

Fang and Birman at the council meeting, and he agreed with Lerch's prediction that the human rights debate "will be repeated many times over" in other scientific societies. This spring Lerch and Patel will return to China accompanied by leaders of the American Association for the Advancement of Science on a mission more focused on human rights. A major goal of that trip will be to create a mechanism for monitoring human rights and academic freedom.

►DENIS F. CIOFFI

## Physics Academic Population Maintains Its Size

Reliable data appear infrequently amid the heated rhetoric about physics overpopulation (or underfunding, depending on your perspective). But Geneva Blake, a staff member of the education and employment statistics division of the American Institute of Physics, can back her statement that "the continued high rate of physics PhD production, cutbacks in industry and in national laboratories and an influx of scientists from abroad all combine to produce a field of qualified candidates far in excess of the number of available positions."

Blake makes that claim based on the "1993-94 Academic Workforce Report," the fifth in a biennial series of studies of physicists in academe that the division has done since 1986. Blake and her colleagues sent a questionnaire to the chairs of all physics departments in the US, and 630 of the 747 departments (84%) responded. The survey looks at professors and other academics with teaching or research positions, but not at physicists with postdoctoral appointments.

When Blake analyzed the responses, she found that some physics departments decreased in size from 1992-93 to 1993-94, and some increased, but as the report states, "the vast majority did not change at all." Basically, about 400 faculty positions became vacant, and about 400 were filled—although not necessarily the same 400. A turnover of 400 represents about 6% of the approximately 7100 positions in the reporting departments; the total number of US physics faculty positions is about 8200. According to the report, department chairs also claim that "they were not allowed to fill" 175 positions for 1993-94, either

## Estimated retirement rate of physics faculty\*

	Highest degree granted			
	PhD	Master's	Bachelor's	Total
Number expected to retire in 1995 and 1996	224	47	86	357
Percentage of departments expecting retirements	66	55	20	37
Estimated annual retirement rate, 1994 survey	2.5%	3.2%	2.2%	2.5%
Estimated annual retirement rate, 1992 survey	2.0%	2.6%	2.7%	2.3%

\*Department chairs were asked to estimate the number of retirements over the next two years.

temporarily or permanently. Some of those positions had already been frozen for several years.

Blake told us that the survey has evolved over time, making direct comparisons among reports difficult. For example, AIP's first three surveys considered only PhD-granting departments, which employ about two-thirds of all academic physicists. Blake and her colleagues added three new components to the study: previous employment and academic backgrounds of newly hired faculty, and the representation of women.

The survey found that more than half of the new hires in 1993-94 had held their degrees for more than five years. Thus, those in the post-PhD holding pattern constitute, as the report gently puts it, "another source of competition for scarce jobs."

### The world's best

The report also lends credence to the oft-voiced (by, for example, many members of the Young Scientists Network) opinion that US students have to compete for jobs with the best in the world: In PhD-granting departments, 22% of the new hires obtained their degrees from other countries. (And that statistic does not include people from other countries who got their degrees in the US.) Roman Czujko, who manages the education and employment statistics division, said that the corresponding rate in the 1980s was about 16% and that most of the increase can be attributed to the influx of scientists from the former Soviet Union.

About 6% of physics faculty are women, up from about 3% ten years ago. This slow growth shows that although affirmative action may have had some effect, on average only about 5% or 6% of new hires in the past decade have been women. Czujko told us that some other evidence suggests that the current rate is approaching 9% or 10%, which is

approximately equal to the proportion of women obtaining physics PhDs.

One table in the report especially merits note. Department chairs were asked to estimate the number of retirements over the next two years. The resulting estimated annual retirement rate—for those job-seekers waiting for the next big round of retirements—is 2.5%, up from 2.3% in the 1992 survey. Early retirements and buyouts complicate any simple understanding of changes in this number; Czujko said he had expected the more recent figure to be closer to 3%. The table above shows the small variations in the expected retirement rate among departments that grant the bachelor's, master's and PhD as their highest degrees.

Individual copies of the survey report are available free of charge from the Education and Employment Statistics Division, AIP, One Physics Ellipse, College Park MD 20740-3843.

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## IN BRIEF

On 17 November the US and Mexico agreed to build a \$46 million, 50-m-diameter millimeter-wave radio telescope. Development of the Large Millimeter Wave Telescope, to be located at a yet-to-be-determined site in Mexico, is being overseen jointly by the University of Massachusetts and the Instituto Nacional de Astrofísica, Óptica y Electrónica, in Puebla, Mexico. Astronomers have used millimeter-wave observations to map interstellar clouds and identify molecules within such clouds. Both spectroscopic and continuum studies of very distant galaxies are expected to be among the priorities of the LMT. ■