

Racing legends from Harwell stables

Aerial view of The Bungalow stables.



The fascinating evolution of the site now occupied by the Harwell International Business Centre can be traced back further than its days as a wartime RAF station. As one would expect, sheep grazing and racehorse training were the main activities taking place in the first three decades of the twentieth century.

ECHO looks back at the history of racehorse training before the site became (and being) and, in particular, "The Bungalow" stables which housed 36 horses. These were located along the line of Frome Road bordering the proposed Chilton Field housing development, built around 1905 it was the first bungalow to be erected in Chilton - hence its name.

An aerial photograph, probably taken by the RAF just prior to them acquiring the land as a WWII bomber station in 1936, clearly shows a colonial style wooden bungalow about half a mile south of the Main Gate on the former A34. Also apparent are the tennis courts, adjacent stables and oval exercise track alongside what was then known as Thorningdown Road. This green road linked the A34 with the Golden Mile road at the place now occupied by MRC's buildings. The main RAF Harwell runway, used to launch

Newmarket taking £5,655 in prize money, more than matched in winning bets by most Chilton residents! Noting that the weekly wages for a farm labourer in the 1930s was around £1.50 this amount of prize money was a considerable fortune. The villagers were still talking of their winnings from the Caserwath books, several years after AERE Harwell came into being!



A 1903 newspaper photograph by John Beer depicting two jockeys racing horses at Newmarket.

In 1935 two RAF officers made an appointment to visit the stables. One of them opened the door with the words "Mr Cundell there's going to be a war" and six months later the RAF took over his land for a bomber station.

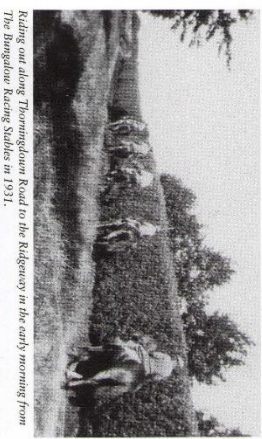
(ECHO is indebted to Frank Dumbleton, Chilton for allowing us to use material from his research into the history of racing at Chilton).

New bus timetable

	(1)	(2)
Blewbury (Lead of Mischief)	0705	0753
East Hapbourne, memorial	0711	0759
Didcot, Sandmington Road	0714	0802
Didcot Broadway	0718	0806
Didcot Parkway station	0722	0810
HIBC arrives	0740	0836
HIBC departs	1641	
Didcot Parkway arrives	1701	
Didcot Parkway departs	1714	
(connecting service - change at Didcot Parkway)		
Didcot Broadway	1717	
Didcot Sandmington Road	1721	
East Hapbourne	1723	
Blewbury	1729	

(1) runs south along A4185 (towards Chilton village)
(2) runs north along A4185 (from Chilton village)

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Riding out along Thorningdown Road to the Ridgeway in the early morning from The Bungalow Racing Stables in 1931.



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ECHO

THE NEWSLETTER OF THE CULHAM SCIENCE CENTRE & HARWELL BUSINESS CENTRE

MAY 2000

Harwell welcomes cancer charity

The pioneering work of Action against Breast Cancer (ABC) will have a new impetus as the charity moves to new premises at the Harwell International Business Centre.

Director, Pat Leatham and her team had been based at the Culham Science Centre for three years and, when the lease expired, were looking for a new home. UKAEA, which has sponsored ABC, has agreed a new lease with them for a unit in B343 Curie Avenue, allowing ABC to pure down its administration costs to a minimum. The new premises have been refurbished free of charge by Johnson Controls Ltd (JCL).

"Our most recent audit shows that only 8.4% of all income is spent on administration - an extremely low percentage and with the opportunities provided by this move, more of our funds will go directly to pay for research," says Pat Leatham.

In the UK 35,000 new cases of breast cancer are diagnosed each year. ABC is distinct from other charities in the field as it concentrates on research into secondary spread, the major cause of death. Its aim is to pinpoint factors that affect the survival of women with breast cancer that are alterable. Research centres around three



Pat Leatham has voted Oxfordshire woman of the year for her invaluable work.



ABC star fundraiser, Jeanne Christie, and her daughter, Lucy, who live in Weymouth.

key areas - examining how oligosaccharides (chemical sugars) on cancer cells affect spread and progression; diet and lifestyle factors which slow down the growth of cancer cells and how natural immunity can destroy any remaining cancer cells. Ultimately ABC hopes to develop a vaccine.

At its laboratories at Middlesex Hospital, part of University College London, ABC's research is headed by Dr Anthony Leatham MD. There is also a research unit at Oxford's Churchill Hospital, where Pat Leatham worked in nursing, with a special interest in breast cancer.

Since its launch in 1993 ABC has raised over £2million but requires about £700,000 to continue. Some 4,000 volunteers work throughout the UK to support ABC.

"My message to companies and staff at Harwell and Culham

would be to think everyone who has helped us to date and to encourage people to consider ABC as the nominated charity for their fundraising at work, schools or local clubs," says Pat.

"We would also welcome gifts in kind, perhaps office equipment that is being replaced. If staff are about to retire we would be most grateful for any voluntary time they could spare, especially if they have scientific skills.

"Our charity is unique because it works alongside the research team and by keeping costs low our donation to research is as high as possible. Unlike many other studies we're not dealing with genetics - we're committed to finding ways to stop secondary spread which is the main cause of around 14,000 deaths each year in the UK."

The new contact telephone number for ABC is 01235 820777.

This Month



Exploring science



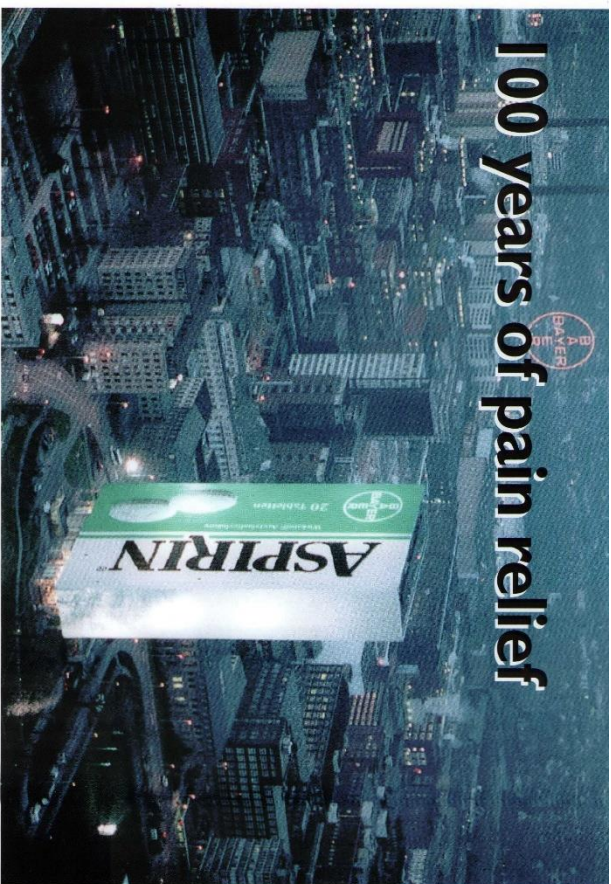
Bird spotting



Marathon champions



Racing legends



100 years of pain relief

Aspirin is synonymous with rapid pain relief, life-saving prevention of heart attacks and strokes and is the most widely sold pain reliever in the world. Dr Felix Hoffman succeeded in producing the aspirin active ingredient, ASA, in a chemically pure and stable form for the first time in 1897. Last year aspirin celebrated its centenary, marking up one hundred years since the trademark was registered at the Imperial Patent Office in Berlin.

Synxerus, formed from AEA's clinical trials section and the Edgebright Partnership, has been invited to find volunteers who would be interested to take part in an 'over the counter' (OTC) type study comparing aspirin, paracetamol and placebo, in the treatment of tension headache. If you suffer with headaches and would be inter-

Some highlights from aspirin's centenary

- 1935** Aspirin saves lives during a major flu epidemic in Europe.
- 1950** Aspirin appears in the Guinness Book of Records as the best-selling paracetamol.
- 1969** Aspirin accompanies Neil Armstrong and fellow astronauts to the moon on board Apollo 11.
- 1977** An American study proves that ASA prevents stroke.
- 1985** Findings reported in New England Journal of Medicine that ASA averts 95% of the risk of heart attack in patients with unstable angina pectoris.
- 1992** The aspirin chewable tablet is launched. Aspirin accompanies a Dutch expedition to Mount Everest.
- 1994** A study published in the NEJM shows that people who frequently take paracetamol or non-steroidal anti-inflammatory drugs have an increased risk of developing irreversible renal damage while people who frequently take ASA do not.
- 1996** FDA proposes ASA as the drug of choice in suspected cases of acute heart attack.
- 1997** A new variety of rose is named 'Aspirin'.
- 1998** Nearly 50,000 tonnes of ASA are produced every year across the globe - pressed into 5000mg tablets this would produce 100 billion tablets, more than enough to stretch from earth to the moon and back!

Maintenance systems streamlined

An important project is underway to streamline the systems that control maintenance across UKAEA at Harwell. The exercise will enable UKAEA to standardise maintenance recording procedures across the site as well as demonstrating adherence to EMTIS (equipment maintenance inspection test schedules).

The new system is called Mainsaver - from Mecravision Ltd - and has been used in parts of Doumary for over eight years. At Harwell the maintenance schedules for operational, property manage-

ment and projects departments should be running on Mainsaver by the end of the year. Presentations have already been made to a number of users and would like more information contact Tony Cook on H3903.

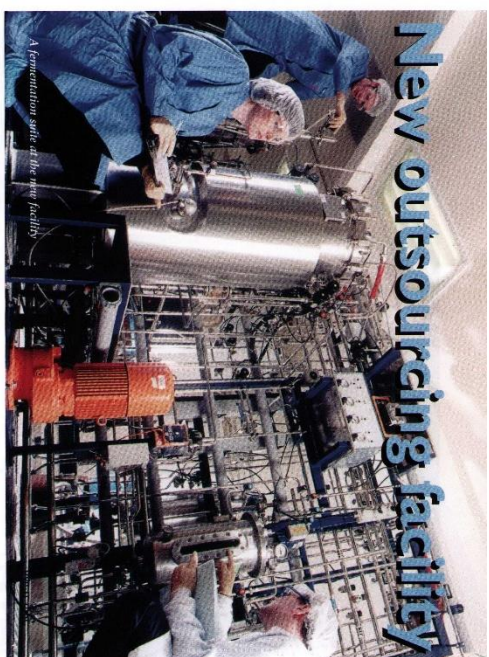
SAFETY Update

There has been one reportable incident at Harwell and none at Culham since the last issue of ECHO.

A contractor injured his thumb on a wrench cable whilst participating in a facility exercise. He was off work for more than three days, which made the event reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (1995).

EA Technology has opened a new manufacturing facility to make biopharmaceuticals for companies that are evaluating new medicines. Outsourcing in this way allows both large pharmaceutical companies and emerging biotechnology businesses to concentrate on drug discovery and avoid tying up capital in expensive manufacturing facilities.

The facility is located at Cowley on the Watlington Road close to other biotechnology organisations. It will deal with development and manufacturing for new biopharmaceutical drugs being developed for many diseases such as cancer and cystic fibrosis, and has the capacity to produce a 450-litre batch in one cycle.



New outsourcing facility

Barnett opens new safety shop



Phil Barnett (right), chairman, WYDP, Culham, the new shop open for five years. In the foreground are Geoff Huckelbridge, Phil Barnett and Vera Barnett.

Having worked with many of the tenants at Harwell and Culham for the past five years, Barnett Safety Equipment Services is expanding. The business has opened a shop at 363 Cane Avenue, Harwell, and will be extending its range of safety and respiratory equipment to include personal protective products - everything from hard hats to high visibility jackets!

Phil Barnett and his colleagues, Geoff Huckelbridge, are both ex-Harwell staff and former trades union secretaries. Their new enterprise will be anything but a closed shop, opening Monday to Friday from 9am or earlier to around 4pm. Although they will still visit customers' premises for repairs and installations the shop will be their main base. Among the vast range of

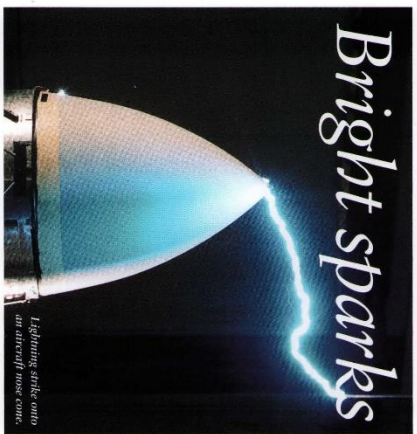
EA Technology already provides a range of pharmaceutical development services to the global marketplace and recently had a presence at the international 'Bio 2000' exhibition in Boston. The new facilities will allow AEAT to scale up manufacturing to include pre-clinical, phase I and II clinical trials.

The worldwide market for outsourcing in this field is worth around £650m and is growing at 20% a year. A recent DTI study stressed the importance of contract manufacture in the UK.

North Gate open



Head of site at Harwell, UKAEA's John Williams, with PC Jimmy Green of UKAEA Constabulary, at the newly opened North Gate.



Bright sparks

Lighting spike onto an aircraft nose cone

join Chelton

The Chelton Group has recently gained a presence at Cullham Science Centre with its acquisition of AEAT's electromagnetic and lighting division. Chelton, part of Cobham plc, is centred at Marlow but has 30 companies located in the UK, Western Europe, North America and South Africa.

Chelton's principal business is the design, development and production of aircraft antennas, radomes and avionics equipment. The addition of a new capability - Cullham Electromagnetics and Lighting Ltd - will significantly enhance Chelton's technology base. Brian Phillips has been appointed MD of the new Cullham organisation. He said:

"The division has developed over a million lines of electromagnetic design software in the past decade and their codes are highly regarded by users. Cullham has first class CAE software for stealthy surfaces, antennas, vacuum electronic devices and ion beams."

The business will continue to operate from its present site with the existing workforce. Brian added, "We are committed to making the new Cullham company a success. We have already invested to replace obsolete computers and install improved soundproofing around the lightning test generator to minimise noise for our neighbours. For more information call C4243, visit the website at www.cullham.com or email info@cullham.com

Gifts give warm send off

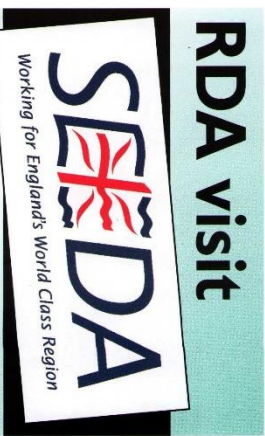
After a career at Cullham Aard IET spanning 25 years, Tom Todd was given a warm send-off by staff as he leaves to take up a new position in Downreay as design services department manager.

Tom joined Cullham in 1975 to work on the superconducting levitron, firstly on damped rockets including a langmuir probe system. During his time he worked on CEO, took an attachment to work on Doublet III in San Diego, California, and enjoyed a long sojourn on Compass. He decorated his office with a MAST project, contributed to the development of MAST and has latterly been involved in the 'Fusion and Industry' technology transfer programme.

Many of his leaving gifts will remind him of his Cullham years including a Magellan global positioning system, a Japanese maple, a hose reel, a self-powered Seko watch and a spherical paperweight which resembles the START plasma. Andy Cullen presented Tom with a novel version of the 'Compass mug', artfully converted into a desk lamp and decorated to look like MAST.



Tom and his wife Lorraine are pictured with Derek Robinson, director of UKAEA (Cullham) Fusion who presented Tom's long and valuable involvement with fusion research at the site.



RDA visit

Inward investment opportunities in Oxfordshire were the subject of a visit to Harwell International Business on 21 March 2000 by staff from SEEDA (South East England Development Agency).

SEEDA is one of the eight regional development agencies (RDAs) created by the government to plan the future economic success of local regions while protecting and enhancing their environmental heritage. The body also has a role to raise people's skills, promote innovation and technology and address the social needs and regeneration of communities.

The SEEDA inward investment team dealt with several hundred enquiries each year referred from the Invest in Britain Bureau and direct approaches from companies looking to relocate. The purpose of the day was to familiarise themselves with the attractions that Oxfordshire can offer the inward investor. These include specialist business clusters, available property and sites, academic and research links. Harwell represents one of the most significant opportunities.

Staff from the Heart of England TEC co-ordinated the event. They joined ten SEEDA representatives and local district council economic development officers for the day. Their visit to Harwell was hosted by Steve Moss, head of the UKAEA's central property unit.



Photographic archive

All UKAEA photographic film and video archive images are now located in B465 at Harwell. Eric Jenkins has taken over the management of UKAEA image resources and can be contacted on H4499.

Xined appointments

Xined plc has announced the appointment of two new main board directors. William F. Wildger and John Whittle. FCA join the board as non-executive directors. Mr Wildger, a US citizen, is a highly experienced businessman having worked in international markets in the technical coatings industry. Mr Whittle, an accountant, was formerly a director of Talkland, and has also worked for Vodafone.

Radon risks booklet

A new booklet about the health risks of domestic radon exposure has been published jointly by the NRRB and the Faculty of Public Health Medicine and the Chartered Institute of Environmental Health. The publication aims to increase awareness and knowledge about radon, particularly for those in the public and environmental health sectors. Single copies can be obtained from NRRB information office, tel: 01235 822742, fax: 01235 822746, email: information@nrrb.org.uk. For multiple copies, a charge of 42 per copy will be made. More detailed publications on radon are available from NRRB and information is available on the website at www.nrrb.org.uk

New Cullham caterers

The new catering company serving Cullham Science Centre is Sovereign Catering. Details of their services can be found on their website on www.csc.com. For a copy of the information, please call Jodie Fry on C33260.

Thoughts on science and orienteering

D'Roger Thorford, a scientific software specialist at AEA Technology, Harwell, recently won second prize in an annual science writing competition organised by Oxford University and the Oxford Times. He wrote about a subject close to his heart - orienteering - and whether satellite navigation would play a role in the sport in coming years. In addition to the award and monetary award he wins a 'continued learning' weekend course of his choice: computing, archaeology or perhaps the films of Stanley Kubrick!

Speaking about his reasons for committing his ideas to paper, Roger said, "I've always striven to understand the world around me, and to help others to understand it too. So when my six-year-old daughter asked me why the sky was red at sunset I explained in terms that she could understand. And when, several months later, she looked at the sky and told me why it was red, I felt deeply satisfied. That same drive to explain science, and the opportunity to raise the profile of orienteering in the region, led me to enter the competition. I chose satellite navigation because it's a good concept to get across in a short article and orienteering because it's widely misunderstood - and it's my sport!"

This 800-word essay explored one aspect of satellite navigation: the use of GPS receivers to track orienteers and allow their exact position to be viewed on a giant map, with obvious benefits for spectators. Indeed, the Finnish organisers of the 2001 world championships have been experimenting with this concept. Combining tracking with small head-mounted video cameras,

how GPS could be used by organisers to track orienteers and allow their exact position to be viewed on a giant map, with obvious benefits for spectators. Indeed, the Finnish organisers of the 2001 world championships have been experimenting with this concept. Combining tracking with small head-mounted video cameras,

like those embedded in cricket stumps, would give spectators a good idea of what was happening in the depths of the forest.

Roger is chairman of Thames Valley Orienteering Club and has run for England in the orienteering home internationals. He also runs for Headington Road Runners and earlier this year made the Oxfordshire cross-country team.



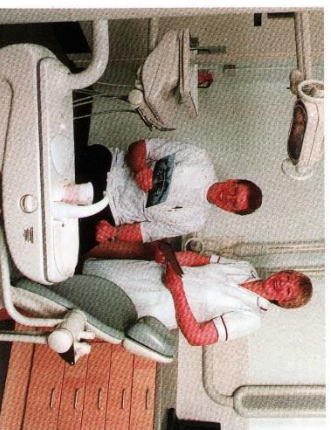
Determination and concentration at the British orienteering championships, but no GPS. Roger is using map and compass!

Dentist invests in practice

Visiting the dentist will be as pleasant as possible at Harwell Dental. Practice following a major refurbishment. Around £60,000 has been invested to refit the interior and install new state-of-the-art equipment. Dentist, Mike Bellaw, who joined the practice seven years ago, and his three staff are now accepting new private patients. The practice can offer its own dental care plan to make private dentistry more affordable.

The interior has been architect-designed with lightwood panelling for a modern, welcoming feel. It is one of the first practices to take delivery of the equipment supplied by specialist Italian manufacturer, Caselini.

"There has been a dentist on site since RAF days and today we



Dentist Mike Bellaw with dental nurse, Stella Winkler.

find that many patients prefer being able to pop along to a dentist for half an hour during the working week rather than take half a day's leave," says Mike.

Harwell Dental Practice can be found opposite the shops in Court Avenue and is open Mon-Fri, Tel: 01235 831899 or H3099 to make an appointment.

Exploring science

About one hundred twelve And thirteen-year-old pupils from schools in Oxfordshire had a great day exploring space at Rutlandford Appleton Laboratory during National Science Week.

Many of the activities mirrored projects in which RAL is involved. For example, pupils built a 'parachute' to land a chocolate egg from a height. RAL has helped design an instrument which will need to land softly on one of Saturn's moons.

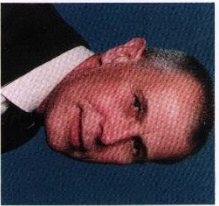


Pupils from Rutlandford School with a space suit, and a model showing different satellite orbis during exploring space day at RAL.

Eminent computer scientist retires

Professor Bob Hopgood, 64, who was recently awarded an OBE in the new year's honours, has retired from work at Rutlandford Appleton Laboratory. He will however continue working part time for the Worldwide Web Consortium, with responsibility for the organisation's offices throughout the world.

Making his presentation in front of a large audience of friends and colleagues, Prof Keith Jeffrey, director of information technology, heralded Bob as one of the greatest computer scientists of his generation. Bob's career echoes an amazing journey through the history of computers, from the 1960s and the huge, powerful computers of today.



Among his leaning gifts, Bob was presented with a signed photograph of Count Basie - he is a great jazz enthusiast.



Kerensa Parvis, Antonia Redding and Katherine Pool from St Mary's School in Wantage pictured with links (and her favourite toy) after a session with the infrared camera.

Other National Science Week activities included a message in particle physics for over two hundred sixth-formers, a chance for local scouts to solve a murder using forensic science, a competition by teams from local parishes of the WI to build a buggy, and a series of evening lectures by eminent speakers from around the UK on subjects as diverse as 'The Brain' and 'The Bionic Bat'.



Three scouting shilts set if a microscope will help them solve the murder - dramatised in a forensic science event.

Students get manual on-line

Four students on the advanced GNVQ information technology course at Abingdon College have recently finished an IT project for the health physics division of AEAT Nuclear Engineering.

Health physics division runs a service for the nuclear industry under the name of CADUC (Criticality Accident Dosimetry Users Group), including the provision of a technical manual. The manual has been through many versions and revisions in paper form but now the college students have converted it into an on-line version for use via any standard internet browser. The four students John Colbeck, Toby Gunston, Steven Thompson and George Saunders, worked under the guidance of Dave Baker and Will Atkinson of health physics. The students gained experience working to deadlines for a real customer and had to solve several technical issues to include the complex tables and graphics of the manual in a way that makes the information more accessible than in its paper format. The on-line manual will be demonstrated to CADUC at its annual meeting in June and distributed to the various member organisations. As a token of their appreciation, AEAT health physics will be presenting some IT equipment to the college.

Out & About

Hagbourne craft fair
On Sunday 21 May there will be a craft fair at Hagbourne School and Village Hall, East Hagbourne, near Oxford, from 10am - 4.30pm. Refreshments will be available. Entry is 75p (children free). For more details call 01235 859648

Habeas Corpus

The Studia Theatre Club presents 'Habeas Corpus' by Ann Bennett at the Unicorn Theatre, Abingdon from 31st May to 3rd June. This fast and furious play switches from history to poignancy in the blink of an eye. Set in 1970s, it explores the maze of encounters between people determined to put the desire of the body before anything else.

The STC has been performing for about 25 years, staging in that time a wide variety of scripted drama. New members are always welcome... and there are no auditions! If you are interested in 559655 or write to Stephen Briggs, PO Box 147, Oxford, OX2 8RT or email us at sbriiggs@icx.co.uk. Tickets cost £5 and are available from Modern Music, Abingdon, or the contact address above.

Harwell D-Day service

Everyone is welcome to attend the annual Harwell D-Day memorial service on Saturday 10 June at 5pm in the grounds of the former Royal Experimental Store. The service will be conducted by Rev. Chris Store and lasts approximately 20 minutes. Wreaths will be laid by local British Legion groups.

MRC summer seminars

A busy summer programme of MRC seminars includes a presentation by Prof. Denis Herrera, of HH-Wills Physics Laboratory, Bristol, on 'Powerlines and the MRC', Tuesday 19th at 4.00pm in the Lecture Theatre. For more information please consult the full programme, available at www.hwr.ac.uk/lehens/seminar.htm

Oxford Physics Colloquia

The trinity term programme includes the following lectures:
- Friday 12 May, Prof A. Smail, New York University, 'Science and Sociology of Science: Agents, War and Peace'
- Friday 2 June, Prof B. Richter, Stanford University, 'Avalanche, Seismicity and Earthquake Hazard, Center, California, The Future of Particle Physics.'
Lectures are held in the Lindenham lecture theatre, Clarendon Laboratory, Parks Road, Oxford at 4.15pm, with tea served in the common room at 3.45pm.

ECHO readers - if you'd like to publish your local news, events, notices and details in this column, send details in with your proof, either as possible to the editor by email at whp@gloubshe.ac.uk or fax on 01865 331154.

Declining species thrive at Harwell

It may seem an unlikely scene, but the sight of breeding lapwing and grey partridge, the drilling song of the skylark and the trill of linnet can all be experienced across the backdrop of the DDO and PLUTO reactors at Harwell. Although these birds are in steady decline on our farmland, Harwell provides the ideal habitat and with minimal use of agrochemicals, these species are thriving. The main predator is another bird, the magpie, which has a flying for their eggs!

At the 'ground' behind B521, the soft churring call of two long-tailed tits in a blackthorn thicket emphasised the importance of this native shrub, which is also very good for slug gull!

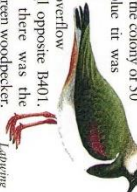
An environmental survey carried out at Harwell noted the presence of skylarks where the site borders arable land, and also duncock and yellowhammer making use of bordering hedgerows. Quail have been recorded in the past, though not recently, and another transient visitor was an eagle owl. Kestrel are known to have used B33 and a barn owl has in the past made its home in the barn off Downs Road.

To gain a greater insight into the changing pattern of birdlife around the site, a local resident is carrying out a winter survey on behalf of the BTO (British Trust for Ornithology). With UKAEA's permission, Mrs Rowe will be logging local bird numbers during three consecutive winters. Her findings will be covered in future issues of ECHO.



Grey Partridge

Even within the more built up areas there is much of ornithological interest. On a chilly April morning birdsong included wren, great tit, robin and blackbird by the lagoon on the site of Hangar 9, where there was also a cock pheasant showing off to two potential mates. A drive down Bequerel Avenue produced singing greenfinches, a pair of goldfinches, pied wagtail and foraging rooks from the colony of 50 nests nearby. A blue tit was starting to build its nest in a small cavity above an overflow pipe in a brick wall opposite B401. And all the time there was the laughing call of the green woodpecker.



Lapwing

Bird boxes

As part of its environmental management system UK Nirex last year installed six nesting boxes on trees outside their building (S87). The boxes were ordered in various sizes suitable for woodpeckers, tree creepers, robins, owls and bats. Great tits are thought to have nested last season and several birds are showing great interest this season. Green woodpeckers enjoy the habitat with its mix of woodland and adjacent paddocks as their principle diet is ants. A greater spotted woodpecker has also been seen in the area.



Nesting birds at Harwell in the past have included this song thrush and a collared dove.



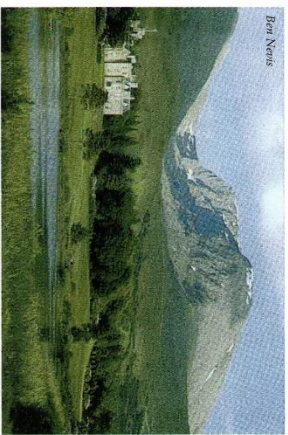
Greater spotted woodpecker

Marathon mountain climb

Next month UKAEA's Sandra Owsnett will be climbing the three highest peaks in Wales, England and Scotland, but she won't have much time to take in the spectacular views – all three must be scaled within 36 hours!

Sandra, who works at Harwell in the projects department, southern division, will be attempting the 'Three Peaks Challenge' over the weekend of 23-24 June to raise money for the Neurofibromatosis Association (NFA). The three peaks in question are Snowdon (3560ft), Scartell Pike (3206ft) and Ben Nevis (4408 ft). Sandra will be walking 23 miles, ascending 9910 feet and travelling 433 miles between the three mountains, all within the 36-hour time limit.

To pledge your support, please contact Sandra in B152 on H6818, or by email at sandra.owsnett@ukaea.org.uk



Ben Nevis

MRC Harwell lecture

by Christine Williamson, imprinting group, MRC mammalian genetics unit, Harwell

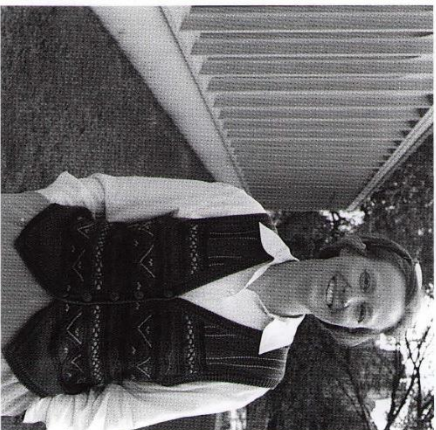
Professor Shiller Tilghman spoke on 'Genomic Imprinting in Mammals: Mechanism and Function'. She described genomic imprinting as a fascinating and unusual phenomenon whereby there is unequal expression of the maternal and paternal copies of a gene, and this has great relevance in human disease. Her first question was how can one DNA sequence in a cell be inactive and an exact copy active? To answer this she described her elegant studies on the identification of a background control region that is responsible for gene silencing. This region is particularly fascinating as it not only silences a gene on the maternal chromosome but also silences a closely linked gene on the paternal chromosome by a different mechanism. Her second question was why has imprinting evolved? Why has the organism chosen to throw away the advantages of having both copies active? She suggested that the signals governing genomic imprinting are rapidly evolving and that disruptions in the process may contribute to the formation of new mammalian species.

Professor Tilghman entertained scientists from a range of backgrounds and also gave a highly skilled demonstration of how to utilise all available props when slide projection facilities temporarily fail!



What is neurofibromatosis?

Neurofibromatosis type 1 (NF1) is a genetic disorder. While those with the condition have a 50:50 chance of passing on the disorder to any or all of their children, 50% of all cases occur in families through a spontaneous mutation of the affected gene. Complications include learning difficulties, behavioural problems, high blood pressure, curvature of the spine, malformation of the long bones, tumours on the nerves of sight, internal, spinal and brain tumours – usually benign, speech problems and an increased risk of epilepsy. **Neurofibromatosis type 2 (NF2)** is rarer but it causes tumours on both acoustic nerves – which usually leads to hearing loss in late teens or early twenties – brain and spinal tumours and cataracts. NF2 can also cause weakness and paralysis. Both forms can cause disfigurement, disability, disorientation and premature death. Each year more than 400 children are born with Neurofibromatosis.



Professor Tilghman is a fellow of the Royal Society and a member of the US Institute of Medicine and the US National Academy of Sciences. As founding director of the Institute for Integrative Genomics at Princeton University she has been instrumental in the pioneering effort to bring the importance of genome sequencing to the fore.

500 miles to the starting line

The 500 miles of training were up, and now it was only 500 yards to the starting line. I was in a group of about 20,000 waiting to start the London Marathon. It seemed a long time since October last year when I agreed to run in support of the British Brain and Spine Foundation. Generally the training had gone well, except that three weeks ago disaster struck, and I had injured a tendon in my right ankle. Nevertheless, here I was, fuelled up, psyched up and ready to go, with several hundred paces to the start, and a further 26.2 miles to the finishing line.

I was surrounded by all manner of curious things: a rhinoceros, a four-man cake, a double-decker red London Bus and a few normal people. Then the starting pistol, and nothing happened. It took a full 15 minutes before we made it to the starting line. Finally we actually started.

In between jostling with jiggers, trotting with turkeys and running with rhinos I managed it to four miles where the Foundation supporters were all ready to cheer their team on (was it only coincidental that it was outside a pub?). I was not to see them again until 15 miles and then 24 miles when they would regroup to cheer us on again; very welcome and very much needed.



by Peter A Wood, AEA Technology Environment



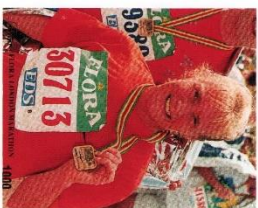
Running with rhinos.

Jennie wins special marathon place

For some people, one marathon is not enough! Jennie Cullen, who works for AEA's batteries group at Culham, was planning to run her fourth consecutive marathon, but could not get an entry. As if by chance she picked up a copy of the Daily Mirror in the restroom which was offering a few limited places in the London Marathon running for the Helen Rollison Appeal.

Jennie applied for a place, writing about how she had met Helen Rollison when she had given invaluable words of encouragement to Jennie during a previous marathon. She was lucky enough to gain her entry and, in the hope that she may secure a place, had actually

been training in preparation. Indeed she has been running around the Culham perimeter at lunchtime in all weathers as part of her training programme. If anyone would like to add their support to Jennie's fundraising please call her on 01235 530948.



The ultimate achievement – Jennie at the finish of last year's London Marathon.



Competing in the Reading Half Marathon.

