

Outline of Proposed Research Program

707066

July 1, 1946 to June 30, 1947

Radiological Research Laboratory
College of Physicians and Surgeons,
Columbia University, New York City.

RHTG # 72,986
BOX # 603

Problems to be investigated

1. Continuation of the measurement of fast neutrons for biological dosage. (Part of this work would be done at Clinton Laboratories to correlate the results of our biological experiments with those obtained at Clinton.)
2. Development of a method of measuring neutron dose by chemical means. For one thing it would be very important to know whether for equal ionization, the chemical changes produced by neutrons are equal to or greater than those produced by x-rays. This would be useful in connection with the ratio x/n for biological effects.

The successful measurement of neutron doses by chemical means would greatly facilitate the determination of the distribution of tissue dose in animals of different sizes. This will have to be done in one way or another before the results of whole body irradiations of animals of different species can be properly correlated.

3. Measurement of radioactive isotopes for biological and medical applications.

The problem is essentially one of measuring tissue

J. Mart
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By M. R. THESEN, ANALYSIS CORP.

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4. Correlation of tissue doses and biological effects produced by external irradiation and by radioactive isotopes internally administered. This work would be done largely on animals but with the objective of applying the information thus derived to the human body.
5. Correlation and final evaluation of results of chronic exposure experiments carried out up to June 30, 1946. This will be done gradually as the necessary physical data are obtained. The correlation should include all results obtained on the project. Accordingly it should be undertaken in cooperation with other laboratories.
6. Exploratory biological experiments to extend use of radioactive isotopes as tracers or therapeutic agents.
7. Study of the fundamental biological action of ionizing radiation. (We have been interested in this problem for many years and work along these lines will be continued in any case).

- ~~SECRET~~
8. Measurement of the radiation of radioactive isotopes to provide data for the protection of personnel and films in transit. The practical importance of this problem will increase as the distribution of isotopes from the project gets under way. The solution of the problem is quite simple and would be undertaken as an incidental addition to our program.
 9. Special problems of interest to Manhattan District by mutual agreement.

In all this work the chief emphasis will be on the biological aspects of the various problems, inasmuch as the Radiological Research Laboratory is set up for this purpose.

Facilities Available

Practically all necessary laboratory facilities, equipment and apparatus are now available either as property of Columbia University or as Government property.

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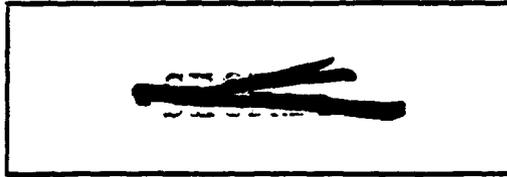
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July 1, 1946 to June 30, 1947
Short Title of Document or Address of Letter

Dr. G. Failla
Author

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By M.R. WHELAN/AMERS/AS/COM 1-11-94
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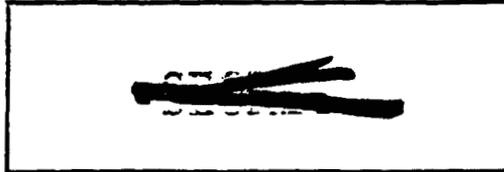
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By M. R. WOOD, ASSISTANT DIR. 1-16-94
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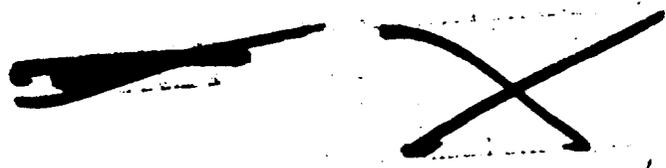
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Budget

Salaries	\$40,000.00
Materials and supplies	15,000.00
Use of cyclotron	10,000.00
Contingency	10,000.00
	<u>75,000.00</u>

Charge for overhead to be arranged with Columbia University

Small amounts of different isotopes (as may be available)
to be supplied by Clinton Laboratories.

Salaries of regular members of the scientific staff of the
Radiological Research Laboratory will be paid by Columbia.

G. Failla

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