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MONTHLY STATUS AND PROGRESS REPORTS

FEBRUARY 1949

Excerpt

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
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U. S. ATOMIC ENERGY COMMISSION

March 18, 1949

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V - BIOLOGY AND MEDICINE

Speeches

Dr. Shields Warren addressed a group at the Naval Medical School on February 18 on "The Fundamental Biology of Ionizing Radiation".

Dr. John Bowers attended the National Cancer Conference as sponsored by the American Cancer Society in Memphis, Tennessee on February 25 and 26 and contributed a paper on "Cancer Research in the Atomic Energy Program".

GAC Meeting

Dr. Alan Gregg, Chairman of the Advisory Committee for Biology and Medicine, appeared before the General Advisory Committee on February 3 and outlined the breadth of the Committee's functions in relation to lending assistance to the Division of Biology and Medicine and the Atomic Energy Commission on biological and medical problems.

Dr. Warren at the same meeting reported on radiation hazards in connection with the radium industry and the work in atomic energy, sup[redacted]ing comparative statistics in relation thereto.

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Report to Congress

It is planned that the Sixth Semiannual Report to Congress highlight the fields of biology and medicine as used in atomic energy. Accordingly, all contract investigators of the Division of Biology and Medicine are being requested through Office of Naval Research to provide a summary of their accomplishments in non-technical terms for a nucleus for this report.

Advisory Committee for Biology and Medicine

The Advisory Committee for Biology and Medicine met in Washington on February 12 for their bi-monthly deliberations which included discussions on the AEC project at the University of Rochester.

The Committee recommended that it would be desirable to use funds that may be available for cancer research studies on cancer of the lung.

The Committee further recommended that a staff member be appointed to collect information and to study the relations to agencies concerned with defense of the civilian population and the training of appropriate personnel to handle disasters due to atomic warfare.

Research Projects

The following research projects have been approved by the Division of Biology and Medicine during the month of February.

Medical Branch

- (1) University of California, Berkeley, Calif. - Dr. A. P. Krueger - "Relationship Between Radiation Damage and the Immunity State" - \$33,000 (Office of Naval Research renewal)
- (2) University of North Carolina - Dr. C. D. Van Cleave - "Radioautographic Study of the Distribution and Retention of Beryllium 7 in the Rat" - \$30,000 (AEC - New)
- (3) University of Minnesota - Dr. George E. Moore - "Methods and Instruments to Improve Localization of Radioactive Materials in the Body; with Special Reference to the Diagnosis of Brain Tumors" - \$16,000 (AEC - New)

- (4) University of Virginia - Dr. C. L. Gemmill -
"Effect of Beta Radiation on the Distribution of
Phosphate in Red Blood Cells and Cardiac Muscle" -
\$10,500 (AEC - New)
- (5) Meharry Medical College, Nashville, Tenn. -
Dr. Paul Hahn - "Treatment of Neoplasms by the
Direct Infiltration of Radioactive Colloids". -
\$60,000 (Transfer from ONR to AEC)
- (6) University of Michigan - Drs. R. L. Kahn and F. J. Hodges - "Universal Serologic Reaction
following Irradiation" - \$22,000 - (AEC - New)
- (7) Henry Ford Hospital - Dr. F. W. Hartman -
"Preliminary Studies on the Use of Nitrogen
Mustard in the Sterilization and Preservation
of Blood" - \$1,500 (AEC - New)
- (8) Beth Israel Hospital - Dr. H. L. Blumgart -
"Studies of Radioactive Iodine Therapy of Graves'
Disease and Other Related Thyroid Disorders" -
\$14,500 (ONR Renewal)
- (9) Memorial Hospital - Dr. C. P. Rheads -
"Investigations Involving Use of Isotopes and
Radiation in the Study of Special Tumors, Protein
Chemistry, Experimental Pathology, Immunochemistry
and Immunology" - \$140,000 (ONR Renewal)
- (10) Hooper Foundation, University of California -
Dr. H. Becks - "Metabolism of Radioactive Fluorine
with Reference to Dental and Skeletal Structures" -
\$5,000 - (AEC - New)
- (11) University of North Carolina - Dr. Arthur Roe -
"Biological Research Using Carbon-14" - \$2,000
(AEC - New)

Biology Branch

- (1) Sloane Physics Laboratory, Yale University - Dr. E. C. Pollard - "Irradiation of Viruses and Large
Molecules" - \$4,000 for 1949 and 1950.
- (2) Sloane Physics Laboratory, Yale University - Dr. E. C. Pollard - "Monomolecular Layers of Serologi-
cal Agents" - \$4,500.

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- (3) North Carolina State College, Raleigh, N. C. - Drs. W. E. Colwell and N. S. Hall - \$20,850 for 1949 and 1950 - "The Movement of Ions through Soil Systems".
- (4) North Carolina State College, Raleigh, N. C. - Dr. W. C. Gregory - "Peanut Seed Irradiation" - \$17,145.
- (5) Long Island Biological Association, Cold Springs Harbor, L. I., New York - Dr. M. Demerec - "Study of the Accumulation and Elimination of Deleterious Gene Mutations in Experimental Populations Exposed to Radiations" - \$55,000.
- (6) U. S. Department of Agriculture - Dr. P. V. Cardon - "The Improvement of Soil Management and Crop Production Through Investigations with Isotopes" - \$116,000.

Applied Biophysics Branch

- (1) University of Florida - Dr. A. A. Bless - "A Study of Bioelectric Potentials of Plants and Animals as a Function of Radiation Injury" - \$15,250.

Biology Branch

Dr. Jensen, together with the Medical Director of the New York Operations Office, made an inspection of the facilities of the Long Island Biological Association, Cold Spring Harbor, Long Island, on February 9. Negotiations are going forward for laboratory studies on the dynamics of population under the influence of irradiation, using fruit flies as test animals. He also visited the University of Nebraska on February 18, discussing a cooperative project administered by the Argonne National Laboratory on irradiation of corn pollen. He discussed the problem of biological synthesis experiments using algae with tulips with Dr. Brues and Dr. Scully at the Argonne National Laboratory on February 21.

Medical Branch Cancer Research

The Commission has approved a program initiated by the Division of Biology and Medicine to stimulate cancer research by utilizing radioactive isotopes beyond what was originally contemplated. It is proposed to add to the list for free distribution to qualified investigators other

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radioactive isotopes and in particular Cobalt 60. It is estimated that an expenditure of \$450,000 will be required annually to further this program.

Applied Biophysics Branch

A joint meeting was held in New York on February 8 with representatives of the United Kingdom and the Atomic Energy Commission in which maximum permissible exposures for humans and permissible levels of radioactive material for wastes, water and air were discussed. The British representatives pointed out that the AEC was the only place they could look for human and animal data for evaluating the maximum permissible radiation levels. It was agreed that the AEC would try to lend assistance to the United Kingdom in obtaining reports from the National Committee on Radiation Protection.

In the general discussion on waste disposal, the question of the maximum permissible level of material polluting public streams was discussed. Several plans now in use by the United Kingdom are being explored by the Atomic Energy Commission to see if they are applicable to similar conditions in the United States.

Radiation Cataract Survey

At the instance of the Division of Biology and Medicine the Division of Medical Sciences of the National Research Council has initiated and is directing an investigation of the ocular changes related to cyclotron exposure. A Committee on Radiation Cataracts has been established for this study. This Committee will submit proposals for study of cases of cataracts and for research to the Division of Biology and Medicine for consideration.

Dr. Lawrence Tuttle visited Oak Ridge on February 9 to attend a Seminar on Radiation Eye Damage.

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