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V - BIOLOGY AND MEDICINE

Research Projects Approved During November 1949

Medicine

University of Chicago - Dr. Isidore Gersh - "Histochemical Study of Cement Substances of the Normal and Abnormal Optic Lens" _ \$12,960.

Harvard Medical School and Massachusetts Institute of Technology - Dr. David G. Cogan (Harvard) and Dr. Robler D. Evans (MIT) - "Production of Cataracts by Neutrons and Other Radiations" - \$14,500.

State University of Iowa - Dr. Titus C. Evans and Dr. P. J. Leinfelder - "A Quantitative and Morphologic Study of Fadiation Induced Cataracts" - \$20,564.

Georgetown University - Dr. Charles F. Geschickter = "A





Study of the Redistribution of Bivalent Metallic Ions in Bone Metabolism and in Bone Disease and Neoplasms Through The Jse of Radioisotopes and Noval Chelating Compounds" - \$8,000.

New York Medical College - Dr. Alfred L. Copley - "Studies of Vascular Factors in Radiation Renorrhage and Other Hemorrhagic Diatheses in Patients and Experimental Animals" - \$13,520.

Biology

Eoyce Thompson Institute (Yonkers, N. Y.) - Dr. George L. McNew; Dr. S.E.A: McCallan; Dr. Lawrence P. Liller - "Use of Tracer Fungicides in Determining the Mechanics of Protecting Plants From Fungus Diseases" - \$13,500.

Utah State Agriculture College - Dr. Clyde Biddu ph - "Uptake of P³² by Sperm in Vitro and in Vivo" - \$3,000.

University of Wyoming - Dr. Irene Rosenfeld and Dr. O. A. Beath - "The Interrelationship of Sulfur, Phosphorus and Calcium in Selenium Poisoning and the Mechanism of Selenium Metabolism in Plants and Animals" - \$7,747.

Fish and Wildlife Service, U. S. Department of Interior - Dr. A. M. Phillips, Jr. - "A Study of the Physiology of Coldwater Fish" (To be performed under working agreement) - \$21,150.

Health Physics

Mount Sinai Hospital - Dr. Sergei Feitelberg - "Investigation of Sewage Water Contamination by Radioactive Isotopes" - \$11,145.60.

Contracts Renewed

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Medicine

Harvard University - Dr. V. Everett Kinsey - 'Effects of Neutrons and Other Radiations on the Ocular Lens" - 319,122 - Duration: October 1, 1949, to September 30, 1951.

Mount Sinai Hospital - Dr. Harry Sobotka - "The Use of Isotopes in the Study of the Etiology of Drug Eruptions" - \$6,530.00. Duration: December 1, 1949, to November 30, 1951.

Peter Bent Brigham Hospital - Dr. Francis D. Moore - "Intracellular Changes in Trauma, Depletion and Repair; Biochemical Studies in the Human Being with the Aid of Isotopes - \$18,282.00 - Duration: September 16, 1949, to September 15, 195.

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Health Physics

The Johns Hopkins University - Dr. Abel Wolman; Dr. George Reid; Dr. Charles Renn; Dr. Irving Grossman; Dr. Albert Talboys - "Investigation of Adsorption and Assimilation of Radioactive Waste by Bacterial Slimes" - \$9,422.32 - Duration: November 15, 1949, to November 14, 1950.

University of Michigan - Dr. Henry J. Gombert and Dr. F. J. Hodges - "Autoradiography" - \$5,885.00 - Duration: January 15, 1950. to January 14, 1951.

Biological and Medical Aspects of RW

Further definitions of the functions of the piological and medical program in RW have been reached. Dr. Franklin C. McLean will continue to act as Advisor to the Division of Biology and Medicine. In this capacity he will serve as Chairman of the Panel on Biological and Medical Aspects of RW and assume responsibility for taking the initiative, subject to consultation with the Division of Biology and Medicine and the Division of Military Application, in matters concerning the biological and medical aspects of RW.

Research

A fixed allowable overhead rate for research supported at universities has been agreed on by the Divisions of Biology and Medicine, Research, and Reactor Development. Approximately 95 percent of the research supported by biology comes in the category where up to 8 percent of AEC funds may be used for overhead or indirect costs.

Preliminary arrangements have been made with Dr. John W. Gowen of Iowa State College to conduct investigations on the lifetime effects of radiation. This work will be with several different species of mice and with drosophila. The final plans for this work are now being prepared.

A contract with the Fish and Wildlife Service will provide for research on the metabolism of fresh water fish and the effects of radiation. This work will be done at the Courtland Laboratory in New York. With studies now in progress at the Applied Fisheries Laboratory at the University of Washington on molluska or shellfish at Beaufort, North Carolina, a rounded out program on both marine and fresh water fish is under way.

Meetings and Visits

Monitoring. On November 11, 1949, a meeting was held at Oak Ridge at which representatives of this Division discussed with representatives of Oak Ridge National Laboratory, Oak Ridge Institute of Nuclear Studies, Brookhaven National Laboratory, and the Atomic Energy Project, University of California, Los Angeles, a proposal that a teacher training program be established on monitoring in civil defense. It was agreed that Oak Ridge National Laboratory will prepare a manual for use in such training and that the three interested areas will develop curricula for proposed courses. A target date of February 1, 1950, was established for readiness of the monitoring courses. It was agreed that the courses would be developed for scientists of competence in physics or electrical engineering and that they in turn would establish programs at the state or municipal level. Conversations have been held with the National Security Resources Board in regard to this course and general approval obtained.

Advisory Committee for Biology and Medicine. The dvisory Committee for Biology and Medicine held its twentieth meeting at the Oak Ridge Operations Office on November 11 and 12, 19.9. Discussions centered around Civil Defense and the Fellowship Programs.

In this connection, the following statement was unanimously approved:

It is the sense of the Committee that the Atomic Energy Commission should not accept responsability for general defense activities and that its responsibility should be limited to the provision of factual information concerning the unique effects of atomic energy upon personnel and materials.

In view of the fact that certain restricted documents contain information which may be of value in planning for civilian defense, it is recommended that these documents be declassified to the effect that this is in keeping with security.

After a full discussion on the Fellowship Program the Committee unanimously reaffirmed its previous action that "a fellowship program be continued." Negotiations are being entered into with National Research Council to clarify the program in view of the amendment to the Independent Offices Appropriation Act of 1950.

Biological Test Program

A meeting was held at Los Alamos on November 14 and 15 in which the acute radiation experiments of the Biomedical Test Program were discussed in detail.

Waste Disposal

On November 2, Dr. William F. Bale and Mr. L. Joe Deal attended a meeting of the Steering Committee of the Materials Testing Reactor Project with the Blaw-Knox Construction Company in Pittsburgh.

There was considerable discussion regarding the disposal of the cooling air and the waste water from the MTR. A tentative agreement was reached that would allow for the cooling water from the pile to be used for irrigation purposes. At the same meeting Dr. Bale and Mr. Deal discussed the health physics problems connected with the design of the MTR. The problems discussed were the effect of the new tolerance values on the design of shielding for equipment and the Pile, the number of air changes required for the pile building, the amount of shielding required for the water tank, and plans for filtration of the cooling air.

Industrial Medicine

In furtherance of the Industrial Medical Program, Dr. James H. Sterner, AEC Industrial Medical Consultant, and Dr. George A. Hardie spent November 17-21 making at orientation inspection of the Hanford Engineering Works.

Health Physics

A proposal for setting up a health physics organization for ARCO was submitted for consideration. Another proposal for a radiation background survey was submitted to the Division of Reactor Development and the Manager of ARCO for their study. This included recommendations for the scope of the program and for possible methods of carrying out the survey.

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