

Dr Madge Adam FRAS (Physics, 1931)

1912-2001

Solar astronomer Madge Adam was internationally known for her ground-breaking research on the nature of sunspots and their magnetic fields. She was the only woman undergraduate in her year at Oxford reading Physics, and the first woman to achieve First Class Honours in the subject in 1934. She went on to become the first postgraduate student in solar physics at the University of Oxford Observatory. She was also the first woman to be elected a member of Council of the Royal Astronomical Society in 1944.

Madge was born in 1912 and came up to St Hugh's to read Physics in 1931. She enjoyed lifelong involvement with the College, becoming a Tutor in Physics in 1938, an Official Fellow in 1941, a Senior Research Fellow in 1957 and Emeritus Fellow on her retirement in 1979.

On graduating in 1935, she was awarded a research studentship by Lady Margaret Hall and embarked upon studies at the University of Oxford Observatory on the edge of the University Parks, just as its first solar telescope was installed. In 1937 she was appointed Research Assistant to the Observatory's Director, Professor H H Plaskett, who was studying the various motions of the material in the surface layers of the sun by means of the Doppler shifts those motions caused in the solar spectral lines. She completed her DPhil on 'Behaviour of faint lines on the solar spectrum' in 1940.

During the Second World War, Madge was called upon to deputise for the Director when he was drafted to a research post with the ministry of aircraft production. She also gave courses on astronavigation to Royal Navy and Royal Air Force cadets and assisted an Admiralty research team undertaking early experiments on radar in the Clarendon Laboratory. After the war, a new, larger, solar observing installation was constructed at the Observatory consisting of a telescope, which produced a large image of the sun, in the basement, and a high-dispersion spectrograph which could examine any part of the solar image. Madge used this equipment in her studies right through to the late 60s.

In 1944, Madge was the first woman to be elected a member of the Council of the Royal Astronomical Society, of which she later became the Vice-President.

She was appointed a University Demonstrator in 1947 and, by 1949, was responsible for Physics teaching as Director of Studies in all five women's colleges. She stepped back from her College teaching responsibilities in 1957 to focus on her work at the Observatory, although she remained a member of the Governing Body of St Hugh's. She took a sabbatical in the mid-1960s to work at the Mount Stromlo Observatory in Canberra, Australia, where she broadened her research interests to include the magnetic stars.

In her retirement she wrote the history of Astronomy in Oxford during the period 1920-1960, which was published in 1996.

She died in 2001. A memorial service was held in the College Chapel in February 2002.

Her obituary in the *Times* noted: 'A meticulously careful observer and interpreter of results, she will be remembered for contributions to two fields of solar spectroscopy: interferometric determination of wavelengths as a function of position on the solar disc, and the investigation of magnetic fields in sunspots.'

Sources

Soutter, Ann, and Mary Clapinson, eds, *St Hugh's College Register 1886-1959* (Oxford: St Hugh's College, 2011)

Obituary in *The Guardian* 10 September 2001

Obituary in *The Times* 20 September 2001

Papers relating to Madge Adam in the St Hugh's College Archive