

UNIVERSITY OF CALIFORNIA

UNIVERSITY EXTENSION

403039

In cooperation with the  
University Medical  
Schools at Los Angeles  
and San Francisco

PRESENTS

A COURSE IN THE APPLICATION OF NUCLEAR PHYSICS TO THE BIOLOGICAL AND MEDICAL SCIENCES

AUGUST 2ND THROUGH AUGUST 20TH, 1948

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

General Chairman: Stafford L. Warren, MD, Professor of Biophysics and  
Dean of the School of Medicine, University of California,  
Los Angeles, California.

Director of Course: Fred A. Bryan, MD, Associate Clinical Professor of  
Medicine, School of Medicine, University of California,  
Los Angeles, California.

Tuition fee for the complete course, including laboratory training, is \$350.00.  
Tuition fee for the lecture series alone is \$100.00.

Enrollment in this course is limited and applicants must present biographical  
data for approval by an official committee.

OFFICERS OF INSTRUCTION

- BELLAMY, Albert W., Ph.D., Professor of Zoology and Divisional Dean of Life Sciences, College of Letters and Science, University of California, Los Angeles.
- BRYAN, Fred A., MD, Associate Clinical Professor of Medicine, School of Medicine, University of California, Los Angeles.
- CASSEN, Benedict, Ph.D., Chief of the Blast Section, Diversified Problems Division, Atomic Energy Project, University of California, Los Angeles.
- COFF, D. Harold, MD, Assistant Professor of Physiology, University of California, Berkeley.
- DESSAUER, Gerhard, Ph.D., Research Physicist, General Electric Company, Schenectady, New York.
- DONALDSON, Lauren R., Ph.D., Director, Applied Fisheries Laboratory, University of Washington.
- DOWDY, Andrew H., MD, Professor of Radiology, School of Medicine, University of California, Los Angeles.
- FERMI, Enrico, Ph.D., Charles H. Swift Distinguished Service Professor of Physics, University of Chicago, Chicago, Illinois.
- FINK, Robert, Ph.D., Research Biochemist in the Department of Medical Investigation, Birmingham Veterans Administration Hospital, Van Nuys, California.
- HALEY, Thomas J., Ph.D., Chief of the Pharmacology-Toxicology Division, Atomic Energy Project, University of California, Los Angeles.
- HAMILTON, Joseph G., MD, Associate Professor of Medical Physics and Associate Professor of Experimental Medicine and Radiology, University of California, Berkeley, California.
- LAWRENCE, John S., MD, Professor of Medicine, University of California, Los Angeles.
- LOW-BEER, Bertram V. A., MD, Associate Professor of Radiology, University of California, Medical School, Berkeley, California.
- LYON, George M., MD, Chief, Radioisotope Section, Research and Education Service, U. S. Veterans Administration, Washington, D. C.
- MAC KENZIE, Kenneth R., Ph.D., Associate Professor of Physics, University of California, Los Angeles.
- SILVERMAN, Louis B., AB, Health-Physicist, Atomic Energy Project, University of California, Los Angeles.
- STONE, Robert S., MD, Professor of Radiology, University of California Medical School, San Francisco, California.
- WARREN, Stafford L., MD, Professor of Biophysics and Dean of the School of Medicine, University of California, Los Angeles.
- WEST, Philip M., MD, Chief of the Tracer Synthesis Section, Biochemistry Division, Atomic Energy Project, University of California, Los Angeles.

PROGRAM

Monday, Aug. 2, 1948

8:30 - 9:30 AM  
9:30 - 10:00 AM

10:00 - 11:00 AM

11:00 - 12:00 noon

1:00 - 5:00 PM

REGISTRATION.

Introductory Remarks

Stafford L. Warren M.D., Dean of the Medical School, University of California, Los Angeles.  
S. J. Weinberg, M.D., Head, Postgraduate Instruction, Medical Extension, Southern Area.

UNITS OF MEASUREMENT AND TERMINOLOGY.

Dr. Bryan.

INTRODUCTION TO ATOMIC AND NUCLEAR STRUCTURE.

Dr. Casson.

LABORATORY

Tuesday, Aug. 3, 1948

9:00 - 10:00 AM

10:00 - 12:00 noon

1:00 - 5:00 PM

INTRODUCTION TO ATOMIC AND NUCLEAR STRUCTURE (Cont.)

Dr. Casson.

THE NATURE OF RADIOACTIVITY AND PROPERTIES OF ALPHA, BETA, AND GAMMA RAYS.

Dr. Casson.

LABORATORY.

Wednesday, Aug. 4, 1948

9:00 - 12:00 noon

1:00 - 5:00 PM

8:00 - 10:00 PM

THE CYCLOTRON, THE PILE, THE LINEAR ACCELERATOR.

Dr. Dessauer.

LABORATORY

RADIATION DAMAGE.

Dr. Stone.

Thursday, Aug. 5, 1948

9:00 - 11:00 AM

11:00 - 12:00 noon

1:00 - 5:00 PM

THE PRINCIPLES OF RADIOCHEMISTRY AND ITS APPLICATIONS FOR PREPARATION AND ISOLATION OF THE ARTIFICIAL RADIO-ELEMENTS.

Dr. Hamilton.

PRODUCTION OF RADIO-ELEMENTS BY THE PILE.

Dr. Deasauer.

LABORATORY.

Friday, Aug. 6, 1948

9:00 - 11:00 AM

11:00 - 12:00 noon

1:00 - 5:00 PM

THE PRINCIPLES OF THE APPLICATIONS OF RADIOACTIVE TRACERS AND A DETAILED DISCUSSION OF THE THREE MAJOR TRACER TECHNIQUES.

Dr. Hamilton.

HEALTH PROTECTION AND SAFETY.

Mr. Silverman.

LABORATORY.

Monday, Aug. 9, 1948

9:00 - 11:00 AM

11:00 - 12:00 noon

1:00 - 5:00 PM

RADIATION DETECTING AND MEASURING INSTRUMENTS.

Dr. Cassen.

FILM BADGE MEASUREMENT TECHNIQUE.

Dr. Bryan.

LABORATORY.

Tuesday, Aug. 10, 1948

9:00 - 11:00 AM

11:00 - 12:00 noon

1:00 - 5:00 PM

BIOLOGICAL EFFECTS OF RADIATION.

Dr. Dowdy.

METHODS OF DOSAGE CALCULATION; AVAILABILITY, COST, RESTRICTIONS IN THE USE OF RADIO-ELEMENTS.

Dr. Bryan.

LABORATORY.

Wednesday, Aug. 11, 1948

9:00 - 11:00 AM

11:00 - 12:00 noon

1:00 - 5:00 PM

8:00 - 10:00 PM

THERAPEUTIC APPLICATIONS OF RADIATION.

Dr. Dowdy.

USE OF RADIOACTIVE MATERIAL IN MARINE BIOLOGY.

Dr. Donaldson.

LABORATORY.

THE USE OF RADIOACTIVE ISOTOPES IN CLINICAL DIAGNOSIS.

Dr. Low-Beer.

Thursday, Aug. 12, 1948

9:00 - 11:00 AM

11:00 - 12:00 noon

1:00 - 5:00 PM

THE GENETIC EFFECTS OF RADIATION.

Dr. Bellamy.

TECHNIQUES AND STUDIES IN THE USE OF IODINE 131.

Dr. Fink.

LABORATORY.

Friday, Aug. 13, 1948

9:00 - 11:00 AM

11:00 - 12:00 noon

1:00 - 5:00 PM

EFFECTS OF RADIATION ON THE HEMATOPOIETIC SYSTEM.

Dr. Lawrence.

METHODS AND TECHNIQUES IN THE USE OF IONIZING RADIATION IN GENETIC STUDIES.

Dr. Bellamy.

LABORATORY

Monday, Aug. 16, 1948

9:00 - 11:00 AM

11:00 - 12:00 noon

1:00 - 5:00 PM

STUDIES USING CARBON 14; PROBLEMS AND DIFFICULTIES  
IN ITS USE.

Dr. MacKenzie.

PHARMACOLOGICAL APPLICATIONS OF RADIO ISOTOPES.  
Dr. Haley.  
LABORATORY.

Tuesday, Aug. 17, 1948

9:00 - 11:00 AM

11:00 - 12:00 noon

1:00 - 5:00 PM

RADIOIRON AS A TOOL FOR STUDYING THE FORMATION OF  
HEMOGLOBIN AND RELATED PROBLEMS.

Dr. Copp.

REVIEW OF THE USE OF TRACERS IN THE STUDY OF AMINO  
ACIDS.

Dr. West.

LABORATORY.

Wednesday, Aug. 18, 1948

9:00 - 11:00 AM

11:00 - 12:00 noon

1:00 - 5:00 PM

RADIOACTIVE TRACERS IN THE STUDY OF THE PHYSIOLOGICAL  
CHEMISTRY OF BONE.

Dr. Copp.

REVIEW OF METHODS AND TECHNIQUES OF AUTORADIOGRAPHY.

Dr. Cassen.

LABORATORY.

Thursday, Aug. 19, 1948

9:00 - 11:00 AM

11:00 - 12:00 noon

1:00 - 5:00 PM

METABOLISM OF IODINE 131.

Dr. Winzler.

SUBJECT TO BE ANNOUNCED.

Dr. Warren.

LABORATORY.

Friday, Aug. 20, 1948

9:00 - 11:00 AM

11:00 - 12:00 noon

1:00 - 5:00 PM

8:00 - 10:00 PM

THE FUTURE FIELD FOR THE BIOLOGIST, BIOCHEMIST AND  
MEDICAL MAN IN THE VETERAN'S ADMINISTRATION AND  
RELATED SERVICES WITH RESPECT TO RADIOACTIVITY.

Dr. Lyon.

GENERAL DISCUSSION AND QUESTION BOX.

Under direction of Dr. Bryan.

LABORATORY.

SUBJECT TO BE ANNOUNCED.

Dr. Fermi.