

News Release



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Work of Nobel-prize winning scientist Dorothy Hodgkin to be Celebrated with a Landmark Event at Oxford University

The work of the Nobel-prize winning crystallographer, Dorothy Hodgkin (1910-1994), which led to the synthesis of penicillin, vitamin B12 and insulin will be honoured by the Royal Society of Chemistry (RSC) at the University of Oxford on Monday 14 May 2001 through the designation of a National Historical Chemical Landmark.

Dorothy Crowfoot Hodgkin was born in Egypt in 1910 and was educated at Oxford. She received her first degree in 1932 during which she began her research in X-ray crystallography - the use of X-ray diffraction to determine the structure of a molecule.

During a long and distinguished career at Oxford University, Dorothy Hodgkin elucidated the structures of the antibiotic penicillin, and vitamin B12, a treatment for pernicious anaemia, thereby augmenting the synthesis and production of these compounds. Finally, she and her colleagues discovered the structure of insulin, a project she began in 1934.

As a University tutor her students included the then future Prime Minister Margaret Thatcher and as a researcher, she became the sole winner of the Nobel Prize for Chemistry in 1964 "For her determinations by X-ray techniques of the structures of important biological substances." She is the only British woman scientist ever to receive this honour.

More

This landmark is part of an RSC initiative to commemorate, highlight and awaken public interest in historic developments in the chemical sciences.

The Royal Society of Chemistry's Immediate Past-President, Professor Tony Ledwith will present a plaque to be displayed on the exterior of Oxford University's Inorganic Chemistry laboratory. In a lecture to an invited audience, Sir Tom Blundell FRS will explain the influence her work has had and continues to have on scientific development.

In an obituary of Dorothy Hodgkin published in The Independent on 1 August 1994, Max Perutz, joint winner with John Kendrew of the 1962 Nobel Prize for Chemistry for studies on the structures of haemoglobin and myoglobin, said: "She will be remembered as a great chemist, a saintly, gentle and tolerant lover of people and a devoted protagonist of peace".

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Notes for Editors

For more information, contact:

Claire McLoughlin

Royal Society of Chemistry
London

Tel: 020 7440 3315

Fax: 020 7437 8883

e-mail: McLoughlinC@rsc.org

<http://www.rsc.org>

1) Photographs will be available from the Royal Society of Chemistry after the event.

2) The landmark plaque will be presented at 6.00 p.m. on Monday 14 May at the Oxford University Museum of Natural History. A drinks reception will take place after the ceremony. **Members of the press are welcome to attend provided they notify Claire McLoughlin at the Royal Society of Chemistry in advance.**

3) The plaque inscription reads:

“In this building from 1956-1994 and at other times elsewhere in the Oxford Science Area, Professor Dorothy Crowfoot Hodgkin (1910-1994) OM, FRS, Nobel Laureate, led pioneering work on the structures of antibiotics, vitamins and proteins, including penicillin, vitamin B12 and insulin using X-ray diffraction techniques. Many methods for solving crystal structures were developed taking advantage of digital computers from the very earliest days. The work provided a basis for much of molecular structure driven molecular biology and medicinal chemistry.”

4) The National Historic Chemical Landmarks programme highlights sites around the UK where important chemical breakthroughs have been made. For more information, visit www.rsc.org/lap/publicaf/landmarks.htm

5) The Royal Society of Chemistry is the Learned Society for chemistry and the Professional Body for chemists in the UK. With 46,000 members world-wide. It can trace its history back to the Chemical Society founded in 1841. The Society is a major international publisher of chemical information, supports the teaching of chemistry at all levels, organises hundreds of chemical meetings a year and is a leader in communicating science to the public.

6) Dorothy Mary Crowfoot Hodgkin was born in Cairo in 1910 and educated at the Sir John Leman School, Beccles and Somerville College, Oxford where she read chemistry between 1928 and 1932.

In 1932, she went to study with J.D Bernal in Cambridge, researching the structure of the enzyme pepsin and other biological molecules. In 1934, she returned to Oxford as a tutor and fellow at Somerville College where she remained for the duration of her career. In 1946 Dorothy Hodgkin was appointed a University demonstrator (junior lecturer) at Oxford. In 1947 she was elected a fellow of the Royal Society. Most of her working life, she spent as Official Fellow and Tutor in Natural Science at Somerville, chiefly responsible for the teaching of chemistry in the women's colleges. She was appointed to the Royal Society Wolfson Research Professorship in 1960.

Dorothy Hodgkin's three greatest chemical achievements were the determination of the structures of penicillin (1945), vitamin B12 (1957) and insulin, the hormone responsible for carbohydrate metabolism and employed therapeutically in the

management of diabetes (1969). The research on penicillin was a joint Anglo-American project to enable the synthesis of the antibiotic as a result of increased demand during World War II.

In 1937, the same year she received her Ph.D., Dorothy Crowfoot married Thomas L. Hodgkin, who became an authority on African history. Both Thomas and Dorothy held academic positions at Oxford where they also raised their three children Luke, Elizabeth and Toby.

Dorothy Hodgkin died at her home in Ilmington, England on 29 July 1994. On her death, Professor Louise Johnson of Oxford University stated "In her life she was a constant source of inspiration and help to those around her. In particular, through her work at Somerville she has left a legacy of distinguished women scientists around the world that includes Pauline Harrison, Jenny Glusker, Marjorie Harding, Margaret Adams, Eleanor Dodson, Judith Howard and Carol Huber, among others."

7) More information about the life of Dorothy Hodgkin can be found in the biography by Georgina Ferry, *'Dorothy Hodgkin: A Life'* (ISBN 0-86207-285-X).

8) Professor Graham Richards, Chairman of Chemistry at Oxford, said: "As the University of Oxford looks to the 21st century and beyond with the construction of a new £60m Chemistry Building, it is good to have this opportunity to look back on one of our many proud achievements which have benefited scientific knowledge and society at large."

9) The Oxford Chemistry Department is the largest in the western world. Each year it produces around 180 graduates who have completed a four-year chemistry course which includes a full year of research, 80 doctorates and it has 60 tenured faculty. It was one of only two UK Chemistry Departments to receive a 5* rating in the last Research Assessment Exercise for which the work of 72 academics was submitted. The Department has produced four Nobel Laureates and has 10 Fellows of the Royal Society amongst its current staff. It has been particularly successful in creating spin-out companies, two of which have become public companies.