

# Mobile phones and health

**T**here was standing room only in the Cockcroft Hall at Harwell to hear the NRRP Chilton Lecture on the subject of 'mobile phones and health' by Sir William Stewart, chairman of the IEGMP (Independent Expert Group on Mobile Phones).

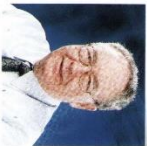
The IEGMP is an independent expert group set up by the government to examine the possible effects of mobile phones, base stations and transmitters on health. Following the recent publication of its report, several members of the group joined Sir William to explore the main findings.

The event was chaired by Sir Walter Bodmer, NRRP chairman, who helped establish the IEGMP. He introduced Sir William Stewart who outlined the aims of the group and then the principal conclusions of the report:

Looking at the topic from a physicist's standpoint, Professor Lawrence Chellis, explained the technology of the mobile phone network. He discussed SAR (standard adoption rate) which refers to the amount of energy absorbed in the body by the phone user and is dependent on the power output of the phone and its design. The report recommends that SAR values for different models must be readily accessible to consumers.

One of two lay members of the group was Marie-Neelie Barton who discussed her main area of interest - the concerns of the public. To determine the issues which most concerned ordinary people a series of meetings, both public and with individuals, and letters and submissions from individuals and organisations were assimilated. By far the most worries were about base stations or transmission masts - 41% compared to 23% concerned about the use of mobile phones.

She also found that the media provided virtually the sole source of information for most people. The group has recommended that a leaflet be sent to every household in the UK.

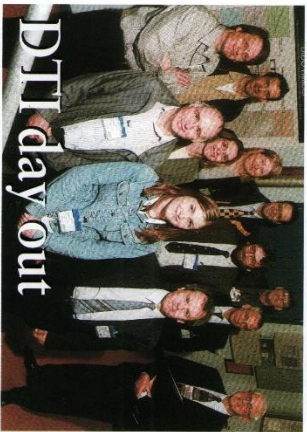


Sir William Stewart presented lecture to a full house.

Prof Michael Rugg is an expert in the field of cognitive neuroscience and gave an insight into the research which had been undertaken to date. Although there are areas related to health which demand further research, the one overriding conclusion was that the use of a mobile phone while driving, whether hand-held or hands-free, substantially increased the risk of an accident.

Biological studies were explained by Professor Colin Blakemore and Prof David Cogson considered the epidemiological work undertaken. The meeting was then thrown open to questions from the floor including a query about the siting of a mast close to a school and the maximum beam of intensity from the base station; how the panel would define the term 'well-being' used in the report; comparing use while driving with conversing with a passenger and the government's trisecale for putting the recommendations into practice.

During this illuminating lecture there was one point of levity when a mobile phone broke the hash. It belonged to



DTI day out

**A** wet day failed to dampen the enthusiasm of 20 staff from the Department of Trade & Industry visiting Culham Science Centre and Harwell International Business Centre in May for a familiarisation visit. One group is hosted here in the DIDO foyer. UKAEA's Beth Taylor, who hosted the Harwell visit said later: "I had positive feedback from Jon Munday, the DTI training liaison officer who reported to me that their day went very well. I am pleased that the hard work put in to organise four tours at the sites means that many more staff at the DTI can feel they know us better."

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# EGHO

THE NEWSLETTER OF THE CULHAM SCIENCE CENTRE & HARWELL BUSINESS CENTRE JUNE 2000

## Innovation Centre up and running

**H**arwell Innovation Centre - the largest unit of its kind in Oxfordshire - was officially opened by the Rt Hon Andrew Smith, chief secretary to the Treasury and MP for Oxford East before an audience of key representatives from the local business and political community.



(From left) Dr David Kingham, Andrew Smith MP and Sir Martin Wood.

Guests and members of the press heard how the centre could create up to 250 jobs in the county. It is hoped that, within ten years, tenant companies will have grown to provide jobs for 1,000 people.

Even as the launch ceremony took place, two companies were already based in the 28,000 sq ft centre in BT73, Curie Avenue. Slop Press, a design and marketing agency, and NPL (National Physical Laboratory) have chosen to locate their businesses at Harwell.

**Harwell Innovation Centre is situated on the Harwell International Business Centre and is managed by Oxford Innovation Ltd. It provides:**

- A variety of sizes and office layouts
- Space generally available as short notice
- A central reception and switchboard
- Data ports configurable to telephone, fax, ISDN or data access
- 24-hour access and security
- Photocopying, post handling and general secretarial support
- Use of conference, meeting rooms and presentation equipment
- Kitchen and common room with newspapers
- Large car park
- Access to a network of information sources, professionals and consultants
- A community of like-minded entrepreneurs, individuals and companies
- Investment meetings and contacts with potential investors and sources of funding
- Online information can be found at [www.harwell.org.uk](http://www.harwell.org.uk) and [www.oxfordinnovation.co.uk](http://www.oxfordinnovation.co.uk)
- Contact: Andy Bennett, manager, on 01235 437100 or email: [andybennett@oxfordinnovation.co.uk](mailto:andybennett@oxfordinnovation.co.uk)

**This Month**  
 New to Culham



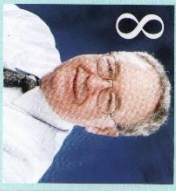
**Sea stories**



**River dragons**



**Mobile phone report**



UKAEA chief executive, Dr John McKevorn, welcomed guests who had assembled in one of the large, open-plan rooms. Sir Martin Wood, founder of the Oxford Trust 'business incubator' units to be established in Oxfordshire. Andrew Smith gave an inspiring address, speaking about the 'enormous and priceless opportunity to build on the world class expertise at Harwell which is a great source of competitive advantage'. He said, "We are blessed with a history of innovation and it is not a new concept for Harwell or Oxfordshire. As we move into the global economy we have a resource of very good people who will lead the way forward." He also welcomed the decision to site the new structure at CCLRC Rutherford Appleton Laboratory as an important boost to the local economy and the contribution it

continued page 2



world made to the wider cultural and scientific advantage of Oxfordshire. Finally he wished success to everyone who will work at the Harwell Innovation Centre now and in the future.

Tours of the centre were hosted by Dr David Kingham, managing director of Oxford Innovation, and also by commercial manager, Dr Phillip Leo. Communal facilities include an impressive meeting room and a large common room and kitchen to help small businesses feel less isolated. Although the centre provides

## Stop Press

**S**top Press is a design and marketing communications agency at the leading edge of innovation and new technology. In May the business became one of the first tenants in the Harwell Innovation Centre.

The business has been owned and managed by directors Jane and Alan Mason for the last fifteen years and now works for corporate and government clients presenting business information through design, literature, the internet and marketing communications. Clients include Renault UK, Imhenn and Willis UK, as well as government departments such as the DETR, and



The Stop Press team (from left): Alan Mason, Jane Mason, Peter Morse, Jo Grubbly and Rachel Collins.

ETSU based at Harwell. "We are also delighted to have recently been appointed an e-commerce partner for BT, which enables us to design and host competitively priced

flexible premises for new mostly science-based businesses, guests also saw the area which will be managed by Thames Valley Business Advice Centre specifically for non-technical companies.

The opening of the Harwell Innovation Centre marked the start of this year's national 'Celebration of Innovation' week. Oxfordshire played an important role in this nationwide week of events which have been organised in partnership with the Innovation Unit at the Department of Trade and Industry,

## NPL

**T**he National Physical Laboratory (NPL) has also chosen to occupy offices at the Harwell Innovation Centre. As part of the DTI and DETR programme of environmental best practice, NPL is working with ETSU on a number of projects and felt the proximity would be beneficial for both parties.

NPL is operated on behalf of the DTI by NPL Management Ltd and is involved in environmental work. Two project managers will be based at Harwell, namely Fiona Williams and Hilary McNeil.

## Vale views Harwell

**M**ore than a dozen officers and councillors of Vale of White Horse District Council spent a day touring UKAEA facilities at Harwell, hosted by John Wilkins, head of site. Following a briefing on UKAEA's projects to restore the Harwell environment, the visitors toured the partly decommissioned DIDO reactor, the new Vault Store for radioactive wastes, the Western Storage Area groundwater treatment plant and the Southern Storage Area (SSA). Jon Blackmore (pictured front right) explains about the WSA groundwater treatment plant.



Britain's record of being the source of 40% of the world's best ideas.

"In times of change, learners inherit the earth while the learned inherit the world as it used to be," he commented.

Lord Putnam castigated a media "that shapes a culture of always seeking failure" and urged financiers to take more risk funding innovation. A lively panel debate followed, chaired by Paul Bradstock OBE, chief executive of the Oxford Trust.

## New names come to Culham

**T**wo expanding businesses have chosen premises at Culham Science Centre. Crystalox Ltd and Verran Freight have moved into over 34,000 sq ft of existing accommodation.

Crystalox, a high tech engineering company, has taken 11,000 sq ft. The company specialises in the design and manufacture of equipment for the purification and crystal growth of metals, alloys, semiconductors and electro-optic materials.

Dr Ian Dourty, marketing director commented: "Crystalox products and technical expertise are exported from the UK to universities and industrial research organisations around the world. Last year the company won a Queen's Award for export achievement and as our business continues to grow, we are expanding from our base in Warrage to the Culham Science Centre".

Verran Freight, an international road haulage company, is also expanding its operation and has taken 26,000 sq ft at Culham as its new headquarters.

"We have three other sites in Oxford, but chose Culham Science Centre as our headquarters because of the site's excellent transport links to the M4, M40 and the rail-head at Didcot Parkway," said office manager, Lee Russell.



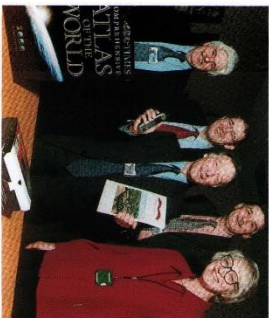
Culham has excellent road and rail links.

## John Hedderley retires

**A**fter a career with UKAEA of more than 25 years John Hedderley has retired at the end of March.

John joined UKAEA at Harwell as a project accountant in Building 150. This was followed by spells as finance officer to the energy technology support unit, head of financial accounting for the Harwell site, business accountant for environment and energy, divisional accountant at Fusion and finally as head of internal audit and consultancy.

A presentation was made by Paul White, director of finance and commercial division. In response John recalled some of the changes that had taken place since he first came to Harwell. At that time the site had its own bakery, it managed several hundred houses, there were three staff hostels on site as well as one in Abingdon and more than 60 home to work buses. The one thing that had not changed was the people. He very much valued the fact that it was possible to have proper discussions (and even to disagree) with colleagues w i t h o u t falling out!



John is pictured, centre, with (from left) Nick Adams, Nick Martin, Peter Russell and Joan Sommers.

## Festival of science and innovation

**T**he 'Festival of Science & Innovation' organised by The Oxford Trust will be taking place in South Oxfordshire from 19 June - 7 July. The main events include:

**Tuesday 4 July, 9.30am-2.30pm**  
Schools Workshop: Designing a Millennium Wheel run by INPUT National and The Oxford Trust.

**Tuesday 4 July, 6.30pm**  
Festival Lecture: Reimventing the Wheel by Julia Barfield. Marks Barfield Architects, taking their lead from how nature designs structures in space and geometry, create cultural landmarks that regenerate and revitalise cities. They are now well known as the designers of the British Airways London Eye. Suitable for 14 years and upwards.

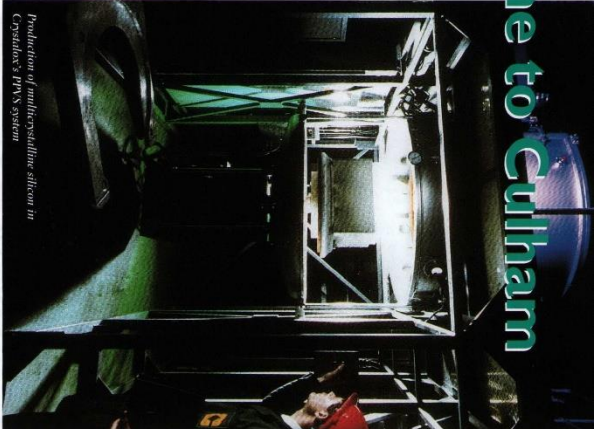
**Wednesday 5 July, St Birinus School, 2pm**  
Schools Lecture: The Rise of the Superbug - Apocalypse Now? by Dr Martin Westwell

**Thursday 6 July, RAL, 6.30pm**  
Innovation Lecture: Innovation Means Business by Dr Peter Watson, chief executive, AEA Technology

Dr Peter Watson will talk about what innovation is, give examples of successes and failures and try to explain why it can be difficult. He will look at why it is critical for organisations to grasp innovation, how it can be stifled, what the ingredients of success are and how AEA Technology's 'Innovation Plus' initiative aims to help.

**Friday 7 July, RAL, 7pm**  
Family Show: The Big 2000 by The Oxford Trust

**Family Show: The Big 2000 by The Oxford Trust**  
For details and booking telephone Alison Hendry on 01865 728953.





## Canadian MPs visit Culham

A delegation of MPs, led by Peter Bernard, chairman and CEO of ITER Canada, visited Culham a few weeks ago. The aim of the trip was to see at first hand the social and economic impact of hosting an international project like ITER.

Two nations, Canada and Japan, are currently in the running to host the International Thermonuclear Experimental Reactor (ITER) programme which represents the 'next step' fusion power plant. JET is the nearest in scale and operating conditions to ITER.

As well as visiting the JET facility, operated by UKAEA under the joint operating contract, delegates also met local community representatives including Oxford West & Abingdon MP, Dr Evan



Chris Carpenter (right) greets Canadian ITER visitors (from left: Alex Soper, Martin Jennings, Bernard Enay and Jerry Rickard).

Harris and local council members. "UKAEA Fusion was pleased to arrange the event as a facilitator," comments Chris Carpenter, UKAEA Culham PR manager. "We would welcome similar parties from other countries submitting a bid and would not want to be seen to support one particular nation."

ITER Canada plans to have its bid completed by April 2001. Once the decision has been taken, development work is scheduled to begin at the end of 2003 at the earliest.

## Vacuums on display



Vacuum pump technology, Peter Knight, sales engineer at Peifer Vacuum, said, "For us a one day exhibition at a large site like this allows existing contacts to see and experiment with new equipment, and attracts new contacts. It's a good opportunity for staff to see new products without having to spend the half or full day away from their desks." Peter can be contacted for more information on 01908 364502.

## Fusion explained

A colourful new brochure exploring the fusion research work taking place at the Culham Science Centre is now available. Using non-technical language and simplified diagrams, the guide is an ideal introduction to this complex subject and relates experimental work with the quest to find new energy sources. Copies of the brochure, entitled 'fusion for the future ... technology for today' are available from Heather Clark on C3363.

## European rolling programme begins

Under the 'new spirit' of the JET agreement, June sees the start of a rolling programme of visiting international scientists at Culham.

Some 170 scientists from member states involved in the Euratom treaty will be visiting Culham between June and November to undertake experiments at JET as part of the EDA (European Fusion Development Agreement) work programme.

Three campaigns are planned - two lasting two months and a third one-month campaign - involving a maximum of 60 staff at any one time. Incoming staff will be resident in local B&Bs, hotels or timeshare houses in Abingdon or Oxford, depending on their length of stay.

By involving a pan-European team of second-year students and the



The programme is co-ordinated by a close support unit based permanently at JET and led by Emma-Jill's associate leader, proton Tomita who is pictured here with his colleagues.

task forces are grouped by speciality, rather than nationality, age range spans 25 to 60-year olds. A similar campaign is planned for 2001. Cross-fertilisation of international expertise and skills will also result as there are greater opportunities for younger scientists and the

## ECHO Brief

### Contamination Control - Awareness Campaign

During the middle of June 2000 there will be an awareness campaign around the Harwell site on radioactive contamination control. The venues for the displays will be B226, LETP, B862, B393.6 and B551. Other venues may be added. Please keep your eyes open for the campaign and take a few minutes to have a look. If you require further information contact your RPA or Kathleen Stevenson on H3108.

### Venturefest 2000

UKAEA's central property team has booked a stand at the forthcoming Venturefest in Oxford, on 26/27 June at Oxford Brookes University. Their display will feature both Culham and Harwell at the event which is described as 'Oxford's international fair for entrepreneurs'.

### Golfing for charity

Small Tisbury makes her return to Hinkley Heights golf course near Oxford on Friday 14 July to take part in the ABC Charity Cup Competition. Lunched last year the event raised over £3,000 for Action against Breast Cancer, the Harwell-based charity. If you would like to take part in this year's competition - an 18-hole 4-ball Stableford, contact David Hanks at the golf course on 01865 327275.

### Avoid Culham queues

The 37th Culham Plasma Physics Summer School will be held from Monday 10 July until Friday 21 July this year. Approximately 50 students will be using the restaurant for lunch each day at 12.45pm so staff are advised to take lunch before this time to avoid long queues.

### Correction

In the May issue the company name, Culham Electromagnetics and Lightning Ltd, was incorrectly printed. We apologise for any confusion.

## Tracking world's biggest iceberg



As according to night-time images showing the continued break-up of the B15 iceberg, taken on the 15th April 2000.

Space technology is being used to track a huge iceberg that recently broke away from the Ross Ice shelf in the Antarctic. B15, as it has been named by the US National Ice Centre, is about 300km long and 40km wide.

Satellite images taken by the ATSR-2 instrument, processed at RAL, have tracked the iceberg which broke away from the main ice shelf at the end of March. Since then a smaller iceberg has detached from the western tip of its huge parent and is making steady

progress northwest. ATSR-2 measures the temperature of the surface of the earth with great precision.

"The temperature of the water and the ice is obviously different and this enables us to see the ice masses," explains Nigel Houghton of RAL's space science and technology department. "Once an iceberg is free it often moves fairly quickly. Tracking the Larsen iceberg in 1995 we saw it drift about 6km a day though they can travel at up to 30km a day and interfere with ocean shipping lanes".

## A Turkish delight

Andrew Darke, a UKAEA Fusion project engineer, had a holiday to remember when he joined a crew to charter a boat in the Turkish Aegean. The party was drawn from Goring-on-Thames Sailing Club where Andrew has been a member for three years, though he has been sailing for at least 30 years. There were many high and low points but here is a typical day which captures the mood of the trip.

A clear sunrise. Half the crew on sailing duty, the other half responsible for cleaning, cooking, provisions, etc. Breakfast on board. Sail towards the destination making the most of lighter winds in the morning. Find an isolated bay and anchor. Have a beer before lunch on board. Swim and snorkel in clear warm water. Continue sailing to destination. Huddle in some retail therapy, or explore Byzantine ruins, or just do nothing. Shower and change for the evening with gin and tonic from open while waiting for the sun to set behind the horizon. Dinner in a local restaurant. Back to the boat for a nightcap and bed. It's a hard life!



Heading for the open sea.

## OUT & ABOUT

### Fusion lecture

'Fusion progress to and beyond the year 2000' is the title of a lecture to be given by Derek Robinson, UKAEA director of fusion, on Thursday 29 June at RSA, 8 John Adam Street, London WC2. The lecture is being organised by the Institution of Electrical Engineers. Refreshments at £30 for a spin start. Contact Helen on 020 7344 5633, email helen@iee.org.uk

### Adderbury gardens

The pretty village of Adderbury (located to the south of Banbury) is holding a 'secret gardens of Adderbury day' on Sunday 25 June from 2-6pm. Sixteen gardens will be open to the public from small courtyards up to those with several acres. Visitors can see cottage gardens, ornamental gardens, one garden that has been grown openly from seed, imaginative vegetable cultivation, bonsai, and one of the largest collections of dandelions. Entry is £3 for all 16

### Entertainment by gaslight

Staglights present 'Gaslight', a Victorian thriller by Patrick Hamilton on the 15th, 16th and 17th June at 7.30pm in Old Mill Hall, Grove. Tickets priced at £4 (first Night and All Concessions £3) are available from Brett's Community Pharmacy in Grove. Visit us on the website or telephone 01235 70735 for information or advance booking.

### Summer fete

A summer fete will be held on Saturday 1st July at St Peter's Church, Newlands Avenue, Didcot, from 12 noon till 4pm. Many stalls, attractions including birds of prey, face painting, Didcot Fire Service, refreshments, grand draws and much more.

## Young scientist wins MP's prize



Elizabeth (left) is pictured with James (right) at the presentation of the Total Solar Eclipse poster prize. Staff involved were Mark Diamond, Christopher Horsfield and Charles Robinson.

One of five young scientists from RAL who presented their research to MPs at the House of Commons has won a prize for her poster describing solar eclipse data gathered last year. Elizabeth Clarke was awarded the 'Glanville-Welcomme poster prize for physics'.

Elizabeth is studying for an MSc (Hons) Engineering Physics degree at Sheffield Hallam University. She is spending her 'sandwich' year in the space science and technology department at RAL, examining the ionosphere.

"We are comparing data gathered during the total eclipse



