

most research-intensive universities, with the remaining 140 or so colleges and universities starting in academic year 2001–2.

How burdensome will the new accounting be for academics? “It’s the validation mechanism that worries me,” says Robin Jackson, a policy adviser to the Committee for Vice Chancellors and Principals, a body that represents UK universities. “And the timetable is very compressed. There will need to be time to iron out problems that may arise with the pilots.” Like everyone else, Ian Crawford, who is coordinating implementation of the new record keeping system for the University of Bristol, one of the pilot institutions, expects academics’ concerns—about having to spend time detailing how they spend their time—to be the biggest challenge: “It requires a change of culture within universities,” he says. “We always feel rightly nervous about increased bureaucracy,” adds Ken Pounds, a physicist at the University of Leicester and former head of the UK’s Particle Physics and Astronomy Research Council. “The advantage is that complete transparency may help researchers at the bench get the intended funding out of their university administration.”

And it’s pretty clear, Jackson says, “that if we want to hold the funding level, or argue for a further increase, as we probably will want to, we must meet the requirement on transparency.”

TONI FEDER

Cablecar Tragedy at Alps Observatory Claims 20 Lives

News of the tragic cablecar accident on 1 July at the Institute of Millimetric Radioastronomy’s (IRAM) interferometer observatory in the French Alps has shocked and saddened the radioastronomy community. At press time, investigators had yet to identify what caused the car to come loose from its cable shortly after beginning its climb up to the Bure plateau, where IRAM’s five-antenna millimeter-wave array sits. All 20 passengers were killed, including five technicians from IRAM; the rest were workers hired to clean the station and to install communications equipment and tracks for a new 15 m antenna.

The Bure facility, currently the world’s largest millimetric interferometer, is used by researchers throughout the world for millimeter-wave spectral line and continuum observations, including star and planet formation, circumstellar envelopes, and galaxy structure.

The cablecar had provided the only regular access to the plateau. At present, personnel and some supplies are being ferried to and from the site by helicopter. Completion of the new antenna, originally set to go on-line later this year, will be delayed by a few months. A remaining concern is how the facility will be staffed and maintained into the winter months, as the weather turns more severe.

Headquartered in Grenoble, France, IRAM is run by France’s National Center for Scientific Research (CNRS), Germany’s Max Planck Society, and Spain’s National Geographical Institute. In addition to the Bure array, IRAM operates a 30 m millimeter-wave telescope on Pico Veleta in the Spanish Sierra Nevada. The institute is also a participant in ALMA, the Atacama Large Millimetre Array project, which aims to build a vast array in South America. ALMA would have a collecting area of up to 7000 m², roughly seven times that of the Bure interferometer.

JEAN KUMAGAI

IN BRIEF

On 2 July, the World Conference on Science ended its six-day meeting in Budapest by adopting a “Declaration on Science” and a “Framework for Action.” Cosponsored by the International Council for Science (ICSU) and the United Nations Educational, Scientific, and Cultural Organization (UNESCO), the conference was the first of its kind in 20 years and drew some 1800 scientists, policymakers, and activists from 150 countries. The resulting statements address a wide platform of issues—science’s role in development, research ethics, gender inequality, and intellectual property rights, among other things—but are nonbinding and so broadly worded that, as one delegate put it, “Who’s going to disagree with them?” For example, the framework urges governments to commit “adequate” funds for science and technology education and research but gives no specific figures. The real test lies ahead: UNESCO and ICSU plan to convene

Salaries Rise, Unemployment Falls among PhD Physicists

The median annual salary for PhD physicists in the US was \$70 000 in 1998, up 8% since 1996, and PhD unemployment was down to 0.7%, the lowest rate in a decade. These are among the findings of the latest American Institute of Physics salary survey of members belonging to its ten member societies. (The graph shows a salary breakdown for PhDs by employment sector; the data do not include postdocs.)

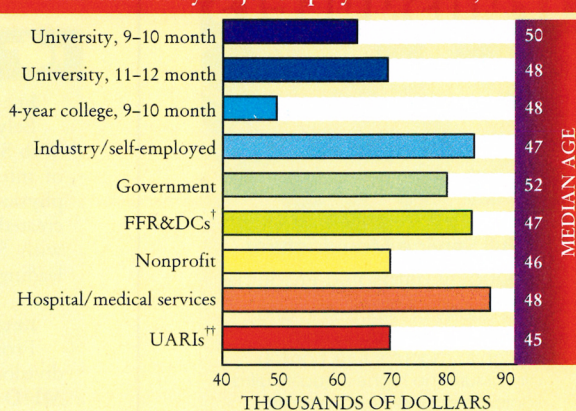
Respondents with master’s degrees and bachelor’s degrees in physics, who together constitute about one-fifth of AIP member society membership, reported annual median salaries of \$57 000 and \$54 000, respectively, reflecting increases of 4% and 8% since 1996.

Not all salaries kept pace with inflation. The \$45 000 median salary for high school teachers with master’s degrees, for example, was only 3% higher than in 1996; the two-year inflation rate was 3.8%. And the median salary for university professors on 11–12 month contracts was 1% lower than in 1996; that decline, however, can be attributed to the respondents’ lower median age and fewer years of experience, the survey report concludes.

Among respondents who received their PhDs within the past five years, median salaries varied widely: \$35 000 for postdocs, \$44 900 for assistant professors on 9–10 month contracts, \$60 000 for federal government employees, \$68 300 for industry workers, and \$70 000 for those working at federally funded R&D centers. Earnings within certain employment sectors also varied; in industry, for example, salaries among recent PhDs ranged from \$50 000 to \$83 000.

Single copies of *1998 Salaries: Society Membership Survey* are \$15 each (\$10 for multiple copies) and can be ordered from AIP, Education and Employment Statistics Division, One Physics Ellipse, College Park, MD 20740; e-mail stats@aip.org; Web <http://www.aip.org/statistics/trends/emptrends.htm>.

PhD salaries by major employment sector, 1998.

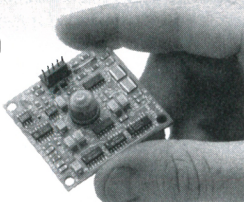


[†]Federally funded research and development centers.

^{††}University-affiliated research institutes.

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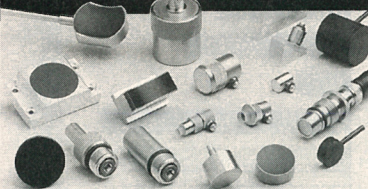
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regular follow-up meetings to evaluate progress in implementing the resolutions.

Graduate student employees throughout the University of California system have voted for union representation. In April, the UCLA union was the first to win, and by 18 June, the other seven campuses had followed suit. The eight unions, all affiliates of the United Auto Workers, represent nearly 10 000 student employees, 55% of whom took part in the elections; of those, 68% voted for unionization. The union expects to focus on such issues as workload, fee remission, health care coverage, wages and cost-of-living adjustments, and a grievance and arbitration procedure. Meanwhile, at the University of Minnesota, teaching and research assistants firmly rejected unionization for the second time in a decade. The Minnesota results, announced in mid-May, put the vote at 1248 in favor of the union and 1713 opposed, with a 73% turnout. (See PHYSICS TODAY, May, page 57.)

In June, Bulgaria became CERN's 120th member country. Bulgarian scientists have participated in CERN research for decades, with about three dozen of them currently working on experiments on the Large Electron-Positron collider and the Large Hadron Collider's Compact Muon Solenoid. At a ceremony marking the occasion, Bulgaria's minister of education and science, Vesselin Metodieff, said, "One of the priorities of our government is to

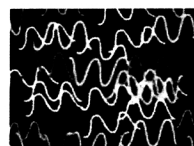
develop and maintain competitive science in Bulgaria. Our membership in CERN is an important step in this direction as it will enable many Bulgarian scientists, engineers, and technical staff to work at the leading edge of science and contemporary technologies." This year, Bulgaria's contribution will be \$319 000, or about 0.05% of CERN's annual budget, and it will increase in steps during the next two years. Romania and Slovenia are also considering joining CERN.

We have done our best to turn the tide . . . of testing every fact in science by a religious doctrine." So declared defense lawyer Clarence Darrow at the conclusion of the infamous Scopes "Monkey Trial" of 1925. With echoes of Scopes, the National Academy of Sciences has revised and reissued its *Science and Creationism* report, first published in 1984, which lays out its case against teaching religious concepts in science classes and analyzes the major arguments used by proponents of "creation science." The report, as well as the 150-page *Teaching about Evolution and the Nature of Science*, can be purchased from the National Academy Press, 2102 Constitution Avenue NW, Lockbox 285, Washington, DC 20055. NAS has also set up a Web site, <http://www4.nas.edu/opus/evolve.nsf>, with links to other resources on evolution. ■

Web Watch

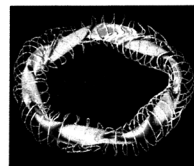
<http://superstringtheory.com/>

Belying its portentous name, *The Official String Theory Web Site* is, in fact, an entertaining, accessible compendium of information about strings and their role in theoretical physics and cosmology. Also featured on the site, which was created by Patricia Schwarz (who identifies herself as being with Superstringtheory.com), are interviews with several leading string theorists.



<http://www.ornl.gov/fed/mhd/mhd.html>

From Oak Ridge National Laboratory's fusion energy division comes a Web site devoted to the *Visualization of MHD Phenomena in Tokamaks and Stellarators*. The computer-generated images show the configurations of fields and plasma in several experiments from fusion labs around the world.



<http://www.birrcastle.com/birr/astrometry/astframes.html>

Built by the third earl of Rosse in the 1840s, the 72-inch *Birr Castle telescope* was long the largest telescope in the world. The restoration of the telescope and its observatory, located on the grounds of Birr Castle in central Ireland, began three years ago and is nearly complete.



To suggest topics or sites for Web Watch, please contact ptwww@aip.org by e-mail. Compiled by CHARLES DAY