

Bruce Swinyard 1962–2015



An important contributor to scientific instruments for space astronomy missions, in particular to ESA's ISO and Herschel infrared observatories.

Bruce was born in Kenya on 7 November 1962, where his parents were working at the time, and was the youngest of their three children. The family returned to England when he was two years old and settled in Seaford, Sussex. He attended Seaford Head Secondary School where he developed a taste for motorbikes and played bass in a rock band. He chose to pursue a physics degree at Southampton University, where he met his future wife Margaret, a fellow physics undergraduate. After graduating in 1984, he did a one-year MSc in astronomy at the University of Sussex, following which he worked for two years in industry with a surface science equipment company. In 1987, he was appointed as a scientist in the Space Science and Technology Department of the Rutherford Appleton Laboratory (RAL), eventually becoming head of the Astrophysics Group. In 2010, he was appointed as a professor in the Astrophysics Group at University College London, a joint appointment with RAL.

From 1987, he worked at RAL on several space projects including the ROSAT satellite and in 1993 completed a PhD at Southampton University as part of the study team for the INTEGRAL Gamma-Ray mission Phase A study. In 1990, Bruce became calibration scientist for the Long Wavelength Spectrometer for ESA's Infrared Space Observatory, which flew between 1995 and 1998, making many discoveries including the first far-infrared detections of water vapour emission lines from a range of astronomical sources.

Herschel

In 1996, Bruce was a founder member of the team that went on to build the SPIRE imager and spectrometer for ESA's Herschel Space Observatory. As SPIRE instrument scientist and subsequently co-investigator, he had a major role in its design and technical development and in testing and operation. Herschel was launched in 2009 and completed its ground-breaking mission in April 2013. Bruce was deeply involved in the scientific use of the SPIRE instrument, leading the consortium's solar system observational programme, and devised innovative

observing techniques that stretched its capabilities. In particular he recognized before launch the feasibility of operating Herschel's two multi-wavelength imaging instruments (SPIRE and PACS) in parallel, greatly improving the mission's data collection efficiency. He originally conceived this mode for the Herschel HiGAL survey of the Milky Way plane, and it also enabled several other high-impact Herschel scientific programmes, including deep extragalactic surveys, observations of nearby star-forming clouds, and a survey of both Magellanic Cloud galaxies.

JWST

From 2001 until 2005, Bruce was European project scientist for the James Webb Space Telescope's MIRI instrument. While remaining as a JWST-MIRI Co-I, he stepped down from that role in order to concentrate on his role as European PI for the proposed

Japanese–European SPICA infrared mission, leading the design of the European SAFARI instrument. He also led the conceptual design and modelling of the integrated payloads for the EChO, Ariel and Twinkle

exoplanetary transit spectroscopy missions. From 2012, he led an initiative to involve industry in the design and implementation of innovative receiver technology in space, which led to the funding of the LOCUS supra-THz limb sounding instrument to measure atomic oxygen and other species in the Earth's upper atmosphere.

Bruce was author of more than 150 refereed papers. Throughout his career, he brought a combination of intelligence, creativity and professionalism to his work in space science. He showed unflappable calmness and ingenuity in the face of technical crises and challenges, and a healthy impatience with bureaucracy whenever it got in the way of scientific success.

Bruce was diagnosed with cancer in 2011, but continued working at his usual hectic pace, generating ideas for new instruments and space missions and displaying the dignity and good humour for which he was known. He died in Wokingham on 22 May 2015. He is survived by his wife Margaret and by his two children, Holly and Lottie. ●

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AUTHORS

Mike Barlow and Matt Griffin.

DEATHS OF FELLOWS

Mr SA Adams

Born: 15 January 1957
 Elected: 12 March 2004
 Died: 7 June 2015

John Armitage

Born: 1 January 1945
 Elected: 10 December 1976
 Died: 5 October 2015

Dr David Ashworth

Born: 18 July 1940
 Elected: 12 February 1965
 Died: 22 July 2015

Rev. Cyril Blount

Born: 8 June 1930
 Elected: 13 November 1970
 Died: 26 October 2015

Prof. William Bonnor

Born: 13 September 1920
 Elected: 8 March 1957
 Died: 15 August 2015

Prof. Rod Davies

Born: 8 January 1930
 Elected: 9 March 1956
 Died: 8 November 2015

Ian Elliott

Born: 5 September 1936
 Elected: 12 May 1961
 Died: 10 May 2015

Michael Guest

Born: 24 December 1933
 Elected: 8 March 1957
 Died: 4 October 2015

Nicholas Edward Heath

Born: 10 August 1927
 Elected: 26 May 1993
 Died: 10 October 2015

Prof. Douglas Heddle

Born: 14 February 1928
 Elected: 13 January 1961
 Died: 2015

Prof. Colin Keay

Born: 2 February 1930
 Elected: 9 January 1959
 Died: 25 August 2015

Dr Timothy Metham

Born: 13 January 1948
 Elected: 11 January 1980
 Died: 22 August 2015

Rob Mundin

Born: 14 March 1965
 Elected: 8 February 2002
 Died: 7 August 2015

Peter Miller Roberts

Born: 20 June 1930
 Elected: 27 July 2012
 Died: October 2015

Dr Harry Stopes Roe

Born: 27 March 1924
 Elected: 12 April 1946
 Died: 2014

Prof. Bruce Swinyard

Born: 7 November 1962
 Elected: 8 May 2009
 Died: 22 May 2015