

# Rutherford Appleton Laboratory Bulletin

Editor Tony Rush

23 February 1988

## HAPPY BIRTHDAY in SPACE

10th

8th

5th



On the 26 January The International Ultraviolet Explorer Satellite (IUE) had been in space ten years. At the Anniversary lecture Professor Bob Wilson, who had conceived the idea in the early 1960's, described the many political battles fought before the project was finally agreed as a joint mission involving NASA, ESA and UK in the early 1970's.

Professor Wilson then spoke of the wealth of new discoveries made over the last ten years using the satellite's high resolution imaging spectroscopy facility. Highlights had included the discovery of a torus of ionized gas around Jupiter - fed by material from the volcanoes of Io, the inexplicably high loss of material from the so-called Wolf-Royet stars, the sphere of hot gas surrounding our own galaxy and observation of variability in the double quasar (actually a single object observed through a gravitational lens) which provided new information on the rate of expansion of the Universe.

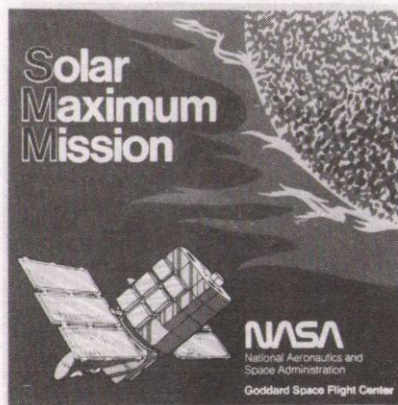
By any criteria IUE has been and continues to be an outstanding success.

Archived data are utilised by astronomers all over the world and proposals for future observations are continually being made.

In conclusion Professor Wilson said he was looking forward to a number of further discoveries in the next decade.

*Eric Dunford*

The NASA Solar Maximum Mission (SMM) spacecraft celebrated 8 years in space on 14 February. It carried a new generation of instruments designed to study the physical processes on the Sun and obtain a greater understanding of previous observations. It was the first spacecraft designed to be launched either by the Space Shuttle or a conventional rocket and pioneered a new module design of reusable satellite. After a very successful start a loss of observations due to partial failure in the attitude control system occurred. The importance of the data to the International Community resulted in NASA mounting a Shuttle based repair mission. So successful was the repair that the spacecraft still remains operational providing Solar Physics data.



RAL in partnership with Mullard Space Sciences Laboratory and Lockheed Palo Alto Research Laboratory provided two X-ray spectrometers for the mission. These instruments were designed for a two year life and are still continuing to operate.

The spacecraft is retrievable by Shuttle and so returnable to Earth. However delay in the resumption of Space Shuttle flights may result in the orbit of the SMM decaying and the spacecraft burning-up in the Earth's atmosphere.

*Ray Turner*



A new and exciting era for Infra-red Astronomy began with the launch of IRAS on 26 January 1983. Despite an operational lifetime of only ten months, owing to the evaporation of the telescope coolant, an enormous amount of data was obtained. The world's astronomers will still be analysing this data into the mid 1990's when the next generation of space infra-red telescopes is launched. Details of IRAS Results on anything from zodiacal dust to protostars to superluminous galaxies and quasars regularly appear in astrophysics journals.

*Jack Abolins*

1st

In its first year in space the Japanese satellite GINGA (previously called ASTRO-C) has provided excellent data for the X-ray Astronomy community. On board is an eight multi-wire array proportional counter built by a consortium of RAL, Leicester University and the Tokyo Institute of Space and Astronautical Sciences.

GINGA has been observing the Supernova 1987A throughout the year and in early May measured X-ray emission.

A further four to five years of observations are predicted for the satellite with more exciting discoveries forecast.

*Bruce Patchett*



---

## Obituary

### Dr Colin Fisher

Colin Fisher, whose death at the age of 51 was reported on Thursday 11 February 1988, spent his whole career at RAL (and its forerunner, NIRS). He arrived at the Laboratory in 1961 as an SO after completing his PhD at Bristol University. He rapidly progressed to SSO in 1963 and PSO in 1968. He was one of the earliest members of the Bubble Chamber Group which in 1961 was in its infancy. He spent virtually all of his career working with bubble chambers - indeed he made several notable contributions to the bubble chamber technique and it was for this work that he was promoted in 1974 to SPSO (IM).

Colin initiated and led a series of projects both at RAL and at CERN. It is not possible to list or do justice here to all of his work which ranged widely on the physics front from resonance studies to the decay of charm particles. It is, however, probably in the development of visual techniques where his work has had the greatest impact and where he had a world wide reputation. His contributions included the proposal in the late 1960s to build a rapid cycling bubble chamber, the successful development and implementation of a track sensitive target in the 1.5m British hydrogen bubble chamber at RAL and the development of rapid cycling high resolution bubble chambers using both conventional and holographic optics.

Most recently he exchanged bubble chamber technique for development of a high resolution scintillating fibre target for use in experiments investigating the decay of very short lived particles (charm and beauty particles). It is tragic that the first fruits of this work, which will be tested at CERN in the next few months, will be denied him. The High Energy Physics world will be the poorer for his loss.

### Christian Fellowship

The Fellowship meets in the R2 Conference Room at 12.30pm every Thursday and visitors are always welcome.

26 February	Music and Praise - Jimmy Darius
2 March	Coffee Lounge, R1
3 March	Prayer Meeting - Mark Hillier
10 March	Visiting Speaker - Rev. Chris Scott

### Trade Exhibition

Chell Instruments will exhibit their Pressure, Vacuum, Flow Measurement and Control Equipment on Wednesday 6 April from 10.00 to 16.00 hours in R12 Conference Room.

## Farewell, John



Hilarity shared by John Coupland (left) and Ron Newport at John's retirement presentation on 19 January. At the ceremony John was given a digital multimeter by the many friends he had made during his 27 years in magnet research and development at RAL, which included an enormous contribution to superconducting magnet techniques.



The next lecture will take place on Thursday 10 March in R22 Lecture Theatre at 3.15pm.

CONSERVATION & CARNIVEROUS MAN

by

Mr R Kyle

DIRECTOR, KUDU-WILDLIFE MANAGEMENT

### Rec Soc - Snooker

After two hard fought frames in a best of three contest Steve Burge beat Peter Villamuera 54-34 and 56-20 to take the RAL Championship.



Steve Burge receives the snooker trophy from Director Paul Williams

### Red Nose Day



## Visit

A delegation of Senior Scientists from the Beijing Institute of Control Engineering (BICE) visited RAL on 21 January under the auspices of the UK/China Memorandum of Understanding on Space Collaboration.



A Richard Holdaway digression amuses the Japanese delegation

The visitors were shown some of the activities of the RAL Space Science Department including the Satellite Operations Control Centre, ATSR, ISAMS, ISO, ROSAT and RAL's programme on attitude and orbit dynamics.

Richard Holdaway

## Astrophysics Seminars

In R61 Conference Room at 2pm.

- 2 March "IRAS and Star Formation" - Dr Stella Law (QMC)
- 8 March "Indications and causes of an increase in tropospheric ozone" - Dr Stuart Penkett (UEA)
- 16 March "Stellon Spectroscopy with the IUE" - Dr David Stickland (RAL)

## Laser Seminar

In Conference Room R12 Building R68 at 2pm

- 16 March "Laser Measurements of Parity Non-Conservation in Atoms" - Prof. P G Sanders (Oxford)

## Film Badge Notice

It is period 03 Colour Strip BLUE

Please ensure you are wearing the correct dosimeter and return all old ones to Jenny Coates, R12.

## Missing

Conference Proceeding: 31st Meeting of the Institute of Aeronautical Sciences. New York 1963.

Information to RAL Library Ext: 5384.

## Sales to Employees

The sale of scrap metal to RAL staff will take place from 12.00 - 13.00 hours in the R24 Scrap Compound on 26 February and 11 March.