tionnaire sent out by the participating societies. "Unemployment is low"—1.8%—"and starting salaries are high." And, for the second straight year, the proportion accepting potentially permanent work edged out those going into postdocs.

In the Earth and space sciences, by comparison, unemployment was 3.9%, and 8% of respondents said they were working part-time. This is the first time that AGU has attempted such a survey, says Jennifer Giesler, who heads AGU's newly created career services program. Although the data were "pretty much what we expected," she says, one concern is that the Earth and space sciences had the highest share of respondents who were employed but still looking for a new job. "So people are finding jobs, which is good, but they may not be happy with the positions they're finding." AGU plans to continue polling new PhDs, Giesler says, as part of a larger effort to offer its members more career-related information.

Other scientific societies may also continue surveying their members, says Gaddy, though initial funding for the CPST study has been exhausted. "My hope is that administrators in higher education will support the professional societies to conduct such surveys," says Gaddy. "And that graduate students, PhDs and postdocs will continue to be vocal about wanting such data."

Results of the survey are posted on the American Association for the Advancement of Science's Next Wave Web site, http://www.nextwave.org/. AIP has also posted physics-specific data at http://www.aip.org/statistics.

JEAN KUMAGAI

Europe's Radio Astronomers Score in Spectrum Battle

Persistence has paid off for Europe's radio astronomers: After months of acrimonious negotiations, Iridium LLC has agreed to limit signal spillover from its mobile telephone satellites, starting in the year 2006. The satellites operate in the frequency range 1621.35–1626.50 MHz, and can disrupt observations in the nearby 1610.6–1613.8 MHz hydroxyl band used by radio astronomers.

The satellite company's plans to begin offering phone service by late September added urgency to the negotiations, as some European governments were withholding operating licenses until agreement was reached with radio astronomers.

The deal, signed in August by Iridium and, on behalf of radio astronomers, the European Science Foundation, specifies that both before March 1999 and as of 1 January 2006, electromagnetic pollution from the satellites may not exceed -238 dB W/m^2 Hz.

The year 2006 was chosen because that's when Russia's global positioning satellite system, GLONASS, is supposed to stop polluting the hydroxyl band; that's also when Iridium's 66 satellites will be due to be replaced. "The next-generation satellites will have to be clean," says Willem Baan, director of the Westerbork Observatory in The Netherlands and chair of the Commission on Frequency Allocation for Radio Astronomy and Space Science. This guarantee is missing from the deal made last spring in the US, he notes (see PHYSICS TODAY, June, page 57), though the European agreement should benefit radio astronomers worldwide. But even after signal spillover has been eliminated, Baan adds, about 10% of observing time will be lost as a result of Iridium's satellites blocking radio telescope fields of view.

The two sides still must work out a time-sharing arrangement for the 1999–2005 period. Radio astronomers have proposed to split the time "50–50" for the interim, says Baan, who worries that the next round of talks will be difficult. If radio astronomers and Iridium fail to reach an agreement on their own by next March, they'll be forced to accept whatever decision is handed down by the Milestone Review Committee, a body set up last year to advise European governments on satellite licensing issues.

TONI FEDER

Faraday Cages Make Train Travel Quieter

Train travelers who get rankled by the sound of fellow passengers yammering away on cellular phones will soon have some relief. Some of the new train cars on Chiltern Railways' London–Birmingham route will sport metal-coated windows, rendering them Faraday cages and therefore impermeable to phone signals.

The coating consists of a few hundred nanometers of silver or "something like" the semiconductor tin oxide, says Mervyn Davies, project manager for Pilkington Group Technology, the company that developed the trademark Datastop glass. The coated glass, which is also used in some air traffic control towers to help block radar interference, reduces the signal penetrating the windows by about 30 dB, Davies says. "The trick is getting the coating colorless in reflection, and inexpensive enough to be put down on large areas."

Chiltern Railways, one of the smallest of the UK's dozen or so railroad companies, decided to offer phone-free travel because of customer complaints, says Roger Larkin of ADtranz, the company that is overseeing the project. "Various people muttered and moaned about phones ringing and about people shouting into them."

TONI FEDER

Congressional Fellows Bring Science to Government

Each year, a number of professional societies sponsor fellowships for working scientists who are interested in understanding how the US government works and in lending their expertise to policymakers. Although this year may go down in US political history as the Year of Monica, there has been plenty to keep the Congressional science fellows busy.

P. ROONEY

Perhaps the biggest development in science funding circles has been the push to nearly double the government's civilian R&D support by the year 2010. Helping to draft the Senate version of that legislation (S. 2217) has been a major goal for American Physical Society (APS) fellow Peter Rooney, who has been working for Connecticut Democrat Joseph Lieberman, an early supporter of the funding boost. Lieberman's seat on the Senate Armed Services Committee has also meant that Rooney has had to keep up to date with defense-related R&D, including some behind-the-scenes work on revamping DARPA, the Defense Ad-

vanced Research Projects Agency. After his term ends in December, Rooney says he may return to his previous post as a program officer at the National Academy of Sciences or possibly look for a position on Capitol Hill.

K. CLAY

Kathryn Clay, the American Institute of Physics' Congressional fellow, has been working for Senator Daniel Patrick Moynihan, a New York Democrat. Moynihan serves on the Senate Environment and Public Works Committee, and so one of Clay's main projects has been writing a bill to establish limits on the sulfur content of gasoline. "The group I was with in graduate school [at the University of Michigan] worked on alternative vehicles and emissions, so this is a great extension of my thesis research," Clay says.

The fellowship "has really opened my eyes to the broader role that science plays throughout the world," says Clay. "It's easy to forget that when you're working in the lab." She would like to stay in science policy, perhaps continuing her work on gasoline standards.

"One of the best surprises was the quality of people you meet up here," says Brian Holloway, the Congressional fellow sponsored by the Optical Society of America (OSA) and the Materials Research Society (MRS). He's wrapping up his year with Senator Jay Rockefeller, a West Virginia Democrat, and preparing to join the faculty at the College of William and Mary. "The other surprise has been the variety of situations you get put in." He ticks off some of his myriad responsibilities: drafting legislation, pulling together opinions and background research, advising the senator during hearings, meeting with lobbyists and constituents, writing speeches. "It's kind of everything."

B. HOLLOWAY

Although returning to academia, Holloway plans to remain politically active. "Politics doesn't have to be a full-time vocation," he says. "It's something you can do at the state or local level, or even at your own university."

The American Geophysical Union's Congressional fellow is Julie Moses, who spent her term working for Representative Dennis Kucinich, a Democrat from Ohio. Moses says she had very little political experience going into her fellowship. "I was surprised how diverse the opinions are in the House," she says. "Right meets left at the extremes of opinion." Because Kucinich's district includes the NASA Lewis Research Center, arguing for continued funding for NASA and the international space station has been one of Moses's main tasks. "Most members of Congress recognize that science benefits the economy," she says. "Although scientists may not think that when looking at the budget." She will be seeking a science policy post when her term ends later this month.

J. MOSES

New arrivals

In September, the latest crop of Congressional science fellows went through a two-week orientation at the American Association for the Advancement of Science (AAAS), after which they interviewed for positions.

Antonia Herzog, the incoming APS fellow, received her PhD in experimental condensed matter physics from the University of California, San Diego and then did a postdoc in neuroscience at the Salk Institute for Biological Studies. Last November, having decided to pursue a career in science policy, she took an internship at the AAAS.

Taking over the AGU fellowship is David E. Hunter, who recently finished his PhD at UC San Diego, where he was studying climate variability in the Indian Ocean. Hunter has long been interested in science and environmental policy. During graduate school, he spent four months at the White House Office on Environmental Policy, helping draft a report on reducing greenhouse gases.

The new AIP fellow, Lowell Ungar, is also a returnee to Washington. In between college and graduate school, he spent nine months as an intern there, first with the Union of Concerned Scientists and then with the League of Women Voters Education Fund. Ungar received his PhD in physical chemistry from the University of Chicago in 1994 and then worked for two years as a postdoc at the University of Pennsylvania, before joining the chemistry faculty at the University of Utah.

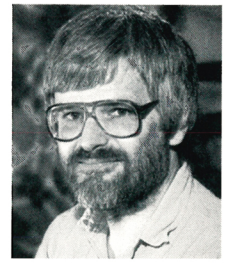
This year's OSA/MRS fellow, Merrilea Joyce Mayo, is taking a sabbatical from Pennsylvania State University, where she is an associate professor of materials science. Before joining Penn State in 1990, she was a member of the technical staff at Sandia National Laboratories. She earned her PhD in materials science and engineering from Stanford University in 1988.

Information about applying for Congressional fellowships is available from the sponsoring societies: AIP (301-209-3094); APS (202-662-8700); AGU (202-462-6900); and OSA/MRS (202-416-1418).

Airliner Crash Claims Lives of Two Physicists

Two physicists, Per Spanne and Klaus Kinder-Geiger, were among the 229 people killed in the 2 September crash of a Swissair jet off the coast of Nova Scotia.

Spanne, age 53, was a Swedish-born medical physics researcher who helped pioneer microbeam radiation therapy (MRT), an x-ray technique that shows promise for treating tumors in the brain and other sensitive tissue. He had been in the US to attend a biophysics and synchrotron radiation conference at Argonne National Laboratory, and then to vacation with his wife and two daughters, before he returned to Europe.



P. SPANNE

Spanne held a PhD from Linköping University and since 1994 had been a senior scientist at the European Synchrotron Radiation Facility (ESRF) in Grenoble, France, where he was head of the medical beam line. He was also overseeing preparations for the first clinical trials of a heart-imaging technique called x-ray angiography, scheduled to begin later this year. "Per estimated that he was four years away from doing human studies on MRT," says Peter Lindley, director of research at ESRF. "But he was a very cautious and careful scientist, so that may have been an overestimate." Work on MRT will continue at ESRF, says Lindley, "but you don't replace someone of Per's stature without suffering a setback."

"Per was a very quiet person, but with a very deep sense of humor," says Bill Thomlinson, a long-time collaborator. "He was easy to work with, even in difficult times late at night on the beam line."

Kinder-Geiger, age 35, was a German-born associate scientist at Brookhaven National Laboratory who specialized in numerical simulations of