

dents (11.4 percent under 1950 totals) was also less than had been expected, but pointed out that tuition income in many institutions has nevertheless been reduced "to a point which endangers their financial position in these days of inflationary operating costs".

Scientific Instruments

Record Sales Expected During 1952

A forecast that most makers and distributors of scientific instruments and laboratory apparatus will probably have their biggest year in 1952 has been voiced by J. Claire Evans, president of the Scientific Apparatus Makers Association, the national organization of the apparatus and instrument industry. With the industry's sales for 1951 about forty percent over those for 1950, Evans said, backlogged orders already total as much as half a year's normal production for many companies.

New Research Reactor

Developed by North American for the AEC

A low-cost, low-power nuclear reactor for use in industrial and institutional research and in training scientists and engineers in the operation of reactors has been designed by North American Aviation, Inc., according to a recent announcement by the Atomic Energy Commission. Estimated construction costs of the reactor have been set at about one million dollars. The design program was undertaken by North American at the Commission's request, and it is stated that development work on the reactor components is currently under way at the company's atomic energy research department at Downey, California. A graphite-uranium reactor, the instrument will make it possible to provide a source of short-lived isotopes for research centers located long distances from the Brookhaven and Oak Ridge National Laboratories, where such isotopes are now produced. The design calls for an octagonal shaped reactor to be operated at an energy rate equivalent to 160 kilowatts, according to the AEC, with a neutron flux of about 10^{13} neutrons per square inch. Provision has been made for a heavy water cooling system.

Reactor Technology

ORSRT Students Must Apply by March 1

Prospective students for the 1952-53 session of the Oak Ridge School of Reactor Technology have only until March 1, 1952, to complete their application forms for admission, it has been announced. A complete set of the necessary forms, including acknowledgment of an Atomic Energy Commission security clearance, must be filed by that date. The AEC's Committee of Admissions will then select approximately 70 students to attend the session that begins on September 8, 1952. Students are selected from two categories: Category A, recent graduates from universities; and Category B, representatives from industry and govern-

ment agencies. All applicants must hold a bachelor's degree or higher in chemistry, engineering, metallurgy, physics, or engineering-physics. Category A students are paid a stipend of \$285 per month for the training period; Category B students remain on the payrolls of their home organizations.

The school was established in 1950 by the AEC to provide training in reactor theory and technology to selected engineers and scientists who will engage directly in the AEC's reactor development program. The curriculum includes courses in reactor chemistry, nuclear physics, theory, experimental physics, metallurgy and ceramics, and engineering. Each class is in session for a twelve-month period, beginning in September. Category A students are available for employment at the end of the training period, when it is anticipated that they will join the AEC, its contractors, or other organizations interested in reactor development.

Additional information about the school and application forms for either category may be obtained from the Oak Ridge School of Reactor Technology, Post Office Box P, Oak Ridge, Tennessee.

Meteorology and Oceanography

Fellowships Available at NYU

New York University College of Engineering has announced the establishment of three new research fellowships in meteorology and oceanography to become effective in the academic year 1952-53. All three awards will provide full tuition and fees for nine months, with one carrying a cash award of \$1000, and another \$500. Applicants must have the bachelor's degree by September 1952 and must have completed courses in mathematics through differential equations and at least twelve semester hours of physics. Application forms and additional information may be obtained from Assistant Dean Henry J. Masson, Graduate Division, New York University College of Engineering, New York 53, N. Y. Completed forms should be submitted by April 1st.

Training in Statistics

Post-Doctoral Awards Available

A program of post-doctoral awards to provide training and experience in statistics for scholars whose main interests lie in other fields has been established by the Committee on Statistics, a department of the University of Chicago, under a five-year grant from the Rockefeller Foundation. There will be three awards per year to holders of the doctorate or its equivalent in the biological, physical, and social sciences. Each award will amount to \$4000 or slightly more, office space will be provided, and from \$600 to \$1000 will be available for clerical, computational, and research assistance. There will be no tuition charges. Recipients must spend eleven months studying statistics at the University of Chicago, and will be expected to pursue a number of regular courses.

The purpose of the awards, according to the Committee, is to give statistical training to a few scientists who may be expected to employ it both to the direct advance of their specialties and to the enlightenment of their colleagues and students, by example, by consultation, and by formal instruction. The development of the field of statistics has been so rapid, the Committee points out, that communication problems have become a serious obstacle to its full exploitation; it is hoped that the new program will serve to improve matters.

Applications or requests for further information should be sent to: Committee on Statistics, University of Chicago, Chicago 37. Applications for the academic year 1952-53 should arrive by April 1, 1952.

ASTM Honors Gillett

Memorial Lecture to be Given Annually

The American Society for Testing Materials has announced the establishment of an annual H. W. Gillett Memorial Lecture in memory of the former director of the Battelle Memorial Institute who died early in 1950. The lecture, sponsored in cooperation with Battelle, will be delivered each year during a meeting of the ASTM; the first will be given at the Society's 50th Anniversary meeting in New York City during the week of June 23, 1952. The lecturer will be selected by a special ASTM committee and will treat some subject pertaining to the development, testing, evaluation, and application of metals. A member of ASTM for over twenty-five years, Dr. Gillett was an active member of many technical and scientific groups, including the American Physical Society.

Preston B. Carwile

Preston B. Carwile, physicist in the research division of the Raytheon Manufacturing Company, died suddenly on September 25, 1951 in Boston, Massachusetts, at the age of fifty-five. Born in 1896 in Campbell County, Virginia, Dr. Carwile was a graduate of Davidson College in North Carolina. In 1922, after a year with the General Electric Company and a year of high-school teaching at North Wilkesboro, North Carolina, Dr. Carwile became a teaching fellow in physics at the University of Virginia, where he received the degrees of Master of Arts in 1924 and Doctor of Philosophy in 1927. He later joined the physics department faculty of Lehigh University, and after teaching at Lehigh for seventeen years, he became associated with the Submarine Signal Company in Boston, doing research in ultrasonics. This company was later merged with Raytheon and he continued his work in Raytheon's research division. An AIP member, Dr. Carwile belonged to the American Physical Society and the Acoustical Society of America. During his career, he published many scientific papers and was granted several patents dealing with his work on ultrasonics.



Optics in the Windy City

OSA's Thirty-Sixth Annual Meeting

Perhaps the biggest event of this big optical meeting occurred on the day following the meeting proper. Reference is made, of course, to the speech "Optics" given by Dr. Edwin H. Land at the all-day AIP 20th anniversary symposium, held in the Chicago Civic Opera House on October 25. Members of the optical fraternity had reason to be proud of their representative as he reviewed, rapidly and succinctly, so many of the high points in the recent development of optical theory and the utilization of the experimental methods of optics. He referred to the current frontiers of such well-established fields as spectroscopy, high-resolution microscopy, vision, and high-speed photography, and gave novel explanations of little-understood techniques such as those of phase microscopy, color photography, and the Pockels effect. His hour lecture was profusely illustrated with lantern slides, some contributed by the scientists whose work was described, and some prepared especially to illustrate the interplay of optics with other fields of physics, or to highlight a cogent technical point that was under discussion. He stole the show when he projected on the screen a snapshot of the assembling audience taken with only the regular room lights but at the rather fantastic photographic speed of around 3000, and developed on the spot by the "picture-in-a-minute" process. It is hoped that Dr. Land's paper will appear in an early issue of *Physics Today*, but it is doubted whether all forty-five of his slides can be reproduced as figures, and unfortunately not in the color in which a third of them were shown to the symposium audience.

A pleasant feature of this Optical Society meeting was the presence of several distinguished optical scientists from abroad, most of whom presented contributed papers. They had come to this country to attend the Symposium on Optical Image Evaluation which was held the previous week at the National Bureau of Standards in Washington. The high points of this symposium were reported by Dr. James G. Baker at an open meeting of the Chicago Section of the Optical Society which was held at the headquarters hotel on Tuesday evening and was attended by perhaps a hundred persons, including several of the original speakers.

A visit to the Adler Planetarium and Astronomical Museum was arranged for Wednesday night, and was open not only to Optical Society members and their