

1. Project Title Biological Effects of Radiation (Clinical) G. Therapy for radiation accidents (Department of Medicine)			717672	2. Date <u>2/1/50</u>	
3. Contractor - Laboratory Associated Universities, Inc.-Brookhaven		4. Working Location Upton, LI, NY		5. Contract No.	
6. Budget Activity No.	7. Budget Item No.	8. Security Class. Unclassified	9. Method of Reporting Progress: Quarterly Progress & Open Publications		
10. Person in Charge (Contractor's Staff) Dr. L. E. Farr and Staff			11. Status (including starting date) June-July, 1950		
12. Purpose, Need and Scope (give narrative description of project) When accidents occur to personnel in which radioactive isotopes are inhaled, ingested or otherwise incorporated within body tissues, it is proposed to carry out suitable metabolic and physiological studies aimed at obtaining information to increase therapeutic efficiency or to add to knowledge regarding the normal biological half life and toxicology of the element concerned. This Summer it is proposed to carry out studies on a staff member contaminated with Strontium 90.					
13. Related Projects (with same contractor or others) None					
14. Accomplishments last year (if a continued project) None					
15. Expected Results This Year None					
16. Anticipated Problems Next Year (if project will continue) Continuing.					

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PROPOSAL AND AUTHORIZATION
FOR RESEARCH OR DEVELOPMENT

1. Project Title Biological Effects of Radiation (Biochemistry) (Department of Medicine)			2. Date	
3. Contractor - Laboratory Associated Universities, Inc.-Brookhaven		4. Working Location Upton, LI, NY	5. Contract No.	
6. Budget Activity	7. Budget Item	8. Security Class.	9. Method of Reporting Progress: Quarterly Reports & Open Publications	
10. Person in Charge (Contractor's Staff) Dr. J. E. Farr		11. Status (including starting date) September, 1950		
12. Purpose, Need and Scope (Give narrative description of project) The effects of inhalation of radioactive gases on the nasal and pulmonary mucosa of animals, will be observed. Preliminary studies will determine feasibility of continuing study.				
13. Related Projects (with same contractor or others) None before completion of preliminary studies.				
14. Accomplishments Last Year (if a continued project) None				
15. Expected Results this Year None				
16. Anticipated Problems Next Year (if project will continue) Starting September, 1950				
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PROPOSAL AND AUTHORIZATION
FOR RESEARCH OR DEVELOPMENT

1. Project Title Chemical Anatomy of Body Fluids (Department of Medicine)			2. Date	
3. Contractor - Laboratory Associated Universities, Inc.-Brookhaven		4. Working Location Upton, LI, NY	5. Contract No.	
6. Budget Activity No.	7. Budget Item No.	8. Security Class. Unclassified	9. Method of Reporting Progress: Quarterly Re- ports & Open Publica- tions.	
10. Person in Charge (Contractor's Staff) Dr. J. E. Farr & Dr. James Roberts (and Staff)			11. Status (including starting date) Starting May, 1950	
12. Purpose, Need and Scope (give narrative description of project)				
<p>(1) Distribution of Na-24 in extracellular body compartments -</p> <p>The volume of the sodium space in children with nephrosis is subject to wide variations as disease manifestations fluctuate. Further information is needed to better understand the factors both renal and extra-renal which bring this about. The influence of therapeutic measures on this volume may be an indication of the effectiveness of the therapy. Edematous patients with Graves disease and thyroid carcinoma or other illness will be used for comparison.</p> <p>(2) The total turnover rate of Na measured by Na-24 will be determined for nephrotic children on very low sodium intakes for long periods of time, and similar data will be obtained on other patients without renal disabilities. The capacity of the body to conserve its sodium stores under conditions of sodium deficiency will be studied.</p> <p>(3) The renal excretion of Na-24 will be studied in nephrosis and in other patients in the hospital. Sodium clearances will be done. The nephrotic kidney may handle sodium in a different manner from the normal kidney. This study will provide information in this respect.</p>				
13. Related Projects (with same contractor or others)				
<p>(a) Turnover rates of Na-24 in edema fluids will be measured.</p> <p>(b) Partition between extracellular and intracellular sodium, particularly during nephrotic crises, will be calculated when data and circumstances of study permit.</p> <p>(c) Effect of spontaneous changes of blood volume on renal mechanism will be studied using P-32 labelled red cells.</p> <p>(d) Determination of total body water with anti-pyrine. This study is to obtain data looking forward to the comparison of total body water values to be obtained with H-3. Methods of determining total body water are still under development and examination. Data are needed to determine which method is most accurate.</p>				
14. Accomplishments last year (if a continued project)				
None				
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15. Expected Results this Year				
None				
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16. Anticipated Problems Next Year (If project will continue)				
<p>(a) Methods for study of patients will be developed and personnel trained to participate.</p> <p>(b) Data obtained will be analyzed for information regarding distribution and rate of turnover in extra-cellular fluids in hypoproteinemic and non-hypoproteinemic edema.</p>				

PROPOSAL AND AUTHORIZATION
FOR RESEARCH OR DEVELOPMENT

1. Project Title Natural History of Nephrosis in Children (Department of Medicine)			2. Date	
3. Contractor - Laboratory Associated Universities, Inc.-Brookhaven		4. Working Location Upton, LI, NY	5. Contract No.	
6. Budget Activity No.	7. Budget Item No.	8. Security Class. Unclassified	9. Method of Reporting Progress: Quarterly Pro- gress Reports & Open Publications	
10. Person in Charge (Contractor's Staff) Dr. L. E. Farr and Staff			11. Status (including starting date) Active - Started September, 1949	
12. Purpose, Need and Scope (give narrative description of project) Young children (1-6 years) with the nephrotic syndrome will be observed for periods of time in the hospital and during periodic check-ups thereafter for disturbances in kidney functions, protein metabolism, mineral metabolism and liquid metabolism to determine if possible the disease mechanisms and to use tracer techniques when these may profitably be employed in elucidation of the disease process.				
13. Related Projects (with same contractor or others) Data obtained will be correlated with growth and development, immunity and other physiological activities of normal children.				
14. Accomplishments last year (if a continued project) None				
15. Expected results this year Methods have been established in the wards and laboratories to carry on the necessary analyses required for this study all of which are required also by general hospital operation.				
16. Anticipated Problems next year (if project will continue) Continuing.				
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PROPOSAL AND AUTHORIZATION
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1. Project Title Development of a Method for Determination of Total Carbon and Radiocarbon in a Single Sample (Department of Medicine)			2. Date	
3. Contractor - Laboratory Associated Universities, Inc., -Brookhaven		4. Working Location Upton, LI, NY	5. Contract No.	
6. Budget Activity No.	7. Budget Item No.	8. Security Class. Unclassified	9. Method of Reporting Progress: Quarterly Reports and Open Publication	
10. Person in Charge(Contractor's Staff) Dr.D.D.Van Slyke & Dr. Robert Steele		11. Status(including starting date) Active - February, 1950		
12. Purpose, Need, and Scope (Give narrative description of Project) The carbon combustion method of Van Slyke is being adapted to permit determination of radioactive carbon in the carbon dioxide produced and measured in the gasometric apparatus of Van Slyke.				
13. Related Projects (with same contractor or others) None				
14. Accomplishments last year (If a continued project)				
15. Expected Results this Year Preliminary data indicates feasibility of a method. REPOSITORY <u>Brookhaven National Lab. Upton</u> COLLECTION <u>From 189/medical Dept.</u> BOX No. <u>1950-1961</u>				
16. Anticipated Problems Next Year (If project will continue) FOLDER _____ Continuing				

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PROPOSAL AND AUTHORIZATION
FOR RESEARCH OR DEVELOPMENT

1. Project Title Bacterial Metabolism (Dept. of Medicine)			2. Date	
3. Contractor - Laboratory Associated Universities, Inc.-Brookhaven		4. Working Location Upton, LI, NY		5. Contract No.
6. Budget Activity No.	7. Budget Item No.	8. Security Class. Unclassified	9. Method of Reporting Progress: Quarterly Reports & Open Publication.	
10. Person in Charge (Contractor's Staff) Dr. Ruth Drew		11. Status (Including starting date) Active - Started April, 1950		
12. Purpose, Need, & Scope (Give narrative description of project) A study of the effect of gamma radiation on the type specificity of the pneumococcus, and the effect upon the transforming substance (desoxyribonucleic acid) of type III pneumococcus.				
13. Related Projects (with same contractor or others) None				
14. Accomplishments last year (If a continued project) None				
15. Expected Results this Year Determination of properties of transforming substance as effected by radiation.				
16. Anticipated Problems Next Year (If project will continue) Continuing.				

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PROPOSAL AND AUTHORIZATION
FOR RESEARCH OR DEVELOPMENT

1. Project Title: Homologous Tissue Immunity (Department of Medicine)			2. Date	
3. Contractor - Laboratory Associated Universities, Inc.-Brookhaven		4. Working Location Upton, L.I., N.Y.		5. Contract #
6. Budget Activity No.	7. Budget Item No.	8. Security Class, Unclassified	9. Method of Reporting Progress: Quarterly Reports and Open Publication.	
10. Person in Charge (Contractor's Staff) Dr. W. N. Hale			11. Status (Including Starting Date) Active: Started April, 1950	
12. Purpose, Need, and Scope (Give Narrative Description of Project) Mice with transplantable tumors are being studied for specific tumor antibody production and for total and passive immunity to reinoculation.				
13. Related Projects (With Same Contractor or Others) None — —				
14. Accomplishments Last Year (If a Continued Project) None				
15. Expected Results This Year Development of suitable methodology.				
16. Anticipated Problems Next Year (If Project Will Continue) Continuing.				

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PROPOSAL AND AUTHORIZATION
FOR RESEARCH OR DEVELOPMENT

1. Project Title The Site of Action of Botulinum Toxin using Tagged Toxin (Department of Medicine)			2. Date	
2. Contractor - Laboratory Associated Universities, Inc., Brookhaven		4. Working Location Upton, LI, NY		5. Contract No.
3. Budget Activity No.	7. Budget Item No.	8. Security Class. Unclassified	9. Method of Reporting Progress: Quarterly Reports & Open Publication	
10. Person in Charge (Contractor's Staff) Dr. W. N. Hale			11. Status (including starting date) October, 1950	
12. Purpose, Need, and Scope (Give narrative description of project) Botulinus cultures will be grown in media containing radioactive isotopes to produce a tagged toxin. This tagged toxin will then be injected into mice, the animals sacrificed serially and the carcasses analyzed for regions containing radioactive isotopes.				
13. Related Projects (with same contractor or others) None				
14. Accomplishments last year (If a continued project) None				
15. Expected Results this Year None				
16. Anticipated Problems Next Year (If Project will continue) Starting October, 1950				

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PROPOSAL AND AUTHORIZATION
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1. Project Title Tumor Trophism of Viruses (Department of Medicine)			2. Date	
3. Contractor - Laboratory Associated Universities, Inc.-Brookhaven		4. Working Location Upton, LI, NY		5. Contract No.
6. Budget Activity No.	7. Budget Item No.	8. Security Class. Unclassified	9. Method of Reporting Progress: Quarterly Re- ports & Open Publication	
10. Person in Charge(Contractor's Staff) Dr. W. N. Hale			11. Status(including starting date) September, 1950	
12. Purpose, Need, and Scope (Give narrative description of project) Efforts will be made to adapt viruses specifically to tumors to retard or stop tumor growth.				
13. Related Projects (with same contractor or others) None				
14. Accomplishments last year (If a continued project) None				
15. Expected Results this Year None				
16. Anticipated Problems Next Year (If Project will continue) Starting September, 1950.				

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4001900

PROPOSAL AND AUTHORIZATION
FOR RESEARCH OR DEVELOPMENT

1. Project Title Influence of Mechanical Injury, Radiation Injury and Disease States Upon Body Protein Stores. (Department of Medicine)			2. Date	
3. Contractor - Laboratory Associated Universities, Inc.-Brookhaven		4. Working Location Upton, LI, NY	5. Contract No.	
6. Budget Activity No.	7. Budget Item No.	8. Security Class. Unclassified	9. Method of Reporting Progress: Quarterly Reports and Open Publi- cations	
10. Person in Charge (Contractor's Staff) Dr. S. C. Madden			11. Status (including starting date) Active - April, 1950	
12. Purpose, Need, and Scope (Give narrative description of project)				
<p>(a) Inflammatory processes, bone fractures and internal radiations are in early stages of being tested for their effects upon the formation of new protein.</p> <p>(b) The distribution of the new protein will be determined between organ, tissue and blood. Stable isotopic nitrogen and S-35 will be used for markers.</p> <p>(c) The source and significance of the fraction of the body protein that is broken down and eliminated during acute injury or disease is being investigated.</p>				
13. Related Projects (with same contractor or others)				
The effects of hormones, antibiotics and certain metabolites upon the construction of new protein following acute injury or disease will be observed in the near future.				
14. Accomplishments last year (if a continued project)				
None				
15. Expected results this year				
None				
16. Anticipated Problems next year (if project will continue)				
Continuing.				
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PROPOSAL AND AUTHORIZATION
FOR RESEARCH OR DEVELOPMENT

1. Project Title Correlation of Histological Structures with Specific Chemical Compounds			2. Date	
3. Contractor - Laboratory Associated Universities, Inc.-Brookhaven		4. Working Location Upton, LI, NY	5. Contract No.	
6. Budget Activity No.	7. Budget Item No.	8. Security Class. Unclassified	9. Method of Reporting Pro- gress: Quarterly Reports and Open Publications	
10. Person in Charge (Contractor's Staff) Dr. S.C. Madden & Dr. Jean Oliver		11. Status (Including starting date) Active at L.I. College Start DNL, Probably Fall		
12. Purpose, Need, and Scope (Give narrative description of project) The origin and fate of specific kidney cell bodies which arise following the injection of proteins or amino acids will be collaborated in with Dr. Jean Oliver and associates of the Long Island College of Medicine as soon as certain preliminary work of marking compounds and developing histological techniques is completed.				
13. Related Projects (with same contractor or others) None				
14. Accomplishments last year (If a continued project) None				
15. Expected Results this Year None				
16. Anticipated Problems Next Year (If project will continue) Continuing				

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4001902

PROPOSAL AND AUTHORIZATION
FOR RESEARCH OR DEVELOPMENT

1. Project Title Biological Effects of Radiation (Clinical) A. Kidney Function (Dept. of Medicine)			2. Date	
3. Contractor - Laboratory Associated Universities, Inc.-Brookhaven		4. Working Location Upton, LI, NY	5. Contract No.	
6. Budget Activity No.	7. Budget Item No.	8. Security Class. Unclassified	9. Method of Reporting Progress: Quarterly Reports & Open Publications.	
10. Person in Charge (Contractor's staff) Dr. D.D. Van Slyke & Dr. L. E. Farr		11. Status (including starting date) Active, February, 1950		
12. Purpose, Need, and Scope (give narrative description of project) Effects on the kidney of administration of radioisotopes primarily excreted in the urine. Functional studies will be carried out before and after administration of isotopes to determine if changes in renal function can be detected and if any, what their significance may be.				
13. Related Projects (with same contractor or others) Comparisons will be made between patients with cancer and those without.				
14. Accomplishments Last Year (If a continued Project) None				
15. Expected Results this Year Methods of kidney function studies are being developed in Laboratory				
16. Anticipated Problems Next Year (If project will continue) Full activity of project dependent on completion of Biochemistry Laboratory.				

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4001903

PROPOSAL AND AUTHORIZATION
FOR RESEARCH OR DEVELOPMENT

1. Project Title Biological Effects of Radiation(Clinical) B. Nitrogen Metabolism (Dept. of Medicine)			2. Date	
3. Contractor - Laboratory Associated Universities, Inc.,-Brookhaven		4. Working Location Upton, LI, NY	5. Contract No.	
6. Budget Activity No.	7. Budget Item No.	8. Security Class. Unclassified	9. Method of Reporting Pro- gress: Quarterly Reports & Open Publication	
10. Person in Charge (Contractor's Staff) Dr. D. D. Van Slyke & Dr. L. E. Farr		11. Status(Including starting date) See Item 16 below		
12. Purpose, Need, and Scope (Give narrative description of project) The effect of radioactive isotopes in the mechanism for nitrogen conservation. Nitrogen balance studies, plasma and urine partition will be done on patients with varying stages of nitrogen depletion and repletion, before and after administration of therapeutic doses of radioactive isotopes.				
13. Related Projects (with same contractor or others) Comparisons will be made between patients with cancer and those without.				
14. Accomplishments last year (if a continued project) None				
15. Expected Results this Year None				
16. Anticipated Problems next Year (If project will continue) Starting contingent on completion of Biochemistry Laboratory				

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4001904

PROPOSAL AND AUTHORIZATION
FOR RESEARCH OR DEVELOPMENT

1. Project Title Biological Effects of Radiation(Clinical) D. Cancer Control (Dept. of Medicine)			2. Date	
3. Contractor - Laboratory Associated Universities, Inc.-Brookhaven		4. Working Location Upton, LI, NY	5. Contract No.	
6. Budget Activity No.	7. Budget Item No.	8. Security Class. Unclassified	9. Method of Reporting Progress: Quarterly Reports & Open Pub- lication	
10. Person in Charge (Contractor's Staff) Dr. L. E. Farr (and Staff)			11. Status (including starting date) Active - Started July, 1949	
12. Purpose, Need, and Scope (Give narrative description of Project) The effectiveness of I-131 and other I isotopes and analogues in controlling metastatic carcinoma of the thyroid will be observed.				
13. Related Projects (with same contractor or others) None				
14. Accomplishments last year (if a continued project) None				
15. Expected Results this Year Data has been obtained using iodine 131 which will be compared with data to be obtained.				
16. Anticipated Problems Next Year (if project will continue) Continuing, and when size of staff permits the effectiveness of radiogallium and other metal isotopes in controlling skeletal metastases of thyroid carcinoma will be studied.				

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4001905

PROPOSAL AND AUTHORIZATION
FOR RESEARCH OR DEVELOPMENT

1. Project Title Biological Effects of Radiation(Clinical E.Control of Hyperthyroidism(Dep't. of Medicine)			2. Date	
3. Contractor - Laboratory Associated Universities, Inc.-Brookhaven		4. Working Location Upton, LI, NY	5. Contract No.	
6. Budget Activity No.	7. Budget Item No.	8. Security Class. Unclassified	9. Method of Reporting Progress: Quarterly Progress Reports & Open Publication	
10. Person in Charge(Contractor's Staff) Dr. I. E. Farr (and Staff)		11. Status(Including starting date) Active - Started January, 1950		
12. Purpose, Need, and Scope (Give narrative description of project) The value of various radioactive isotopes of I for determining the state of thyroid function. I-131 and short lived isotopes will be administered to euthyroid and hyperthyroid patients to compare uptake values in relation to other evidences of thyroid function.				
13. Related Projects (with same contractor or others) Some short lived I isotopes will be tried for control of hyperthyroidism in patients with Graves disease.				
14. Accomplishments last year (if a continued project) None				
15. Expected results this year Data is being obtained and attempts will be made to correlate results with effective dosage.				
16. Anticipated Problems Next Year (If project will continue) Continuing				

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