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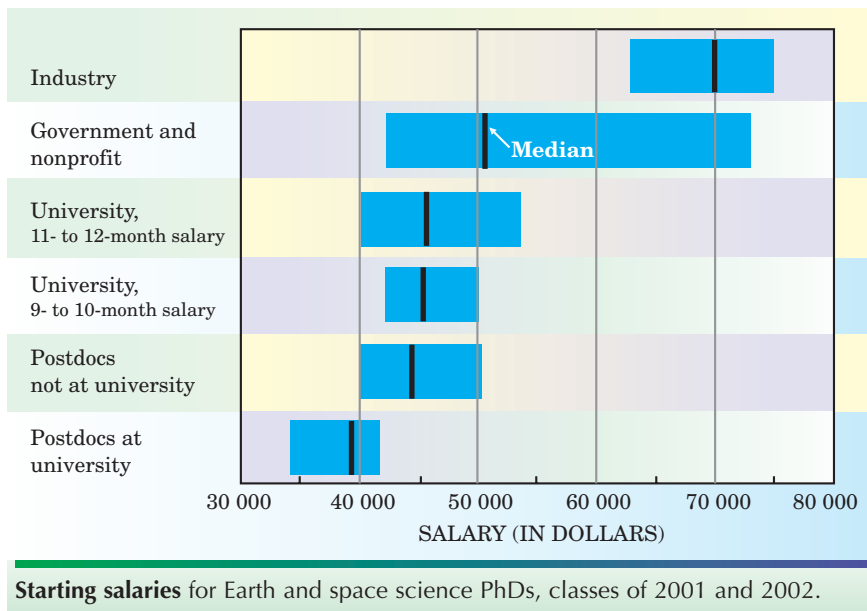
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physics and astronomy are 30 years old on average. The delay is at least partly due to geoscientists' working both before they begin graduate studies and before they complete their PhD degrees, according to the report.

Over the past five years, about 8% of PhD recipients in Earth and space sciences "regularly or constantly" considered dropping out, the report says. The reasons cited most often by men were family responsibilities and concerns about the job market. By contrast, women attributed their doubts to loneliness, their advisers, and not feeling "up to par intellectually."

Although women continue to be underrepresented at the PhD level in Earth and space sciences, the only sciences doing better are chemistry and life sciences. Remarkably, in the subfield of atmospheric science, the proportion of PhDs awarded to women (25%) in 2000 exceeded the proportion at the undergraduate level (23%).

The *Earth & Space Science PhDs, Class of 2002* report may be downloaded from the Web at <http://www.aip.org/statistics/trends/reports/agu02.pdf>. Single copies may be obtained free of charge from AIP, Statistical Research Center, One Physics Ellipse, College Park, MD 20740; e-mail stats@aip.org. **Toni Feder**

were narrowly voted in by the British government on 27 January. UK universities began charging tuition just a few years ago. The new hikes, of up to £3000 a year, will vary by campus and department.

"Physics is not the most popular subject," says Philip Diamond, IOP's assistant director for higher education and science. "We have a rather fragile undergraduate population. You need 40 to 50 undergraduates per year to be viable. A number of departments have been forced to close. The fee element is an enormous worry for our subject."

Over the past 20 years, the number of physics students in the UK has remained steady—and become a shrinking portion of the overall university population, which has swelled by 50%. Says IOP president David Wallace, "The institute hopes that by offering serious cash, it can help reverse this trend as well as ensure that the brightest students are able to study what they are good at, not just what they can afford."

The IOP is setting aside at least £800 000 for the grants and is talking about raising more. The grants will be handed out based on need as determined by the government. They—and the raised tuition—will commence in the 2006–07 academic year. **TF**

News Notes

Cash for UK students. In an attempt to counter a growing barrier to studying physics, the UK's Institute of Physics (IOP) plans to give £1000 (roughly \$1800) a year to needy undergrads.

The grants would partially defray across-the-board tuition hikes that

SPEAR3 pierces brightly. The latest incarnation of the Stanford Positron Electron Asymmetric Ring was unveiled on 29 January. A hefty beefing up of a machine that began life as a particle collider more than 30 years ago led to SPEAR3, a top-of-the-line x-ray radiation source for intermediate energies (500–15000 eV), says director Keith Hodgson.



SPEAR3 can accommodate more users than its predecessor. More important "is what the increased brightness buys you—improved spatial resolution," Hodgson says. "You can focus the x-ray beam down to micron dimensions and have enough photons to do chemical speciation, surface scattering, protein crystallography."

"This new facility exemplifies the collaborative nature of science and the productive cross-fertilization between biological and physical disciplines," Elias Zerhouni, chief of the National Institutes of Health, said in a statement he prepared for the dedication of SPEAR3. NIH and the US Department of Energy jointly footed the \$58 million upgrade tab. "For a relatively modest investment, we have gained a formidable light source," says Hodgson. The upgrade was completed in less than a year.

Also in January, the San Francisco-based Gordon and Betty Moore Foundation announced a \$14.2 million gift to Caltech, most of which will be used to build a beam line at SPEAR3 for

remote-controlled studies in structural molecular biology. **TF**

Realistic hydrogen. The American Physical Society's Panel on Public Affairs (POPA) is urging policymakers in Washington, DC, to focus more on basic scientific research and less on demonstration projects when deciding how to proceed with the Bush administration's \$1.2 billion hydrogen initiative. The administration's 2003 initiative envisions "the commercial use of fuel cells in transportation . . . by 2012." Congress has set a goal for the auto industry of "safe, affordable, and technically viable hydrogen fuel cell vehicles" by 2015. In a policy paper that echoes a US Department of Energy report published in May 2003, POPA says the fundamental problem with the hydrogen initiative is that a large performance gap exists between the current state of the technology and the final goals.

According to the APS paper, "The most promising hydrogen-engine technologies require factors of 10 to 100 improvement in cost and performance in order to be competitive [with fossil fuels]." The policy paper, developed by POPA's energy subcommittee, also notes that, given the enormous hurdles involved in creating a hydrogen-based transportation system, it would be "prudent to maintain strong research programs into technologies that serve as bridges between the current fossil-fuel economy and any future hydrogen economy." The APS policy papers are intended to inform congressional debate "with the perspectives of physicists working in the relevant issue areas." **JLD ■**

WEB WATCH

<http://alsos.wlu.edu>

The **Alsos Digital Library for Nuclear Issues** aims to provide a broad and balanced range of resources about nuclear weapons. Washington and Lee University in Lexington, Virginia, hosts the project, which is curated by Frank Settle and forms part of NSF's National Science Digital Library.



<http://www.slac.stanford.edu/library/topcites>



SPIRES, the Stanford Public Information Retrieval System, has been at the forefront of digital document distribution for decades. Among the offerings on the SPIRES Web site are year-by-year lists of the **most-cited articles in high-energy physics**.

<http://radinfo.musc.edu/~eugenem/blog>

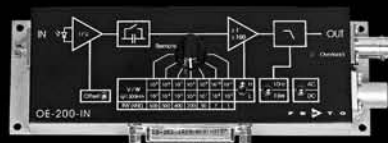
Eugene Mah, a medical physicist at the Medical University of South Carolina, keeps a daily weblog called **IMABLOG**. With a soupçon of physics, Mah logs the minutiae of his daily life and reflects on the world in general.

To suggest topics or sites for Web Watch, please visit <http://www.physicstoday.org/suggestwebwatch.html>.

Compiled and edited by Charles Day

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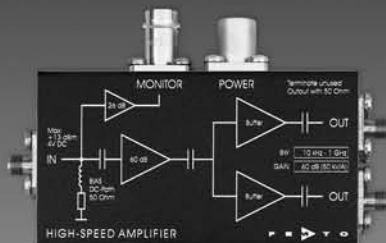
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