says, "is a little premature."

But if Henry is right about the transit, the planet's orbit must be edge-on. Combining that orbital inclination with the wobbles in its parent star, the team could calculate its exact mass: 0.63 Jupiter masses, or 200 Earth masses. From the observed brightness drop, they estimate the diameter of the planet at 225,000 kilometers—60% larger than Jupiter. That puts the bloated planet's density at 0.21 grams per cubic centimeter, far less than that of water. "It has to be gaseous," says Marcy.

According to Marcy and Henry, the discovery puts to rest the nagging possibility that stellar wobbles aren't due to planets at all, but to rhythmic pulsations of the entire star or some other intrinsic cause. But with so much hanging on a single observation, Henry would like to dispel any doubts by repeating it. A second transit should have occurred on 11 November, but it took place during daylight in the United States and could not be observed. The third was predicted for last Sunday night, 14 November. Henry, Marcy, Butler, and Vogt had announced their discovery on 12 November, so that other astronomers could watch for the dimming. But both the Fairborn Observatory and Lick Observatory in California, where another team tried to observe the event, were clouded out that night.

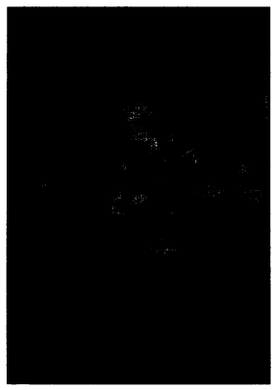
Because upcoming transits will happen when the star is below the horizon of Fairborn observatory, confirmation will have to come from other teams. Marcy says he isn't worried. "We already believe it," he says. "The first brightness dip happened exactly at the predicted moment. If this was due to something else, Mother Nature would have played a horrible trick upon us." –GOVERT SCHILLING

Govert Schilling is an astronomy writer in Utrecht, the Netherlands.

NIH

Protests Win Changes to Peer-Review Proposal

Sometimes, it pays to fight City Hall. Biomedical researchers who protested that their fields were slighted in a proposed reorganization of the National Institutes of Health's (NIH's) peer-review system are winning at least some concessions. Responding to the complaints, NIH's Panel on Scientific Boundaries for Review last week penciled in changes to its blueprint that will give heightened prominence to AIDS, urological, and development research. It also made clear that further fine-tuning is likely before it issues its final "Phase 1" report on the overall structure of the peer-review system in January.



CREDIT: (LEFT TO RIGHT) UCSF; BILL INGALLS/NASA

Misunderstood? Yamamoto clarifies peer-review plan.

The panel, headed by National Academy of Sciences president Bruce Alberts, originally proposed organizing the more than 100 study sections run by NIH's Center for Scientific Review (CSR) under 21 supercommittees known as integrated review groups (IRGs). Sixteen of these were to be centered on disease or organ systems and five on basic research whose relevance to specific diseases cannot yet be predicted. But in more than 800 e-mail and conventional comments on the draft proposal, many scientists argued that their fields were overlooked or downgraded. AIDS and urological researchers mounted what appeared to be organized letter-writing campaigns (*Science*, 5 November, p. 1074). So, at its 8 to 9 November meeting, the panel:

• Proposed creation of three additional IRGs—AIDS and AIDS-Related Research, Renal and Urological Sciences, and Biology of Development and Aging—bringing to 24, rather than 21, the number of IRGs in its proposed peer-review structure;

• Made clear that it is leaving intact—at least for the time being—the four new IRGs that were created in 1998 and earlier this year for neuroscience and behavioral research, completing the merger of the National Institute of Mental Health, the National Institute on Drug Abuse, and the National Institute on Alcohol Abuse and Alcoholism into NIH; and

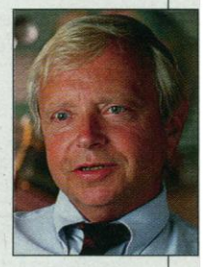
• Promised a series of conference calls with experts in other fields to "further refine" its proposed IRG structure.

According to CSR director Ellie Ehrenfeld and molecular biologist Keith Yamamoto of the University of California, San Francisco, chair of the CSR Advisory Committee, the first targets of those phone calls will be leaders in fields whose practitioners felt scorned by the panel's initial draft. These areas include toxicology, nutrition, pediatrics, gerontology, dental and craniofacial sciences, radiation oncology, and surgical research.

On some issues, the panel simply has to explain itself better. For example, says Yamamoto, some chemists worry that the panel wants to force basic chemistry research into a physiology mode, whereas "our actual goal was to ensure a venue at NIH for fundamental chemistry." In addition, "some basic scientists are reading the draft report and saying, 'Oh, they're just going to make everything disease-based,' " Yamamoto says. "And some clinician-scientists are saying that the basic scientists are going to take over the whole review system."

ScienceScope

Warning Shot NASA space science chief Ed Weiler (below) is losing patience with Gravity Probe B, the $400 million spacecraft that would test Einstein's theory of general relativity by measuring the space-time curvature caused by Earth. Mission planners say they need an extra 11 months and $30 million to fix problems with the probe, which was supposed to launch next October.



Weiler is ordering a technical review of the program, in the works for more than 2 decades, to determine what it will take to get the probe into orbit. "We've already spent hundreds of millions on this, and I don't want to spend hundreds of millions more," he says. If the review—due to be finished by the end of the year—concludes that $30 million is sufficient to get the program back on track, Weiler says he will find the money. If that is not enough, he says, he may discuss terminating the program at a senior NASA managers meeting in February.

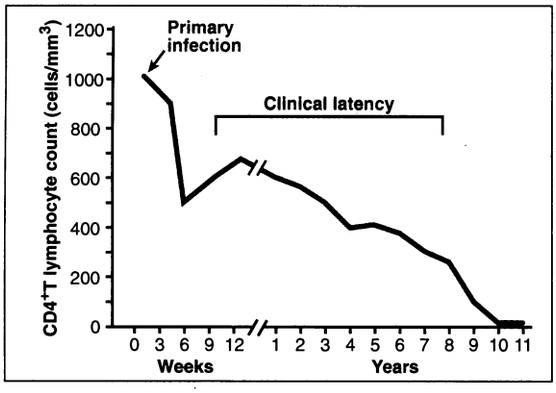
Killing Gravity Probe B—the brainchild of Stanford University scientists—would pose political dangers for NASA, however, given the strong support for the program from California's congressional delegation. But Weiler waves off that threat. "My job is to do the right thing for American taxpayers; someone else can worry about the politics."

Sharing the Weather Wealth India and the United States have moved to fill a meteorological monitoring gap that has handicapped weather forecasters and climate scientists. Researchers from both nations gathered this week in New Delhi to inaugurate a data-sharing center that will immediately transmit information gathered only by Indian satellites to users worldwide. In the works for 16 years, the data-sharing agreement "is a dream come true," says James Dodge of NASA's earth sciences program.

India has historically denied prompt international access to its weather data, including Indian Ocean cloud-cover images and temperature records, saying that potential enemies might use it to better target missiles or time attacks (*Science*, 17 October 1997, p. 379). But now, in exchange for electronic access to massive U.S. climate databases and other information, India will give researchers abroad a real-time look at its holdings.

Indian forecasters say that the center, which will also conduct forecasting research, will help them spot potentially dangerous storms earlier. U.S. researchers, meanwhile, say closing "the India gap" will lead to better global climate models.

The concerns underscore the serious limitations of any animal model used to test a potential AIDS vaccine. Monkeys, the most commonly used animal for such tests, usually can only be infected with SIV (a cousin of HIV) or a hybrid virus known as SHIV; they also cannot be infected easily with the adenovirus used in Robert-Guroff's vaccine. Although chimps exposed to HIV can become infected, they generally do not become sick. It was not until 1996 that a disease-causing strain hit the press, when a group led by Frank Novembre at the Yerkes Regional Primate Research Center in Atlanta, Georgia, reported that an HIV-infected chimp named Jerom had developed an AIDS-like disease.



Slippery slope. Typically it takes years (above) for HIV to deplete enough CD4 cells and bring on disabling AIDS symptoms in people. Some strains in chimps, on the other hand, nearly wipe out CD4s within weeks, raising doubts about their suitability as a model for testing AIDS vaccines.

Robert-Guroff and others hoped that this apparently lethal strain would make the chimp challenge model more persuasive. But as the meeting revealed, researchers are divided over how useful this strain might prove to be. For one, the virus is not as devastating as some had expected. Novembre described here how his team has used derivatives of Jerom's virus to infect seven more chimps, some of which now have fewer than 200 CD4 cells—the white blood cells that HIV destroys—per cubic millimeter of blood; one animal's count is down to zero. (For humans, a CD4 count below 200 defines AIDS.) Unlike Jerom, however, none of these animals has yet developed AIDS-like symptoms. This virus "isn't as virulent as I thought it was when I first read about it," said the New York Blood Center's Alfred Prince, who opposes using lethal HIV in chimps. Still, he said, the strain's diminished reputation doesn't rule out the possibility that it might kill chimps; using it in a challenge experiment would entail unnecessary risks to the animals, he argued, as the goal of a vaccine should be to prevent chronic infection. "Disease is quite irrelevant," he said.

Others disagreed. Patricia Fultz of the University of Alabama, Birmingham, dismissed Prince's argument, contending that all chronic infections will, eventually, cause disease. She said the goal is to find a strain that more closely matches a human HIV infection. Although Fultz has tested several strains in chimps—many of which now have low CD4 counts—none duplicates a human infection, in which the virus replicates furiously for prolonged periods while steadily eroding CD4 levels. Ones derived from Jerom have the same shortcoming, she said, depleting CD4 cells more rapidly than is seen in a typical human infection. Finding a strain that behaves in chimps similarly to HIV in humans, Fultz said, is "important for evaluating those vaccine candidates that go into [large-scale efficacy] trials."

A few scientists question whether the chimp model holds any promise at all. When HIV first infects people, it enters cells using a surface protein called CCR-5. Over time, the virus develops a preference for another receptor, CXCR-4. The Jerom-derived strains, by contrast, rely on CXCR-4 from the outset; thus they do not mimic the initial infection in humans, said Jonathan Allan of the Southwest Foundation for Biomedical Research in San Antonio, Texas. Indeed, he knew of no CCR-5 dependent HIV that could reliably infect chimps. "I don't think vaccine studies are going to go forward based on the chimpanzee model," said Allan.

Scientific qualms aside, Robert-Guroff's own corporate partner has expressed surprisingly little interest in conducting another chimp challenge. Instead, said Wyeth's Zimra Israel, the company will decide how to proceed based on the immune responses seen in the ongoing clinical trials. Robert-Guroff maintained that positive results from a chimp challenge might build excitement at Wyeth. "If they were convinced by an experiment that this approach was really worthwhile in following, perhaps they would come back into the arena in a forceful way and help out," she says.

Summing up the feelings of many participants, Norman Letvin of Harvard's Beth Israel Deaconess Medical Center in Boston said he did not think Robert-Guroff's proposal was "a crucial experiment." Yet he stressed that a pathogenic HIV challenge would be "ethically defensible" for the right experiment, urging his colleagues "not to consign a possible very powerful model ... to the trash heap of history."

–JON COHEN

ScienceScope

Genentech Settles One of the longest patent fights in biotech history may at last be over. On 16 November, the *Los Angeles Times* reported that Genentech Inc. of South San Francisco had agreed to pay the University of California (UC) $200 million for having infringed UC's patent on a genetically engineered human growth hormone.

A trial on the decade-old infringement case ended with a hung jury in June (*Science*, 11 June, p. 1752). Now, a scheduled January retrial appears to have been averted. According to the *Times*, nearly half of the settlement will be split among the five scientists named as co-discoverers on the patent, and the remainder will go to UC San Francisco, with $50 million earmarked to fund a new research building. As *Science* went to press, UC and Genentech were staying silent on the deal until the UC Regents had a chance to review it at a meeting earlier this week.

My Way Arguing that academic quality is paramount, the National Science Foundation (NSF) has reshaped a congressional plan to give out 10,000 scholarships a year to low-income college and graduate students pursuing degrees in computer science, engineering, and mathematics. And even more scholarships may be on the way.

Last year Congress levied a $500 fee on employers who hire foreign workers for high-tech jobs and gave NSF about a third of the money to provide 2-year, $2500 scholarships (*Science*, 4 December 1998, p. 1796). But NSF says it is better for institutions—not individuals—to compete for the funds, which total $21 million in the first round of a 3-year program. The switch "allows us to ensure that the surrounding program is of high quality," says Norm Fortenberry, NSF's head of undergraduate education. "It's better than telling students: 'Here's some money, now you're on your own.' " NSF has begun reviewing proposals to select 100 winners from the 280 colleges and universities bidding for up to 40 slots each.

The number of scholarships could grow further under a bill, S. 1804, introduced by Senator John McCain (R–AZ). It would lift the cap—now 115,000—on the annual number of visas issued, which should pump more money into scholarships, and award grants aimed at beefing up math and science education at all levels. "We want a bigger bang for our buck," an aide explains.

Contributors: Andrew Lawler, Pallava Bagla, Marcia Barinaga, Jeffrey Mervis