kilowatt hour, are obtained by combining these units and by extending the scale of measurement. The units then are transferred to higher frequencies by appropriate techniques.

Services offered by the Calibration Center cover three broad frequency ranges: (i) low-frequency (zero frequency through about 30 kc); (ii) high-frequency (30 kc through about 300 Mc); and (iii) microwave (above 300 Mc).

Somewhat more than half of the initial instrumentation program has been completed, and the center now is able to provide the most urgently needed services. Additional standards and instrumentation, beyond the present program, will be required in the future to replace those made obsolete by technological advances and to extend the capabilities of the center as new calibration requirements arise. The eventual goal is to measure and standardize in the center all electronic quantities for which there is a substantial calibration need. Calibrations required only infrequently may often be obtained elsewhere in the bureau.

The importance of proper environment for precision measurement operations is widely recognized. A well-lighted area that is free of mechanical vibration and shielded against radio and other electrical interference, that has regulated and well-filtered power lines and dust-free air of controlled temperature and humidity is essential to calibration work where the primary standards are concerned. All of these features have been incorporated into the new center. In addition, nearly all of the electrical equipment has been installed in consoles, for the convenience of the operating personnel and for the protection of the sensitive equipment. Incorporating all the latest technological advances, this laboratory could well serve as a model for standardizing laboratories throughout the world.

Artificial Insemination

A new method for preserving and shipping bull semen that promises to cut operating of artificial insemination programs has been reported by O. T. Stalcup of the University of Arkansas Agricultural Experiment Station. The method, which is the result of a 2-year research program, reduces the number of collections and cuts shipping costs in half.

Basic principles of the process involve adding carbon dioxide and glycine to an extender composed of egg yolk, distilled water, antibiotics, and other ingredients. Carbon dioxide keeps the spermatozoa alive in the absence of free oxygen. Glycine is an amino acid containing protein that protects and nourishes the spermatozoa. Another chemical, glutathione, is added to activate the spermatozoa when ready for use, thus increasing the period of time they can be stored successfully. Field trials indicate that semen processed and shipped with this extender can be safely used for 3 to 4 days, compared with 2 days for present extenders.

Grants, Fellowships, and Awards

Fluid mechanics. A $3000 Boris A. Bakhmeteff research fellowship will be available for the 1959–60 academic year to support a research project of an original and creative nature in the general field of mechanics of fluids. The recipient must be a full-time graduate student who is a candidate for the master's or doctoral degree. He may not hold any other fellowship or major income-producing commitment that will interfere with his research work and study on a full-time basis. The study and research may be undertaken at an institution of the fellow's choice. Applications must be filed by *15 February 1959.* Forms may be obtained from: Dean William Allan, School of Technology, City College of New York, New York 31, N.Y.

General, for women. Sigma Delta Epsilon, graduate women's scientific fraternity, has announced its predoctoral fellowship for 1959–60. These fellowships are awarded to women who give evidence of ability in scientific research, and who need financial assistance to further a well-defined project contributing to the Ph.D. or equivalent degree. Candidates should be graduate students in the physical, biological, or mathematical sciences who during the fellowship tenure will be devoting more than half time to a thesis or to thesis research. The stipend is $1600. Application forms, which must be returned by *1 February 1959,* may be secured from: Dr. Geneva Sayre, Department of Biology, Russell Sage College, Troy, N.Y.

Parasitology. The American Society of Parasitologists has announced that it will confer annually, or less often, an award for meritorious research in parasitology. The award, sponsored by Parke, Davis & Company, will consist of a check for $1000, a medal, and a $150 travel allowance for the recipient. The new prize has been named in honor of Henry Baldwin Ward, who founded the society's *Journal of Parasitology* and served as the society's first president. Members of the society whose accomplishment occurs within 15 years after the completion of academic training are eligible for the award.

Psychiatry. The Hofheimer Prize of $1500 is awarded annually by the American Psychiatric Association for an outstanding research contribution in the field of psychiatry or mental hygiene which has been published within a 3-year period up to the date of the award. It is imperative that contributions submitted for consideration be published, since studies in press or in preparation are not eligible. This competition is open to citizens of the United States and Canada who are 40 years of age or under at the time the study was submitted for publication; or to a research group whose median age does not exceed 40 years.

The next award will be made at the annual meeting of the association in April of 1959. Eight reprints or duplicated copies of each entry, as well as the necessary data concerning age and citizenship, must be sent *by 15 February* to John I. Nurnberger, M.D., Chairman, Hofheimer Prize Board, 1100 West Michigan St., Indianapolis 7, Ind.

News Briefs

The American Association of University Professors has announced receipt of a grant of $10,000 from the Fund for the Republic. This money will go into the association's Academic Freedom Fund. It will be used to help teachers who have been discharged or suspended without pay in clear violation of academic freedom. Assistance will also be given the faculty of a college or university where a general crisis threatens freedom in education.

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Two Congressional subcommittees announced on 7 December that they had started an investigation of whether "bottlenecks and red tape" in the Atomic Energy Commission were holding back the nation's nuclear programs. The chairmen of the subcommittees, representatives Melvin Price, Democrat of Illinois, and Chet Holifield, Democrat of California, said that the Joint Atomic Energy Committee had become "increasingly aware of delays in contract negotiations and delays in acting on requests by the joint committee and the Congress."

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When Project Vanguard was transferred from the Navy to the National Aeronautics and Space Agency on 1 October, NASA gave to the 150 members of the Vanguard staff the option of transferring to the new agency or remaining at NRL. Most of them have elected to go with the project. NASA is in full operation administratively, but as yet it has no laboratory quarters. For probably a year or more, Hagen and his associates will remain where they are, either at NRL or at Cape Canaveral and the various tracking stations. But henceforth

they will be directed by NASA and will be paid from NASA funds.

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The Soviet Union has given Poland one of its Antarctic research bases and thus raised to 13 the number of nations active in Antarctica or its islands. Polish scientists are said to be preparing to sail south on the Soviet ship *Mikhail Kalinin* with the regular Soviet expedition. The Poles will take charge of Station Oasis, so-called because it is located on Bunger Oasis, a part of the subcontinent not covered by ice. The Oasis is about 225 miles east of Mirny, the main Soviet base, and about half way between Mirny and Wilkes Station, the nearest United States base.

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The new U.S. Department of Agriculture Fruit and Vegetable Products Laboratory at Winter Haven, Fla., was dedicated on 4 December. The laboratory, part of USDA's Southern Utilization Research and Development Division, conducts research to extend the utilization of fruits (principally citrus and other subtropical fruits) and vegetables.

Scientists in the News

VITTORINO VERONESE of Italy is the new director of the United Nations Educational, Scientific and Cultural Organization. He succeeded LUTHER EVANS of the United States on 5 December in the closing ceremony of UNESCO's tenth general conference, which began 4 November in the new headquarters building on Paris' Left Bank.

Veronese, considered by many as a European intellectual who will reduce the emphasis placed in the past by Evans on technical assistance programs for underdeveloped nations, sought in his inaugural address to reassure the smaller nations.

"Assistance to scientific and cultural cooperation is not to the prejudice of technical assistance, but, on the contrary, lends it impetus. . . . It is one of UNESCO's main duties to convince specialists that their reseach work must have a bearing on technical assistance, even when it is not directly associated with it.

"Similarly, the recipients of technical assistance must come to understand that it is, in fact, in the laboratories, institutes, universities and scientific congresses that the techniques subsequently handed on to them are worked out.

"What I want is not a balance between these two trends, but continuous, spontaneous cooperation."

Veronese practiced law for 10 years before he moved into the social and educational fields. He is a zealous Roman Catholic, the former president of the Italian Catholic Action and a tireless worker in Italian and international Catholic activities. Veronese's association with UNESCO began in 1948, the same year that Italy became a member of the organization. He has attended every general session since then as a member of the Italian delegation. Since 1952 he has been a member of UNESCO's executive board, of which he was chairman from 1956 until his nomination as secretary general by the board last September.

BRUNO PONTECORVO, the Italian-born physicist who left Britain for the U.S.S.R., has been nominated for a Lenin Prize in science, highest Soviet decoration in the field. Pontecorvo disappeared behind the Iron Curtain in 1950, after having worked 7 years on secret British nuclear research projects. He has since taken out Soviet citizenship. Other Soviet scientists nominated for the Lenin Prize follow.

V. I. VEKSLER and others were cited for construction of a 10-billion-electron-volt synchrophasotron, believed to be the world's largest atomic particle accelerator.

L. D. LANDAU, author of nuclear physics textbooks that have been translated into English, was cited for research on "conversion laws at weak interactions" and "polarization properties of the neutrino." Landau was one of the scientists behind the launching of the Soviet earth satellites.

V. A. FOK, theoretical physicist, was cited for a new "theory of space, time and gravitation."

J. L. GINSBURG and I. SHKLOVSKY were cited for their "theory of cosmic radiation and origin of cosmic rays." This theory is that cosmic rays result from flare-up of super-novas and new stars.

N. G. BASOV and A. M. PROKHOROV were cited for their "discovery and development of a new principle in the generation and amplification of radio waves, resulting in the creation of molecular amplifiers and generators." Such amplifiers are used as high-precision measuring instruments.

S. I. BABKIN and nine associates were cited for designing a "Sewing machine" for use in blood-vessel surgery.

ROGER ADAMS, professor emeritus at the University of Illinois and an internationally known organic chemist, received the American Chemical Society's Charles Lathrop Parsons Award, for outstanding public service, at a dinner in Washington, D.C. on 6 December. Adams is a former president of the AAAS, as well as of the ACS, and a former chairman of the ACS board. He is a member of the board of directors of the National Science Foundation and the board of trustees of the Sloan–Kettering Institute for Cancer Research.

The Parsons award, which cannot be given more frequently than once every 3 years, consists of a scroll and the privilege of choosing the recipient of a $2000 scholarship for graduate study in chemistry, chemical engineering, or some related field.

A second feature of the Washington dinner was the presentation of a special ACS membership pin to E. J. CRANE of Columbus, Ohio, for long and outstanding service to the society. Crane, former director of the Chemical Abstracts Service and former editor of *Chemical Abstracts,* retired in November after 47 years with the American Chemical Society publication.

R. CHARLIER, head of the pharmacology department in the Research Division of LABAZ Laboratories, Brussels, Belgium, received the prize of the Belgian Society of Cardiology on 19 September during the third World Congress of Cardiology, which was held in Brussels. He was honored for his paper entitled "Un nouveau coronarodilatateur. Etude pharmacologique." The prize was 100,000 Belgian francs.

EDGAR C. BAIN, retired vice president in charge of research and technology of the United States Steel Corporation, has received the Ambrose Monell Medal for distinguished achievement in mineral technology. Bain, an internationally known metallurgist, is responsible for establishing the scientific basis of heat treating steel, and was one of the first scientists to use x-ray diffraction techniques in the systematic study of alloys. The medal was presented at a dinner on 12 December at the Columbia University Men's Faculty Club.

HELEN L. JEFFREY, formerly professional assistant to the program director for molecular biology at the National Science Foundation, has been named executive secretary of one of two biochemistry study sections in the Division of Research Grants, National Institutes of Health. In her new position, Dr. Jeffrey administers a program for scientifically reviewing and evaluating proposed research projects in biochemistry for which financial support is requested of the Public Health Service.

ABRAHAM M. SHANES, biophysicist in the Laboratory of Pharmacology and Toxicology, National Institute of Arthritis and Metabolic Diseases, National Institutes of Health, will serve as scientific liaison officer in biophysics with the London branch of the Office of Naval Research for the year 1959. He will be concerned with the exchange of information between American scientists and scientists abroad in the general field of cellular physical chemistry.