

Reactor Accidents To Be Studied by International Team

A formal agreement providing for dosimetry experiments to be carried out at Boris Kidric Institute at Vinca, near Belgrade, was signed recently by officials of the International Atomic Energy Agency and of the Government of Yugoslavia. The experiments, to be undertaken as part of the IAEA research program in health and safety, are designed to determine the exact neutron and gamma ray doses which were received by scientists during an accident at Boris Kidric Institute on 15 October 1958.

The incident involved eight young Yugoslav scientists, six of whom were treated by a method of bone-marrow grafting at the Curie Hospital in Paris. This was the first successful application of bone-marrow transplanting techniques in human beings. All but one of the six survived. The other two scientists involved in the incident, who received smaller doses of radiation, were treated in a Belgrade hospital and recovered.

IAEA To Plan the Research

The Yugoslav Nuclear Energy Commission will place the Boris Kidric Institute's zero-power reactor at the agency's disposal for the experiments and for the necessary preparations, which will be the responsibility of the agency. The agency will publish a complete scientific report on the results of the work, which is to be completed on 31 May.

The dosimetry measurements will be carried out by a team of experts under the technical direction of K. Z. Morgan, director of the Health Physics Division, Oak Ridge National Laboratory. The French Atomic Energy Commission has offered to participate in the project by providing equipment and experts to modify, restart, and operate the reactor for the experiment. Negotiations between IAEA and the French authorities for this part of the project are well under way.

Radioactivity in the Environment

The IAEA also announced recently that it would undertake to measure and analyze samples of air, water, soil, and food to help determine the degree of radioactivity in man's environment. This work, which will be done in the agency's laboratory now being built near Vienna, will be undertaken at the request of member states and of inter-

national organizations which cooperate with the agency. The IAEA will collaborate in this area with the United Nations Scientific Committee on the Effects of Atomic Radiation.

Arrangements will also be made in the Vienna laboratory for scientists from interested member states to receive a limited amount of training in the relevant techniques. The agency's assistance may also take the form of providing experts and equipment to member states for carrying out measurements on the spot and to support national programs in this field. In addition it is expected that the work of the agency will help in establishing international standards of sampling, measurement, and analysis.

Automation Improves Efficiency of Technical Information Agency

The groundwork and first phase of a massive transition to automation by a major technical information agency is reported in a new Department of Defense publication just released through the Office of Technical Services, Business and Defense Services Administration, U.S. Department of Commerce.

Every day some 1200 to 3500 requests for specific reports reach the Armed Services Technical Information Agency at Arlington Hall, Va., which operates to provide Department of Defense agencies and their contractors, on request, with copies of research reports prepared by or for the military agencies. There are nearly a million documents in the ASTIA collection, which is growing at the rate of 30,000 titles per year.

Until an automatic data processing system came into effect last month, 7 million catalog cards were in use. Approximately 1200 copies of reports had to be hand-processed every day, after security clearance of each request and checking against shelf stock. Currently, 55 percent of the material requested is out of stock and must be reproduced from microfilm.

The Current Automation Plan

The mere indexing and retrieval of information fully identified in the requests would be a mammoth operation. But in many instances no identifying data are given. Only automation could meet this challenge.

The Technical Information Agency has started off with a Remington-Rand USS-90 (Univac Solid State computer).

This punch-card system has as its first objective a speed-up of the flow of business-type informational tools to military contractors. The system went into operation 15 February. Magnetic tapes will be added about 1 July to automatically identify reports requested without mention of ASTIA catalog numbers. Tapes will also accelerate checking for duplication, cumulative indexing of the *Technical Abstract Bulletin*, and information retrieval. Within another year, it is hoped, all catalog cards will have been copied on magnetic tape; this will make possible an automatic print-out, at 600 lines per minute, of bibliographies, together with a full descriptive abstract of each reference. The final step will be the installation of a *Randex* (random access) system, which will give greater flexibility in compiling reference information.

In the OTS report, the process by which a thesaurus of 900 "descriptors" was developed out of 70,000 subject headings is recounted, as the history of "Project MARS" (Machine Retrieval System). An interim single-word heading or "Uniterm" system was found to lack definition. Subject coverage was split into about 290 display schedules or basic categories in a pioneering venture.

The report (*Automation of Astia: A Preliminary Report*, Armed Forces Technical Information Agency, December 1959) may be ordered from OTS, U.S. Department of Commerce, Washington 25, D.C. It contains 56 pages; price, \$1.25.

Science Foundation Surveys Scientists in Industry

American business firms employed about 780,000 scientists and engineers in January 1959, according to a National Science Foundation survey. About 35 percent of the total were engaged in engineering and scientific research and development activities. The survey was conducted for NSF by the Bureau of Labor Statistics of the U.S. Department of Labor.

Scientists and engineers in the sectors of industry studied represent approximately two-thirds of all those employed in the nation. The other third are in government agencies, educational institutions, and nonprofit organizations, or are self-employed.

Industries with the Most Scientists

Industries employing the largest groups of scientists and engineers in

January 1959 were the producers of aircraft and parts, electrical equipment, and chemicals and allied products. Each employed more than 75,000 scientists and engineers; in all, they employed one-third of the total number of scientists and engineers in private industry and approximately half of the scientists and engineers engaged in research-and-development activities in private industry.

Each of two other industries employed more than 50,000 but less than 75,000 scientists and engineers; these two were machinery (except electrical) and engineering and architectural services. Next in size, in terms of scientific and engineering employment, were construction, fabricated metal products and ordnance, primary metals, and motor vehicles and equipment; each of these industry groups employed more than 30,000 but less than 50,000 scientists and engineers.

Employment of scientists and engineers in private industry was about 4 percent higher in January 1959 than in January 1958. Employment of engineers increased from about 605,000 in January 1958 to 630,000 in January 1959. The number of scientists in private industry increased from about 145,000 in January 1958 to 150,000 in January 1959.

Conference on Animal Cell Structure Scheduled in Colorado

The fifth annual Conference on Quantitative Animal Cell Culture in vitro will be conducted by the department of biophysics of the University of Colorado, 19-22 June. The conference is sponsored by the Colorado Division of the American Cancer Society and is open to persons with the doctoral degree who are doing research or graduate teaching in biology and medicine and to students who are currently enrolled as candidates for the Ph.D. degree in biological disciplines.

Lectures and laboratory demonstrations illustrating the basic techniques will be presented, but major emphasis this year will be placed on application of the quantitative methodologies to problems in mammalian cell genetics and chromosome analysis, biochemistry, virus-host cell interaction, and radiation studies. Application of these methods in clinical medicine will also be considered. Participants should be familiar with the principles of sterile technique and the

philosophy of quantitative microbiology.

Because requests for admission have, in the past, always exceeded the available facilities, applicants up to the limit of 45 will be accepted in the order of receipt of their completed applications. Inquiries should be addressed to the Department of Postgraduate Medical Education, University of Colorado Medical Center, 4200 E. 9th Ave., Denver 20, Colo.

Neurological Institute Seeks To Advance Training in Neuroradiology

The first grants to support research training in neuroradiology have been made by the National Institute of Neurological Diseases and Blindness. Two grants, totaling \$50,000, will be used to establish postgraduate programs for the study of advanced methods in the diagnosis and treatment of diseases of the nervous system through the application of radiant energy such as x-rays. The training will be made available at two neurological centers in New York City: the Albert Einstein College of Medicine and the Neurological Institute of Columbia University. Both institutions will offer 2 years of highly specialized training to qualified candidates who desire to prepare for investigative careers in this field. The new programs will begin on 1 July. The institute is seeking other training centers where similar courses may be established in order to relieve the acute shortage of neuroradiologists adequately trained to conduct research on neurological and sensory diseases.

News Briefs

AEC laboratory plans. Atomic Energy Commission plans for the next decade for its 20 laboratories have been made public through the release on 17 March of an AEC report on the future roles of the laboratories. The study was carried out in compliance with a request from Congress' Joint Committee on Atomic Energy. Commission laboratories now employ approximately 42,000 people and have a present annual operating budget of approximately \$660 million, excluding expenditures for weapon development.

The Joint Committee has sent copies of the report to industry, university, and government personnel with a request for comments. Replies should be re-

turned by 15 April. After all comments have been received, the Joint Committee intends to publish them with the commission report as a committee publication. A few extra copies of the report are available in the Joint Committee Office, Room F-88, The Capitol, Washington, D.C.

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Medical curriculum revised. Northwestern University Medical School has announced that, beginning in the fall of 1961, its program will be reduced from the traditional 7 or 8 years to 6 years for a pilot study group of 25 talented students accepted by Northwestern directly from high school. During 2 years of liberal arts work, they will take pre-medical courses in a more concentrated form and in graduated sequence. The program, which is supported by a grant from the Commonwealth Fund of New York, will also include a rearrangement of the medical-school curriculum for all students and the introduction of non-credit required courses in the humanities in seminar form at the medical-school level. Northwestern is reported to be the first school in the country to receive support to put such a plan into operation.

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Scientific films. A wide variety of 16-mm scientific films will be shown in competition for the Blue Ribbon Awards of the second annual American Film Festival, which will be held 20-23 April at the Barbizon-Plaza Hotel in New York City. The Educational Film Library Association, sponsor of the festival, has announced that the program includes science films for students at all levels, primary to postgraduate. The showings and other program events, including a symposium on "Film Explorations in Science," are open to the general public upon payment of a small registration fee. Information may be obtained from EFLA, 250 W. 57 St., New York 19, N.Y.

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Science column. A column on science in industry, to appear three times a week, was started in the daily *New York World-Telegram* on 14 March. The new feature is being written by Richard E. Slawsky, an engineer with wide experience in writing and editing technical data.

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Man in space. A space symposium on problems of getting man into orbit and back to earth will be a feature of the 1960 annual meeting of the Iowa Acad-