

eCHO

THE NEWSLETTER OF THE CULHAM SCIENCE CENTRE & HARWELL BUSINESS CENTRE

September 2001

New tenant taps into fusion skill base



The company is currently working on an engine for a space plane that operates at speeds of Mach 6.

Reaction Engines Ltd is the latest company to move to the Culham Innovation Centre and tap into the technologies and skills surrounding fusion research at Culham Science Centre.

The company specialises in developing compact heat exchanger technology that will eventually be used in applications as diverse as aerospace and container ship refrigeration.

According to managing director, Alan Bond, current heat exchangers are often large and heavy, ruling them out of

applications where weight is critical. The Reaction Engines technology produces small and lightweight heat exchangers.

"We're currently working on an engine for a space plane that operates at speeds of Mach 6 - over 4,500mph. Until now jet engines have struggled to reach Mach 3 speeds because of the high temperature of the intake air. Our technology allows us to cool this down so it can be used in the engine's subsonic combustion cycle," Alan Bond explains.

The UKAEA's technical support package available to companies occupying the Culham Innovation Centre will allow Reaction Engines to move beyond the theoretical, early design work and begin construction and wind tunnel testing of the heat exchanger technology.

"We were attracted by the UKAEA's skills in brazing and materials testing together with a 'can do' approach to overcoming problems. Such support is invaluable to any company pushing back the boundaries of engine technology," comments Alan.

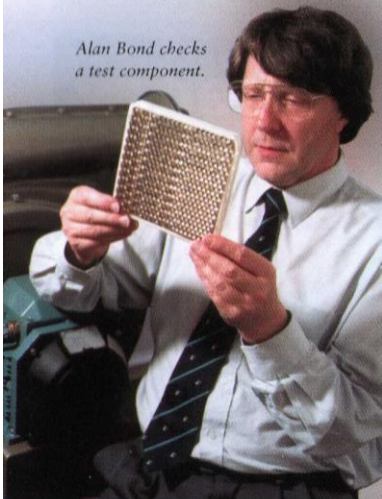
Some funding has been generated through private

investment but financial support has yet to come from the government. The research team is concerned that rival projects in the US and Japan may overtake them.

Alan has long connections with Culham having joined UKAEA in 1976. His work has included time spent on JET, the RFX project and various fusion reactor studies, including space applications. In the late 80s Alan was involved in Britain's Hotel (Horizontal Take-Off and Landing) project and around this time formed Reaction Engines. He has since worked as a consultant to UKAEA on fusion reactor work where his considerable experience gives an invaluable continuity between current and past projects.

"Fusion work taught me the importance of using theory and computer modelling to develop a concept more fully before carrying out expensive test programs," says Alan. "A career with UKAEA in fusion gives a scientist or technologist a superb interdisciplinary foundation - it involves being conversant in physics, engineering, materials science and many other skills."

Alan Bond checks a test component.



This month

Stewart lecture



Image of science



Science minister at RAL



Slow but sure



10 Rounders round-up



ECHO BRIEF

SMART awards

A SMART award has been made to SmartSensor Telemed, based at Harwell Innovation Centre. The company has been awarded £45,000 to further its valuable work that will revolutionise medical testing. It is developing a system that allows patients to diagnose and test themselves for illness. A sensor, the size of a credit card, will test blood, urine or saliva and a detachable microchip will store the results and pass them on to a processing centre via phone, computer or digital television.

- Printable Field Emitters Ltd (PFE) has won a national SMART foresight award. Based at RAL, PFE is a venture capital funded company developing low cost electronic flat panel display technology. Its principal application will be to produce a 20-40 inch 'hang on the wall' television at an affordable price.

Legal seminar invitation

Solicitor, Peter Groves, is holding three legal advice seminars for Harwell or Culham businesses. Staged in the conference room at Harwell Innovation Centre, each presentation will start at 6.30pm and last for about an hour. The dates and topics will be:

Wednesday 12 September: Is there anything the Data Protection Act doesn't affect?

Wednesday 17 October: How can I protect what's on my website?

Tuesday 20 November: The legal pitfalls of electronic commerce.

Contact Peter on 01235 838515 or email peter.groves@davisco.net

Shell contract secured



Image Business Systems (UK) Ltd, the Harwell based supplier of audio-visual and presentation equipment, has been awarded a contract to provide conference room equipment to Shell International's, headquarters at Shell Centre, London. The contract involves the supply, installation and maintenance of conference room equipment. Items include Sanyo and Epson multimedia projectors, projection screens, a Mimio interactive 'digital meeting assistant', Panasonic electronic copyboards and the Sabara range of wall rail systems and accessories.

X-ray gift to Romania

Redundant X-ray equipment has been donated by a Harwell research centre for use in Romanian hospitals. Synexus Harwell Clinical Research Centre is donating X-ray equipment together with film processing facilities through the charity Link Romania. UKAEA has provided funds to cover transport and Wolverston, Kodak and Abdick are contributing by supplying their engineers free of charge to correctly dismantle and package the equipment for safe transit.



Synexus radiographer, Clare Storey (right) who organised the donation, and centre manager, Lisa Weaver, with engineers loading X-ray equipment ready for transport to Romania.

David wins national award



David Field, a senior project manager in AEAT's Nuclear Engineering business has won a top national award for project management. The award recognises over six years' work, largely undertaken in eastern Russia. David's role was to provide expert consultancy services to the Japanese technical secretariat who were funding a plant to treat radioactive liquid waste arising from the decommissioning of Russia's Pacific nuclear submarine fleet. David is pictured here (left) receiving his award from Prof Tony Ridley, president of the Association for Project Management (APM).

propertylife
LETTINGS LIMITED

Estate agency lettings HQ

An estate agency with branches nationwide has set up a new head office at Harwell to specialise in lettings business. Property Life Lettings Ltd has moved into B455 and from this new base will be expanding its letting operation. Residential lettings will make up the majority of its work in the early stages but as new branches are set up in London, this will extend to the commercial sector. There are currently ten shops throughout the country with a further three opening shortly. Nigel Smith is co-ordinating the new office and is looking to recruit staff at Harwell. He said, "Oxfordshire is fairly central within the UK with good road links to the rest of the country so it's an ideal location from which to run the new lettings operation."

Sir Jackie Stewart celebrates *innovation*

An audience at the Culham Science Centre heard motor racing legend Sir Jackie Stewart outline the fascinating and inspiring story of the Grand Prix team he built from "a company with no experience, no factory, and little money", into race winners within a matter of months.



The three times Formula 1 motor racing champion was delivering the 'Celebration of Innovation 2001' lecture, hosted in Northern Ireland and enjoyed, live via satellite, by audiences at more than 40 locations, including the Culham Science Centre as part of the Venturefest programme.

Sir Jackie stressed the importance in business of strategic networking, of doing your homework, of creating a vision and of employing good people and dealing with them properly.

At Culham, Sir Jackie's presentation was followed by an interactive discussion session on innovation and business with a local panel, chaired by Dr Rex Gaisford CBE, a non-executive director of UKAEA.



Stewart in the Tyrrell 003 Cosworth in 1972.

Business Boffin winner

A young Oxford entrepreneur scooped the prize of 'best business idea' at the Venturefest Business Boffins session. Scott Ashmore beat 30 other entrants to win free one-to-one coaching from enterprise experts. His venture, called OxfordUnderground, is a comprehensive web-based guide to Oxford designed for use by tourists, students and locals.

SAFETY Update

There were three reportable incidents at Harwell since the last issue of ECHO.

Some wrapped radioactive packages (without appropriate documentation) were inadvertently added to a correct consignment of radioactive material.

A contractor acting as a banksman to an excavation, tripped over uneven ground and fractured his wrist. The event was reported as a Major Injury under RIDDOR.

A small fire occurred in Helios 1 at the high tension supply to the electron gun. This was reported by AEAT as a Dangerous Occurrence under RIDDOR.

Sport meets culture and science

Visitors to a new leisure centre in Abingdon will be able to enjoy exciting new works of art inspired by local scientific projects.

The Vale of White Horse District Council has commissioned a programme of new artworks for the White Horse Leisure and Tennis Centre, due to open in Abingdon in January 2002. One of the central elements is a new work of art for the swimming pool by artists Michael Wenyon and Susan Gamble, who have

worked together with holography and digital media since 1983.

The nature of Wenyon & Gamble's new piece of artwork will be developed during a residency at Culham Science Centre and CLRC Rutherford Appleton Laboratory. Sponsored by the regional arts lottery fund, the Calouste Gulbenkian Foundation, the designs are well underway.

'Artful teamwork' is the central theme. Artists will observe scientific experiments

and comment on them from an artistic perspective. In turn the scientists will 'comment' on the artists' work. An image derived from their studies will form the basis of a wall design for the swimming pool, and will also feature in an exhibition in the new leisure centre.

To find out more about the work of Wenyon and Gamble please visit their web-site at www.world.std.com/~wengam/

High level briefing

The European commissioner for research, Philippe Busquin, was joined by Prof David King, government chief scientific adviser, for a briefing on fusion research progress at Culham Science Centre.

Their visit included a tour of the major experiments at Culham, namely MAST, the latest UKAEA experiment, and JET, the world's largest fusion experiment, which is operated by UKAEA on behalf of the European fusion laboratories under the European Fusion Development Agreement.

One of the highlights of the visit was a 'round table' discussion where young researchers from all over Europe discussed with the commissioner how fusion could play its part as a future energy source. They also discussed plans for the new international experiment, ITER, and the European fusion programme.



The commissioner was pleased to take part in a 'round table' discussion with young researchers from across Europe.

Reducing greenhouse gas emissions



The team (back row from left): Moira Mathers, Richard Shock, Keith Summerell, David Pegg, (centre row): Karen Heuston, Beverley Shepherd, Philip Newbold, Pauline Toole, Mike Gettings, Pam Onions, Mike Landy, (front): Janette Boram, Madeleine Speed, Graeme Gettings, Wendy Capstick.

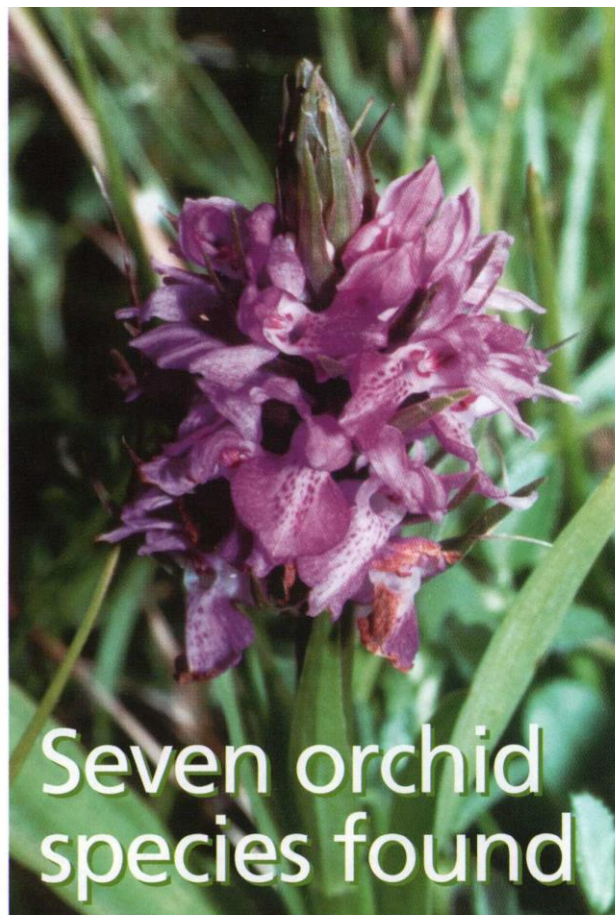
AEA Technology Environment staff at Harwell are co-ordinating efforts on behalf of the International Energy Agency to reduce the world's greenhouse gas emissions by spreading information on the best energy and environmental technology and practices around the globe.

The agency's GREENTIE and CADDET programmes, launched several years ago, allow countries to share information about energy efficiency, renewable energy and other greenhouse gas friendly technologies. They aim to reduce the impact of global warming which is predicted to cause rising sea levels, severe weather and the loss of tropical forests during this century.

Following competitive tender AEA Technology's ETSU (Energy Technology Support Unit) has been awarded three contracts to manage the GREENTIE, CADDET energy efficiency and CADDET renewable energy programmes. The contracts are worth nearly £1m a year for two years, and may be extended for a further two years.

Under the CADDET programmes, the AEAT team will receive information about energy efficiency schemes and renewable technology from individual member countries around the world and disseminate it, through national teams and the world wide web, to all the other members. Abingdon-based ME Thornton Internet will work with AEAT to re-develop and maintain internet sites for the programmes.

Richard Shock of AEAT said, "Technology already exists to help industry substantially reduce emissions. We just need to tell people about it and persuade them to use it. It is estimated that the UK economy alone could operate with 20% less energy, and therefore produce significantly less greenhouse gas, by using technology that is already proven and available."



Seven orchid species found

The discovery of a Southern marsh orchid (*Dactylorhiza majalis* var. *praetermissa*) at MRC, brings the total number of orchid species on the Harwell site to seven. BBOWT the local wildlife trust has been notified of the find. The 'orchid inventory' is now:

- Common spotted orchid (*Dactylorhiza fuchsii*)**
- Southern marsh orchid (*Dactylorhiza majalis* var. *praetermissa*)**
- Common twayblade (*Listera ovata*)**
- Pyramidal orchid (*Anacamptis pyramidalis*)**
- Bee orchid (*Ophrys apifera*)**
- White helleborine (*Cephalanthera damasonium*)**
- Broad leaved helleborine (*Epictis helleborine*)**

Foxglove tree identified

Thank you to everyone who responded to the question posed in the last issue of Echo challenging readers to identify an unusual tree near North Gate. Suggestions included the Indian bean tree and the exotic Jacaranda, but the consensus favoured *Paulownia tomentosa*, the foxglove or princess tree. This deciduous tree with large, heart-shaped leaves and tubular mauve flower clusters can grow up to 15m in height. It is native to China. The flower buds appear before the leaves and are susceptible to hard frosts, which may explain why the trees at Harwell don't flower every year.



Peter Kirby, of Culham Electromagnetics and Lighting, asked a friend in the department of plant sciences in Oxford to identify the tree. He concurred that "the tree is almost certainly in the genus 'Paulownia' in the family 'Scrophulariaceae'. The genus *Paulownia* contains nine species. *Paulownia tomentosa* is valued as an ornamental tree and also commercially in Asia as a source of unusual timber for woodworking. The 'Order of Paulownia' is a high civil and military honour in Japan. Its insignia contains an image of the flower. *Paulownia tomentosa* was introduced in the UK in 1834 via Japan. You have a fine, interesting tree."

Kestrels nest on Pluto

Birds have very specific requirements for their nest sites. Rooks prefer reasonably tall trees within reach of grassland rich in invertebrates, which is why so many rooks nest at Harwell. Yellowhammers like tall thick hedgerows, so this species is fairly scarce on site.

Birds of prey are solitary animals and often go for the highest structure they can find. This point was proved when a pair of kestrels built a nest on top of the Pluto reactor

building this summer. It is an extremely secure site with commanding views of the surrounding countryside. It is well suited to their needs.

Kestrels and peregrine falcons are now nesting in a number of cities on tall buildings so the Pluto nest site was a logical choice. However the pit with redundant tanks just to the east of Pluto produced an extraordinary record.

Measuring approximately 6m x 10m and about 6m deep,

the pit was the unusual location for a swallow's nest this summer. A swallow could be seen hurtling down into the pit and, seconds later, it performed a near vertical take-off out again. This happened repeatedly and the birds were obviously feeding their young. Being a restricted area it has not been possible to see the nest, but it is not the usual site that swallows would select - an outbuilding would be the preferred site for their mud cup nests.



Kestrels chose to nest on the Pluto reactor and swallows built a nest in the nearby delay tank, shown front right.

Paper recycled into benches



The wooden benches were made by the Pathway Sheltered Workshop, a charity in Blackbird Leys which involves people with disabilities in the manufacture of garden products including planters, bird boxes, trellis, etc. Seated on the bench are (from left): Tony Evans and Nigel Bateman of Johnson Controls and Alison Loader of AEAT Environment.

Four new benches have been installed at Culham, funded by the proceeds of the blue box paper recycling scheme. Located in the Culham nature reserve area, the benches are close to the perimeter road where many staff walk at lunchtime.

There are ambitious plans to develop the nature reserve including the creation of a pond, installing nest boxes, coppicing, grass cutting and conducting botanical surveys. The management of the reserve, which covers about six hectares, is carried out by volunteers in their spare time.

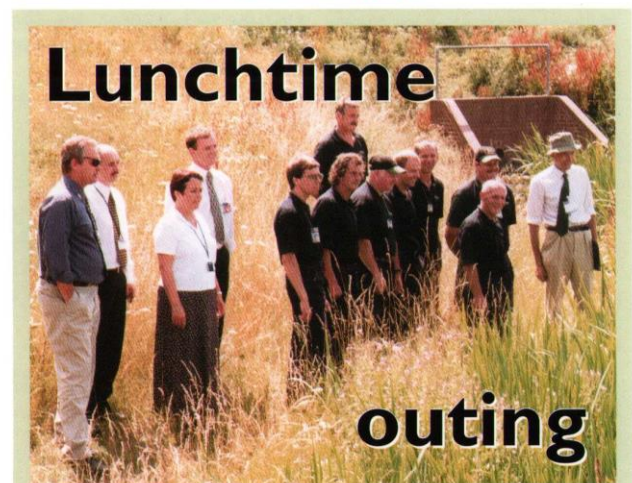
"Due to changes of staff and work commitments, the

management and development of the reserve area has lapsed somewhat so new volunteers would be very welcome," says Jeff Lampert, a senior air quality consultant with AEAT Environment.

Anyone who is interested in helping to develop the reserve can contact Jeff by email at jeff.lampert@aeat.co.uk



While JET was shut down for routine maintenance eighteen secretaries who work for UKAEA at Harwell took the opportunity to visit the world famous facility. After a short presentation on fusion research, their tour included the assembly hall, the Torus hall and the impressive control room. The visit was rounded off with an enjoyable buffet lunch where they were joined by Culham secretaries and members of the Culham 'continuous improvement group'.



Summer months are especially hectic for grounds maintenance staff at Harwell but they managed to take some time out to reflect on the fruits of their labour. Staff from Scion Estates went on a tour of the Dido Road lagoon with an ecology expert to take a closer look at the wildlife in the area. As well as a good range of wild flowers, seven species of butterfly, including the less common brown argus, and five species of dragonfly were spotted.

New chief executive

A chief executive for the Diamond Synchrotron project has been appointed. Prof Gerhard Materlik will take up this position on 15 October. The appointment is for an initial period of seven years and has been made jointly by the OST, the Wellcome Trust and the French government.

Hotel agreed in principle

The Vale of White Horse District planning committee considered the planning application for the hotel and leisure club at their meeting on 16 July 2001. The committee resolved to accept the principle of the development at Harwell but a final decision was deferred pending further consideration of the detailed design of the hotel building. A final decision is not now expected until later in the year.

Leaflet details Mary Lyon Centre



A new leaflet giving information about the Mary Lyon Centre development at Harwell has been produced by MRC (Medical Research Council). It describes the main activities to be carried out at the centre, development timescales and its impact at Harwell. There is also an informative 'question and answer' section giving more in-depth explanations about MRC's plans for the facility. For copies please contact Gary Strickland at g.strickland@har.mrc.ac.uk

Cat reunited with owners

In the last issue of Echo we reported that a cat had moved in with Scion Estates in B353T at Harwell and appealed for the owners to get in touch. There is a happy ending to the story as Scion was contacted by her owners who had moved from North Drive some five years ago and lost their cat when she ran away. As is often the case, the cat's homing instinct brought it back to Harwell, but she has now been reunited with her family.

Capturing a 'vision of science'

The winners of a national science photography competition were decided by a select panel of judges which included UKAEA's image resources manager, Eric Jenkins.

The Daily Telegraph/Novartis 'Visions of Science' photographic competition invited entries that would communicate the impact of science, medicine and technology on our lives. Professional and amateur photographers submitted their work in the hope of winning the £750 cash prizes in each of four categories.

"The best photographs illustrated a scientific principle as a story captured in one frame," comments Eric. "They were often fairly simple but visually dramatic and eye-catching. Science photography is a difficult field with many special techniques employed, but, like any image capture, it's not always the photographs that have taken the longest to produce, or the most complex ones that have the greatest impact."

The results of the competition will be published in the Daily Telegraph in September. The winning and commended entries will appear on the Visions of Science website (www.visions-of-science.co.uk). A Visions of Science exhibition will also tour science and photographic venues around the UK.



Eric (pictured left), joined other eminent judges including Adam Hart-Davis, an academic and media presenter, and Dr Jennie Jewitt-Harris of Novartis, to select the winning images from over 700 entries.

Simon's safety award

Simon Haycox of AEA Technology was recently presented with a health and safety award by Dr Alan Knipe, managing director of Nuclear Technology Group. The aim of the award scheme is to celebrate and publicise excellence in health and safety practice or performance. It is judged by members of the AEAT joint committee for health and safety. In addition to the certificate Simon received a complimentary dinner for two at a restaurant of his choice.



Simon's award was in recognition of his vigilance and sound judgement during the course of his work. His behaviour was commended by Andy Johnson of UKAEA. He has worked at Harwell for 21 years and joined the IMS department of Nuclear Science last December. Simon

(centre left) is pictured receiving his certificate from Alan Knipe with Denzil Brown (far left), one of the department's trade union safety representatives and other members of Nuclear Technology management, Allen Edwards (second left), John Berry and David Wade (far right).

Return ticket for Allen



At his farewell presentation Allen (left) is presented with a 'return ticket' by HSED colleague Mike Crosbie.

Allen Edwards, UKAEA's head of safety and environment at Harwell, has begun a secondment to work with AEA Technology to help manage the B220 radiochemical facility during its final operating period. Allen will also have responsibility for AEAT nuclear science operations at Culham. Taking over Allen's principal role during his secondment is Kathleen Stevenson, Harwell health physics manager. Stan Gordelier, director of UKAEA southern division, said, "I am grateful to both Allen and Kathleen for taking on these new roles, and I wish them both well."

Science minister pays RAL tribute

Lord Sainsbury, minister of science, marvelled at the broad spectrum of world-leading scientific research carried out at CLRC Rutherford Appleton Laboratory (RAL) during a fact-finding visit.

He gave a short talk to staff which was relayed over a webcam for viewing at CLRC's other two sites. He spoke about the need for a more strategic approach for funding central research facilities.

"It is a remarkable tribute to all of you that the science is at such a high quality and there are obviously huge opportunities ahead for the organisation," he told staff. "Following the report

from the first stage of the Quinquennial Review, which recommends changes in the way CLRC is funded, I hope the new-look CLRC will continue to build on the considerable successes of its past."

After answering questions from staff Lord Sainsbury presented the Investors in People plaque, awarded earlier this year, to Rosie Sherry, head of learning and development.



Professor Richard Nelmes (right) explains some of the scientific research carried out on Isis as Lord Sainsbury toured the facility with Prof John Wood (left).

Winning science writers welcomed

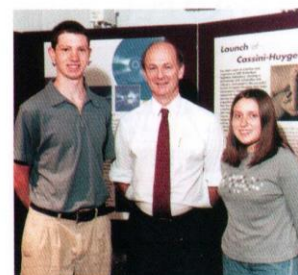
Winners of an Oxfordshire youth science writing competition were given a special insight into international space research when they toured CLRC Rutherford Appleton Laboratory (RAL).



The visitors, led by Graham Toplis (left) entered clean rooms where instruments are tested under conditions encountered in space.

As part of their prize the winners of the Oxfordshire Science Writing Competition, organised by the University of Oxford and the Oxford Times, were invited to RAL with guests. Jessica Jameson, who won the 12-13 year old category and James Traer, winner of the 17-18 year old prize, were welcomed by Prof. Richard Holdaway, director of space science and technology.

"Our visitors asked a lot of very astute questions that showed a real interest in and knowledge of the subject," he said. "We enjoy showing around enthusiastic visitors like these."



Winners James Traer and Jessica Jameson were welcomed by Prof Richard Holdaway.

Jessica's visit has given her a definite career direction. She said, "I've always loved maths and sciences but until my trip to RAL I didn't feel I knew what I wanted to do with them. Now I feel sure that I want to work in space science and hope I can work at RAL."

New careers with police team

Getting to grips with the geography of the Harwell site was the first challenge for two of the newest police constables joining the UKAEA Constabulary.

PCs Chris Kent and James Fitch arrived at the end of May and are enjoying working in the pleasant surroundings of the Harwell/Chilton campus.

Chris had worked at Vauxhall Barracks in Didcot for eight years, latterly as an MOD Guard Service dog handler. James was a prison guard at Bullingdon, near Bicester.

"The initial thirteen-week module of the training course was intensive and started from basics," says James. "It covered everything from self-defence and driving techniques to laws and legislation. The firearms section lasted three weeks. Anyone who didn't pass this part of the course, failed altogether."

Having completed the 13-week foundation course at the Summergrove Constabulary Training Centre in Cumbria, both have a further two years work related training to undertake before qualification.



A change of direction brought PCs Chris Kent (left) and James Fitch to Harwell, pictured here with Sgt Geoff Walker (right), a long-serving UKAEAAC member of staff.

This includes a return visit to the training centre for further modules and exams.

Since joining they have carried out UKAEAAC duties in all parts of the site. They each have a mentor constable to guide them through the two-year pro-

bationary period. They will complete a development plan to round off this intensive training programme designed to ensure that officers are sufficiently equipped to deal with most problems likely to arise during their tour of duty.

RACE FOR LIFE

Staff from UKAEA property management joined 3,000 other women and children who took part in the annual 'Race for Life' at Oxford University Parks in aid of the Imperial Cancer Research Fund. The event was part of a national series of 5k fund raising walks or runs, exclusively for women, organised by ICRF.

More than 120,000 women in the UK are diagnosed with cancer every year so many people are touched by cancer in some way. This prompted the UKAEA team and their families and friends to take up the challenge and, despite the hot, humid conditions, all completed the course. Times varied from

under an hour to just 33.16 minutes by Una Bustany. Through donations and sponsors around £1000 was raised.

The team would like to say thank everyone who supported them including donations from ICE, ISS and Scion and the provision of UKAEA t-shirts from corporate communications.



Ready to race are: (back row from left) Sue Thomas, Becca Lester, Helen Gilmour, Dawn Russell, Karen Simpson, Linda Pudney, Jo Manners and Elizabeth Chandler. Bottom row from left: Claire Gilmour, Una Bustany, Katie Evans, Pam Evans, Lesley Speirs and Karen Blick.

Broken rib didn't break spirits



Nick Savin from CLRC Rutherford Appleton Laboratory was one of 20 people who competed in the inaugural British 10k Road Race in aid of the Harwell based charity, Against Breast Cancer (ABC). The charity would like to thank all the runners, but a special mention goes to Nick who, despite suffering from a broken

rib, managed to complete the race and raise £260. Nick is pictured here, back row left, with other runners and ABC supporters. The race route was very scenic taking in London landmarks such as Trafalgar Square, Westminster Abbey, Big Ben and St Paul's Cathedral, before finishing opposite the London Eye. For details of how to run for ABC in forthcoming races such as the London Marathon on 14 April 2002, contact the charity on 01235 820777 or visit the website at www.aabc.org.uk

Marathon thanks

"A big thank you goes to all those who contributed to my London Marathon fundraising. I now have a grand total (drum roll) of £761.57. I could not have done this without the most generous contributions from my colleagues and associates. On a personal note I crossed the line at 5:03 (official time) with a 15 mins delay at the start. I couldn't have wished for sunnier weather and the crowd were fantastic - they really did pull me along. It was an experience to be relished and I'd encourage anybody to do it."

Emma Bagley

NRPB reports on TETRA

Terrestrial Trunked Radio (TETRA) is a new digital radio system for use by commercial organisations and emergency services. Its operation results in pulse modulation of the radiofrequency (RF) signal at a low frequency of 17.6 Hz. Concerns have been raised about possible health effects of exposure to RF radiation that is pulse modulated - a form of amplitude modulation - at low frequencies.

AGNIR (NRPB's Advisory Group on Non-ionising Radiation) has explored the operating features of the TETRA system, people's likely levels of exposure, and studies relevant to the assessment of any biological effects.

The advisory group has noted that signals from base stations are not pulsed whereas those from hand portables and

from terminals built into vehicles are. It concludes that, although areas of uncertainty remain about the biological effects of low-level RF radiation in general, including modulated signals, current evidence suggests that it is unlikely that the special features of signals from TETRA hand portables and terminals mounted in vehicles pose a hazard to health.

Response to Green Audit

NRPB has responded to recent publications by an organisation called 'Green Audit'. In broad terms Green Audit has suggested that the risk of cancer mortality near nuclear sites is associated with the transfer from sea to land of particles carrying anthropogenic radioactivity followed by their inhalation and ingestion. Having reviewed the proposition and considered the evidence presented by Green Audit, NRPB has concluded that the hypothesis is very unlikely for a number of reasons. The detailed NRPB analysis can be found at www.nrpb.org.uk/Topics.htm

Video reviews mobile phones and health

A 30-minute video entitled 'Mobile Telephony and Health' has been produced by NRPB. It provides a timely, digestible review of the current state of knowledge about the possible health effects of mobile phone handsets and associated transmission masts. It will be of interest to professionals who have to deal with mobile phone issues

and to members of the public who are keen to know more about the subject. Copies are available at a cost of £6 and can be ordered by calling Jane True/Jill Crook on 01235 822742.

NRPB

Make time for work experience

Sue Bradbury, who works in UKAEA's corporate communications team at Harwell, has strong reasons for encouraging staff to take on work experience students.

In 1980 Sue came to Harwell on work experience as part of a two-year secretarial course at Abingdon College. "I saw for myself the kind of work that took place at Harwell and thought it would be a nice place to work," she recalls.

"I've had several requests from Personnel over the past few years to have Year 10 work experience students from local schools in Abingdon, Didcot and Wantage. We all have busy jobs and although there never seems to be a good time to have students I have never turned down a request. I feel it is important to offer places to students as it gives



UKAEA's Sue Bradbury and Carl Alder (right) with work experience students Fiona King and Stuart Mundy.

them an insight into a working environment.

"We have quite a large department so there is usually someone available to spend a small amount of their working day with them to give help and advice.

"I also have two daughters at secondary school in Wantage and

next year one will be looking to do work experience. I hope they'll be lucky and get the opportunity to work in a place like UKAEA!"

If anyone is interested in helping a work experience student next year please register your interest with UKAEA personnel department who will follow up nearer the time.

Local primary school children clubbed together with Blewbury Croquet Club to learn the subtleties of the game at Harwell. The croquet club is applying for 'opportunities funding' to create its own croquet lawn, and needed to demonstrate involvement with the local community to be eligible. Members organised a children's croquet tournament and took on the task of teaching year 6 pupils from the Blewbury and Chilton schools during the summer term. Practice sessions took place throughout the summer on the main sports field at Harwell.



Children learning the finer points of mallet control on Harwell's croquet lawn.



Pictured here is Peter Goodman (right) a cleaner with ISS and winner of the company's monthly staff draw. Peter is receiving his hamper of food from facilities manager, Phil Whitaker. The draw is open to all ISS staff and recognises the commitment they make in their work.

Hamper winner

Good guess!

A last minute guess by Dawn Russell of UKAEA property management won the weigh-bridge challenge questions set in the last issue of Echo by ISS. Dawn thought the weight of the Austin 7 car was 610kg and that it would take 37 seconds longer than the Ford Cosworth to reach 40mph. The correct answers were 575kg and 36 secs respectively. Her prize is £100 of M&S vouchers.

OUT & ABOUT

Walk for wildlife



The 10th annual fundraising Walk for Wildlife is being organised by BBOWT (Berks, Bucks and Oxon Wildlife Trust) on Sunday 16 September. Called 'water voles and woodland walk' it is a 9-mile circular walk (two circuits will make an 18-mile walk). It passes through the beautiful Chilterns, including a stretch alongside the Grand Union Canal, through Wendover Woods and takes in far-reaching views across the Aylesbury Vale. The aim is to raise funds for nature conservation and there are champagne prizes for the team and individual raising the most sponsorship. For an entry form call 01865 775476.

Have a ball

It's time to plan for the annual charity ball which this year takes place on Friday 2 November in the Rutherford Appleton Laboratory restaurant. Guests will enjoy a three-course meal, and entertainment from the 'Unbelievables' band, a cabaret from the classically trained artist, Adua Bianchini, and Electroloom disco to round off the night! Five local charities will benefit from the evening. Tickets cost £26 and are available from the following AEAT staff: Susan Bowman, Carol Smallbone, Janette Boram or Grahame Murphy.

Salsa Spectacular

Latin dancing is coming to Didcot and you can join in, and raise money at the same time. As part of the 2001 Didcot Arts Festival, Jerry Goff, mayor of Didcot who works for UKAEA at JET, is staging a Mayor's Charity Salsa Spectacular on Saturday 27 October at Didcot Civic Hall. Tickets cost £7.50 and include an introductory salsa/merengue workshop - for absolute beginners. Topping the bill will be a live appearance by Latin Fiesta, a London dance troupe. All proceeds will go to the mayor's chosen charities. Details are available on the web at <http://www.Didcot-Salsa.co.uk> or call 0709 235 6248.

Family Funtasia

A 'Family Funtasia' is being held at Didcot Civic Hall on Sunday 16 September from 11am, organised by the Christmas Street Fair Committee. There will be a traditional funfair on the lawn including swing boats and a 100-year old carousel, games, candy floss, fairground organ and small agricultural show with showmans' engines in steam. Indoors there will be a miniature working funfair, stalls, games and raffles. Admission is £1 for adults and free to accompanied children.

SLOW moving load



The slow-moving load on its half-hour journey travelling along Rutherford Avenue towards Fermi Gate.

Four miles an hour was the maximum speed limit for transporting a huge 'metal box' across the Harwell site on 8 August. The stainless steel liner box from one of the remote-handling cells in B220.29 was being moved to B775 for temporary storage and to make more space available in B220.29.

Measuring around 9.5 cubic metres and weighing approximately 2.5 tonnes, the structure was thoroughly cleaned, decontaminated and protectively wrapped prior to the move.

The operation involved interaction between the Harwell Lifting Advisory Service, the UKAEA Constabulary, B220 UKAEA operations team, B220.29 AEAT facility management, B775 ATO holder, B462 operations team and property management.

All the parties had worked together beforehand to prepare plans and risk assessments. The preparation paid off and the operation was well executed on the day. Particular praise goes to Bob Roberts of Harwell Lifting Advisory Service in B462, who played a central role in co-ordinating the various interactions.



Journey's end as it reaches B775, the Pluto remote-handling bay.



Cricket winners in golden year



Winning captain, Graham Dennie receives the cup from Richard Morgan of ICE Projects.

The Harwell evening league cricket may have celebrated its golden jubilee this year, but in all that time it probably hasn't had such a closely contested final as the one this year between the BATTERS and Bookham Gentlemen's XI. Ten teams had taken to the field in May at the beginning of the competition which was kindly sponsored by UKAEA and ICE Projects.



The BATTERS won this year's Vice President Cup.

Bookham batted first and runs were at a premium as the BATTERS bowled and fielded very well, with Bob Humphreys the pick of the bowlers with 4-0-9-0. Bookham scored 93-8 off their 18 overs and then fielded like demons in defence of their total. Richard Wynes was extremely effective with 4-0-6-2 as the game entered the last over with five runs still required. The BATTERS scored the winning runs with three balls to spare with Martin Ridley receiving the man of the match award for his 37 not out off 34 balls.



Runners up, Bookham Gentleman's XI.

Richard Morgan of ICE Projects kindly presented the Vice President Cup to BATTERS captain, Graham Dennie, and also made presentations for best batsmen to Graham Plested (260 runs) and best bowling to Amjad Khurshheed (11 wickets).

The organisers would like to thank Nigel Bateman and Keith Franklin for umpiring the final, Penny Oliver for scoring, and to both UKAEA and ICE Projects for their financial support.

Rounders round-up

The grand final of this year's rounders competition was hotly contested by Paul Pritchard's Yobblers and Sandra Helm's Up and Unders team. After a tense first half with tight fielding by both teams, Yobblers led 1½ to 1. However, all was to change in the second half. Yobblers did not manage to score any more rounders and with Up and Unders scoring 2 more, the final score was 4 - 1½ to Up and Unders, who won the competition for the second year running. Mike Storey, UKAEA Harwell operations manager, presented the trophies.



Triumphant winners for the second year running - Up and Unders.

In the Plate Final NRPB's Nutty Nukes battled with Gemini Giants. The final score was 8½ - 6 to Nutty Nukes. The Chilton Challenge, between the Harwell campus and a combined RAL/NRPB/MRC/Culham team, was won again by Harwell. This year trophies were awarded to Paul Sedwards and Addy Hardcastle for the highest male and female scorers in the whole competition. The rounders club AGM will be held on 10 September at RAL. Contact Sue Tavender (sue.tavender@rl.ac.uk) for further details.



Gallant runners up celebrate near victory - the Yobblers team.

Lunchtime 6-a-side!

With the new football season upon us, it's time to think about dusting off those boots and playing in this autumn's six-a-side football tournament. Because of the bad weather experienced last winter, the plan is to launch the new tournament by mid-September. Some of the current teams are looking for new members but it's also not too late to enter a new team. I must remind you that all players should be members of the rec soc. So if you're interested as either an individual or a new team, full details from colin.moody@cfx.aeat.com or call 01235 448013.

Chilton School celebrates half century

A special exhibition evening was a highlight of the celebrations to mark the golden anniversary of Chilton School.

Former head teachers, staff and ex-pupils met in the school hall to look back at the last fifty years. The exhibition, sponsored by UKAEA at Harwell, traced the parallel stories of the school and the adjacent nuclear science campus.

The school's history contained a photographic record of five decades of achievements, historic logbooks, early examples of school uniforms, the school bell and an anniversary tapestry. UKAEA's exhibition charted the history of AERE Harwell to the present day and included a model of a reactor, early electronic instruments and various reactor items.

UKAEA also sponsored the school's 20-page history book, which contained extracts from logbooks and photographs spanning half a century. Colin Hills, chairman of governors, said "When AERE took over RAF Harwell in 1946, two hundred prefabs were built to house the staff. The tiny village school in Chilton was unable to

accommodate all the children and many had to be bussed to Harwell village. A new school was built on land made available by AERE and Sir John Cockcroft, the then director of Harwell, officially opened it on 2 October 1950. Our association with UKAEA has continued ever since."

Guests were able to see a brand new school, due to open in 2002, being constructed alongside the existing school due for demolition next year.



Christine Dunsdon, head teacher, and Jeff Lemon, a former head teacher, examine the school's history book sponsored by UKAEA.

RAL dishes out help

As part of its fundraising activities to provide resources for the new building, Chilton School compiled a recipe book which was produced and printed by CLRC RAL. The book details over 200 recipes with drawings by children and was a community project involving pupils, ex-pupils, parents, grandparents, staff and villagers. Funds from book sales will go towards items such as books for the new library. Head teacher, Christine Dunsdon, is pictured with Prof John Wood, CLRC chief executive, and pupils, James Mignanelli and Charlotte Luke.



Pictured from left: Mr Dunsdon and Christine Dunsdon (Chilton School head teacher), Nick Hance, Cllr Ann Chynoweth, Cllr Peter Kent (deputy mayor of Wantage), Cllr Andy Brewer (E Hendred PC) and Jenny Hanaby, mayor of Wantage.

Over 100 local people from around the Harwell International Business Centre attended a summer evening reception, held by Dr John Wilkins, head of UKAEA's Harwell site, at Chilton Village Hall.

Among those invited were parish councillors from Harwell, East Hendred and Chilton, staff and governors of Chilton School and local residents. UKAEA staff, which included Rear Admiral Sir Kenneth Eaton, chairman of UKAEA and Dr John McKeown, the chief executive, mingled with guests during a warm summer's evening.

John Wilkins, UKAEA head of site, said, "Our guests were pleased to talk to UKAEA managers in the informal atmosphere at Chilton Hall

and we answered a variety of questions about our operations at Harwell."

Forming a backdrop to the event was an exhibition of UKAEA panels describing some of the work being done at Harwell restoring its environment from its nuclear past. Rosemary Munro and her twin sister Margaret Scruby provided background music on Paraguayan harps.

The reception was held during the week when Chilton School celebrated its 50th Anniversary.

THE COPY DEADLINE FOR THE NEXT ISSUE IS: Monday 17 September for publication on Wednesday 3 October 2001.



ECHO is published by
UKAEA, 521 Harwell, Didcot, Oxon OX11 0RA.
Editor: Valerie Judd. Tel. (01865) 331153 Fax. (01865) 331154.
E-mail: vjpr@globalnet.co.uk

Your contact is:
Harwell PR manager, Nick Hance, 521 Harwell.
Tel. (01235) 436909 Fax. (01235) 436899
Designed and produced by:
Darren Moores Tel. (01235) 210269.

