

years. Some of the sediment cores were collected with help of the *Vema*, a three-masted schooner that the late G. Unger Vetlesen donated to the lab in 1953 for oceanographic research. Vetlesen, a long-time patron of the Lamont-Doherty Observatory, was founder and chairman of the board of Scandinavian Airlines System, Inc.

The main thrust of work at the new Center for Climate Research is likely to involve testing atmospheric models developed at the Goddard Institute with data from the climate records compiled at Lamont-Doherty. According to Wallace Broecker, a research scientist at Lamont-Doherty and a professor of geochemistry at Columbia, Goddard is recognized for its work on general-circulation atmospheric models, and Lamont-Doherty is known for paleoclimate studies. The major weakness of the new center, Broecker says, will be in fluid dynamics. He expects that endowment funds raised by the insti-

tute will be used to hire a person who is strong in fluid dynamics for the program.

The Center will also use new funds to bring in graduate students and postdocs and to support innovative research programs, Broecker says. Broecker is particularly eager to see the program get into ice-core research, which, he says, has been turning up remarkable and unexpected results in recent years. One of the most important practical objectives of the new program will be to evaluate the problem of CO₂ buildup in the atmosphere—the so-called “greenhouse effect”—in light of improved general-circulation models. Generally, Broecker says, models used to predict the results of CO₂ buildup are based on the assumption that the marine-atmospheric system remains stable. But the historical data suggest, he says, that there may be “more than one stable marine-atmospheric system.” —ws

Education

More US students enroll in physics

In the 1983-84 academic year, for the first time in a decade, foreign students accounted for a decreasing proportion of the people enrolling in graduate physics programs at US universities. Since the early 1970s, when many of the more promising American undergraduates began to be lured into other fields, physics departments increasingly have admitted applicants from abroad to graduate programs. In the 1973-74 academic year, foreign students made up 23% of new enrollments in graduate physics programs, but by 1982-83 that figure had climbed to 40%. In 1983-84, it dipped to just over 38%, according to the latest AIP survey of *Enrollments and Degrees*. A drop of less than two percentage points may seem insignificant, but it arises from more dramatic shifts in underlying trends. While enrollments by foreign students increased just 3.6% in 1983-84, enrollments by American students surged 11.9%, according to Susanne D. Ellis, the author of the AIP survey. She thinks that as US demand for physicists picks up, more Americans will continue to be attracted into the field. New graduate enrollments in physics increased last September by 8.6% to 2855. A total of 10 922 students were enrolled in graduate physics programs in 1983-84, up 4.7% from the year before.

Almost a third of the students graduating from college in 1983 with bachelor's degrees in physics enrolled immediately in master's or PhD physics programs, which has been the normal

pattern in recent years, though at one time about half the physics bachelors went straight on with graduate studies. The number of students who were awarded bachelor's degrees in physics increased 5% in 1983, while those earning PhDs rose just 1%. Roughly 7% of the people awarded physics PhDs were women, about the same as the year before.

The number of college students who took an introductory physics course continued to increase in 1983-84. During the past five years, the number has grown to more than 300 000 from around 250 000. About 40% of the students taking introductory physics are likely to become engineering majors, and roughly a quarter will go into medicine or health-related fields.

Despite the large number of foreign students competing for slots in US graduate programs, nearly 6% of the available assistantships in PhD-granting programs went unfilled in 1983-84. The increases in unfilled assistantships were especially large in the South-Atlantic and West South Central regions.

Because the average student spends about six years earning a PhD in physics, foreign nationals who entered US programs in the mid and late 1970s are only now beginning to enter the job market in significantly larger numbers. A key question, said Ellis, is “what is going to happen as these people come out.”

The latest edition of *Enrollments and Degrees* includes comprehensive statis-

tics on students in astronomy and sample results on minorities. It is available, free, from AIP Manpower Statistics Division, AIP, 335 East 45th Street, New York, NY 10017.

AIP will issue new abstracts journal starting in 1985

Starting in early 1985, AIP will issue a new journal, *General Physics Advance Abstracts*. It will provide pre-publication abstracts of articles that are to appear in some 40 AIP and Member Society journals including *Applied Physics Letters*, *The Astronomical Journal*, *Journal of Applied Physics*, *Journal of the Acoustical Society of America*, *Journal of Chemical Physics*, *Journal of Mathematical Physics*, *Medical Physics*, *Physics of Fluids*, and *Review of Scientific Instruments*, as well as the Russian translation journals published by AIP. *General Physics Advance Abstracts* will not include abstracts of papers appearing in *Physical Review*, *Physical Review Letters* and *Review of Modern Physics* because these publications already are abstracted in *Physical Review Abstracts*, which goes to over 15 000 individuals and libraries.

General Physics Advance Abstracts will be a companion publication to *Phys. Rev. Abstracts* and will appear semimonthly in a similar format. The abstracts in *Gen. Phys. Adv. Abstracts* will be grouped by journal, and each issue is expected to be about 48 pages long. The contents of *Gen. Phys. Adv. Abstracts* and *Phys. Rev. Abstracts* also will be available on the “Advance SPIN” computer tape.

The yearly price for *General Physics Advance Abstracts* will be \$12 for members of AIP Member and Affiliated Societies and \$150 for nonmembers. Members of The American Physical Society will be able to receive free subscriptions to *Gen. Phys. Adv. Abstracts* upon request (see page 102).

AIP Executive Committee cuts page charges for journals

The AIP Executive Committee decided last June to reduce page charges in 1985 for AIP-owned journals. The reductions are as follows: from \$100 to \$85 for *Applied Physics Letters*; from \$65 to \$50 for *Physics of Fluids*; from \$65 to \$45 for *Journal of Applied Physics*; from \$60 to \$45 for *Journal of Chemical Physics*; from \$65 to \$40 for *Journal of Mathematical Physics*; and from \$65 to zero for *Review of Scientific Instruments*. The American Physical Society also has announced page charge reductions for its journals in 1985 (see page 102). □