

after developing the emulsion, and from this he arrived at a figure of approximately 1,080 electron masses.

By February of last year, Powell and P. H. Fowler (his coworker at Bristol) reported a new way in which the masses and energies of fragments yielded from cosmic ray disintegrations might be estimated. The method employed a microscope so arranged that in one direction it followed the general line of the track and in the other direction recorded the deviations along the lengths of track.

Less satisfactory evidence exists that there are perhaps mesons even heavier than those found by Powell. Two Russians, A. I. Alichanow and A. I. Alichinian, have been working since 1947 in a mountain laboratory in the Transcaucasian Republic of the USSR on the deflection of high energy particles contained in the cosmic radiation. In an exchange of letters published in *Nature*, the Russian scientists accused Powell of having ignored their claims to have detected sixteen different kinds of mesons, some of which were of quite large mass. From available descriptions of the experiments, Powell suggested in reply, it did not seem established that other possible explanations for the Russian results had been ruled out. He therefore recommended further studies which might tend to lessen the statistical variations of their observations. Powell also suggested that "a series of fully representative international conferences" on cosmic radiation and related topics would be of great value in the interests of better understanding, and he expressed his regrets that USSR scientists had not been able to participate in recent international scientific meetings in order to insure wider appreciation of the results of Russian research.

After receiving the Nobel Prize on December 10th, Powell left Sweden for Bombay, India, where he was scheduled to deliver a series of eight lectures. While in Bombay he has been working with Professor Bhabha of the Tata Institute on cosmic rays. He plans to return to Bristol sometime during February.

NEW COURSES

THE OAK RIDGE SCHOOL OF REACTOR TECHNOLOGY

Applications are now being received by the Oak Ridge School of Reactor Technology for enrollment in the 1951-52 session, beginning September 10, 1951. This School was established at the Oak Ridge National Laboratory in March of 1950 under sponsorship of the U. S. Atomic Energy Commission. Its purpose is to train engineers and scientists in the field of reactor theory and technology, in preparation for their employment in this field by the AEC or its contractors.

The Oak Ridge School of Reactor Technology will enroll students of outstanding qualifications who hold, or will receive by September 1951, bachelor's or master's degrees in chemistry, engineering, metallurgy or physics. A limited number of recent college graduates will be accepted under Category A in the status of student-employees of the Oak Ridge National Laboratory, and will be paid a monthly stipend for a twelve-month period, beginning September 1951. Provision is also made for trainees sponsored by government agencies and industrial organizations connected with or interested in the AEC reactor development program, Category B. Applications for enrollment under this category must be made by the firms or agencies employing the applicants. Such students remain on the payrolls of their home organizations. Much of the material presented in the curriculum of the Oak Ridge School of Reactor Technology will be classified; hence, all enrollments are contingent upon a personnel security investigation.

Men trained in chemistry, engineering, metallurgy, or physics are much in demand in the reactor development program. It is the purpose of the Oak Ridge School of Reactor Technology to provide engineers and scientists with sufficient background in reactor technology and allied subjects to become effective as research, development and design personnel.

Further information and application forms may be obtained by writing to the Director, Oak Ridge School of Reactor Technology, Post Office Box P, Oak Ridge, Tennessee. Category for which application is requested must be specified. These applications must be filed with the director of the school by March 1, 1951. Announcements of appointments will be made in April 1951.

INSTRUMENT ANALYSIS

Two one-week specialized training programs in instrumental analysis will be offered from July 9 to 13 and July 16 to 20 as part of the 1951 Summer Session at the Massachusetts Institute of Technology. The purpose of these programs, according to MIT, is to provide for each type of instrumental method discussed an adequate grounding in the fundamental principles and theory involved, a knowledge of a wide variety of types of practical applications, and first-hand experience with available commercial instruments. No academic credit will be offered. Tuition for each one-week period will be \$65.

The first week's program, from July 9 to 13, will concern electrical methods of instrumental analysis and will emphasize potentiometry, polarography, conductimetry, amperometric titrations, and applications of self-balancing recording potentiometers. Optical methods of instrumental analysis, including spectrophotometry, colorimetry, fluorimetry, turbidimetry, nephelometry, and flame photometry, will be the subject of the second program, July 16 to 20.

Application forms may be obtained from Professor Walter H. Gale, Room 3-107, Massachusetts Institute of Technology, Cambridge 39, Massachusetts.

NEW LABORATORIES

GE OPENS THREE

The General Electric Company formally opened three new laboratories during the last months of 1950. The first of these, its main research center at the Knolls, is located near Schenectady, N. Y., in Niskayuna Township on a high bluff overlooking the Mohawk River. Construction began in 1946 and at this point the plant is virtually completed. Its five major laboratory buildings, however, have been in use for some time.

The second laboratory, located at Lynn, Massachusetts, is the new GE measurements research center, designed and staffed to give measurements information in the fields of magnetism, electricity, sound, heat, light, color, chemistry, and metallurgy. It has a technical staff of approximately three hundred persons and is equipped with complete facilities for applied research, product development, and design. In order to keep a constant check on the calibration of testing equipment, GE has announced, primary standards for measurement are kept at the laboratory which are equivalent to those of the National Bureau of Standards.

GE's aircraft gas turbine laboratory, also at Lynn, is the third of the new installations. Dedicated to the late Sanford A. Moss, the "father" of the turbosupercharger, the laboratory has full facilities for testing compressors and combustion systems.

SRI IN MEXICO

The Southwest Research Institute of San Antonio, Texas, in collaboration with Mexico's Monterrey Institute of Technology, has created a nonprofit industrial institute in Mexico, thus further expanding its international activities, which include projects in Brazil, France, Cuba, and Italy. The Mexican industrial research unit began functioning January 1, 1951, and will operate independently but in close collaboration with the Monterrey Institute. The new organization will serve the public, government agencies, industries, associations, and others on a nonprofit basis.

GRANTS AND AWARDS

DU PONT

Seventy-eight postgraduate fellowships for work in the physical sciences have been awarded to American universities by the Du Pont Company for the 1951-52 academic year; three of these fellowships are in physics. The fellowships provide \$1,400 for a single person or \$2,100 for a married person, together with an award of \$1,200 to the university. Ohio State University, the University of Virginia, and Yale University have received the physics awards and will themselves select the candidates for fellowships and the choice of problems on which they are to work.

ARMOUR RESEARCH FOUNDATION

Armour Research Foundation of Illinois Institute of Technology is offering a number of industrial research fellowships in physics, chemistry, metallurgy, ceramics, mechanics, and electrical engineering to begin in September 1951. Those persons awarded fellowships will attend Illinois Institute of Technology half-time and work in the Research Foundation half-time in a graduate program leading to advanced academic degrees. They are employed full-time by the Foundation during the summer.

Fellowships begin at the start of the school semester and continue through the summer for approximately twenty-one months until the end of the second academic year. Awards are made on a competitive basis to U. S. citizens under 28 years of age holding a bachelor's degree from an accredited engineering or scientific school or liberal arts college with a major in the sciences. In addition to tuition, fellows receive \$150 a month during the first academic year, \$275 a month and a two-week vacation during the summer, and \$175 a month during the second academic year.

Application forms may be obtained from the Office of Admissions, Graduate School of Illinois Institute of Technology. Applications received prior to March 15 will be given first consideration.

BRYN MAWR

Bryn Mawr College, Bryn Mawr, Pa., announces that the Helen Schaeffer Huff Memorial Research Fellowship in Chemistry or Physics is available for 1951-52. Candidates must be women who hold a doctor's degree or who have otherwise demonstrated their ability for research. Preference will be given to a candidate whose research field lies along the borderline between Chemistry and Physics. The stipend is \$2000. Announcement is also made of the Lillia Babbitt Hyde Foundation Scholarship to be awarded for 1951-52 to the most promising candidate among the scholarship applications for a first year of graduate work in Biology, Chemistry or Physics, at a stipend of \$1,000. Further information

and application blanks may be secured from the Dean of the Graduate School.

AEC FELLOWSHIPS

Under the Atomic Energy Commission's regional fellowship program for 1950-51 a total of 148 new predoctoral Fellows have been named to carry on studies in fields closely enough related to atomic energy to justify presuming that the candidate will be qualified for employment by the AEC or one of its contractors upon completing his studies. All of the Fellows have been investigated by the FBI and cleared by the AEC for participation in the fellowship program.

Of the 148 awards, 121 are in the physical sciences and 27 in the biological sciences, a considerably heavier weighting for the physical sciences than in the case of last year's AEC fellowship awards.

MIT DEVELOPMENT PROGRAM

The Massachusetts Institute of Technology has announced that grants-in-aid received from industry for use in MIT's development program have reached a total of over \$5,000,000. The industrial grants-in-aid take the form of agreements between industries and MIT which provide for an exchange of current concepts and techniques in fields of research of common interest. The agreements are an important part of a continuing program designed to stimulate professional associations of mutual benefit to industry and MIT in the advancement of technology. The program was established to provide operating funds for the Institute which were needed to replace the decline in endowment income, to offset the effects of the post-war inflation, and to cover the costs of operations in new technological fields. MIT is actively seeking financing of the development program by industry through these grants-in-aid for education and research in broad areas associated with the technological interest of industrial concerns.

Harry G. Ott

Harry G. Ott, vice-president of the Bausch & Lomb Optical Company, Rochester, New York, died November 21, 1950 at the age of fifty-six. A graduate of the University of Chicago, Mr. Ott had for eleven years been a member of the optical firm's military engineering department where he was instrumental in designing and producing optical equipment for the Army and Navy. During World War II he assisted in the development of aerial camera lenses and photogrammetric equipment for the Air Force, and worked with the National Defense Research Council. He was a director of the American Society of Photogrammetry and a member of the Optical Society of America.

Jacob L. Snoek

Jacob L. Snoek, head of the physics department of Horizons Incorporated, Princeton, N. J., died in an automobile accident last December 3rd near Elkhart, Indiana. He was forty-eight years old. Dr. Snoek was born and educated in Utrecht, Holland, and after receiving his doctorate he joined the research staff of the Philips Incandescent Lamp Works at Eindhoven in 1929. He was employed at the Philips Works continuously, doing research in magnetism and particularly in the fields of magnetic metals and oxides, until early in 1950, when he came to the United States to join the staff of Horizons.