

Science and Conscience: Chicago's Met Lab and the Manhattan Project
February 19, 2018 through April 13, 2018

Item List by Case

Pedestal Case 1

Nobel Prize in Physics, medal and certificate, 1938

Enrico Fermi Papers

Enrico Fermi (1901-1954) won the Nobel Prize for Physics in 1938. He is best known for his leadership of the Manhattan Project team at the University of Chicago, which produced the first controlled self-sustaining nuclear chain reaction on December 2, 1942.

Pedestal Case 2

James Franck, "Franck Report," autograph manuscript, June 1945

James Franck Papers

James Franck, photograph, undated

University of Chicago Photographic Archive

As World War II drew to a close, the scientists responsible for developing atomic energy became increasingly concerned about the possible use of nuclear weapons for military purposes. In June of 1945, Professor James Franck of the Manhattan Project's Metallurgical Laboratory at the University of Chicago chaired a committee that drafted the "Franck Report," which sought to prevent the United States from using the atomic bomb against Japan. Franck traveled to Washington, D.C., to present the final version of the report to Henry Stimson, the Secretary of War, but the scientists' concerns were not heeded.

Pedestal Case 3

Henry DeWolf Smyth

***A General Account of the Development of Methods of Using Atomic Energy for Military Purposes under the Auspices of the United States Government, 1940-1945.* Princeton: Princeton University Press, 1945**

alc UF767.S67 c.12 Rare Book Collection

Gift of Diana King

The Smyth Report was the first public account providing details of nuclear research conducted by the United States during World War II. This copy of the book, from the library of Metallurgical Laboratory staff member Melvin Bengston includes signatures of James Franck, Harold Urey, Samuel K. Allison, Eugene P. Wigner, Edward Teller, Herbert L. Anderson, and many other scientists and staff who worked on the Manhattan Project in Chicago.

Case 1

1

Enrico Fermi, "Alcune teorie fisiche," autograph notebook, 1919

Enrico Fermi Collection

2

Enrico Fermi and Laura Capon Fermi, Rome, photograph, ca. 1928

University of Chicago Photographic Archive

3

I ragazzi di Via Panisperna, Rome, photograph, 1934
Wikipedia Commons

4

Institute for Theoretical Physics, Copenhagen, photograph, 1935
James Franck Papers

Pictured from left front: Pauli, Jordan, Heisenberg, Born, Meitner, Stern, Franck, David, Oliphant, Saha, Weizsacker, Hund, Reiche, Opechowski, Jensen, London, Heitler, Frisch, Dunning, Bohr, Rosenfeld, Amaldi, Kopfermann, Richardson, Fano, Kahn, Waller, Peierls, Crowther, Teller, Weisskopf, Euler, Levi, Bhabha, Delbruck, Jehle, Fiertz, Thomas, Nordsieck, Arley, Kramers, McKay, Bjerge, Casimir, Kalckar, Plesset, Rabinowitch, Buch Andersen, Boggild, Wilck, von Hippel, Paul Ehrenfest, Koch, Ebbe Rasmussen, Placzek, Moller, Mannebak, Jacobsen, Brostrom, R. E. H. Rasmussen, Ambrosen, Hoffer Jensen, Strauss

5

Nobel Prize award ceremony program, December 12, 1938
Enrico Fermi Collection

6

Enrico Fermi, personal diary and Norwegian banker's business card, December 1938
Enrico Fermi Collection

7

United States naturalization certificate, Enrico Fermi, July 11, 1944
Enrico Fermi Collection

Case 2

1

Enrico Fermi to Harry M. Durning, letter, January 16, 1939
Enrico Fermi Collection

2

Department of Terrestrial Magnetism, Carnegie Institution, Washington, DC, photograph, January 28, 1939
Carnegie Institution of Washington

Pictured from left: Robert Meyer, Merle Tuve, Enrico Fermi, Richard Roberts, Leon Rosenfeld, Erik Bohr, Niels Bohr, Gregory Breit, John Fleming

3

Niels Bohr, signed portrait photograph, undated
Niels Bohr Collection

4

Herbert L. Anderson, photograph, ca. 1939
International Atomic Energy Agency

5

Herbert Anderson, notebook, 1938-1939
Herbert L. Anderson Papers

6

Herbert Anderson, notarized document, March 9, 1939
Herbert L. Anderson Papers

7

Enrico Fermi, personal diary, 1940
Enrico Fermi Collection

8

George B. Pegram to Admiral S. C. Hooper, letter, March 16, 1939
Enrico Fermi Papers

Case 3

1

Leo Szilard, photograph, undated
University of California, San Diego

2

Vannevar Bush to Enrico Fermi, letter, August 19, 1941
Enrico Fermi Collection

3

Enrico Fermi, Notebook D15, November 1941
Enrico Fermi Collection

4

Exponential test pile, Columbia University, photograph, undated
Herbert L. Anderson Papers

5

Herbert Anderson, notebook, 1942
Herbert L. Anderson Papers

6

Enrico Fermi, "Neutron Reproduction in a Lattice of Uranium and Graphite," paper, March 17, 1942
Enrico Fermi Collection

7

H. L. Anderson, B. Feld, E. Fermi, G. Weil, and W. Zinn, "Neutron Reproduction in a Lattice of Uranium Oxide and Graphite: Exponential Experiment," paper, March 26, 1942
Enrico Fermi Collection

8

Enrico Fermi, personal diary, March 1942
Enrico Fermi Collection

Case 4

1

Manhattan Engineer District, Procedures for Manhattan Project staff traveling to Los Alamos, New Mexico, document, undated
Lawrence A. Lanzl Papers

2

Ernest O. Lawrence, Enrico Fermi, and Isidor I. Rabi, Los Alamos, New Mexico, photograph, undated
University of Chicago Photographic Archive

3

Samuel K. Allison, notebook, Trinity test site, New Mexico, July 1945
Samuel K. Allison Papers

4

Camera bunker at 10,000 West, Trinity Site, New Mexico, photograph, undated
Library of Congress Prints and Photographs Division

5

Round camera bunker window pane, undated
Henry J. Frisch Collection

6

Ten seconds after explosion, Trinity test site, New Mexico, photograph, July 16, 1945
Los Alamos National Laboratory

7

"Atomsite 7-16-45," fused sand fragments from Trinity test site, New Mexico, paperweight, 1945
Archives Artifact Collection

Case 5

1

US Army Air Forces, "pumpkin" test bomb casing fragment, 1945
Henry J. Frisch Collection

2

Santa Fe New Mexican, front page, August 6, 1945
Lawrence A. Lanzl Papers

3

New York Times, front page, August 8, 1945
Lawrence A. Lanzl Papers

4

U.S. Army Corps of Engineers, Manhattan Engineer District. *Photographs of the Atomic Bombings of Hiroshima and Nagasaki*. US Army Corps of Engineers, Manhattan Engineer District, 1945
Archival Monographs Collection

5

Rev. John A. Siemes, "Atomic Bomb on Hiroshima," document, 1945
Paul Henshaw Papers

6

President Harry S. Truman to James Lea Cate, letter, January 12, 1953
James Lea Cate Papers

Case 6

1

Eugene Rabinowitch, photograph, undated
University of Chicago Photographic Archive

2

Eugene Rabinowitch, Metallurgical Laboratory staff meeting, manuscript notes, August 7, 1945
Eugene Rabinowitch Papers

3

The ABCs of Radiation
Our Atomic World
Atomic Scientists of Chicago

The Atomic Bomb (Chicago, 1946)
Federation of American Scientists Records

4

Leo Szilard, photograph, undated
University of Chicago Photographic Archive

5

Leo Szilard. "An Attempt to Define the Platform for Our Conversations with Members of the Senate and House of Representatives," document, September 7, 1945
Bulletin of the Atomic Scientists Records

6

John A. Simpson to Atomic Scientists of Chicago, telegram, December 5, 1945
Atomic Scientists of Chicago Records

7

Harold Urey, photograph, undated
University of Chicago Photographic Archive

8

Bulletin of the Atomic Scientists, Vol I, No 1, issue, December 10, 1945
Bulletin of the Atomic Scientists Records

9

Item 3.8 – *Bulletin of the Atomic Scientists*, Volume 3, Number 6, June 1947
Bulletin of the Atomic Scientists Records

10

Federation of American Scientists, "Petition for Civilian Control of Atomic Energy," February 20, 1946
Federation of American Scientists Records

11

U.S. Congress. Senate S. 1717, 1946
Atomic Scientists of Chicago Records

12

"To the House of Representatives: Pass the Atomic Energy Bill (S. 1717)," *Washington Post*, June 20, 1946

Federation of American Scientists Records

Case 7

1

John L. Balderston, Jr., Dieter M. Gruen, W. J. McLean, and David B. Wehmeyer, letter, November-December 1945
John L. Balderston, Jr. Collection

2

John L. Balderston, Jr., Dieter M. Gruen, W. J. McLean, and David B. Wehmeyer. "Report on World Government: A Collection of Opinion," ca. 1946
John L. Balderston, Jr. Collection

3

Niels Bohr to John L. Balderston, Jr., et al., letter, October 27, 1945
John L. Balderston, Jr. Collection

4

Bing Crosby, photograph, undated

5

Bing Crosby to John L. Balderston, Jr., et al., letter, December 27, 1945
John L. Balderston, Jr. Collection

6

Helen Gahagan Douglas, photograph, undated

7

Helen Gahagan Douglas to John L. Balderston, Jr., et al., letter, December 18, 1945
John L. Balderston, Jr. Collection

8

Albert Einstein to John L. Balderston, Jr., et al., letter, December 3, 1945
John L. Balderston, Jr. Collection

9

Dorothy Canfield Fisher, photograph, undated

10

Dorothy Canfield Fisher to John L. Balderston, Jr., et al., letter, December 6, 1945
John L. Balderston, Jr. Collection

11

Thomas Mann to John L. Balderston, Jr., et al., letter, December 11, 1945
John L. Balderston, Jr. Collection

12

Herbert Hoover to John L. Balderston, Jr., et al., letter, December 9, 1945
John L. Balderston, Jr. Collection

13

Enrico Fermi to John L. Balderston, Jr., et al., letter, December 8, 1945
John L. Balderston, Jr. Collection

Case 8

1

University of Chicago Research Institutes staff, Shoreland Hotel, Chicago, photograph, September 2, 1945
Acme News Pictures photograph

2

Research Institutes buildings and Stagg Field West Stand tower, 1953
University of Chicago Photographic Archive

3

Atom 10 pin, 1952
Albert M. Wattenberg Papers

4

Graphite from CP-1, December 2, 1942, paperweight
Robert S. Mulliken Papers

5

Herbert L Anderson to Robert S Mulliken, letter, January 4, 1968
Robert S. Mulliken Papers

6

Graphite from CP-1, December 2, 1942, paperweight
Archival Artifact Collection

7

CP-1 tenth anniversary reunion ceremony, Stagg Field West Stand, 1952
University of Chicago Photographic Archive

8

Arthur H. Compton, Crawford Greenewalt, Lawrence A. Kimpton, and Enrico Fermi, CP-1 tenth anniversary, photograph, December 2, 1952
University of Chicago Photographic Archive

9

Norman Hilberry and Leo Szilard at ceremony preceding demolition of Stagg Field West Stand, photograph, 1957
University of Chicago Photographic Archive

10

Stagg Field West Stand Site, Ellis Ave. 56th to 57th Street, Tennis Courts & Parking Lot, architectural drawing on tracing paper, April 3, 1958
University of Chicago Architectural Drawings Collection

11

Laura Fermi and Betty Compton at the Stagg Field West Stand site of CP-1, photograph, December 2, 1962
University of Chicago News Office Records

12

To Fermi with Love, album cover and interior, audio recording, Argonne National Laboratory, 1971
Archives Recording Collection

13

Herbert L. Anderson at the "Council Tree," Eckhart Hall, photograph, 1976
University of Chicago Photographic Archive

ANDO CASE -- Cluster 1

1

Arthur H. Compton, group photograph, undated
University of Chicago Photographic Archive

2

Enrico Fermi, photograph, undated
University of Chicago Photographic Archive

3

Herbert Anderson. "Origins of the Metallurgical Project," manuscript, September 17, 1942
Herbert L. Anderson Papers

4

Exponential test pile, University of Chicago, photograph, 1942
University of Chicago News Office Records

5

Herbert Anderson, notebook, October 11, 1942
Herbert L. Anderson Papers

6

Stagg Field West Stand, photograph, undated
University of Chicago Photographic Archive

7

Stagg Field West Stand, First Floor Plan, blueprint, May 1, 1942
University of Chicago Architectural Drawings Collection

8

Stagg Field West Stand, squash court, photograph, undated
University of Chicago News Office Records

9

Stagg Field West Stand, brick from demolition, 1962
Henry J. Frisch Collection

Ando Case -- Cluster 2

1

Augustus Knuth, demonstrating cutting wood for pile support frame, photograph, undated
U.S. Department of Energy

2

Albert M. Wattenberg, demonstrating pile construction, photograph, undated
Wikipedia Commons

3

CP-1 construction, layer 4, photograph, 1942
University of Chicago News Office Records

4
CP-1 construction, layer 17, photograph, 1942
University of Chicago News Office Records

5
CP-1 construction, layer 25, photograph, 1942
University of Chicago News Office Records

6
CP-1, Stagg Field West Stand, perspective drawing by Melvin Miller, 1946
University of Chicago Photographic Archive

Ando Case -- Cluster 3

1
CP-1 scale model, photograph, undated
University of Chicago News Office Records

2
CP-1 scale model, photograph, undated
University of Chicago News Office Records

3
Siemens & Halske AG, Galvanometer für Gleichstrom, undated
James Franck Papers

4
CP-1 galvanometer graph, December 2, 1942
Herbert L. Anderson Papers

5
CP-1 Reactor, scale model, wood, undated
University of Chicago Department of Physics Records

6
Chianti bottle with CP-1 scientists' signatures in hands of Albert M. Wattenberg, photograph, 1952
University of Chicago News Office Records

7
Manhattan Engineer District, Metallurgical Project, "Report for Month Ending December 15, 1942"
Herbert L. Anderson Papers

8
CP-1 scientists, Eckhart Hall, University of Chicago, photograph, December 2, 1946
University of Chicago Photographic Archive

Pictured from back row, left to right: Norman Hilberry, Samuel K. Allison, Thomas Brill, Robert G. Nobles, Warren Nyer, and Marvin Wilkening. Middle row: Harold Agnew, William Sturm, Harold Lichtenberger, Leona Woods Marshall, and Leo Szilard. Front row: Enrico Fermi, Walter H. Zinn, Albert M. Wattenberg, Herbert L. Anderson

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Scientists present at the operation of CP-1, December 2, 1942
Argonne National Laboratory

Ando Case -- Cluster 4

1

Herbert L. Anderson, CP-1 notebook, 1942-1943
Herbert L. Anderson Papers

2

Herbert L. Anderson, CP-1 and CP-2 operations notebook, 1943
Herbert L. Anderson Papers

3

Enrico Fermi, Metallurgical Laboratory driver's permit, 1946
Enrico Fermi Collection

4

Enrico Fermi, "The Development of the First Chain Reacting Pile," Proceedings of the American Philosophical Society, Vol. 90, No. 1, January 1946
Enrico Fermi Collection

5

Herbert L. Anderson, Enrico Fermi, and Leona Marshall, "Production of Low Energy Neutrons by Filtering through Graphite," The Physical Review, Vol. 70, December 1946
Enrico Fermi Collection

6

Stagg Field West Stand, Second Floor – North Half, Alterations for Metallurgy, architectural drawing on linen, June 6, 1943
University of Chicago Architectural Drawings Collection

7

Samuel K. Allison, Director, Metallurgical Laboratory, data collection instructions, undated
Ralph Livingston Papers

8

Ralph Livingston, Metallurgical Laboratory notebook, 1944-1945
Ralph Livingston Papers

Ando Case -- Cluster 5

1

Arthur H. Compton, New Year's card to Metallurgical Laboratory staff, message, January 1, 1944
Robert L. Platzman Papers

2

Arthur H. Compton, New Year's card to Metallurgical Laboratory staff, cover, January 1, 1945
Robert L. Platzman Papers

3

Metallurgical Laboratory, unrestricted pass issued to James Franck, November 19, 1942

James Franck Papers

4

Metallurgical Laboratory, security memorandum to staff, June 22, 1944
Lawrence Lanzl Papers

5

Metallurgical Laboratory, equipment identification plate, undated
Ralph Livingston Papers

6

Francis W. Test, application for US Naval Reserve warrant/commission, August 30, 1943
Francis W. Test Papers

7

Metallurgical Laboratory, Site B, photograph, undated
U.S. Department of Energy

8

Metallurgical Laboratory, New Chemistry Building standing behind construction, photograph, 1948
University of Chicago Photographic Archive

9

Stagg Field West Stand, modified for Metallurgical Laboratory use, photograph, undated
University of Chicago Photographic Archive

10

Metallurgical Laboratory, individual staff personnel records, 1943-1945
Samuel Schwartz Papers

11

Metallurgical Laboratory, lists of personnel by unit, August 15, 1944 and February 10, 1945
Samuel Schwartz Papers

12

Metallurgical Laboratory, Academic Personnel Directory, document, undated
Samuel Schwartz Papers

13

U.S. Army Air Forces and University of Chicago Department of Physics, Institute of Meteorology, meteorology instrument launch, Stagg Field, 1942
James W. Cronin Papers

Ando Case -- Cluster 6

1

Albert M. Wattenberg. Certificate of Service, Manhattan Project, August 6, 1945
Albert M. Wattenberg Papers

2

Robert M. Hutchins receiving Manhattan Project award, photograph, October 10, 1945
Chicago Sun Photo, University of Chicago Photographic Archive

3

Enrico Fermi. Certificate for award of Medal of Merit, January 12, 1946
Enrico Fermi Collection

4

Enrico Fermi receiving Medal of Merit, photograph, March 20, 1946
University of Chicago Photographic Archive

5

Manhattan Engineer District, Manhattan Project A-Bomb bronze pin, 1945
Donald A. MacRae Papers

6

Manhattan Engineer District, Manhattan Project A-Bomb silver pin, 1945
Francis W. Test Papers