



DOE Openness: Human Radiation Experiments: Roadmap to the Project



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[Health Physicist
William J. Bair,
Ph.D.](#)

covers the University of Rochester's radiation biology program; Bair's radionuclide inhalation research at Hanford Site; and his management of Hanford's Biology Department and Life Sciences Program.

[Biochemist
Waldo E. Cohn,
Ph.D.](#)

covers Cohn's wartime work as Biochemistry Group leader at the University of Chicago's Metallurgical Laboratory and his tenure at Oak Ridge National Laboratory, where he helped shape America's postwar isotope production and distribution policy.

[Dr. Patricia
Wallace Durbin,
Ph.D.](#)

covers Durbin's reopening, in the 1970s, of medical follow-up studies of the wartime human plutonium injections; her research on strontium, americium, and plutonium from 1954 to 1980 at Lawrence Berkeley Laboratory; and her study on calcium and strontium metabolism in infants.

[Merril Eisenbud](#)

covers Eisenbud's founding and managing of the U.S. Atomic Energy Commission's Health & Safety Laboratory; his research on radioactive fallout in the United States and abroad; and his experiences with early occupational exposure, especially in uranium processing.

[Dr. Nadine
Foreman, M.D.](#)

covers Foreman's work with Earl Miller and Mayo Soley on a study of the use of radioiodine in the treatment of thyroid disease during the late 1940s, and the thyroid treatments she administered in her subsequent clinical position in the Metabolic Research Laboratory at Highland Hospital in Oakland, California.

[Radiologist](#)

covers Friedell's participation in the

Hymer L.
Friedell, M.D.,
Ph.D.

early stages of the medical use of radioisotopes; his important role in the Manhattan Engineer District Medical Division; his distinguished medical career; and his involvement in the distribution of isotopes and approval for their use in humans.

Health Physicist
Carl C.
Gamertsfelder,
Ph.D.

covers Gamertsfelder's participation in pioneering the development of radiation instruments and measurement techniques during the Manhattan Project; his occupational exposure monitoring at Oak Ridge and Hanford; biophysics work at Hanford; and his more recent work as a consulting radiological scientist.

Dr. John W.
Gofman, M.D.,
Ph.D.

covers Gofman's research at the University of California, Berkeley; his pioneering studies in heart disease; his founding and directing of Lawrence Livermore's biomedical program; his conflicts with the Atomic Energy Commission; and the evolution and controversy of his opinions on radiation risk.

Radiation
Biologist Marvin
Goldman, Ph.D.

covers Goldman's studies on bone-seeking radionuclides; his graduate research at the University of Rochester; his work at the University of California, Davis, on strontium-90 metabolism and effects in beagles; and his observations on priorities of public and occupational radiological safety around the world.

Julie Langham
Grilly

covers Grilly's work as a history technician in the Health Division at Los Alamos; the life and career of Los Alamos Biomedical Research Group director Wright Langham, to whom she was married; recollections about leading researchers; and the changes at Los Alamos during and since the Cold War.

Medical
Physicist
Kathering L.
Lathrop and
Physician Paul
V. Harper

covers Harper's career as a surgeon and pioneer in nuclear medicine at Argonne Cancer Research Hospital and the University of Chicago; development of nuclear medicine instrumentation; and contributions to the development and testing of new radiopharmaceuticals for

John W. Healy

applications in nuclear medicine.

covers Healy's role in radiation protection and monitoring at Hanford Site, Washington, starting in 1944; his participation in the Green Run, the 1949 intentional radioiodine release; environmental monitoring of airborne and waterborne radioactivity; and an accidental ruthenium release during the 1950s.

**Hematologist
Karl F. Hubner,
M.D.**

covers Hubner's participation, at the Oak Ridge Institute of Nuclear Studies/Oak Ridge Associated Universities Medical Division, in cancer therapy research involving total-body irradiation and experimental immunology and cancer therapy programs; and his role in the development of Positron Emission Tomography.

**Oral History of
Radiologist
Henry I. Kohn,
M.D., Ph.D.**

covers Kohn's work at Oak Ridge National Laboratory and the Radiological Laboratory at the University of California, San Francisco; his years as a professor of Radiology and Radiation Biology at Harvard Medical School; his role in founding Harvard's Joint Center for Radiation Therapy; and perspectives on colleagues.

**Medical
Physicist
Katherine L.
Lathrop and
Physician Paul
V. Harper**

covers Lathrop's work during and after the Manhattan Project as a chemist and biochemist at the Metallurgical Laboratory and Argonne National Laboratory; radionuclide studies at Argonne Cancer Research Hospital; and research in the biological effects of radiation, radionuclides, and radiopharmaceuticals.

**Pathologist
Clarence
Lushbaugh,
M.D.**

covers Lushbaugh's research with human subjects at Los Alamos; his lead role in investigating radiological worker accidents; his forensic investigations as a pathologist for Los Alamos County, New Mexico; and the controversial total-body irradiation research he led at the Oak Ridge Institute for Nuclear Science.

**Health Physicist
Constantine J.**

covers Maletskos's research at the Radioactivity Center of the

Maletskos,
Ph.D.

Massachusetts Institute of Technology, using subjects from the Fernald State School and the Age Center of New England; early dosimetry studies; and blood-volume studies of pregnant women, using tracer doses of radioiron.

Radiologist Earl
R. Miller, M.D.

covers Miller's research at the University of California Medical School at San Francisco (UCSF); his use of iodine-131 to diagnose and treat thyroid disease; and his pioneering imaging studies of cleft palates, infant hearts, and urinary tracts. Includes 58 supplemental pages of Miller's reminiscences of his life and work, colleagues, UCSF's radiology program, informed consent, and a bibliography of his published works.

Health Physicist
Karl Z. Morgan,
Ph.D.

covers the development of dosimetry and instrumentation for the Manhattan Project at the Metallurgical Laboratory in Chicago; Morgan's efforts to ensure the radiological health and safety of workers at the Oak Ridge National Laboratory in Tennessee; and the first plutonium injection in a human, at Oak Ridge.

Biochemist
William D. Moss

covers Moss's recollections of plutonium chemistry research in the Health Division of Los Alamos National Laboratory; his studies of radiobioassay techniques and human plutonium metabolism; his 1979 update of Langham's plutonium excretion equations; and ongoing follow-up studies of plutonium workers.

Physiologist
Nello Pace,
Ph.D.

covers the genesis of the medical physics degree programs at the University of California at Berkeley; Pace's postbombing radiation surveys of Hiroshima and Nagasaki; his founding of a high-altitude research station on White Mountain; and human radiation studies at Donner Laboratory at Berkeley.

Cell Biologist
Don Francis
Petersen, Ph.D.

covers human radiation studies conducted at Los Alamos National Laboratory during Petersen's long career, starting in 1956, in the

Radiobiologist
Chet Richmond,
Ph.D.

Radiobiology Group; the process by which such studies were approved by the Lab and the Atomic Energy Commission; and the use of workers' children in radioiodine experiments.

covers Richmond's research and leadership at Los Alamos, the Atomic Energy Commission, and Oak Ridge; his pioneering research in the metabolic kinetics of various radionuclides; long-term studies of wartime radiation workers; and the adoption of guidelines for protecting humans serving as research subjects.

Physician James
S. Robertson,
M.D., Ph.D.

covers radiological studies at Brookhaven National Laboratory, especially boron neutron capture therapy; Brookhaven's human use committee; Brookhaven's radiological studies at Marshall Islands; the development of SPECT imaging; and Robertson's research oversight at the U.S. Department of Energy.

Biophysicist
Robert E.
Rowland, Ph.D.

covers Argonne National Laboratory's follow-up research on hospital patients and workers exposed to radium; Rowland's research in the metabolism of skeletal radium; epidemiological studies; plutonium ingestion and injections during the Manhattan Project and follow-up studies of plutonium injectees.

Biophysicist
Cornelius A.
Tobias, Ph.D.

covers Tobias's long biophysics research and teaching career at the University of California at Berkeley and San Francisco and the Donner Laboratory at Berkeley; his radioiron blood studies; his cosmic ray studies and carbon monoxide tracer studies; heavy-ion therapy; pituitary irradiation; and the selection of patients.

Biochemist John
Randolph
Totter, Ph.D.

covers Totter's term at the Atomic Energy Commission's Division of Biology and Medicine, which he directed from 1967 to 1972; selection and oversight of research programs; the AEC's biomedical program at Lawrence Livermore National Laboratory; and Totter's

Oncologist
Helen
Vodopick, M.D.

conflicts with John Gofman over the safety of low-level radiation.

covers experimental cancer therapy by total-body irradiation at the Oak Ridge Institute of Nuclear Studies and Oak Ridge Associated Universities; medical treatment of workers who had sustained radiation accidents; immunotherapy, radiation therapy, and chemotherapy; bone marrow transplants; and informed consent.

Dr. George
Voelz, M.D.

covers research at Los Alamos National Laboratory, where Voelz became the longterm leader of the Health Division in 1970; follow-up medical studies of wartime plutonium workers; his inhalation studies of radiation workers; the acute and long-term effects of radiation; and his associations with other radiation scientists.

Donner Lab
Administrator
Baird G. Whaley

covers the people, projects, policies and administration of Lawrence Berkeley Laboratory's Donner Laboratory, where Whaley served as an administrator from 1954 to 1986; perspectives on John Lawrence; changes brought about by successive directors; and patient care in the Donner Clinic Research Program.