Argonne's rich scientific heritage

Argonne National Laboratory is a direct descendant of the University of Chicago's Metallurgical Laboratory, part of the World War Two Manhattan Project.

At the Met Lab on Dec. 2, 1942, Enrico Fermi and his band of about 50 colleagues created the world's first controlled nuclear chain reaction in an abandoned squash court under the stands of the University of Chicago's Stagg Field. By the end of February 1943, Fermi's reactor had been moved to the Argonne Forest section of the Cook County Forest Preserve.

In 1946, the laboratory was officially renamed "Argonne National Laboratory" – the nation's first national laboratory – and given the mission of developing nuclear reactors for peaceful purposes. Notable accomplishments for this mission include:

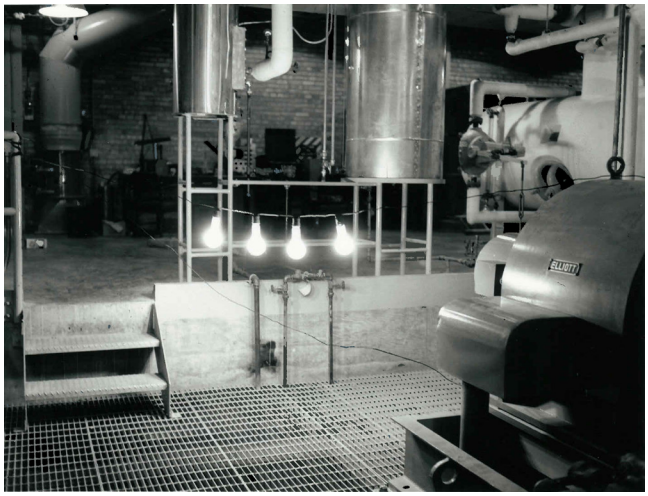
- The first useable electricity produced by nuclear energy
- The first nuclear reactor to light a town with electricity
- The first demonstration of passive safety in a nuclear reactor

Argonne designed, built and tested prototypes for the Naval Submarine Reactor and the commercial reactors that produce 20 percent of the U.S. electricity.

In the late 1940s, Argonne moved to its current location in DuPage County. Over the years, Argonne's research expanded to include many other areas of science, engineering and technology. Argonne is not and never has been a weapons laboratory.

Three Argonne physicists have been honored with Nobel Prizes:

- **Enrico Fermi**, Argonne's founding director, won the 1938 Nobel Prize in physics for his demonstrations of the existence of new radioactive elements produced by neutron irradiation and for his related discovery of nuclear reactions brought about by slow neutrons.



Argonne's Experimental Breeder Reactor-I in Idaho lit this string of four bulbs with the world's first usable amount of electricity from nuclear power. The date was December 20, 1951.

- **Maria Goeppert Mayer** shared the 1963 Nobel Prize in physics. While working at Argonne in 1948, she developed the "nuclear shell model" to explain how neutrons and protons within atomic nuclei are structured.
- **Alexei A. Abrikosov** won the 2003 Nobel Prize in physics for research on condensed-matter physics and superconductivity.