

**KATHERINE
GRAY AUSTIN
LATHROP
1915-2005**



**MANHATTAN
PROJECT
BIOCHEMIST
RESEARCHER**

When Katherine Lathrop learned the first atomic bomb was dropped on Japan, she was horrified. Working on the Manhattan Project, she studied the effects of radiation on living tissue and knew as well as anyone what the bomb would do to the Hiroshima people. Although she believed that shortening the war was worth the bomb's human cost, she was grateful for being able to make a contribution to human health through her subsequent research in nuclear medicine. To find peaceful uses for nuclear energy was very, very important to her.

Katherine Gray Austin was born in June 1915 in Lawton. In high school biology class, she wanted nothing to do with the cats being dissected. While taking a textile chemistry course as a home economics major at Oklahoma A&M College, she so impressed the professor that she taught the course the next year. She went on to get a bachelor's degree in biology in 1936, and a bachelor's in physics and master's in chemistry in 1939.

She met Clarence Lathrop, while both were studying for master's degrees in chemistry. They married in 1938. Upon graduation, the couple moved to New Mexico and then to Wyoming in 1941, where Lathrop started her career as a research assistant, studying poisonous plants of the Great Plains at the University of Wyoming. In 1944, the Lathrops moved to Chicago so Clarence could attend medical school at Northwestern University.

The higher cost of living forced Lathrop to work to help support the family. A security leak and an unanswered phone helped shape her career. In 1945, one of her husband's friends recommended that she apply for a job with a secret project then hiring scientifically-trained individuals. Initially, the interviewer had called the chemistry division but got no answer. He then reached "someone in biology", and Lathrop went for her interview. They hired her the same day. The interviewer told her not to tell anyone what she was working on, not even her family. She never did until after the bomb was dropped.

From 1945 to 1946, Lathrop was an associate biochemist at the Metallurgical Laboratory at the University of Chicago. Faced with earning enough money to care for her two children and get her husband through medical school, she quickly decided she could learn to work with animals. She explored the biological effects of radioactive materials in animals as part of the Manhattan Project, a wartime effort to design the atomic bomb.

In 1947, after the Manhattan Project had been dismantled, Lathrop remained on staff after it was renamed Argonne National Laboratory. She commuted daily from the Chicago area to Lemont, Illinois. In 1954, tired of an exhausting commute while raising a family, Lathrop left Argonne to pursue a career at the Argonne Cancer Research Hospital (ACRH) at the University of Chicago led by Dr. Paul Harper, making it closer to her home.

Part of the Atoms for Peace program of the U. S. Atomic Energy Commission, ACRH opened in 1953 to explore new uses of radioactive materials and radiation beams in the diagnosis and treatment of cancers. With her background in physics, chemistry and biology, as well as her diligence and organization, Lathrop helped ground and guide the more volatile Harper. Their forty-year partnership spurred the development of nuclear medicine.

They developed new technology for scanning the human brain using technetium, a radioactive element discovered in the 1930s. They experimented with an isotope by injecting it into a patient's bloodstream and then tracing its path through the brain, heart, kidney, liver and other organs. A scan yielded images to help diagnose and record the size and growth of cancers and other tumors. The radioactive substance is still used 35,000 times a day in the United States and 20 million times a year worldwide in nuclear medicine scans to identify tumors.

Lathrop taught radiology at University of Chicago for four decades, without earning a doctorate. She was sometimes asked how it felt about working with radioactivity while pregnant. She had two children before she began radiation research and three children born during the research, all of which turned out healthy and intelligent. At the FDA's request, she was the first person to teach radiation safety to workers who might work around radioactive material. Lathrop continued her research well into her eighties, publishing her last paper in 1999. She died in March 2005 at age 89 at Las Cruces, New Mexico. She was buried near her parents in Lawton.