

THE UNIVERSITY OF CALIFORNIA

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ROBERT GORDON SPROUL
President of the University

April 24, 1951

Atomic Energy Commission
2501 Constitution Avenue
Washington 25, D. C.

Gentlemen:

The following enclosed proposals for a research contract and extension of a contract have the approval of the administrative officers of the University and the Finance Committee of the Regents:

<u>Investigator</u>	<u>Project</u>
Dr. R. S. Stone	Renewal of Contract AT-11-1GEN-10, Project #2 Hematology and Radioiodine
Dean G. H. Hart	Effect of Radiation and Work Capacity and Longevity of the Dog

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Yours very truly,
Robert G. Sproul, President

By *G. E. Lynn*
Administrative Assistant

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326 US ATOMIC ENERGY
RG COMMISSION
Collection *Division of Biophysics*
Box *3358*
Folder *80*

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MEDICINE, HEALTH & SAFETY

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(Berkeley)

BUDGET
ATOMIC ENERGY COMMISSION PROJECT
UNIVERSITY OF CALIFORNIA MEDICAL CENTER
 San Francisco, California
 Contract AT-11-1-GEN-10, Project #2

July 1, 1951 - June 30, 1952

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GROUP	1951 - 1952		
	SALARIES	SUPPLIES	EQUIPMENT
SECTION I -- Hematology and Histopathology	20,620.00	5,000.00	3,000.00
SECTION II -- Radiiodine Program Separate charge for radiiodine (estimated)	20,850.00	3,000.00 24,000.00	1,000.00
SECTION III -- Synchrotron - Physics	20,480.00	6,000.00	18,000.00
SECTION IV -- Synchrotron - Biology	35,880.00	12,000.00	8,000.00
Administration General Operational Expenses Travel Utilities	16,520.00	7,144.50 4,000.00 7,000.00	
	114,350.00	68,144.50	30,000.00

Total Salaries 114,350.00

Total Supplies and Expense 68,144.50

Overhead (Mills Formula) 25% of total salaries 28,587.50

S.E.R.S. 8% of total gross salaries of participating members plus \$4.00 service charge per member 8,003.20

Compensation Insurance .8% of total salaries 914.80

TOTAL OPERATIONS BUDGET \$ 220,000.00

EQUIPMENT BUDGET 30,000.00

TOTAL BUDGET \$ 250,000.00

1951-1952 SALARIES (ESTIMATED)

	MAN YEARS - ESTIMATED		Salaries
	Scientific	Technical Non-Technical	
<u>SYNCHROTRON - PHYSICS - Gail D. Adams, Ph.D.</u>			
Associate physicist	1.0		7920.00
Sr. Accel. Operator		1.0	4260.00
Jr. Physicist	1.0		3900.00
Sr. Laboratory Mech.		1.0	4400.00
			<u>20,480.00</u>
<u>SYNCHROTRON - BIOLOGY - Henry I. Kohn, M.D.</u>			
Sr. Scientist	1.0		---
Sr. Scientist	1.0		6000.00
Technicians	1.0	3.0	13,200.00
Animal Caretakers		2.0	5560.00
			<u>24,760.00</u>
<u>THERAPY - Robert S. Stone, M.D.</u>			
Physician (Junior)	1.0	1.0	8000.00
Nurse			3120.00
			<u>35,880.00</u>
<u>HEMATOLOGY, ETC. - B.V.A. Low-Beer, M.D.</u>			
Physician-in-charge	0.1		1540.00
Consultant Hematologist	0.37		5280.00
Technicians	1.0	3.0	13,800.00
			<u>20,620.00</u>
<u>RADIOIODINE - Earl R. Miller, M.D.</u>			
Physician-in-charge	0.1		1650.00
Jr. Scientist	1.0		6000.00
Consultant M.D.	0.3		3300.00
Technicians		2.0	6600.00
General Assistance		1.0	3300.00
			<u>20,850.00</u>
<u>ADMINISTRATION - Robert S. Stone, M.D.</u>			
Director of Project	0.2		3740.00
Administrative Assistant		1.0	3780.00
Secretary		1.0	3600.00
Recept., Sr. Typist		1.0	2700.00
Janitor		1.0	2700.00
			<u>16,520.00</u>
			\$ 114,350.00

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UNIVERSITY CONTRIBUTION TO THE PROGRAM

The previous sheets indicate the financial assistance the University is seeking from the Atomic Energy Commission in order to continue the programs previously started and to initiate the operation of the new Radiological Laboratory erected with the Atomic Energy Commission money. The main contributions of the University to this program are the group of scientists, who would not be here were it not for the University connection, and the patients obtained through the University Hospital Out-Patient Department which department provides a pool of patients from which those that can best be utilized are selected.

The Atomic Energy Commission is not contributing to the operation of the Out-Patient Department, but without such a department as a source of patients, none of the programs could function. In the diagnosing, selecting and studying of the patients many other physicians are involved and many other facilities are used than those supported and operated under the present contract.

It is impossible to put a monetary value on the University's contribution. Suffice it to say that without the University, and its Hospital and Out-Patient Department, the project could not operate.

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PROGRAM FOR 1951 - 1952
UNIVERSITY OF CALIFORNIA SCHOOL OF MEDICINE
Contract AT-11-1-GEN-10, Project #2

Robert S. Stone, M.D., in charge

GENERAL:

It is hoped that the new Radiological Laboratory will be completed and started into operation in May or June, so that by July 1, 1951 it will be a going concern. This will expand the facilities and will initiate the new program centering around the synchrotron, but will not immediately alter the programs of the Hematology and Radioiodine Sections. The general administration of the enlarged program with the new building will be much more complicated and extensive than before.

SECTION I: HEMATOLOGY

In this section it is proposed to continue to study the few patients still available who were treated with x-rays to the whole body and who received whole body irradiation from radiophosphorus and radioiodine. During 1950-51 the problem of platelet detection and counting has occupied a large part of the time of this section and this work will be continued. The sensitivity of platelets to supersonic vibrations is being determined. This program was initiated last year, but owing to the problems of detecting and counting platelets occupying so much of the time, it did not proceed to the point of determining the effect of irradiation on platelet fragility. Dr. Low-Beer, during his sabbatical leave, (January 1 to June 30, 1951) is looking into methods of determining intracellular changes by microchemical methods and by ultraviolet microscopy. The major problem is, of course, to discover how radiations are affecting the hematopoietic tissues.

SECTION II: RADIOIODINE

The problem of treating patients suffering from hyperthyroidism with radioiodine is becoming somewhat routine, but the necessity for following patients already treated and continuing to follow more, is very important in order that we may determine the long time effects of the administration of radioiodine on people. Technical advances in scintillation counters is occupying a considerable portion of the time of the members of this section and it is hoped to be able to decrease the size of the tracer doses needed to study patients. A large part of the work of this section will become involved with the treatment of patients with cancer of the thyroid. A new attack on this problem is enabling Dr. Miller and his colleagues to attempt the treatment of many more patients than were previously accepted for treatment.

SECTION III: SYNCHROTRON - PHYSICS

During the present year, Dr. Gail Adams from the University of Illinois has been engaged to take charge of the investigation of the

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physical conditions involved in the use of the synchrotron and of the practical aspects of adapting the synchrotron to biological and medical work. It is anticipated that the synchrotron will be installed by, or shortly after, July 1, 1951, and Dr. Adams will need a group of physicists and mechanics to work with him in determining the physical conditions created by the operation of the machine, so that eventually it can be safely applied to animals and man and so that we can understand the radiations being applied. The synchrotron is being supplied with a vacuum tube (doughnut) which will provide x-rays. We hope that during the year we will be able to get an apparatus to bring out a beam of beta rays.

SECTION IV: SYNCHROTRON - BIOLOGY

As soon as the synchrotron goes into operation and we know sufficiently about the radiations coming from it to be able to reproduce given conditions, we will need to study the biological effects of these radiations on animals and later on man. Dr. Henry I. Kohn of the U. S. Public Health Service, who is now with us in the therapy sub-division of the Division of Radiology, is working on the program for biological studies. While the main object will be to pave the way for safe clinical trials, it is hoped that they will lead to a better understanding of the action of radiation on living material.

SECTION V: CLINICAL TRIALS

Whether or not any patients will be treated with the 70 million volt x-rays or the anticipated beta ray beam will depend upon the operation of the synchrotron and the information that we can obtain from biological tests and from the treatment work being carried out with multimillion volt rays of lower energy in Chicago and Saskatoon. We hope that it may be possible to start treatments in 1952.

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