

Obituary

**Michael Gadsden, 1933–2003**

Michael Gadsden was born in Harrow, Middlesex, on 1933 December 10, the youngest of three sons of Blanche and William Gadsden, a fire insurance surveyor. He attended Brighton, Hove and Sussex Grammar School and entered The Royal College of Science at Imperial College, London in 1951, the same year he became a member of the BAA. He graduated ARCS and BSc with honours in Physics in 1954 then took the DIC in technical optics and PhD in 1957 with a thesis entitled 'The application of colorimetry to some astronomical and meteorological phenomena', supervised by Professor W. D. Wright. He married Mavis Upton in 1955.

He then became a Scientific Officer in the New Zealand Public Service, at the auroral station of the Dominion Physical Laboratory in Invercargill, during the International Geophysical Year, studying radar phenomena of the aurora australis and spectrophotometry of the twilight and night sky, especially sodium and lithium emissions. This involved two visits to the Scott Base in Antarctica. He was promoted to Senior Scientific Officer in 1960. Michael was a member of a subcommittee set up by the International Association of Geomagnetism and Aeronomy (IAGA) under the chairmanship of James Paton, then Director of the BAA Aurora Section, to re-classify auroral forms after the experience of the IGY and to produce a new Atlas<sup>1</sup> which is still the basis of the Aurora Section's recording method. Mavis and Michael had three children in New Zealand, Andrew, Anne and Jonathan.

In 1963 Michael was invited to work at the Central Radio Propagation Laboratory (CRPL) at Boulder, Colorado, now NOAA, where he stayed for seven years, as Director of the small Fritz Peak Observatory, then of the Aeronomy Laboratory. His work was mainly on airglow and the detection of metals in the upper atmosphere, involving further visits to the South Pole and other Antarctic stations, participation in the 1968 NASA Airborne Auroral Expedition, and visits to the Cook Islands in 1965 and Mexico in 1969 to observe total solar eclipses. In November 1966, while at Boulder, he had the good fortune to witness the immense storm of the Leonid meteors. He and some colleagues attempted to count and estimate rates by watching them through a window, but they quickly gave up.

In 1970 Michael accepted a post as Senior Lecturer in the Department of Natural Philosophy (Physics) at Aberdeen University. He was involved in all levels of undergraduate teaching but concentrated his own

research on noctilucent clouds, adapting the ancient abandoned observatory on top of the Cromwell Tower at King's College with photometers, spectrographs, polarimeters and an all-sky camera for airglow and NLC. This was where Sir David Gill had begun his observing career in his student days. Michael soon became recognised as a world authority on mesospheric clouds, contributed many papers to several journals and took part in conferences worldwide which earned him lasting friendships and valued colleagues. With Wilfried Schröder he wrote the definitive handbook on NLC.<sup>2</sup> Like James Paton he greatly encouraged amateur involvement in upper atmosphere research, and in the 1980s initiated a simultaneous photography programme with BAA Aurora Section members across Central Scotland to ascertain the heights of the NLC layer. He found that, although the incidence of NLC has definitely increased and it is being seen much further south (demonstrated especially by the remarkable work of Jay Brausch in North Dakota), the cloud height remains fairly constant at about 83km.

A superb teacher, Michael was also a brilliant lecturer, much in demand by astronomical societies. When he retired to Perth he became a very welcome participant in the activities of the Scottish Astronomers' Group and Dundee Astronomical Society, and continued his own research at home, partly in an old stone-built cottage in the garden which was incongruously filled with computers and remote sensing devices. He gave a great deal of advice and encouragement to the Aurora Section, and was instrumental in having the Section's and James Paton's IGY observations preserved in a special Balfour Stewart archive at Aberdeen University, where they are available to researchers. In August 2002 Michael organised an international conference on Mesospheric Clouds in Perth, at which amateurs were invited to contribute, the proceedings later issued on CD-ROM as BAA *Memoir* Vol. 45. It was a great success, especially as it was the opportunity for everyone to meet the Danish observers whose

meticulous aurora and NLC observations are so valuable.

Dr Gadsden became a Fellow of the Royal Astronomical Society in 1958, a member of its Council 1979–80 and 1991–93, Vice-President in 1981 and Harold Jeffreys Lecturer in 1985. He was a member from 1966 of the American Association for the Advancement of Science, and from 1951 a member of the Royal Astronomical Society of Canada. He became a member of the American Geophysical Union in 1964, awarded its Silver Pin in 1989 and made a Life Member from 1990, a Fellow of the Royal Meteorological Society in 1975, serving as Vice-President for Scotland 2000–2002. Much of his extraordinary energy went into running the International Association of Geomagnetism and Aeronomy (IAGA) of which he was Chairman of



Dr Michael Gadsden (centre) with Danish observers Holger Andersen (left) and Ole Skov Hansen, at the Mesospheric Cloud conference in Perth in 2002. (Photo: D. Gavine)

Commission VII-Airglow in 1966 and 1971–73, member of the Executive Committee 1975–79, Vice-President 1979–83, Secretary-General 1983–95, which involved organising meetings and conferences, and honorary Life Member 1997. He was also awarded the E. R. Cooper Memorial Medal and Prize of the Royal Society of New Zealand (1962), and the US Antarctic Service Medal (1974).

Michael was a big, jolly man, somewhat reminiscent of the late actor Robert Morley, full of boundless energy, with a wicked and sometimes earthy sense of fun which disguised a formidable intellect. He and Mavis ran a happy household which was a delight to visit and to see the latest scientific wonders. Alas, Michael knew for some time that he had terminal cancer; he began to suffer pain early in 2003, and his condition rapidly deteriorated. He died peacefully on 2003 April 10 and his simple burial service at St Ninian's Scottish Episcopal Cathedral in Perth was attended by amateur and professional astronomers alike. We all miss him greatly but none more so than his devoted family, especially his nine grandchildren. Few men have had such a rich, full and happy life.

I am indebted to Mavis Gadsden for much of the above information.

**David Gavine**

- 1 *The International Auroral Atlas*, International Union for Geodesics and Geophysics, Edinburgh University Press (1963)
- 2 Gadsden M. & Schröder W., *Noctilucent Clouds*, Physics and Chemistry in Space Planetology, Springer-Verlag, Berlin (1989)