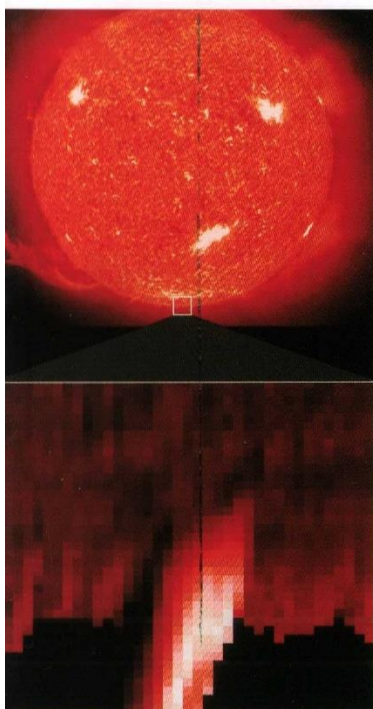


eCHO

THE NEWSLETTER OF THE CULHAM SCIENCE CENTRE & HARWELL BUSINESS CENTRE

JUNE 1998

Giant tornadoes on the Sun



This image shows a gyrating solar storm, wider than Africa, in gas at 250,000 degrees C, and speeds up to 500,000 km pr hr.

An exciting new discovery, that the Sun has vast tornadoes gusting up to one thousand times faster than those on Earth, has been made by a scientist at Rutherford Appleton Laboratory, Chilton.

David Pike, together with colleague Helen Mason of Cambridge University, made the surprise find when examining data and images relayed from the SOHO solar spacecraft. The spiralling columns of gas have many of the characteristics of terrestrial tornadoes. In the two years since launch, a dozen examples have been detected, occurring mostly near the north and south poles of the Sun and measuring almost as wide as the Earth itself.

This and other revelations were made at a recent international press briefing organised by the European Space Agency and hosted by CLRC Rutherford Appleton Laboratory. RAL plays an important role in the SOHO mission, including its provision and operation of the Coronal Diag-

nostic Spectro-meter (CDS). This detects extreme ultraviolet radiation allowing the Sun's atmospheric conditions to be mapped in the same way that satellites map weather patterns on Earth.

SOHO carries 12 instruments which probe the solar interior and atmosphere as well as the Sun's influence in space. The spacecraft is positioned 1.5 million kilometres 'sunward' of the Earth and allows scientists to carry out continuous observation. One of its main tasks is to trace the sources of solar winds that buffet the Earth's environment and cause auroras and magnetic storms, endangering satellites and power supplies. It is thought that the newly discovered tornadoes may play a role in solar wind activity further out in space.

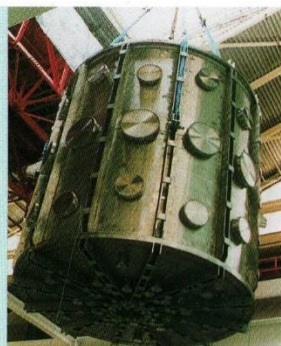
MAST arrives

An eventful journey across Belgium and the UK faced the 25-tonne MAST vacuum vessel before it was safely manoeuvred into place through a hole in the roof at its Culham destination.

The MegaAmp Spherical Tokamak (MAST) is a 4m high stainless steel tank which UKAEA Fusion scientists will use to heat hydrogen fuel to incredible temperatures to

simulate the physics of the stars.

The vessel took two years to manufacture in Liege, and required a logistics plan of great skill to transport and install it without incident. The trailer had an overall height of 4.8m, and the lowest obstruction was measured at 4.9m, giving 10cm clearance. Being 20m long and the width of two traffic lanes, the trailer and its precious load required constant police escort.



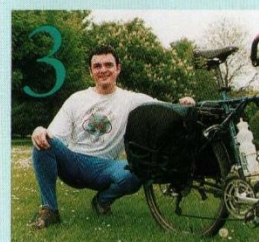
Traffic jams and a strike at Calais caused some delay but the vessel finally arrived at Culham at 3.30am and less than 12 hours later it had 'landed' through the roof of the building.

This Month

Girls at work **2**



12,000 miles to go!



Corset was good for you **5**



Happy 80th George **8**



eCHO BRIEF

Petrol emissions measured

AEA Technology Environment has won a £315,000 contract from the DoE to measure levels of benzene at petrol stations located close to homes. Scientists will use around 15 diffusion samplers at each of the 20 chosen sites to collect benzene for laboratory analysis. The UK has set an air quality standard for benzene as a known carcinogen.

Progress at Chernobyl

A project involving AEA Technology to find ways of handling contaminated water at the Chernobyl Nuclear Power Station has been completed. Water and snow melt used to keep down radioactive dust at the building housing the damaged reactor has become contaminated with actinides from nuclear fuel and could not be treated in an ordinary liquid radioactive waste plant. The study explored pre-treatment methods and was supported by the 'Know How Fund', a government scheme to help transfer the best of British technology and expertise to central and eastern Europe. AEAT is also helping with other 'clean up' operations including provision of a new liquid waste plant, a dry fuel store and a solid radioactive waste treatment plant.

Chemical emergency response

The National Chemical Emergency Centre (NCEC) is running a series of one-day CHEMSAFE '1st Response' training courses to help companies in the chemical and transport industries prepare for the worst. Organised in conjunction with the Chemical Industries Association, the next two course dates are 8 July and 17 September. To attend contact NCEC on 01235 463060.

Avoid Culham lunch queues

The 35th Culham Plasma Physics Summer School will take place from Monday 6 July to Friday 17 July this year when around 50 students will be using the restaurant for lunch from 12.45pm each day. Staff at Culham can avoid the queues by taking lunch before this time if at all possible.

Giving blood

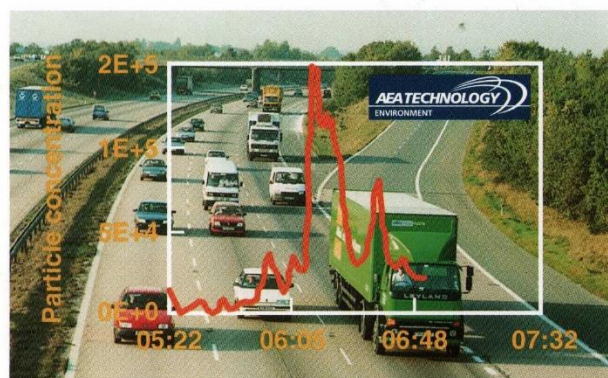
The National Blood Transfusion Service would like to thank all those who so generously donated blood during their visit to Harwell in April. A total of 264 donations were made including 13 first time donors. The dates for the next Harwell clinic are 8-10 September 1998.

A drive for clean air

What could be nicer than a drive in the country? If you're following another car and labouring uphill, the in-car pollution levels could well exceed those if you were standing in the centre of Oxford.

Research by AEA Technology Environment has uncovered new findings about cabin air quality which the company hopes will stimulate further, more extensive studies. It will also be of use to vehicle manufacturers trying to perfect the air conditioning and ventilation systems of the future.

In essence the research demonstrated that particle pollution levels rose dramatically when closely following another car. This was increased still further when engines were at higher revs such as on a fast motorway, accelerating away or going uphill. One example



The changes in pollution levels directly correspond to the manoeuvres of the car being followed. Corners, gear changes, braking and acceleration all have an effect on the engine loading and the exhaust emissions.

measured a vehicle being overtaken where levels increased from a few thousand to several million particles per cubic centimetre. Levels drop quickly again as the car moves away and particles are dispersed.

A natural response might be to switch on the car's air

recycling system. However it was found that it takes a considerable length of time to reduce pollution levels via recirculation and levels immediately increase once external air is reintroduced. So now there are even more sensible reasons to 'keep your distance' from the car in front!

Girls at work



Taking a moment out of their busy days are UKAEA visitors: (l-r) Louise Christiansen and aunt, Jane Treavis; Geraldine Coales and grandmother Margaret Rowlands; daughters and mothers, Allison and Lynda Baker; Rebecca and Beth Taylor; Natalie and Angela Vincent; Clare and Helen Gilmour, and Claire Sharpe with her father, Peter.

Both Harwell and Culham sites saw an excellent response to the annual 'Take Our Daughters to Work Day' as dozens of girls joined parents, carers, relatives and friends for invaluable work experience. "We believe that the days when women were limited to traditional female occupations are gone forever. In future we hope to see many female science and engineering graduates making a valuable contribution in these areas alongside their male col-



Kirsty Todd, pictured with her father Tom, at UKAEA Fusion, was one of the many girls who visited the Culham Science Centre.

leagues," said AEAT's corporate community involvement manager, Cathy Wright.

Workplace Bullying

.....
'Those who can,
do, those who
can't, bully'
.....

In a survey of over one thousand people, one in eight said they had been bullied at work in the last five years. That equates to around 3 million on a national scale.

Bullying at work may involve constant criticism, undermining, faultfinding, exclusion, being humiliated, shouted at, having your work, credit or authority stolen, or fabrication of events. Whatever form it takes, the result is negative stress and anxiety that can make you ill and shatter your self-confidence and self-esteem.

More information is available from the national workplace bullying advice line on 01235 834548 or the web site: <http://www.succsunlimited.co.uk/>

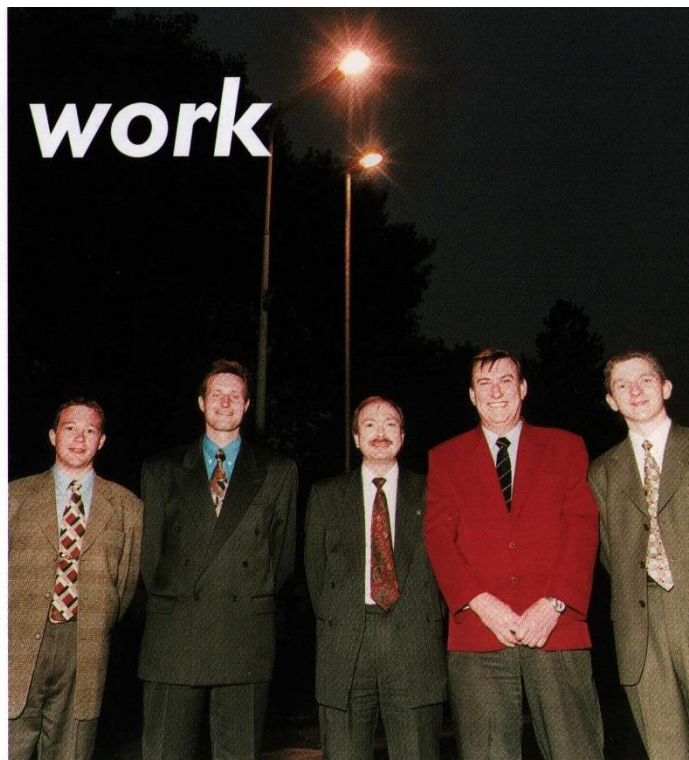
Making light work

A major UKAEA project costing hundreds of thousands of pounds to replace most of the street lighting at Harwell is nearing completion. Some 377 new lights and approximately 12 kilometres of cable have been installed along roads, footpaths and car parks, continuing the programme of site infrastructure improvements at Harwell International Business Centre.

The diverse collection of existing lampposts has evolved with the site over the years. Some of the oldest cast iron specimens date back to RAF days and the ageing cable was increasingly prone to failure. It was decided to upgrade the lighting with a uniform lamp design to meet the latest standards and provide improved light levels. The new lights will reduce light pollution as the lamps cast light down in an arc rather than scattering it in all directions.

"Some of the old lights stay

on all day, but the new units have photo-electric cells which automatically switch on at dusk" comments Mike Hurp of property management, who has overseen the project on UKAEA's behalf. "The work has been a considerable task with posts being sunk up to a depth of 2m and trenching across the site to lay new cabling. Most of the new lights are now on but some work is still ongoing and it will be a few more weeks before the project is complete and all the old columns have been removed."



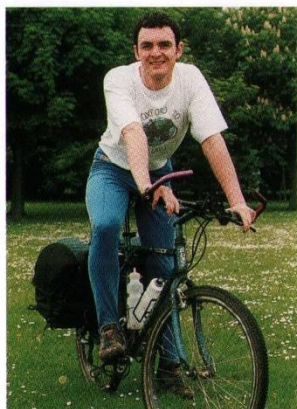
Reflecting on a project well done, UKAEA's Mike Hurp (centre) with (l-r) Phil Houseman (AEAT), Dave Probert (AEAT), Brian Winzor (JCL) and Nick Rhodes (AEAT).

Global expedition



With the good wishes of patron, Michael Palin, and all their friends and family, an intrepid pair will set off from Oxford in July to cycle 12,000 miles around the world to their destination - Uluru, better known as Ayers Rock.

Engineer, Darren Locke, who works in the remote handling group at JET (he was an apprentice at Harwell from 1983-87) and his partner, Kaye Jennings, a health visitor, are aiming to raise over £12,000. This equates to at least one pound for every mile cycled and some will be easier than others. Their planned route takes in Europe, Africa, India and Malaysia, passing through sparsely populated regions, relying on



Darren is undoubtedly a keen cyclist, having toured Mexico and Jamaica in the past, but this is his most ambitious venture to date.

remote local communities for essential food and water.

"Our final leg to Uluru starts in northern Australia where we will travel through the heart of Australia's rugged outback. We'll arrive at one of the world's most famous landmarks having, hopefully, achieved our fundraising target, raised awareness of the charities and completed a ride of a lifetime!" remarks Darren.

The couple are financing the trip themselves so that every penny donated goes directly to

Safer cycling

Members of Harwell's Bicycle Users Group (BUG) Jeremy Tait (left), Marcus Jones and Martin Ricketts, survey the new cycleways and footpaths which cover a network of 1.5km around the site. They hope that the new sections will encourage those 'fair weather' and occasional cyclists to keep using their bikes for more months of the year.



REMEMBER A national Cycle to Work Day is being held on Wednesday 10 June. BUG would like to encourage as many people as possible to leave their cars at home that day and try out the pedal-power. There are various arrangements being made for groups to meet up and cycle together and lunchtime social activities. For more details please contact either Paul Stevenson on H2152 or Nigel Smith on R5151. In addition, an open meeting is being held on Thursday 4 June (12.30-1.30pm) in the RAL Pickavance Theatre to discuss progress of the Wantage to Didcot cycleway - a current BUG campaign.

the two chosen charities. Intermediate Technology is a development agency working with rural communities in the third world, helping poor people develop and use technology to give them greater control over their lives. The second beneficiary is Home-Start which provides support and guidance for families with

children under five who are in crisis. Home-Start celebrates its 25th anniversary in 1998 and has a branch in Oxford.

To pledge any donation please call Darren on J4498 or Val Buckingham on H2223. For up-to-the-minute details of the expedition, see <http://www.oxlink.co.uk/uluru/>

Out & About

D-Day Service

This Saturday, 6 June, the annual D-Day Remembrance Service takes place at the RAF Memorial Stone, Downs Way at 5.30pm. The service will include units of the British Legion with their colours and a procession of WW2 RAF vehicles. A wreath from the staff at Harwell, will be laid this year by UKAEA chief executive, John McKeown. Everyone is welcome to attend the short but moving ceremony that remembers those who flew from RAF Harwell on the eve of the D-Day landings in Normandy in June 1944.

RAL Open Days

A final reminder that everyone is welcome to visit the Rutherford Appleton Laboratory on Saturday 27 June (9am - 4.30pm) for the public open day. To attend the industry day, contact the commercial office on H5700, or to come to one of the schools events contact Rachel Baines on H5950. For more details about the open days in general see the web site <http://www.cclrc.ac.uk/OpenDays98/>

Oxford Physics Colloquia Lectures

Held in the Lindemann Lecture Theatre, Clarendon Laboratory, Parks Rd, Oxford at 4.15pm with tea served in the Common Room at 3.45pm.

5 June - El Ninho, Prof D Anderson, Dept of Physics, University of Oxford, currently at ECMWF (European Centre for medium-range Weather Forecasts) at Reading.

12 June - Gravitational Wave Detection, Prof J Hough, Dept of Physics Astronomy, University of Glasgow.

BNES Lecture

The BNES Central England Branch Evening Lecture features Brian Tomkins, AEA Technology, who will present a talk entitled 'Structural Integrity in the Nuclear Industry' on Wed 24 June in the ETSU Lecture Room, B153 Harwell, 6pm for 6.30pm. Everybody is welcome. For further details contact Louise Gould H2827.

Independence Day Summer Fete

On Saturday 4 July visit a summer fete with an American flavour at St Peters church, Newlands Avenue, Didcot from 12pm-4pm. Many stalls and attractions including children's Irish dance troupe, refreshments and grand draw.

RAL Christian Fellowship

You are warmly invited to attend any of the meetings (usually held in Conference Room 11, Building R3) to share fellowship. Contact Jonathan Wheeler R27, R5189 for more information.

11 June - Bible Study, the armour of God, Salvation.

18 June - Picnic, location to be arranged.

25 June - Bible Study, the armour of God, the sword of the Spirit (in the Atlas Think Room, Building R27).

Could you be a Special?

Would you like to put something back into your community, are you fit and could spare about four hours a week? If so, have you considered becoming a Special Constable with your local police force?

If you would like to know more, Chris Wyatt, who works in AEAT's thermal spraying section at Harwell, has six years' experience as a 'special' with Didcot Police and plenty of tales to recount. Principal duties involve patrols by foot and car and responding to call-outs for burglaries, assaults, domestic incidents and other disturbances.

"I've become more acclimatised to the adrenaline rush as the years go by" says Chris, "but you still feel a little apprehensive when facing a street riot of 60 people in the middle of Wallingford at night, with objects flying past! I've made around 20 arrests so far, but most of the time it's routine work, keeping harmony in the community."

There is always a shortage of applicants for this rewarding voluntary work. Women need fear no discrimination; they make up more than half the Didcot specials contingent. Although work is unpaid, uniforms, expenses and boot allowances are provided.

"We are treated as equals at Didcot and have a good relationship with regular officers," says Chris. "Our training is on the first Monday of the month



Chris carries a side handle baton and new design handcuffs which can be put on with one hand.

and topics are varied and relevant to our work. Naturally we don't have the same experience as the regular officers, so we always ask for advice or help first rather than going in to a situation cold."

When he's not working for UKAEA's SAFER team in B152, Kinnane Austin joins the Wiltshire Constabulary as a special. For over four years he has enjoyed his police duties which have included marshalling football fans at Swindon matches where clashes are anticipated. Most of his patrol work is spent walking the streets around his home village of Highbury where he feels the

specials give that extra presence which the public demands. With a couple of young children himself Kinnane wanted to do something tangible to make local people feel safer.

To find out more about becoming a Special Constable, contact Chris Wyatt on H4558 or Kinnane Austin on H2310.

Afterlife for electrical goods

Each year the European Union produces around 7.5m tonnes of electrical waste. Have you ever wondered what happens to the growing mountain of old cookers, television sets, computers and 'white goods'?

In 1996 AEA Technology was commissioned by the EC to study the environmental and economic impact of recovery. Assessing a number of pilot collection schemes AEAT's results showed a wide variation in the recovery rate, ranging from just a few per cent up to 77%. The report concluded that although recycling costs are currently high, these could be reduced to improve the percentage of equipment recovered, to reap the obvious environmental benefits.

Fellowship in retirement

In 1979 the Research Group Retirement Fellowship (RSRF) was formed for staff retiring from UKAEA, Rutherford, Culham and NRPB. The group currently has almost 1000 members and welcomes anyone who is about to or has retired.

To keep you in touch there is a regular newsletter and members meetings are held every month with guest speakers covering a variety of fascinating subjects with colour slides to illustrate their talks. Afterwards there is time to chat with former friends over a cup of tea.

Coach outings are arranged to various places of interest. During 1997 these included the Palace of Westminster, the

Thames Barrier, Windsor Castle, Cheltenham and in December a visit to the Old Time Music Hall at Northampton. This year so far the group has been to Stratford-upon-Avon and Kew Gardens.

If you would like more details about the RGRF please contact Mrs E R Piercy (Secretary) on 01235 835357 or Mr H R Wells (Treasurer) on 01635 281255.

Fascinating finds

Imagine going to the doctor and being advised to drink water infused with the decay products of radon gas on a daily basis. In the first half of this century radioactive water produced by a device called an emanator was used to treat a variety of ailments including rheumatism, arthritis, nervous disorder and 'loss of vitality'!

This and other treasures are on display at the NRPB Training Centre and are a fascinating talking point for delegates attending courses at the venue. The collection is a wonderful illustration of how attitudes change with time and greater scientific understanding.

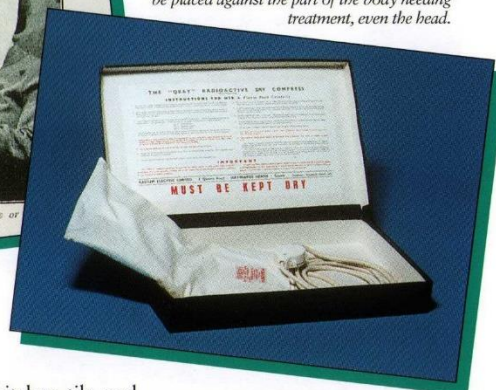
Indeed, Gareth Thomas, the NRPB scientist responsible for the museum, acquired one such

emanator from a Kensington lady who took a daily dose of radon enhanced water for 50 years before she passed away at the age of 96.

The false teeth on display contain a mixture of uranium and cerium, which was added to dental porcelains to mimic the fluorescence of natural teeth in ultraviolet light. An innocent



This 'O-Ray electro-radioactive compress' was claimed by the manufacturer to relieve many complaints from arthritis to pleurisy and would be placed against the part of the body needing treatment, even the head.



A radioactive corset was advertised in the Radio Times in 1929.

looking 1970's kitchen tile and ceramic mug with cheerful orange glaze contain salts of uranium - which naturally occur in pitchblende or uranite - as do the yellow and orange colours in enamelled jewellery. An isoflote containing tritium was used by anglers for nighttime fishing because it glows in the dark with fluorescent material.

Earlier this century radioactive materials were thought to be generally efficacious and radium and thorium were added as a valuable ingredient to powders, face rubs and ointments. Other products such as radium leather dye, radium kitchen cleaner and radium shoe polish did not contain any of the substance but wished to be associated with its beneficial effects at the time.

"Some exhibits are not

obsolete" says Gareth. "Smoke detectors are found in most homes and contain small quantities of radioactive Americium-241. Radioactive materials have also been proposed for security purposes. The identity card on display has a small amount of Promethium-147 which emits low energy beta radiation to validate the card."

The question is, in 2050 which of our everyday items will be sitting in the museum cabinet and marvelled at by the generation that has another half century of scientific hindsight?

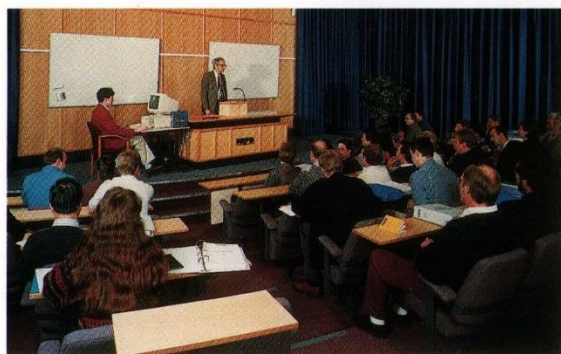
Anyone using the NRPB training centre will be able to see the collection. To arrange a meeting or function, please contact Robin Blowfield on 01235 822701.

Learning opportunities

In coming months NRPB is holding a number of one-day awareness courses and a seminar at its Chilton training centre.

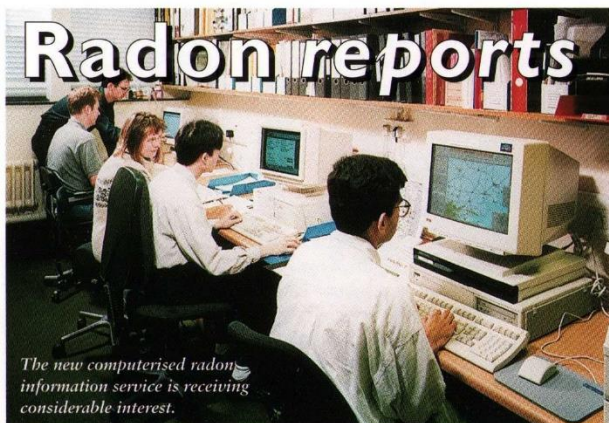
The one-day courses, planned for dates in July and September, deal with all aspects of radiation emergencies and are aimed at specialist groups including NAIR radiation experts, emergency service professionals and local authority personnel. The seminar on 30 June deals with the HSE's revised Ionising Radiations Regulations and will be of interest to managers, safety officers and senior radiation protection supervisors.

For more information on any of these courses, please contact NRPB training section on 01235 822701.



The NRPB lecture theatre in the training centre.

Radon reports



The new computerised radon information service is receiving considerable interest.

A question often raised by solicitors and others during house conveyancing is whether a property is in a radon-affected area. In response to this demand NRPB has launched a new service to provide individual property reports. Initially the service covers England but will be extended to other parts of the UK in the future.

Each report costs just over £20 and includes radon measurements both within the local authority area and the immediate locality of the property, as well as estimating

whether elevated radon levels are a probability. Measurement data for specific homes will not be provided as there is a confidential agreement between NRPB and the householder.

Harwell Laboratories RECREATIONAL ASSOCIATION

Summer angling



A fine looking specimen (the fish isn't bad either). The Angling Club Chairman Pete Cairns with a 6lb+ tench.

The Harwell (formerly AERE) Angling Club is still going strong since its formation in 1954! Members have always enjoyed good return from two very attractive Authority owned waters. A six-acre gravel pit contains a good head of specimen-sized carp and tench, roach to 1 1/2 lbs and just last month a 2 1/4 lb perch was landed. Members can also enjoy a short length of the Thames including a weir and approximately seven swims that are home to double-figure barbel, large chub and most other river species, notably pike. Both waters are situated just off All Saints Lane, Sutton Courtenay by the 'Fish' public house.

During the summer months the club runs six matches and an 'open invitation' contest to cater for the competitive element. Any HLRA member is eligible to join, plus associated members at the committee's discretion. The first match will be held on 6 June with the draw at 6.20am and fishing from 7am to noon. For more details contact either Pete Cairns or Bill Ross on H3030 or Neil Madge on H2309.

Culham vs Harwell!

The great annual tradition with the snappy title – Intra-AEAT Environment Sporting Challenge – is being staged between 13-24 July and is crammed full of events and social activities on and off-site. You don't have to be a sports fanatic to take part and it's a great way to meet new people and, above all, have fun. Events include ladies and men's football, tennis and table tennis, Laser Quest, volleyball, badminton, cricket, kabadi & croquet, a treasure hunt, rounders, frisbee, ten pin bowling, golf, pub games and quiz and silly games (no elaboration here). After the fiercely fought contests, goodwill between competitors will be restored with a picnic, BBQ, or a trip to the pub. Watch the AEAT Environment social bulletin board for timetables or contact Colin Moody on H3343.

Limbering up at lunch

The Harwell Yoga Club meets at the Recreational Association building at lunchtime on Tuesdays, Wednesdays and Thursdays. We do a series of gentle exercises that maintain

the body's flexibility. We end with a few minutes relaxation, which provides a refreshing midday break from work. For further information contact Dave Hart on N2647 or Nicole Malins on H3446.

Football success

A change of name to 'Harwell International' at the start of the season has definitely had a bearing on the success of the club in this past campaign, attracting new players and also some questions wherever the club has ventured.



The 1st team, sponsored by the Harwell International Business Centre, with strip reflecting the navy/azure corporate colours, gained promotion at the first time of asking, returning back to division one of the N Berks League. The team is pictured here with chairman/co-manager, Don Granito (far right) and co-manager, John King (left).

Sponsored by 2 Cousins Access, the reserve team (below) consolidated its position in division three of the same league and created club history by becoming the first side to win a N Berks Challenge Cup. They captured the Nairne Paul Challenge Cup being triumphant over Long Wittenham reserves by four goals to two on Wantage Town's excellently prepared ground on 2 May. The photo was taken after the match and includes co-managers Bob Gibbs and Chris Salmon (front right).



The third team – still looking for a sponsor! – once again provided the backbone of the club by re-establishing themselves in division five of the league.

As a fitting conclusion, the annual end-of-season presentations were held on 16 May at an enjoyable awards night at the Harwell Social Club.

Anyone who would like to join the club in any capacity should contact Bob Gibbs, secretary on H6046.

Crash driving course?

Spare a thought for UKAEA's Tereza Fulker who will be exhibiting her driving skills behind the wheel of a loaded car transporter, a double decker bus, an HGV and a JCB in front of a critical audience – her family and friends! Tereza, who works as a receptionist in B521, is just 5'1" in height, but has accepted the Ladies Driving Challenge at the former RAF Upper Heyford airbase on 27 June. All funds raised as a result of her efforts will be donated to Marie Curie Cancer Care in Oxon and Berks. If you would like to sponsor Tereza please call H5362 (afternoons).

SAFETY FACTS

Lost time accidents

| Culham/Harwell | C | H |
|--------------------------------|---|---|
| Recorded since last issue | 0 | 2 |
| Total this fiscal year (98/99) | 0 | 2 |
| Total reported to HSE in 98/99 | 0 | 1 |
| Total days lost in 98/99 | 0 | 6 |

Minor accidents (no time lost)

| | | |
|--------------------------------|---|----|
| Recorded since last issue | 7 | 13 |
| Total this fiscal year (98/99) | 7 | 13 |

There was one radiological incidents, designated category 4, and one non-radiological incident, designated category 2, reportable since the last issue of ECHO.

Fire alarm system

A fault was reported on the site fire alarm system whereby the control desk computer had 'locked out'. All facilities were made aware of the failure and alternative alarm communication systems were invoked. The system's on-call engineer was contacted to rectify the problem and an investigation into the circumstances of the failure is being carried out.

Slight contamination found within Waste Store

When drums of Low Level Radioactive Waste were being moved for checking within a Waste Store, traces of oil and powder were found beneath one drum. They were easily cleaned up and the drum contents made secure. There was no spread of radioactivity but the drum operation was suspended pending an incident investigation. The operators were checked thoroughly with no ill effects found. The event was reported to the Nuclear Installations Inspectorate.

eCHO FREE CLASSIFIEDS

Staffs' classified advertisements on this page for Culham/Harwell, JET, RAL, NRPB, MRC and NIREX are free – subject to a maximum of 25 words, on a first come, first served basis.

• Note: Tel. extensions given below are prefixed as follows:-

H. Harwell; C. Culham;
R. Rutherford Appleton
Laboratory; N. NRPB;
Ni. Nirex; J. JET and M. MRC.

Advertisements are run for one month only (with the exception of Holiday Accommodation). Please resubmit any advertisements that are to be repeated.

FOR SALE

ACCOMMODATION

MOTORS

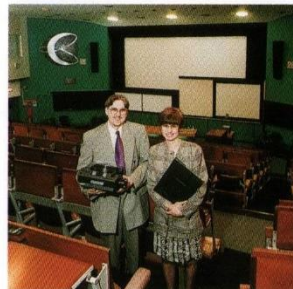
CAR SHARING

MISCELLANEOUS

HOLIDAY ACCOMMODATION

Culham 'makeover'

Last year the restaurant area at the Culham Science Centre received a facelift; now it's the turn of the John Adams Lecture Theatre and the restaurant servery.



In the restaurant it's out with the old equipment and dull décor and in with a bright new serving area with attractive food display to get the appetite going. The lecture theatre has many advantages including central location, free parking, air conditioning and audiovisual equipment, and has been redecorated in a striking green and purple colour scheme. Work was managed by Johnson Controls Ltd on UKAEA's behalf. For more information about hiring the John Adams Lecture Theatre or other parts of the conference suite at Culham, contact Louise Panting on C3494.



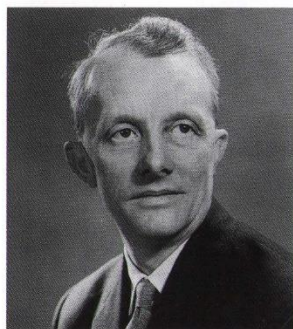
What's cooking?

In early July a new café will open in the Harwell conference centre (B455), but in the meantime temporary facilities are available for lunchtime refreshments. The coffee lounge area is open weekdays from 12-2pm, serving hot and cold food including jacket potatoes, baguettes, sandwiches and rolls, cakes and fruit. If you require a buffet delivered to your offices, or would like to book a meeting room in the conference centre, please contact C3260.

50 years of neutron scattering

Over 70 colleagues of Prof George Bacon met at The Cosener's House, Abingdon to celebrate his 80th birthday and the 50th Anniversary of neutron scattering in the UK. Current staff and retired scientists from UKAEA, AEAT, Rutherford Appleton Laboratory and European universities attended the unique event.

George is regarded as the 'father' of neutron diffraction, having built the UK's first neutron diffractometer on the GLEEP reactor at Harwell in 1947. His book "X-Ray and Neutron Diffraction", published in 1966, is regarded as the definitive textbook by thousands of neutron physicists. He is still actively engaged in research work and was recently awarded the Honorary Degree of DSc as Emeritus Professor of Sheffield University, for being "an acknowledged pioneer and one of the most respected names in the field of neutron scattering".



A youthful George Bacon from around 1950, who celebrates 80 this year.

The day, which included a conference and celebration dinner, was organised by Sheffield University and sponsored by the British Crystallographic Association, the Institute of Physics and the Royal Society of Chemistry. Many of the guests had worked with him on a number of European reactors and pulsed source systems and enjoyed the reunion with their former mentor.

Among the guests were Dr Graeme Low, former director of Harwell, and Dr Peter Schofield, also from Harwell, and former director of the High Flux Beam Reactor at the Institute Laue-Langevin (ILL), Grenoble; Mick Lomer, a director of Culham together with scientists, past and present, from Harwell and RAL.

Mick Lomer gave an historic overview of the research field, describing how the study of the physics of the solid state grew in importance at Harwell using powerful neutron diffraction and time-of-flight techniques. Dr Taylor,



"A gastronomic trio of neutron scatterers formed by Drs Pease, Bacon and Curry! Courtesy of RAL"

director of the ISIS facility at RAL, described how neutron scattering had developed from high flux reactors to high frequency accelerators. He commented that the UK leads the field with 1,000 scientists out of a European total of 4,000 neutron scatterers. "In 50 years the application of neutrons has broadened out from physics and chemistry to most of the scientific disciplines", he said.

Professor Bill David, also from the ISIS facility at Rutherford, described how modern computers had

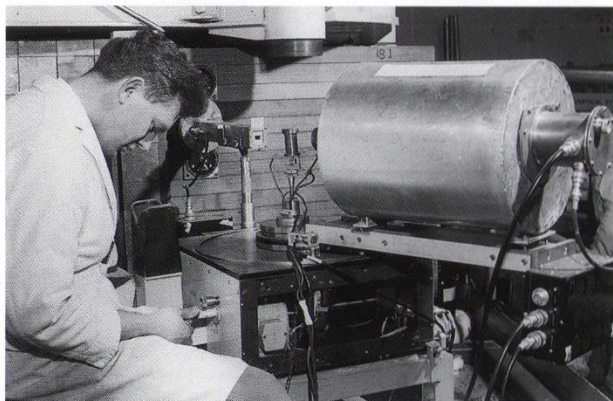
increased neutron data gathering from a few hundred data points/day in the 1950s to over 150 million/day in 1997. The older neutron pioneers were staggered to hear that it was now quite normal to do a neutron diffraction scan, of around 1600 points, in just 60 seconds!

Other lecturers included Prof John Enderby FRS from Bristol University and the master of ceremonies was Prof Alan Leadbetter, Grenoble. The after-dinner speech was given by Prof Sir Bill Mitchell FRS, from Oxford University.

New bus service

Another small but significant step has been made to improve public transport for staff travelling to and from Harwell International Business Centre (HIBC). In addition to the existing JCL Home to Work scheme, a new bus service will run three times a day between the site (stopping at North Drive) and Didcot.

"We are pleased to see a new bus service which passes the front of the site. Hopefully it will be well used and we can liaise with the operators to bolster the service in the future," comments commercial manager, Ian Rodham. "We have built up a good relationship with the county council's transport department, working in particular with the Travelwise team, and HIBC was the founder sponsor of its 'Good Ways to Work' document".



Bill Lowe working on the MkIV Neutron Diffractometer on the 4HI Beam Hole on DIDO in 1959.

THE COPY DEADLINE FOR THE NEXT ISSUE IS: Monday 29 June for publication on Wednesday 15 July 1998.



ECHO is published by
UKAEA, 521 Harwell, Didcot, Oxon OX11 0RA.
Editor: Valerie Judd.
Tel. (01865) 331153 Fax. (01865) 331154.
Designed and produced by: The Imaging Centre, Harwell.

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