

Sir Mark Oliphant (1901 – 2000)

Marcus Laurence Elwin Oliphant

Born at Kent Town, Adelaide, Mark Oliphant studied physics at the University of Adelaide in 1919. To finance his university studies, Oliphant initially worked in the South Australian Public Library, but later took up a cadetship in the Physics Department. Oliphant graduated with a BSc, First Class Honours in Physics, in 1922. He continued to work in the Physics Department, managing to do further research in between his duties as a laboratory assistant.



In 1927 Oliphant won an Exhibitioner scholarship which allowed him to study nuclear physics with Sir Ernest Rutherford at the Cavendish Laboratory at the University of Cambridge. It was at Cavendish that the atom was first split in 1932. Oliphant's contribution to this work was his discovery of Helium 3 and Tritium. He also discovered that heavy hydrogen nuclei could be made to react with each other – the fusion reaction which is the basis for a hydrogen bomb.

During the 1930s at the University of Birmingham, Oliphant and his team developed short-length radar and the resonant-cavity magnetron, the basis for portable radar in aircraft, one of the key scientific advances in World War II, which was used for the detection of German submarines.

During World War II Mark Oliphant strongly promoted the use of the atomic bomb to the United States government. He was instrumental in the establishment of the Manhattan Project, and worked with that project from 1943, returning to England in 1945 before the atomic bomb was used at Hiroshima. He later remarked that he felt "sort of proud that [the bomb] had worked, and absolutely appalled at what it had done to human beings." Later he became a harsh critic of nuclear weapons and a member of the Pugwash Conferences on Science and World Affairs.

In 1950 Mark Oliphant returned to Australia as first Director of the Research School of Physical Sciences at the new Australian National University, where he initiated the design and construction of the world's largest (500MJ) homopolar generator - used to power the large scale railgun which was used as a scientific instrument.

The establishment of Australian Academy of Science was one of Oliphant's proudest achievements. Returning to Australia in 1950, he realised 'that Australia had no voice, no international voice' in the scientific arena. He brought the most distinguished scientists from around Australia together to form the Academy, and in 1954 their Charter was presented to the Queen on her first visit to Australia, and the Academy was officially established. Oliphant was its first President.

After retiring from the ANU in 1967, Oliphant became the Governor of South Australia in 1971, in which role he liked to promote science in South Australian schools and universities. His five-year term ended in November 1976 with a garden party for 2,000 guests.

Oliphant was knighted in 1959 and awarded the Companion of the Order of Australia in 1977. Late in life, following the death of his wife in 1987, Oliphant became an advocate for voluntary euthanasia.



The Oliphant Wing of the Physics Building at the University of Adelaide, home of the High Energy Astrophysics Group