Grants, Fellowships, and Awards

■ Rumford Fund grants for research in heat and light, including thermodynamics and radiation of any frequency, may be applied for from the Chairman, Rumford Fund Committee, American Academy of Arts and Sciences, 77 Massachusetts Ave., Cambridge 39, Mass. Awards do not usually exceed $1000.

Applications must outline the nature and significance of the proposed project, the plan of procedure, the investigator's background and his recent publications bearing on the subject, and how the grant would be used specifically. *Applications should be filed before 1 Jan.*

■ The Scholarship and Student Loan Fund Committee of the Special Libraries Association has announced that two $500 scholarships are to be granted for the academic year 1956–57 for graduate study leading to a degree at an accredited library school. Applicants must be college graduates of high academic achievement who need financial assistance in obtaining the professional education necessary for work in the special library field. Application blanks and details of eligibility for the awards may be obtained from the Executive Secretary, Special Libraries Association, 31 E. 10 St., New York 3. *Applications must be received by 1 Mar. 1956.*

■ Establishment of an annual award of $1000 and a medal for outstanding achievement in industrial and engineering chemistry was announced at the recent meeting of the American Chemical Society in Minneapolis, Minn. The award, which is to be given by the Esso Research and Engineering Co. (formerly the Standard Oil Development Co.), has been established "to stimulate fundamental research in industrial and engineering chemistry and in the development and application of chemical engineering principles to industrial processes."

■ The University of Michigan has received a grant of $100,000 from the Ford Motor Company Fund for fundamental research in soil-plant relationships. A project entitled the Ford Agricultural Plant Nutrition Project has been established in the department of botany and botanical gardens under the direction of A. G. Norman, who will be assisted by a staff of predoctoral and postdoctoral students.

■ The University of Wisconsin has announced that a research assistantship to provide training in science writing will be available for an outstanding graduate student in February 1956. Applicants should have a background of several sciences and journalistic training or experience, or a demonstrated ability and aptitude; they should also intend to take up science writing as a career. The research assistant, who will receive a stipend of $1560 for the year, may work for an advanced degree in any field.

■ The Committee on Growth of the National Academy of Sciences–National Research Council invites applications for grants for scholars in cancer research that are offered by the American Cancer Society. The purpose of these grants is to assist institutions in the support of young scientists during the early period of their careers as independent investigators. Grants are awarded for 3 years at $6000 per year, with renewal for 2 additional years unless there are compelling reasons to the contrary.

Applications should be submitted by institutions on behalf of candidates *not later than 1 Jan. 1956.* Application blanks may be obtained from the Committee on Growth, NAS-NRC, 2101 Constitution Ave. NW, Washington 25.

In the Laboratories

■ Atomic Energy of Canada Limited has announced that the NRX reactor at Chalk River has gone back into operation after a 7-week shutdown. A special fuel rod that was being tested damaged an aluminum tube in the reactor tank, contaminating the heavy-water moderator and sprinkling small chips of plutonium fuel on the bottom of the tank. Automatic devices shut down the reactor immediately; the main operating room was not contaminated.

This breakdown was in no way comparable to the breakdown of 12 Dec. 1952, when a power surge damaged several fuel rods so that the reactor had to be extensively decontaminated and reconstructed. Additional safety devices were built into the reactor during the reconstruction, and modification made it possible to operate the reactor at a heat output of 40,000 kilowatts, 33 percent higher than was possible before the reconstruction. The new safety devices performed as planned when the test fuel rod failed.

While extensive damage was not experienced in the recent shutdown, the decision to speed the repair job by carrying out the work without dismantling the reactor made operations difficult. Thick concrete and steel shields above the reactor tank, which weigh up to 19 tons each, made it necessary to carry out repairs from a considerable distance. Some idea of the difficulty of the repair operation may be gained from the fact that skilled workmen were restricted to working through a 2½-inch hole at distances up to 28 feet from the damaged part of the reactor.

Chips of plutonium fuel resting on the inside bottom of the reactor tank had to be removed before the repair work could proceed. When ordinary water failed to wash the chips away, 6000 gallons of soda water were run through the tank. Gas bubbles from the soda water formed on the fragments and lifted them off the tank bottom, thus allowing them to be flushed out.

■ A library of noise will be one of the major results of a new sound analysis laboratory recently completed by the General Electric Company at Fort Wayne, Ind. Recordings of the slightest murmur of electrical transformers and motors will be collected in the library; these recordings will be used to compare various noises, so that noise sources can be isolated and corrected.

The sound room has an ambient noise level of plus 10 decibels. This free field (anechoic) chamber exceeds the testing specifications recommended by the National Electrical Manufacturers Association. It will be possible to make sound analyses on units whose acoustical power ranges from 10^1 watts to 10^9 watts. All tests are conducted by remote control, for the human body reflects a certain amount of sound and is incapable of remaining absolutely motionless and silent.

The laboratory building is constructed so that its walls are not parallel to any nearby structure. This prevents outside noises from reflecting back and forth between the laboratory and other buildings, and also prevents the subsequent build-up of sound energy from outside walls.

The testing chamber, literally a 500,000-pound room within a room, floats on steel springs and rubber shock absorbers to help prevent transmission of ground vibration such as would be caused by a passing train, for example. To further isolate the room, its walls are of 8-inch concrete, lined with 3 inches of flat mineral fiber acoustic batting. Over this layer is another 3 inches of the same material, which covers the entire inner surface of the room.

A steel ramp extends from the doorway of the chamber into the exact center of the room, where equipment to be tested is placed. Microphones and instruments are suspended above the ramp; they are connected to recording equipment outside the room.

■ The Upjohn Company, Kalamazoo, Mich., has announced formation of a Mexican subsidiary, Upjohn de Mexico S. A. de C. V., which is expected to begin operations by 1 Dec. This is the fourth firm that Upjohn has set up abroad.