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#### V - BIOLOGY AND MEDICINE

#### Research Projects Approved During the Month of January, 1950

#### Biology

Johns Hopkins University - Dr. C. P. Swanson and Dr. W. D. McElroy, "Modification through the Use of Supplementary Environmental Factors of the Frequency of Gene and Chromosome Changes Induced by X-rays, Ultraviolet Light and Nitrogen Mustard" - \$16,443.

University of California - Dr. H. A. Barker and Dr. W. L. Hassid - "Chemical Activities of Plants and Bacteria" - \$15,900.

University of California - Dr. Roy Overstreet and Dr. Louis Jacobson - "The Mechanism of Ion Absorption by Plants" - \$7,770.

Iowa State College - Dr. C. H. Workman and Dr. F. Schlerk - "Studies of the Metabolism of Purine and Pyrimidine Bases of Nucleic Acids and Nucleotides" - \$10,500.

Polytechnic Institute of Brooklyn - Dr. Carl Neuberg - "Factors Influencing the Solubility of Heavy Metal Complexes and Their Metabolism" - \$6,480 per annum or \$12,960 for 2 years.

Purdue University (Purdue Research Foundation) - Dr. Henry Koffler and Dr. Dorothy M. Powelson - "The Comparative Biochemistry of Molecular Hydrogen: I. The Physiology of Hydrogen Bacteria" - \$1,101.

Washington State University (Contract AT(45-1)-213 II) - Dr. N. Higinbotham - "Relation of Water to Salt Movement in Plant Tissue" - (Approval of extension of contract from April 1, 1950, to June 1, 1950, without additional funds.)

#### Medicine

University of Chicago - Dr. H. S. Anker - "Investigation of the Mechanism of Antibody Synthesis by the Tracer Technique" - \$4,300.

University of Oklahoma - Dr. S. H. Wender - "Isolation and Identification of Flavonoid Pigments of Use in the Control of Radiation Injury" - \$12,000.

Washington University, St. Louis, Missouri - Dr. Gilbert H. Forbes - "Investigation of Electrolyte Balance and Thyroid Metabolism" - \$8,320.

Tulane University, School of Medicine - Dr. G. E. Burch - 'Electro-lyte Balance Studies in Humans" - \$3,600.

Meharry Medical College - Dr. Paul F. Hahn - "Use of Radio ctive

#### UNCLASSIFIED:

Gold in Treatment of Tumors" - \$68,000. (Approval of renewal of contract from March 1, 1950, to June 30, 1951.)

#### Biophysics

Massachusetts Institute of Technology - Dr. Kurt S. Lion - "New Radiation Detector" - \$17.960.

Mt. Sinai Hospital - Dr. R. Loevinger - "Measurement of Tissue Dosage Delivered by Gamma and Beta Active Radioisotopes" - \$5,500. (Approval of renewal of contract from February 15, 1950, to February 14, 1951.)

#### Advisory Committee for Biology and Medicine

The twentieth meeting of the Advisory Committee for Biology and Medicine was held on Friday and Saturday, January 13 and 14, 1950, at the University of California at Los Angeles and the California Institute of Technology at Pasadena. A survey was made at both institutions of the AEC research projects.

#### Fellowships

The Deputy Director summarized for the Advisory Committee the status of the Fellowship Program, pointing out that the National Academy of Sciences and the National Research Council had declined to continue the administration of the entire program, and that the Commission and the National Academy of Sciences had come to agreement that the National Research Council should continue to administer only a limited postdoctoral program where the research to be done would in any case necessitate security clearance of the fellow.

Dr. Bowers stated further that the Commission is of the opinion that a limited predoctoral fellowship program in which Fellows will not necessarily be subject to "Q" clearance should be continued and that such a program is being established on a regional basis. The Committee regretted the fact that the fellowship program is to be placed on a regional basis rather than a national basis and, in this connection, passed the following motion: "\* \* \*it is the sense of this Committee and our belief that this program should be returned to national administration."

#### Civil Defense Planning

Training program. A 5-week course for the training of radiological monitoring instructors and a 1-week course for physician instructors in the medical aspects of atomic warfare are now in a stage of acvance planning.

Representatives of NSRB, GSA, Cak Ridge, Brookhaven, UCLA, and the Division of Biology and Medicine met on January 6, 1950, to discuss methods of proceeding with these courses. Scheduled starting dates of

March 13 for Brookhaven and UCLA and April 3 for Oak Ridge were agreed upon. The course at Oak Ridge will be participated in jointly by the Oak Ridge National Laboratory and the Cak Ridge Institute of Nuclear Studies. A tentative standard course outline has been approved

Physician instructors' course. Planning for the training courses in the medical aspects of atomic warfare has reached the stage wherein definite dates for giving the courses have been established by six of the training centers and the dates for the remaining one will be set in the near future. The courses to be given at the University of Rochester, Johns Hopkins University Medical School, Argonne National Laboratory, and Western Reserve University are set for the week of March 27; the University of Utah, April 3; and the University of Alabama, May 1. Pational Security Resources Board has sent out letters to the Governors of States and Territories advising them of the availability of the courses and recommending a method of selection of candidates.

Arrangements were initiated to include Reed College, Portland, Oregon, among installations at which the courses for training of radio-logical monitoring instructors are to be given. It is planned that Reed College will aim at developing the course for the Pacific Northwest area. Arrangements were also initiated to include the Illinois Institute of Technology, Chicago, Illinois, among the participants in the radiological monitor training program.

Radiation monitoring teams. In furtherance of the establishment of monitoring teams at the various installations and Operations Offices, interim approval was granted, pending issuance of a directive from the General Manager, to proceed with establishment of several additional teams and to proceed with preliminary organization of teams.

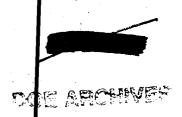
#### Information Furnished NSRB

The first report of a series to be abstracted from the Weapons Effect Handbook "Medical Aspects of Atomic Weapons" was submitted to the NSRB. This report was released to the press by NSRB, and copies may be obtained at the Government Printing Office for 10 cents. (Erd of UN-CLASSIFIED section.)

### Biology Branch

Biomedical program for 1951 tests. Small animal colonies have been established on Japtan for the production of experimental animals to be used in the 1951 tests. Breeding colonies of dogs and pigs are now being established. The program will include studies on acute radiation injury, thermal injury, blast injury, biological dosimetry, and genetic effects on microorganisms. Considerable effort is now being devoted to developing containers suitable for housing the experimental animals at the time of the test. The unit will need to provide controlled environmental conditions.





Dr. L. R. Donaldson, Director of the Applied Fisheries laboratory of the University of Washington, will serve as biologist for the tests. A small party under Dr. Donaldson will make preliminary studies and observations at Eniwetok during the summer of 1950.

#### Medical Branch (UNCLASSIFIED)

Several visits were made throughout January by Dr. Charles Dunham and Dr. George Hardie to the installations and Operations Offices to discuss their research programs and budgets for FY 1951, as well as biological, medical and health and safety problems.

Dr. James H. Sterner and Dr. Hardie attended a meeting at Massachusetts Institute of Technology to discuss beryllium hazards. The Beryllium Advisory Committee decided to continue in general the current interim standards for another year.

#### Applied Biophysics Branch

Approval has been given to a joint project of the Hanford Operations Office with the U. S. Geological Survey for a study of the Richland area as regards the movement of ground water beneath the processing areas. Conferences are in progress for the purpose of setting up a cooperative project with the Public Health Service for a survey of the hydrology of the Columbia River, with particular emphasis on the needs of lanford Operations.

A program for training health physicists through "Graduate Fellowships in Radiological Physics" has been set up by the Biophysics Branch, to be administered by the Oak Ridge Institute of Nuclear Studies. The courses will carry full graduate credit from Vanderbilt University or University of Rochester, and will be given in cooperation with Oak Ridge National Laboratory or Brookhaven National Laboratory, respectively.

#### Appointments and Transfers

Dr. John Z. Bowers, formerly Deputy Director of the Dirision of Biology and Medicine, has transferred to the University of California and will assume the position of Special Assistant to the Director with official station at the Crocker Laboratory, University of California, at Berkeley.

Mr. John A. Derry, Coordinator of Special Assignments, Production Division, has joined the staff of the Division of Biology and Medicine as Executive Officer.





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