officials at the departments of Homeland Security and Justice. While the science and technology communities have long been concerned about the problems the Visas Mantis restrictions have caused, Atkinson said, government officials concerned with security have been worried about just that: security. (See the article by Amy Flatten, PHYSICS TODAY, February 2005, page 49.)

"It is a balance," he said. "There is much to be appreciated about the changes, but there is more to be done."

Jim Dawson

Nobelist Garners Religion Prize

Charles Hard Townes is this year's winner of the Templeton Prize for Progress Toward Research or Discoveries About Spiritual Realities. The prize comes with $1.5 million—an amount that purposely exceeds the Nobel Prize purse. He joins Mother Teresa and Aleksandr Solzhenitsyn as recipients of both the Templeton and Nobel Prizes.

In 1964, Townes shared the Nobel Prize in Physics for his work in quantum electronics, which led to the invention of masers and lasers. That same year, a talk he gave at Riverside Church in New York City launched a parallel, informal career as an advocate for the convergence of science and religion.

Townes

"Early in the game, I was willing to speak up about the interactions between science and religion, and what they could learn from each other," says Townes. "Science tries to understand how the universe works. Religion tries to understand the purpose. Is there a purpose? What is it? The structure must be arranged for that purpose." In both religion and science, he adds, "we use our intuition, logic, experiments, observations, emotions, inspiration, even revelation, to try to understand."

Townes points to the missing matter in the universe and to human consciousness and free will as holding mysteries. Above all, he says, "science and religion need to be talking openly with each other, and trying to understand their consistencies or inconsistencies. And where there are inconsistencies or mysteries, we must work to understand why."

Townes, who turns 90 this year, is an active member of the University of California, Berkeley, physics department. His current focus is on using infrared telescopes to watch stars change; he also supports the search for extraterrestrial life. Townes says he will give away most of his Templeton award money, with the largest chunk to go to his alma mater, Furman University in Greenville, South Carolina.

Toni Feder

No Leaky Pipeline for Women in Physics, but Discrimination Persists

The pipeline of women in US physics academe is not as leaky as is commonly supposed, according to a recent report by the American Institute of Physics.

Rather than women leaving physics throughout the path to a full professorship, AIP finds that attrition occurs mainly between high school and college: Nearly half of high-school physics students are women, but in 2003, women earned only 22% of physics bachelor's degrees. At more advanced career stages, the report says, "women are represented at about the levels we would expect based on degree production in the past. There appears to be no leak in the pipeline at the faculty level in either physics or astronomy."

"The [notion of a] leaky pipeline has been around for awhile," says report author Rachel Ivie, "and you would expect to find evidence for it. We don't. And it did surprise me."

Among entering physics PhD students in the years 1981–97, men and women dropped out in similar proportions. In 2003, women earned a record 18% of physics PhDs. From 1985 to 2002, the fraction of PhD-granting physics departments that counted women among their faculty members rose from less than half to more than three-quarters.

Still, women haven't achieved equality in physics. Across all employment sectors, women with comparable experience working in the same sector as men earn $3050 less a year on average. And while the 18% of new tenure-track hires in physics in 2003–04 who were women was commensurate with supply, the percentages were higher for women hired for temporary (20%) and part-time (22%) work. Despite improvements, physics, along with engineering, is the slowest among the sciences to attract more women.

The representation of minority women in physics remains tiny. In the period 1976–2003, only 35 African American and 57 Hispanic women earned physics PhDs in the US. The total number of US physics PhDs awarded annually now exceeds 1100.

Although the data poke holes in the leaky pipeline theory, says Ivie, "there are other problems. A lot of women have experiences that seem not to fit with our data. The issue of discrimination is still there."

The report, *Women in Physics and Astronomy, 2005*, may be obtained free of charge from AIP, Statistical Research Center, One Physics Ellipse, College Park, MD 20740; e-mail stats@aip.org; website http://www.aip.org/statistics/trends/gendertrends.html.

Toni Feder

News Notes

New NASA head. The White House has nominated Michael Griffin, head of the space department of the Johns Hopkins Applied Physics Laboratory in Maryland, to be NASA's 11th administrator. If confirmed, he will succeed Sean O'Keefe, who stepped down in February.

Griffin was NASA's chief engineer and associate administrator of exploration under former President George H. W. Bush. Later he moved to Orbital Sciences Corp in Virginia, and then was president of In-Q-Tel, the CIA's nonprofit foundation that invests in companies developing technologies with national security applications (see PHYSICS TODAY, January 2004, page 25).

Griffin

Griffin appears to have bipartisan support and is expected to fly through his congressional confirmation hearings. Last year, he gave evidence to Congress in favor of the president's Moon/Mars vision, but he questioned support for the *International Space Station* and the space shuttle. "Circling endlessly in lower Earth orbit does not qualify as a theme" for human space flight, he said.

Initial reactions from scientists are also positive—not least because Griffin comes from their ranks. He has a bachelor's in physics, a PhD in aerospace engineering, and five master's degrees. Louis Lanzerotti of Lucent Technologies' Bell Labs, who recently chaired a National Research Council committee on servicing the *Hubble Space Telescope*, says Griffin "is an ideal choice

for NASA administrator at this critical juncture in the space agency's life. He will not shirk from applying tough and thorough technical analyses to the knotty technical, organizational, and money problems of the agency and will, I firmly believe, support a vigorous science research program." **PKG**

European expat network. Weaving together research in Europe with European researchers in the US is the aim of a network the European Commission (EC) is launching this fall: the European Researchers Abroad Link (ERA-Link).

An estimated 115 000 researchers from the European Union's 25 member states work in the US in the natural and social sciences, engineering, and the humanities. A planning paper for ERA-Link describes those researchers as "a patrimony of knowledge and experience, and a potential for transatlantic cooperation on which Europe could capitalise more effectively. . . . regardless of the reasons that brought them overseas, and of whether or not they intend to return."

For their part, US-based European researchers are enthusiastic about the proposed network, a recent EC survey finds. Overwhelmingly, the nearly 2000 respondents across all fields and career levels said they are keen to forge closer ties with other European researchers in the US and with individual researchers and scientific organizations in Europe.

Initially, ERA-Link will consist of an electronic newsletter and website publicizing funding sources, visiting professorships, job postings in academia and industry, conferences, workshops, and student exchange opportunities in Europe. Later, it may be tailored to individual needs, says Alessandro Damiani, the science, technology, and education counselor in the EC's Washington, DC, office. "We want to keep it interactive and flexible."

For more information, or to join ERA-Link, see http://www.eurunion.org/legislat/ste/eralink.htm. **TF**

Attaining equality in astronomy. Nothing seems radical about the latest guidelines for establishing equality for women in astronomy.

The Pasadena Recommendations—so-called because they were drawn up by attendees of a national meeting on women in astronomy held in Pasadena, California, nearly two years ago—include principles like "women and men are equally talented and deserve equal opportunity" and "full participation of men and women will maximize excellence in the field." Specific recommendations are spelled out on tenure-track hiring, career advancement and recognition, institutional policies, varied career paths, cultural issues, and statistics gathering. (The Pasadena Recommendations are posted on the Web at http://www.aas.org/~cswa.)

But less than a week after the recommendations were endorsed by the American Astronomical Society on 9 January 2005, their relevance was underscored by the controversial and headline-making comments of Harvard University President Lawrence Summers. In a closed meeting, Summers suggested that women are underrepresented in science and engineering because they don't work as hard as men, are not as good at math and science, and face discrimination. A transcript of his remarks was released on 17 February and is available online at http://www.president.harvard.edu/speeches/2005/nber.html.

Remarks like Summers's show that "we are not ready for complacency yet," says Meg Urry, director of the Yale Center for Astronomy and Astrophysics. "What we have learned in the past 20 years is that if you let the current system progress without intervention, nothing will change—the number of women won't increase, and may even regress." Urry, who helped draft the Pasadena Recommendations, notes that more than half of astronomy students aged 18–23 are women. "We are on the threshold of potentially being able to be fifty-fifty," she says. "It's important not to squander this exciting opportunity." **TF**

Carcinogen labels. X rays, gamma radiation, and neutrons were officially stamped as human carcinogens by the National Toxicology Program this year. The US Food and Drug Administration's alarm over an increase in questionable whole-body computer tomography scans triggered the action, says Christopher Portier, associate director of the NTP. "The concern over CT scans led us to raise the priority for considering a review of x rays."

Some medical physicists and radiologists worry that the listing will scare patients away from using ionizing radiation for medical diagnosis. In late January, the American Association of Physicists in Medicine and the American College of Radiology each issued statements about their concerns over the NTP report, which was released that same month.

"We've worked for many years to maximize the benefit of medical radiation by minimizing the risk," says G. Donald Frey, chair of the AAPM board of directors. "We hope that the physicians are aware of this, that if they have calls from patients or colleagues, they'll be ready to explain the situation to people." NTP officials acknowledge that some carcinogens can be medically beneficial under specific circumstances.

The NTP, located in North Carolina at the National Institute of Environmental Health Sciences, began listing human carcinogens in 1978. The listing now contains more than 200 individual substances, mixtures of chemicals, and exposure circumstances that are known or "reasonably anticipated" human carcinogens. For the first time, the listing also includes viruses—hepatitis B and C and

WEB WATCH

http://silicongenesis.stanford.edu

SILICON GENESIS
AN ORAL HISTORY OF SEMICONDUCTOR TECHNOLOGY

Inspired by Silicon Valley engineer Rob Walker, the **Silicon Genesis** project aims to record and publish the oral histories of the valley's pioneering physicists, engineers, and entrepreneurs. Stanford University hosts the site, which currently holds audio files and transcripts from 32 interviews.

http://www.lightsources.org

As its tagline declares, the online clearinghouse **Lightsources.org** provides "news, information, and educational materials" about the world's synchrotron facilities, 19 of which sponsor the site.

http://www.gemini.edu/index.php?option=com_gallery

Seven countries, including the US, funded the construction and support the operation of the two 8-meter Gemini telescopes. Images from the telescopes are available at the **Gemini Observatory Image Gallery**. For most noncommercial uses, prior permission to reproduce the images isn't required.

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

Compiled and edited by **Charles Day**

human papilloma. **CMH**

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