#### **Rutherford Appleton Laboratory**

# Bulletin

A Monthly Newsletter for RAL Staff

March 1994

### Science Minister visits RAL

David Davis, Science Minister at the Office of Public Service and Science, visited the Central Microstructure Facility (CMF) on 16 February. He viewed the £19m project 'Innovation in Industrial Lithography' (ISL) as exhibited in Conference Rooms 12 & 13.

ISL is a major collaboration between six partners including academic researchers, the UK's leading semiconductor equipment manufacturers, and silicon chip and gallium arsenide device makers. It is aimed at developing new technologies and devices capable of competing with the best from the USA and Japan in future world markets.

Mr Davis toured new clean rooms at RAL where he saw the latest research advances using electron beam lithography techniques for mask making, advanced resist and process technology, focused ion beams and deep ultraviolet optical lithography. In response, he spoke of the Laboratory being "..... a first class research operation......they are world leaders in many of the things they do.......(there are) great grounds for confidence for the future of RAL, alongside Daresbury".

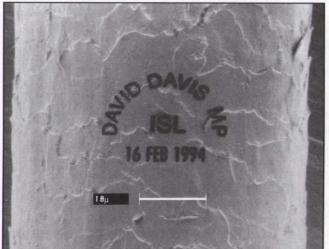


Ron Lawes (left) and David Davis MP discuss the finer points of microstructure in the new clean room. (94RC1652)

The Minister received a photograph of a personal inscription written by focused ion beam at the CMF on a hair from his own head. This memento, based upon what is just about the smallest object visible to the naked eye,

demonstrates the minute scale of microstructure operations, although in practice far smaller structures are routinely manufactured by the partners.

Clearly the ISL is a fine example of technology transfer at RAL creating a large impact from a small



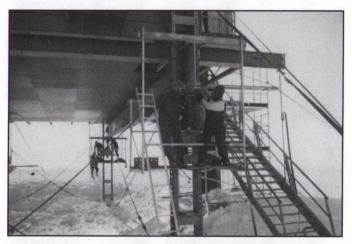
Hair cut: An inscription by ion beam on a hair from the Minister's head.

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#### Ice cold in Antarctica.



Worth waiting for !? - After a long sea voyage around the polar ice cap from the Falklands the raising of the base commences.

Richard Staunton-Lambert of RAL's Technology Department recently gave up the relative comfort of Oxfordshire to journey to the more bracing conditions of the land of the midnight sun. He was accompanied by a group of fellow electricians, whose visit was essential for the upkeep of the Natural Environment Research Council's base at Haley Bay, South Antarctica. Prior to Richard's visit, the atmospheric monitoring station, which was responsible for the discovery of the hole in the Ozone layer, accommodated another RAL employee, John Stapleton who was amongst the first to spend a winter in the newly constructed living quarters.

The movement or twisting of the shelf, combined with the severe temperatures and the persistent snowfall, leads to the need for constant maintenance. Part of this includes the raising of the

base itself, achieved by the levering up of stilts upon which the base lies - not a pleasant job in temperatures of -20C accompanied by howling gale force winds! It is hoped that as a result of this work, the base will remain in operation for the next 20 years.

## Goodbye to the Gang



Norman (first row, second left) bids a final farewell to the Heavy Gang posse. (94RC1451)

Norman Goddard retired as the Heavy Gang's supervisor at the end of Janaury. He wishes to leave a parting message to all his workmates who he may have missed. "I would like to thank you for all your friendship over the years. I will miss you all in my retirement. Thank you too, to everyone who donated to my marvellous present, and for the bouquet of flowers given to my wife. Thanks."



### School report

Over the past few days most offices should have received a copy of a leaflet 'Working with Schools' and a poster giving details of the RAL 1994 Science Prize. Both have been circulated to local secondary schools.

The brochure gives a brief outline of the work of the Laboratory as well as highlighting some of our current schools activities. It will be used as a starting point from which the Schools' Liaison Co-ordinator hopes to develop closer links with local schools. Anyone interested in becoming involved with any of the activities described, or with ideas for new ventures, should contact Dawn Johnson on ext 5950 (OV/VM id DAWN).

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# Accidents cost £16 billion a year

According to a recent Health and Safety Executive report the annual cost to the economy of accidents and work related illnesses could be up to £16 billion (3% of national income). As a result of these occurrences 18 million working days are lost. This leads to 5,000 people being forced to leave work permanently and 16,000 taking early retirement.

The Health and Safety group at RAL are here to stop you joining these bleak statistics. Numerous training courses are available to try to ensure your good health but to date many have been poorly attended by RAL staff, in particular the basic first aid training.

At present, Anne Bell of Occupational Health is running seminars for users of Display Screen Equipment (DSE, i.e. VDU's). This training is to advise you of methods on how to avoid and combat possible problems relating to DSE use. A Health and Safety notice is to follow later this month.

## Bloody good!

Steve Hancock has received a gold medal and a 'goody bag' for giving 50 pints of blood. Steve reached this remarkable goal by missing only two opportunities since he started making donations at the age of 18. According to the National Transfusion service they need 10,000 pints of blood a day to sustain their required quota. Please try and follow Steve's example by replenishing Britain's diminished stocks. The Blood Bank will be on site again in May and, don't worry, you only have to give one pint!



Hand on heart! Steve points to his gold blood donor badge which denotes his 50th pint of blood contributed to the National Blood Transfusion Service. (93RC5000)

#### SET7

"The Government campaign should be seen as an umbrella under which many organisations can come together to create a culture in the UK where science, engineering and technology can flourish."- William Waldegrave

SET<sup>7</sup>, the first National Week of Science, will take place from 18-28 March. The aim of the extended week is to bring Science, Engineering and Technology to the public through a nationwide programme of events.

On 18 March, Paul Williams will conduct the opening ceremony for Oxfordshire and surrounding counties in R22 Lecture Theatre. This will be followed by a lecture on the outstanding discovery of 'Buckyballs', the first in a series of talks and events over the duration of the week. They will range from the 'visit' of Isaac Newton to Professor David Phillips 'Throwing Light On Modern Medicine'.

As well as the evening events which are open to the public, many of the demonstration-lectures are being repeated during the day for local schools and colleges, and the Oxford trust are giving three performances of their brilliant 'Science of Magic' show. The special emphasis on providing education and entertainment for schools is a result of RAL's increased involvement with local schools following the recent appointment of a full time Schools' Liason Co-ordinator.

By now you will have received a copy of the week's programme, but if you need any further information, please contact Natalie Bealing on ext 5777 (OV/VM id NDB).

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#### Attention ex-Harwell apprentices!

Calling all ex-Harwell apprentices at RAL. The Ex-Apprentice Committee is organising a reunion to take place at the Harwell Restaurant during the evening of 15 October 1994, and would like to hear from you. Contact Roland Wise at Harwell Laboratory on (72) ext 3920.

# **Noticeboard**



#### Photo caption?



(91RC3473)

#### Diary

RAL Tennis AGM. All welcome 9 March CR15 (2.76) R1 at 12:15pm

Open meetings and lectures at The Royal Society, 6 Carlton House Terrace, London SW1.

**10 March** Prof R Anderson.

Populations, Infectious Disease and Immunity: A Very Non-Linear World Starting at 5:30pm

16 & 17 March
Sir D Rooke, Prof I Fells
& J H Horlock.
Discussion meeting.
Technology in the third
millennium: Energy
Starting at 9:30am

23 & 24 March
Dr B Butterworth, Prof J Morton,
Prof M Snowling &
Prof E K Warrington.
Discussion meeting.
The acquisition and dissolution
of language

#### Acknowledgements

Margaret Ellis would like to thank everyone who contributed to the beautiful crystal which she received on her retirement and wishes everyone all the best for the future.

Bill Blakesley would like to thank everybody for his great send-off from SERC and gives a special thank you to those who contributed to his gift. After spending 13 years at RAL in very pleasant company, he is sure he missed some colleagues, for which he apologises.

# Calling all bridge players

Would anybody be keen on enjoying a game of bridge between 12:30 & 1:30pm on Tuesdays and Wednesdays? If so, come along for a relaxing game in CR3, R25. On Tuesday social rubber bridge is played, whilst the Wednesday is left to Chicago competition. For more details call Rose Simpson on ext 6743.

Would anyone care to speculate on the thinking going on in this photo? Send your 'suggestions' to Monica Brown, R71, G08, ext 5484 (OV/VM id MB). Closing date for entries is 25 March 1994. Prize for the winning caption. (91RC3473)

# Alas poor SERC I knew it well.....

A party is being held to celebrate, commiserate or merely to say adieu to our soon-to-be dearly departed SERC. Everyone on site is invited to the R22 restaurant for a farewell-to-SERC drink from 3:00pm on Thursday 31 March.

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Articles and ideas are welcome! Deadline for publication is 15th of every month.

Starting at 9:30am