

Academies of Science Offer Exchange Visits to Americans

American scientists can apply for exchange visits to Eastern Europe during the 1970-71 academic year. The National Academy of Sciences is inviting applications for visits to the Soviet Union, Czechoslovakia, Poland, Romania or Yugoslavia. Under agreements with the various academies of science, Americans may visit for one or more months for familiarization with current scientific research or for 3-12 months to conduct research.

Applicants must be US citizens and have a doctorate or its equivalent in

physical, biological or behavioral sciences, mathematics or engineering. All necessary expenses will be met by the NAS and the foreign academy, including reimbursement for salary lost, up to \$1500 per month, during a visit of three or more months and transportation for families for visits of five or more months. Applicants should apply for one country only.

The deadline for applications (to National Academy of Sciences, Office of the Foreign Secretary (USSR/EE), Washington, DC 20418) is 24 Nov.

Draft Affects 12.6% of Physics Graduate Students

The draft cut deeper into physics and astronomy departments during the 1968-69 academic year. Although it caused a negligible drop (less than 1%) in fall-1968 enrollments, the draft affected 12.6% of the 3335 first- and second-year students surveyed this spring by the American Institute of Physics for the Scientific Manpower Commission.

128 (66%) of the 194 PhD-granting institutes responded to the survey, giving data on 4247 of the estimated 5878 first- and second-year students. 912 were foreign students and not subject to the draft. Of the remaining 3335, 14.8% of the 1670 first-year students and 10.3% of the 1665 second-year students were drafted or had received induction notices effective at the end of the semester. Almost half of the students were eligible for the draft (PHYSICS TODAY, March 1969, page 65). In chemistry, 15.8% of the surveyed 3824 first- and second-year students were drafted and in psychology 10.8% of 2410.

L. W. Fredrick Named AAS Secretary; McVittie Resigns

George C. McVittie, professor at the University of Illinois Observatory, resigned as of 13 Aug. as secretary of the American Astronomical Society, after holding the office for the past eight years. The AAS council appointed Laurence W. Fredrick as act-

ing secretary until the end of McVittie's term in June 1970. Fredrick is professor and chairman of the astronomy department at the Leander McCormick Observatory at the University of Virginia.

Three new AAS offices were filled in the first election held by the new AAS Division of High-Energy Astrophysics (PHYSICS TODAY, October 1968, page 67). Elected were: Kenneth Greisen of Cornell University, chairman; William L. Kraushaar of the University of Wisconsin, vice-chairman and A. G. W. Cameron of Yeshiva University, secretary-treasurer.

Jarus Quinn Fills New OSA Post of Executive Director

Jarus W. Quinn was appointed to the newly created office of executive director of the Optical Society of America, as of 1 Sept. As head of internal operations, Quinn takes over some of the major responsibilities from Mary Warga, executive secretary since inception of the executive office in 1959.

The new position will help to meet the demands of increasing membership and scientific meetings. In the last ten years, OSA membership has more than doubled and now totals 5815; publication of three new journals has been initiated and the number of local sections has risen from 7 to 17.

Quinn, formerly a professor at Catholic University, will manage the executive office, arrange scientific meetings and be a liaison between the OSA board and its technical council and

standing committees. Warga continues to oversee the local sections and organize new ones, develop promotional material and be a liaison to other societies, outside institutions and funding agencies.

An OSA ad hoc committee recently initiated publication of two resource letters, one on colorimetry by Gunter Wyszecki and one on radiometry by Fred E. Nicodemus. These are available as reprints from the *Journal of the Optical Society of America* (59, 2 and 3 respectively). Patterned after the resource letters of the American Association of Physics Teachers, the OSA letters give a briefly annotated reference of representative literature on each subject.

Bromley Heads Academy Physics Survey Committee

A new National Academy of Sciences Physics Survey Committee is being organized with D. Allan Bromley, director of the Wright Nuclear Structure Laboratory at Yale University as chairman. Bromley hopes that the new survey will have a much broader scope than the last one (PHYSICS TODAY, April 1966, page 23), which was conducted during 1964 and 1965 by a committee headed by George E. Pake.

AIP Corporate Associates To Discuss Federal Support

The annual meeting of Corporate Associates and Society Officers of the American Institute of Physics will be held 29 Sept. at the Carnegie Endowment International Center and 30 Sept. at Rockefeller University.

The Monday session will feature a panel discussion on the character of federally supported research in universities, moderated by Emanuel R. Piore, vice president and chief scientist at IBM. The members of the panel include Leland J. Haworth of Associated Universities, Inc, Robert A. Frosch, Assistant Secretary of the Navy, Research and Development, and Jay Orear, professor at Cornell.

Tuesday's schedule will offer talks by A.G.W. Cameron (Belfer Graduate School of Science, Yeshiva Universi-

ty), speaking on pulsars and space research; D. Allan Bromley (Yale) on "New Things in Nuclear Physics;" Val L. Fitch (Princeton) on time-reversal invariance; Arthur Herschman (AIP) on a national information system for physics; and Arnold A. Strassenburg (AIP) on a manpower survey of industry. The AIP speakers will invite comments from the audience.

At the afternoon session speakers will be Francis O. Schmitt (MIT) on important aspects of biophysics; Rolf Landauer (IBM) on the physics of the computational process and Nicolaas Bloembergen (Harvard) on nonlinear optics.

AEC Will Give Used Nuclear-Studies Equipment to Schools

The Atomic Energy Commission plans to give colleges and universities used nuclear-studies equipment it no longer needs. The program will involve \$500 000 worth of equipment a year.

Among the items that may be donated are radiation-detection, -monitoring and -counting instruments, critical and subcritical assemblies, pulsed neutron generators and small accelerators. Neutron sources and other radioactive materials normally will not be included.

Information is available from the Director, Division of Nuclear Education and Training, AEC, Washington, D. C. 20545.

Manpower Studies Show Physics Leveling Off

In some ways physics has stopped growing: The number of undergraduate and graduate physics majors has stopped increasing, and the percentage of physicists in the National Register of Scientific and Technical Personnel has been steady for the last eight years. These are some of the conclusions one can draw from the 1969 edition of *Physics Manpower* (American Institute of Physics Publication No. R-220, August 1969) just published.

Until 1966 both the physics undergraduate enrollment and the ratio of physics bachelor's to total bachelor's degrees conferred were declining year by year. Since then the enrollment figure has leveled off, but the ratio figure continues to decline. Mathematics is the only physical science that has attracted an increasing fraction of bachelors.

The percentage of physics bachelor's-degree recipients planning physics graduate study has declined for the first time since 1964. Whereas in the past at least 50% of new degree holders went directly to graduate school, this year the fraction dropped to 44%, and the fraction of new bachelors who selected immediate employment rose by 14%. According to Susanne D. Ellis, supervisor of AIP manpower studies, this change was undoubtedly influenced by fear of being drafted. However, the fraction of new physics bachelors who actively joined the military service rose only from 5% to 8% for the class of 1968.

Graduate physics enrollment, after reaching an all-time high in 1966-67, has leveled off at 15 500. First-year enrollment had its first decline in 1968-69, dropping by 8.6%, again, because of the influence of the selective service.

Graduate physics degrees have increased steadily over the ten-year period from 1958 to 1968. Over this same period engineering and mathematics showed the greatest percentage increase in graduate degrees among the physical sciences and engineering.

The number of physics bachelor's degrees conferred on women has increased from 265 in 1960 to 275 in 1968, a change of less than 5%, whereas the total number of bachelor's degrees granted to women doubled. Women make up 3.6% of the graduate physics population. In the US approximately 30% of all master's degrees and 10% of all doctorates are

conferred on women. Among the physics masters fewer than 5% are women; chemistry, on the other hand, grants almost 20% of its master's degrees to women.

In 1967 the graduate physics population included 16% foreigners. Asians make up 64% of the foreign physics graduate students and 57% of all foreign graduate students. Only 5% of US students abroad study the physical or the life sciences.

Since 1960 the number of physicists in the National Register has been 11-12%. Meanwhile the percentage of chemists and biologists increased.

Visiting Privileges for Americans and Australians

Through arrangements made by the American Institute of Physics, its member societies and the Australian Institute of Physics have extended reciprocal privileges for visiting foreign members. Visitors are entitled to attend meetings and conferences (paying the usual registration fees) of each institute and its member societies, but cannot vote, hold office or receive reduced subscription rates. To contribute a paper at a society meeting one must either be a member of the society or sponsored by a member, unless the individual has been invited to give a paper.

Although this is the first such formal agreement for AIP, the Australian Institute of Physics has similar agreements with the UK, Canada and South Africa.

IN BRIEF

Jay Orear tells us that in reporting the annual business meeting of the American Physical Society (*PHYSICS TODAY*, April 1969, page 85), we should have said that Orear *predicted* that the Particles and Fields Division would completely pull out of the Chicago meeting on the basis of action taken at the Division business meeting that morning.

The American Physical Society Division of High-Polymer Physics celebrated its 25th anniversary and marked the occasion with a two-decade review of polymer physics and a look at the direction of current research. The division was founded on 23-24 June 1944.

The Fine Particle Society has been established for scientists concerned

with the physical and chemical properties of particulate matter. Information can be obtained from the society at Box 671, Wharton, N.J. 07885.

Foundations of Physics, a quarterly journal presenting articles on the philosophical bases of current physical theories and procedures, will be published starting in 1970 by Plenum Publishing Corp. Henry Margenau of Yale and Wolfgang Yourgrau of the University of Denver will be editors.

Technical Operations of Burlington, Mass., has acquired Joyce, Loeb & Co of Team Valley, Gateshead, England. Joyce, Loeb and its subsidiaries in London and Paris manufacture scientific instruments.