

spite promising applications.

"Solid bodies far removed from equilibrium" is the theme of the *Sonderforschungsbereich* set up at Göttingen. It will be dedicated to the study of disordered systems, including nonlinear processes in microelectronics and glasses.

West Germany's program of special research areas originated in 1968 with the designation of 17 *Sonderforschungsbereiche*. By 1989 there were a total of 167 special research areas—24 in physics—with aggregate annual funding of around 350 million marks. Of 299 special research areas designated in the first 20 years of the program, 132 had completed their missions by 1989.

The latest designations bring the current number of special research areas to 175, of which 26 are in physics.

FRG ESTABLISHES INSTITUTE FOR SILICON TECHNOLOGY

West Germany's Fraunhofer Society, which supports applied research, has established an Institute for Silicon Technology in Itzehoe, a town near Munich that also happens to be headquarters for the Joint European Submicron Silicon Initiative (see *PHYSICS TODAY*, March, page 67). Germany's Federal Ministry for Research and Technology has committed 1 billion marks—more than \$500 million—to the JESSI program, and the Itzehoe institute will be devoted partly to work in support of JESSI.

Anton Heuberger, currently a member of the Fraunhofer Institute for Microstructure Technology in Berlin, has been named first head of the Institute for Silicon Technology. The institute is slated to have a staff of 400, including 160 research scientists. About two-thirds of the institute's work is to be dedicated to internally funded basic research, and about one-third to externally funded contracts and grants.

Work is to cover the gamut of silicon-based microelectronics, but probably the most important single effort will be in x-ray lithography.

PHYSICS TEACHERS FORM MACINTOSH USERS GROUP

A users group has been formed for those who use a Macintosh personal computer for teaching physics. Called the Physics Educators Macin-

tosh Users Group, the group is headed by Robert Fuller of the University of Nebraska, Lincoln, and David Winch of Kalamazoo College in Michigan. The new users group plans to hold regional and national meetings at which members can swap information on Macintosh-based educational products and procedures and keep abreast of system upgrades, new software and hardware, and other product improvements. A newsletter, edited by Curtis Hieggelke of Joliet Junior College, is sent to members.

The group's recent approval as an affiliated organization of the American Association of Physics Teachers entitles it to participate in AAPT meetings. The group has also been recognized by Apple Computer Inc as an official users group. It is the first national Macintosh users group.

So far, about 120 physics educators in colleges and high schools have joined. The next national meeting of the users group will be held during the AAPT summer meeting in Minneapolis and will include a poster session and meeting session.

To join, send a \$10 check payable to Kalamazoo College to David Winch, Kalamazoo College, Kalamazoo MI 49007.

RALEIGH LEAVES LAMONT-DOHERTY FOR HAWAII

Barry Raleigh has been named the first dean of the newly established School of Ocean and Earth Science and Technology at the University of Hawaii's Manoa campus. Raleigh left his job as director of Columbia University's Lamont-Doherty Geological Observatory in Palisades, New York, last October to accept the new position.

The new school is intended to be a centerpiece of the University of Hawaii's scientific research program, Raleigh says. "People here are fascinated with the ocean, not just as a playground or something nice to look at, but also in terms of resources and development," he told us. "The commitment to the school reflects that attitude."

The state and Federal governments are each contributing \$20 million for facilities to house the new school, which includes departments of oceanography, meteorology, geology and geophysics, and ocean engineering, as well as three research institutes: the Hawaii Institute of Geophysics, the Hawaii Institute of Marine Biology and the Hawaii Natural Energy Institute. The school now employs 125

scientists and engineers, with an additional 15 faculty positions to be created over the next two to three years.

Raleigh had directed Lamont-Doherty for eight years prior to his move to Hawaii. From 1966 to 1981 he was with the US Geological Survey in Menlo Park, California. Raleigh received his PhD in geophysics from the University of California, Los Angeles, in 1963.

A search committee headed by Charles Langmuir, a geochemist at Lamont-Doherty, has been formed to find a replacement for Raleigh. Dennis B. Kent, a senior scientist who specializes in paleomagnetism, is serving as interim director.

AAS ELECTS NEW VICE PRESIDENT AND OTHER OFFICERS

Paul W. Hodge, chairman and a professor of the astronomy department at the University of Washington, has been elected to a three-year term as vice president of the American Astronomical Society. Hodge replaces J. Roger Angel of the University of Arizona and joins the two current vice presidents, Frank H. Shu of the University of California, Berkeley, whose term ends in 1991, and Harvey D. Tananbaum of the Harvard-Smithsonian Center for Astrophysics, whose term ends in 1992.

The terms for Hodge and the other newly elected officers begin in June. At the same time, John N. Bahcall of the Institute for Advanced Study will begin his two-year term as AAS president (see *PHYSICS TODAY*, December, page 58).

In other election results, C. R. O'Dell of Rice University was elected to a three-year term as treasurer; he had previously been appointed to that office in 1988 after Leonard V. Kuhl resigned. The three newly elected councillors are Harriet L. Dinerstein of the University of Texas at Austin, Marcia J. Rieke of the University of Arizona, and Paul A. Vanden Bout of the University of California, Berkeley. Catharine D. Garmany of the University of Colorado was elected to the five-member nominating committee. Catherine A. Pilachowski of Kitt Peak National Observatory was elected to a three-year term as chair of the publications board.

In addition, Robert E. Williams, director of the Cerro Tololo Inter-American Observatory, was chosen to serve on the US National Committee for the International Astronomical Union as one of three AAS-elected

members. The 20-member committee, organized under the aegis of the National Academy of Sciences, represents the US at IAU General Assembly meetings.

AIP OFFERS ENGLISH EDITION OF SOVIET SUPERCONDUCTIVITY

The American Institute of Physics, in cooperation with the Kurchatov Institute of Atomic Energy in Moscow, recently began publishing an English-language edition of the Soviet journal *Superconductivity: Physics, Chemistry, Technique*. The monthly journal is edited by V. I. Ozhogin, a professor

at the Kurchatov Institute, and is the newest scientific journal devoted to superconductivity research being published in the USSR.

Translation of articles appearing in *Superconductivity* from Russian into English begins prior to, rather than after, publication of the Russian-language edition. This process helps to speed publication of *Superconductivity* outside the USSR.

A one-year subscription to *Superconductivity* is \$500.00 in the US; \$515.00 in Canada, Mexico and South America; and \$520.00 elsewhere. Subscriptions and sample copies are available from the American Institute of Physics, Marketing Services, Department SPT, 335 East 45 Street, New York NY 10017.

NSF MAKES GRANTS TO COLLEGES FOR PHYSICS INSTRUMENTATION

In its campaign to improve the state of laboratory equipment at undergraduate colleges and universities, the National Science Foundation awarded a total of \$22.7 million in grants in fiscal 1989. Of the 626 grants in engineering, computer science, mathematics and the physical, biological and social sciences, 87 were in physics and astronomy. Accordingly, physics and astronomy rang up \$2.3 million, or 10.1%, of the 1989 total. The average award for instruments in those two fields was \$26 000.

The grants were first awarded in 1985 under NSF's College Science Instrumentation Program and were restricted to institutions granting bachelor's and master's degrees. In 1988 the program was renamed the Undergraduate Instrumentation and Laboratory Improvement Program and extended to community colleges and to universities offering doctoral degrees. NSF also increased the number of grants from 362 in 1988 to 626 in 1989. At the same time, the total value of the awards was doubled from \$11.5 million in 1988.

NSF's funds for the program come from its Division of Undergraduate Science, Engineering and Mathematics Education and from its research directorates. Together they evaluated the 2090 proposals received for fiscal 1989. Under the rules of the program, recipient institutions are required to provide matching funds, which can be contributed by individuals, corporations and state governments, as well as the winning universities.

Among the 1989 winners, Union College in Schenectady, New York, received \$100 000, the largest physics grant, for a new tandem Pelletron accelerator to replace the college's aging Van de Graaff accelerator, which has been used in undergraduate research since 1965. Union College was one of seven institutions to be awarded two separate physics and astronomy grants. Its second award, for \$30 000, went for computer hardware and software, a frequency synthesizer and a spectral analyzer for its nonlinear dynamics laboratories.

Brandeis University in Waltham, Massachusetts, also received two grants: one, for \$12 000, for digital imaging hardware and software to analyze optical images from a TV camera; the other, for \$11 000, to purchase an ultra-high vacuum facility for teaching uhv techniques in engineering physics. Some matching funds for the second award were provided by IBM Corporation. Although the Brandeis proposals were submitted to the National Science Foundation in 1988, the grants were not received until the following year because NSF put off all instrumentation grants to major universities for one year when it was hit by cuts in research appropriations by Congress.

The University of California at Berkeley received \$26 000 to develop open-architecture optical spectrometers. These spectrometers, designed and built by staff at the university, enable students to follow the path of the light from source to detector. Howard Shugart, vice chairman of the physics department, expects be-

tween 2000 and 3000 students per year to use the new spectrometers for such experiments as measuring the temperature of a source by determining its Planck distribution.

To encourage undergraduate studies of galactic structure, Vassar College in Poughkeepsie, New York, has used its \$30 000 award to purchase a liquid nitrogen charge-coupled device camera and digital imaging system. The system will facilitate use of the school's 15-inch telescope by compensating for sky brightness from city lights as well as natural sources.

The University of Evansville in Indiana was awarded \$11 000 to purchase a closed-cycle refrigeration system for its solid-state physics laboratory. The system will allow experiments to be performed at temperatures as low as 10 K, using helium gas rather than liquid cryogenics. Alcoa Foundation provided a major portion of the matching funds.

Fiscal year 1990 grant winners are now being selected. Duncan McBride, program director for NSF's Division of Undergraduate Science, Engineering and Mathematics Education, expects that proposals for 1991 will be accepted through November of this year and that grants will be awarded in the summer of 1991. Interested schools may contact his division to request more information.

—AUDREY T. LEATH

IN BRIEF

The 1990 *Directory of Student Science Training Programs for High-Ability Precollege Students* is available from Science Service Inc, 1719 N Street NW, Washington DC 20036. Single copies cost \$3.00, and bulk prices are available upon request.

M. G. K. Menon, president of the International Council of Scientific Unions, was appointed Science Minister in the new Indian government that took office at the end of last year. Menon, a former associate of Homi Bhabha, leader of India's nuclear program, is the first professional scientist to hold the science portfolio in an Indian government.

Caltech has received a grant of \$980 000 from the L. K. Whittier Foundation of Pasadena to build a seismological observatory, which is to be designed and run by Caltech's Seismological Laboratory. The new observatory is the first stage of Caltech's planned Terrascope, a ten-seismometer array that will study the tectonics, mantle and core beneath southern California. ■