L. E. JONES/LANL

"DESKBOTTOM PUBLISHING," quips Paul Ginsparg (left), about the HP735 computer under a table in his office, which for years was the server for the preprint archive he pioneered. The e-print arXiv has become indispensable to physicists worldwide, who hope its new home at Cornell University will provide long-term stability.

J. FLOWER/LANL

basis, without the occasional crisis it suffered at LANL."

Ginsparg, who earned his PhD at Cornell 20 years ago, says he moved mainly for personal and family reasons. But LANL was an unpredictable guardian to the archive: "At a weapons lab, a project like this has never been central to the overall mission," says Ginsparg, adding that "middle managerial pettiness and small-mindedness" were "pertinent" to his decision to leave. "For example, after I'd finally succeeded in finding some secure space for the main server—a whole few square feet of floor space—in fall 1999, my division office almost immediately permitted the space to be taken away by another project."

For its part, LANL issued a statement by deputy director William Press, saying, "We are sorry to see Paul leave Los Alamos, but proud to have been the birthplace of his revolution in the way that scientists communicate." LANL will remain the primary backup site for the e-print arXiv (previously known as the Los Alamos e-Print Server).

The archive joins Cornell's budding digital libraries program. In June, for example, the university became a mirror site for PROLA, an online archive of APS journals dating back to 1893, the year *Physical Review* was launched at Cornell. "We are very interested in the transformation of scholarly communications," says Cornell librarian Sarah Thomas. "The archive is a highly successful model of how a community looks at research in its field. It's become very timely, and very democratic. That is also our mission in libraries—to make information freely available to everyone. It's a logical fit."

"The archive is challenging the orthodox views about how information is handled in physics, and there are a lot of issues that still have to be worked out," says Lepage. Having it at Cornell will be nice for the physics department, he adds, but most exciting are the broader implications: "It's been taken out of a fairly restricted intellectual environment, and the possibilities for spreading its insight and developing new ideas for other fields are rich."

TONI FEDER

SAIP Leaders Aim to Integrate Physics into South African Society

For the first time in its 46-year history, the leaders of the South African Institute of Physics are not white men. In July, SAIP members elected as president and vice president, respectively, a woman, Patricia Whitelock, and a black man, Edmund Zingu. Whitelock served previously as vice president of SAIP and succeeds Johan Malherbe of the University of Pretoria.

The SAIP's new leadership reflects the "strong public call for diversity and equity" and the "definite shift from a white-dominated society," says Zingu, who is vice rector of the Mangosuthu Technikon in Durban and specializes in thin-film physics. Currently, he says, the majority of established physicists are white, but most physics students are black. "We are in the middle of a major transformation."

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For her part, Whitelock, the deputy director of the South African Astronomical Observatory, says, "It's almost more significant that I am an astronomer. That would have been unthinkable a few years ago." Astronomy is one of South Africa's scientific strengths, but it was built up largely by foreign scientists, and there has always been a rift between astronomers and South Africa's wider physics community, says Whitelock, who is originally from England. Her research spans stellar evolution, galactic structure, the Magellanic Clouds, and dwarf spheroidal galaxies.

"One of the main challenges will be to facilitate a visible presence of physicists in all facets of our lives in South Africa," says Zingu. "Another will be to develop a mechanism through which physicists will regain a national focus, pride, and recognition." Physics lost prestige—and jobs in basic research—when South Africa's Council for Scientific and Industrial Research narrowed its focus to industrial science in the 1980s. The field fell further in the public eye a few years later, Zingu adds, with the government's admission in the mid-1990s that it had used uranium enrichment facilities and know-how to covertly build nuclear bombs.

Whitelock and Zingu aim to increase SAIP's activities in the physics community, in the broader public, and in the political arena. Their goals include convincing the government that physics underpins technological and economic progress, selecting strategic areas of physics, improving K–12 education, and building up high-tech industry.

ZINGU

"There is incredible potential for change and growth in South Africa at the moment," says Whitelock. "The potential of the physics community to contribute is huge. It's very exciting. It's also very frightening."

TONI FEDER

Teen Physicists Compete in Turkey

At the end of June, high-school students from Albania to Australia converged on the seaside city of Antalya, in southern Turkey, for the 32nd International Physics Olym-

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THE US AND CHINESE OLYMPIAD teams pose with their medals.

piad. Daniyar Nurgaliev of Russia beat out 305 other students to earn the highest score in this year's competition.

For the second year running, the Chinese team had the top total overall, winning four gold medals and one silver medal. The Russian, US, and Indian teams came in next—each won three gold and two silver medals.

The US golds were garnered by Andrew Lutomirski of Los Angeles; Willie Wong of Short Hills, New Jersey; and Brian Beck of Beachwood, Ohio. Daniel Peng of Colts Neck, New Jersey, and Vladimir Novakovski of Springfield, Virginia, won silver medals. The American Institute of Physics and the American Association of Physics Teachers were the primary sponsors of the US team.

Students competed in two five-hour exams during which, for example, they determined the gravitational constant with a rotating container of glycerin and a laser. This experimental task proved so popular, says organizer Sinan Bilikmen, that 30 countries' representatives bought the equipment for $100 a set.

But that extra cash didn't do much to offset the cost of the ever-growing Olympiad. Thanks to an ailing Turkish economy, the voluntary contributions from participating countries stretched to cover almost half of the low $450 000 tab for the competition. The Turkish government and a smattering of private sponsors paid for the rest.

Students took time out together to visit, among other things, an archaeological site, an old Roman theater, and Turkish bazaars. As Waldemar Gorzkowski, president of the International Physics Olympiads organization, said at this year's opening ceremony, "Those who make friends for life are the winners."

The 2002 Physics Olympiad will be held in Jakarta, Indonesia, in July.

LYNLEY HARGREAVES

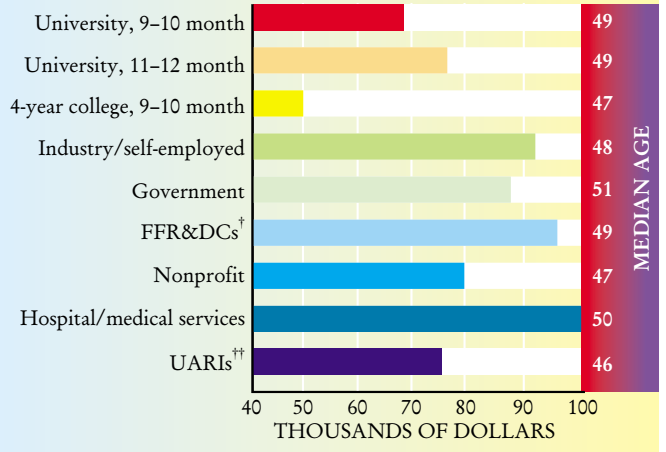
Physicists' Pay Is Up

Salary increases for US physicists are well above inflation rates, according to the latest salary survey by the American Institute of Physics. The study, which looked at the incomes of physicists who belong to any of AIP's 10 member societies, found salaries had increased about 11% since 1998. PhD physicists earned a median salary of $78 000 last year, and those with master's and bachelor's degrees received median salaries of $63 800 and $60 000, respectively.

Not all PhD physicists got pay boosts, however. The median salary of those at four-year colleges, who mostly work on 9– or 10–month contracts, was $50 000 (see graph), essentially unchanged since 1998. Physicists working for federally funded R&D centers netted a $12 800, or 15%, increase over 1998.

The graph doesn't show total income, however, because more than a third of the PhD members who work full-time earn extra wages. Supplemental sources—usually consulting, summer research, or summer teaching—add, on average, $11 000. Those on 9– or 10–month contracts at universities are most likely to do supplemental work, those in government, the least.

Median PhD salaries by major employment sector, 2000.



†Federally funded research and development centers.
††University-affiliated research institutes.

Unemployment remained under 1% for PhDs, although it's slightly higher for women, who make up 14% of employed member society membership. The salaries of men and women are comparable for full-time work, except for mid-career professors on 9– or 10–month contracts. There, surprisingly, women earn 10% more than men.

For additional salary and employment information, see *2000 Salaries: Society Membership Survey*. Single copies are $15 and can be ordered on the Web at https://webster.aip.org/forms.statorder.htm or from the AIP Statistical Research Center, One Physics Ellipse, College Park, MD 20740-3842; e-mail: stats@aip.org.

NEWS NOTES

Energy research report. The National Research Council, in a study released in mid-July, looked at $22.3 billion spent by the US Department of Energy between 1978 and 2000 on energy efficiency and fossil energy research programs and asked, Was it worth it? The answer, according to the NRC, is yes, especially if more than direct economic benefits are counted.

The report, Energy Research at DOE: Was It Worth It?, said it is important to include "options for the future" and "knowledge benefits" when assessing the return on investment for DOE research programs. For example, the report said the feasibility of future energy technologies is better understood because of DOE research, although such research has brought no monetary return.

In looking at "net realized economic benefits associated with the energy efficiency programs," the study said that about $7 billion (1999 dollars) was spent over 22 years, resulting in about $30 billion in savings. Fossil energy programs didn't fare as well, generating $3.4 billion in return on $6 billion spent between 1978 and 1986, and $7.4 billion in benefits for $4.5 billion in costs from 1986 to 2000.

Herschel telescope on view in US. The 20-foot reflector telescope built by William Herschel in the 18th century to catalogue nebulae and star clusters is on loan to the Smithsonian Air and Space Museum in Washington, DC. The telescope, which usually resides at London's National Maritime Museum, is the centerpiece of Explore the Universe, a new exhibition on how our understanding of the skies has