HST images of the pulsar's host globular cluster, NGC 6397. The team found an unusually red star close to the pulsar's radio position. The star's brightness appears to flutter in synch with the pulsar's orbit, as if the star is so physically distorted that it appears first larger, then smaller, as it rotates.

The team concludes that the star has bloated into and beyond its entire "Roche lobe," a teardrop-shaped region of space within which matter is bound to the star. "This is the first system in which both the companion overflows the Roche lobe and the millisecond pulsar is alive," says team member Andrea Possenti of Bologna. The pulsar's powerful radio waves prevent more gas from accreting onto it, Possenti notes, but enough gas streams from the companion to blot the pulsar's signal.

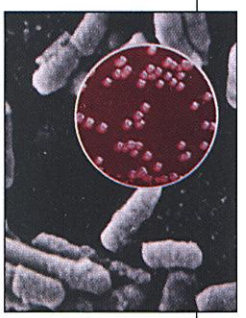
Others find the logic compelling. "They have convincingly argued that the star is filling its Roche lobe, which hasn't been seen before," says radio astronomer David Nice of Princeton University in New Jersey. However, Nice and Chakrabarty observe that more optical studies of the companion are essential to confirm its properties—and to verify that it is indeed bound to the pulsar.

Debate already is brewing about the system's origins. The Italians tilt slightly toward a scenario in which the pulsar is nearly newborn, having fed upon a whirlpool of gas from the companion that still orbits it. In that case, the gas started flowing onto the neutron star as the other star evolved and began to swell, sacrificing its outer layers to the neutron star's pull. Another idea, also put forward in the team's reports, holds that matter from a third star may have spun up the pulsar long ago in the globular cluster's crowded core. That donor star then became a dense white dwarf. Later, in a gravitational "exchange interaction," the white dwarf was ejected and replaced by an ordinary star, which is now puffed up by the pulsar's intense radiation.

Astrophysicist Steinn Sigurdsson of Pennsylvania State University, University Park, views the second scenario as more likely, because computer simulations suggest that slingshot-like encounters deep within globular clusters churn out many

ScienceScope

Revisiting a Plague India is taking a fresh look at a 1994 plague epidemic in an effort to determine the cause of the outbreak. The inquiry into the 1994 episode, which killed 56 people in Surat and surrounding areas, will address persistent rumors that it was linked to a small-scale germ warfare experiment.



The investigation was announced Monday by India's health minister, C. P. Thakur, at a New Delhi conference on biochemical terrorism. He says experts will gather later this month for a day-long review of scientific findings, including preliminary studies suggesting that the Surat plague doesn't match known natural strains. But microbiologist H. V. Batra of the Defense Research and Development Establishment in Gwalior told *Science* that more study is needed to nail down the strain's origins.

Flying Solo? Fifteen Japanese research institutes face an uncertain future in the wake of the pending privatization of their affiliated national universities.

Under the privatization scheme, government officials must reorganize facilities such as the National Astronomical Observatory (NAO) in Mitaka, the National Institute of Genetics in Mishima, and the Okazaki National Research Institutes. Options include grouping them together under a nonprofit entity like Germany's Max Planck Society, or making each one independent. The government must also decide if it will fund the institutes directly or through an intermediary body that would also review their performance.

Norio Kaifu, NAO's director-general and head of a task force pondering these issues for the institutes, says that the group hopes to present its recommendations to the government by the end of the year, in time to influence the final decision due next spring. Kaifu believes that greater independence should benefit the institutes so long as the government provides adequate cash. But he admits that "change is scary."

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