

# Bulletin

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A Monthly Newsletter for RAL Staff

November 1993

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## Marie Curie at RAL

The life and work of Marie Curie, the Nobel prize-winning, Polish-born chemist who discovered radium, was vividly re-enacted before an audience of 400 local schoolchildren and invited guests when RAL hosted the Living History of Science Lecture in September.

The event, which was held in the newly-refurbished Lecture Theatre, was organised by the Society of Chemical Industry. It followed on from last year's equally successful lecture by Michael Faraday.

Marie Curie, played by an actress, described how, after many years toiling in a dilapidated wooden shed in Paris, she and her husband Pierre finally discovered the radioactive element which they named radium and which provided the first effective treatment of cancer. ■



'Marie Curie' telling the story of how she discovered radium  
(93RC4214)

## Top class winners

An enjoyable evening was had by all when the winners of the RAL School Science Prizes visited the Laboratory on 28 September along with their parents and teachers. Following the obligatory photo session, the visitors toured various areas of the Laboratory before returning to the Watson-Watt Conference Rooms for an address by the Director, the RAL video and a buffet supper.

The School Prize Scheme was conceived this year to generate interest in the subject amongst local children. Heads of Science in 15 schools were asked to select the pupil who had, in their opinion, shown the most outstanding effort and achievement in science during Year 9. A donation from the RAL Fund enabled each of the winners to receive the prize of a science encyclopedia.



The Science Prize winners (93RC4231)

Dawn Johnson ■

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## Face-lift for Grotto

**RAL has made a significant contribution to the preservation of local history with the completion last month of repairs to The Cosener's House Shell Grotto.**

The Grotto, thought by English Heritage to be at least 150 years old, is a stone 'out-house' on the river bank in the south-east corner of The Cosener's House grounds, which formed part of the Abbey grounds in medieval times. A combination of the elements, the river and vandals had contributed to the deterioration of the Grotto's structure, finally causing a partial collapse of the roof last winter.

As a Grade 2 listed structure and the only example of its kind in the Vale, SERC had to satisfy the Local Authority Conservation Department that its design for the repairs complied with conservation

requirements. Not only was the design and application successful but upon inspection at the completion, the Vale's Conservation Officer suggested that the project be entered for a Vale of White Horse Design award. The panel was due to meet on 3 November to judge its merits.

Financed in part by an Historic Building Grant from the Environmental Trust for Abingdon, the work was carried out by local builders under the supervision of Tom Rennie of the Council Works Unit, using as much of the original material as possible. A condition of the Trust's grant is that the Grotto can be viewed by the public.

Anyone wishing to visit should make a prior appointment with the Manager at The Cosener's House. ■



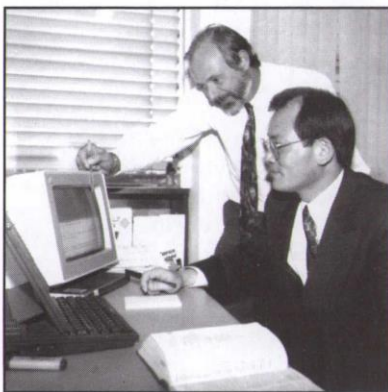
Adrian Gosztonyi, TCH Deputy Manager, at the entrance to the Grotto (93RC4349)

## RAL welcomes Korean visitor

**Mr Kim Sun-Hoe, Manager of Project Development at the Korea Institute of Science and Technology (KIST), started a three-month visit to RAL on 22 September.**

KIST is situated in the Korean capital, Seoul, and is the only multi-disciplinary research institute funded by the government of South Korea. It plays a vital role in advancing science and technology and supporting the country's rapidly growing industrial base.

There are many similarities between KIST and RAL and good possibilities exist for joint ventures in the future. The major purpose of Mr Kim's visit is to achieve a better understanding of the RAL system, in particular how it organises its R&D programme and its policies for the future. He will spend much



Mr Kim with Bruce Patchett, RRS' Commercial Manager (93RC4442)

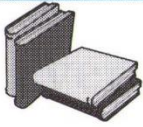
of his time looking at RRS, the Laboratory's commercial arm, and Administration Department but would also welcome discussions with others about the potential for scientific collaboration. Mr Kim can be contacted on ext 6022. ■

## Third Oxford Summer School on Neutron Scattering

Students at the Third Oxford Summer School run by Professor Terry Willis of Chemical Crystallography, Oxford and Dr Colin Carlile of RAL, visited the ISIS pulsed Neutron Facility on 22 September. The 31 students from Britain, Europe and as far afield as Indonesia were able to examine the accelerator and instruments closely and chat to ISIS staff about the pleasures of neutron scattering and life as an instrument scientist. Whilst we often say that ISIS is the future of neutron scattering, it is students like these who are our future and it was a pleasure to welcome them to RAL.

Colin Carlile ■





## School report

**Teachers at Batt School, Witney, were looking for ways in which to bring the study of the solar system to life for their 10 and 11 year old pupils when someone suggested calling in an expert.**

At two days' notice, Mark Willis, who has recently returned to the Laboratory from Hull University, gave an hour long presentation (with visual aids and dressing-up equipment!) to three groups of approximately 25 pupils. 'Thank you' letters flooded in, along with a class-made model of the Ariane rocket.

RAL has been linked with John Mason School in Abingdon as participants in the Engineering Education Scheme which is part of the Engineering Education Continuum co-ordinated by the Royal Academy of Engineering. Adam Baird from System Design Group will be setting up a project for four

sixth formers from the school and helping them to complete it over the next four months. This is the first time that RAL has been involved in the Scheme which has been running since 1984.

Last month saw a teacher from Stephen Freeman Primary School in Didcot begin her five day placement in the Laboratory. Her first full day was a little unusual as she had been identified as the 100,000th teacher to take advantage of the scheme and so she was followed for the morning by a film crew from Central News. She hopes to return to school with a greater knowledge of both space science and wind energy, as well as a fresh perspective on school life.

October was a busy month for the Recruitment Section and its continuing links with education. Miriam Waters and her team attended the West Berkshire Careers Convention in Newbury on 12

October to which schools in that county were invited. The next day, she represented the Lab at a Careers Fair at Oxford Brookes University. Later in the month, Tim Kidd of Central Computing Department gave a careers talk to Year 11 pupils at Larkmead School after which the recruitment team moved in to give some sound advice on job hunting, application forms and interview technique.

Finally, thank you to everyone who has contacted me following last month's article about schools. I have been encouraged by the positive response. If you have been thinking of getting in touch, please do, it's never too late! You can contact me on ext 5950 or by e-mail (OV/VM id Dawn).

*Dawn Johnson* ■

## It takes skill!

**Tuesday 12 October was a memorable day for RAL's first year apprentices. In recognition of their successful completion of their skills training programme, the six received their Basic Training Certificates and their National Vocational Qualifications II at a ceremony at Abingdon College.**

The College's Engineering Training Scheme, which is run in close collaboration with industry, is one of the few craft training programmes operating in the area. Launched last year, the scheme is novel in that it is of one year's duration while still managing to cover a wide range of basic craft skills.

The Apprentice of the Year prize was awarded to Karen Giles who received a framed certificate and book/music vouchers donated by the College. The Chief Engineer's prize, which was personally donated and presented by Mike Morris, went to Stephen Jones. Stephen received a framed certificate and a multimeter which he had chosen.

*Brian Wyborn* ■



RAL's apprentices with, centre l to r, Mike Morris, Paul Williams and John Rose, Head of Study - Technology, Abingdon College (93RC4414)



## RAL monitors ozone destruction

Scientists at RAL are able to watch this year's ozone hole developing day by day. The Geophysical Data Facility (GDF) in RAL's Space Science Department (SSD), archives ozone measurements from the TOMS (Total Ozone Mapping Spectrometer) instrument aboard the Russian Meteor-3 satellite. Thanks to recent developments by the ozone processing team at Goddard Space Flight Centre in the USA, daily global maps of ozone are now frequently available the day after measurements are taken. Programs running on the GDF computer automatically transfer the data across the Atlantic to the GDF archive each morning, making it available for users to view plots or transfer the data to their 'home' computers for analysis.

The ozone 'hole' appears over the South Pole each year in September/October. An isolated stable mass of cold air, the polar vortex, is formed during the winter.

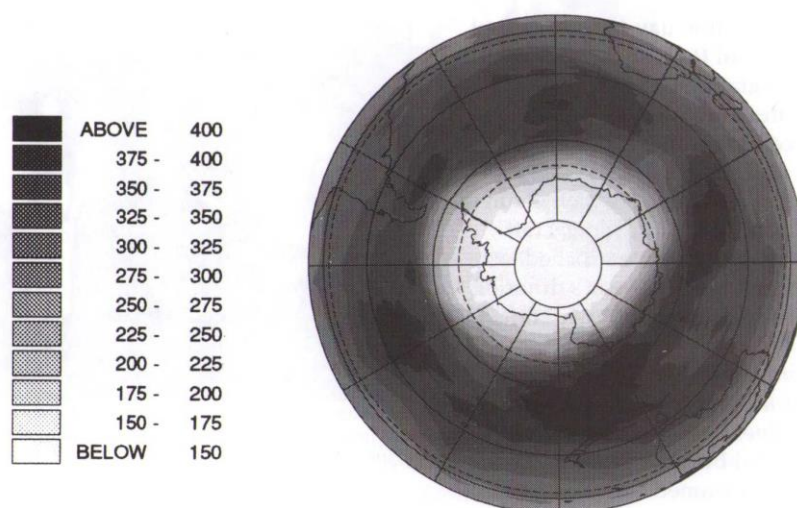
Temperatures in this region can fall to as low as -80 C, cold enough for clouds of ice crystals to form at about 15km above the Earth's surface. Chemical reactions on the surface of the ice crystals lead to the release of gaseous chlorine, which builds up within the vortex throughout the winter. In spring, when the sun rises above the horizon again, the ultra-violet (UV) radiation sets off a series of reactions involving the chlorine, which destroys ozone. Hence the appearance of the hole during spring. This year ozone values are the lowest ever recorded and there is increasing concern for values elsewhere, particularly over Europe in springtime.

The figure below shows a contour map of the total amount of ozone in the atmosphere over the southern hemisphere on 12 October. The lightly shaded areas represent the boundary of the ozone hole. Data from satellite and ground-based measurements shows that since the early 1980s, ozone levels have

become progressively lower. Ozone in the Earth's atmosphere absorbs UV radiation from the sun. Increased dosage at the Earth's surface causes skin cancers and is thought to have harmful effects on wildlife and crops. The decrease in ozone amounts has been firmly linked to the release of chlorofluorocarbons (CFCs) used in aerosol cans, chemical processing, foam-blowing techniques and refrigeration.

The GDF is also archiving data from instruments on the Upper Atmosphere Research Satellite (UARS) which simultaneously measures ozone and many of the gases involved in ozone destruction. SSD was involved in the design and construction of two of the UARS instruments, ISAMS (Improved Stratospheric and Mesospheric Sounder) and MLS (Microwave Limb Sounder). The satellite, launched in 1991, is collecting valuable information which will help us to understand many of the details of our atmosphere.

Andy Smith and Lesley Gray, GDF ■

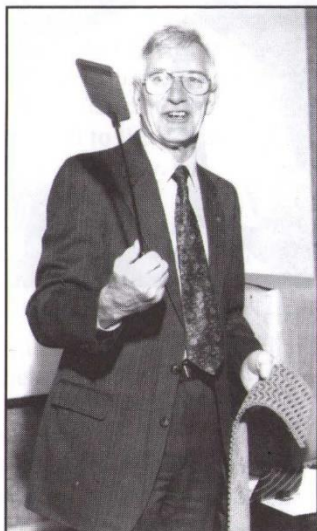


Meteor-3 Total Ozone Mapping Spectrometer  
Total column ozone, 12th October 1993  
near real time data (unvalidated)



## Everything but the 'cuddly toy'!

When Bill Lord retired on 30 September after 33 years' service, his friends and colleagues in the Central Laser Facility were reminded by Mike Key of Alan Gibson's description of Bill as 'the salt of the earth without whom the system collapses'. Bill will be relieved to hear that the system hasn't collapsed despite his departure (not yet!) but he can be assured that he will be missed.



Beat that!: Bill shows off his new fly swat (93RC4248)

Bill's retirement gifts read a little like the list of items on the 'Generation Game' conveyor belt: a microwave, a water barrel, a casserole dish, an engraved tankard and a fly swat, to augment his forthcoming purchase of a camper van. The accompanying Ray Roberts card depicting Bill's life showed that he was not going to take things easy and that Bill's time would now be taken up with his scouting, cycling, ballroom dancing, Caledonian activities and travelling about in the new van. ■

## Beatles' 'rival' retires

The ISIS Facility said farewell to Kate Crennell after 20 years' service, at the end of September. Presenting her with her leaving presents of books of Mathematical Recipes, Islamic Designs and opera videos, Colin Carlile noted that, like the Beatles, Kate had started her recording career with EMI. Kate was never likely to compete with the famous Sixties group for the number one spot however; her data was recorded on punched cards! She followed that by periods at the University of Pittsburgh, the Argonne and Brookhaven National Labs and in the editorial offices of Physical Review before settling at RAL.

We wish her a long and happy retirement!

Colin Carlile ■

## Death Benefit Scheme

In the event of your death, an immediate cash payment to a loved one, without fuss or formality, could be invaluable.

The RAL and Swindon Office Death Benefit Scheme exists for this purpose. It costs only £1 to join with 25p per month (5p per week) deducted from salaries/wages.

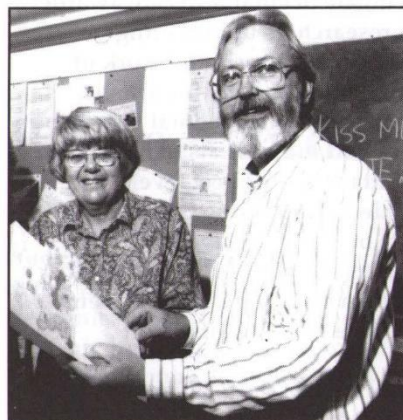
For further information and enrolment forms contact one of the following:

Joe Hoskins R71 ext 6724  
Isabel Roberts R71 ext 5560  
John Barrie R12 ext 6197  
Jim Rodbourne R24 ext 6166

Why not join today? You know it makes sense. ■

## A fishy tale!

In July's issue of the Bulletin, we reported on Stan Buckel and John Hirst's entry to the national finals of the Civil Service Social Club fly fishing competition. In the event, only John took part in the competition which was held on 26 August at Rutland Water in Leicestershire and although he was not in the winning team, John still had something to celebrate. He landed the heaviest fish of the day, a 11lb 12oz trout. "It was small by my usual standards", explained John, "but it certainly tasted very good!" ■



Kate with Colin Carlile (93RC4270)



## Adrian makes a Smart move

Adrian O'Hea of Space Science Department traded in the familiar and reassuring surroundings of the Laboratory in September for the cut and thrust of business life when he left to set up his own business on the Milton Trading Estate.

With the help of a DTI Smart award for small firms which was won amid stiff competition, Adrian will pursue the development of a rugged camera for inspecting pipelines for corrosion damage which he hopes to sell to the oil and gas industry. Although his beginnings in the world of commerce may be humble; his office comprises no more than four walls and a telephone, Adrian is optimistic about his prospects. He explained how he had made his first profit of £1.09 on the installation of his 'phone line. It's not a great loss to BT but it felt good to Adrian!



Something else for the new office!: Richard Holdaway presents Adrian with a framed photo of the satellite dish (93RC3985)

Adrian's launch into a new career is not without risk but friends and colleagues are not surprised by his courage and initiative. Richard Holdaway, Head of Space Systems Division, reminded those who had assembled to say goodbye to Adrian, that it was largely due to his efforts and resolve that RAL's ground station tracking system, of which the large satellite dish is the most obvious sign, was refurbished in 1991. ■

## Wingate Scholarships 1994

**Wingate Scholarships are awarded to researchers undertaking pioneering or original work of intellectual, scientific, artistic, social or environmental value; to talented individuals to help them to attain the highest levels of achievement in the performing arts or other creative endeavour and to others of great potential or known excellence to help them achieve their ambitions.**

The range of the Scholarships is wide. Among last year's scholars were a student researching the relationship between topographical theory and quantum physics in Oxford, and a researcher developing information systems for rural development planning in India in conjunction with the LSE and the University of Ahmedabad. The work undertaken may be in the context of a higher degree. Awards are not made for professional

training, electives, standard taught courses or the completion of courses already begun.

Scholarships may be held for up to three years and amounts awarded range from £1,000 to £20,000, the average being about £8,000. Applicants must:

- 1 satisfy the Scholarships Committee that they need financial support to undertake the work projected
- 2 show good reasons for the proposed work not being eligible for Research Council funding
- 3 be citizens of the United Kingdom, Israel or a country now or formerly in the Commonwealth
- 4 live in the British Isles
- 5 be over 24 on 1 September 1994

The closing date for applications is **15 February 1994**. Candidates are strongly advised to obtain application papers and submit them well in advance of this date. The Scholarship Committee will conduct interviews of short-listed candidates in London in May and results will be announced in June.

For more detailed information and application forms, write to:

The Administrator  
Wingate Scholarships  
38 Curzon Street  
London W1Y 8EY

enclosing a self-addressed A4 envelope with a 36p stamp. ■



## Occupational Health: New service at RAL

The Laboratory now has its own Occupational Health Centre. Opened in July, the Centre is located in R12 and is staffed and run by BUPA Occupational Health staff. Its aim is to provide a comprehensive healthcare service tailored to the needs of all staff at the Laboratory.

"Our primary function", says Senior Occupational Health Nurse/Practitioner, Anne Bell, "is to promote and maintain general health in the workplace in line with the safety strategy of RAL's Health and Safety Group. Our role encompasses close liaison with employees, supervisors and managers. Our service will complement rather than replace that which is already provided by local GPs and hospitals."

The service of the Centre is still in the early stages of development. The staff have spent a good deal of their time since it was established, familiarising themselves with all aspects of the work on site. "Getting to know the site is essential if we are to provide a service which is responsive to RAL's needs", explains Anne Bell.

### Services

When fully established, the Centre will offer a full range of occupational health services such as:

- mandatory health surveillance for radiation workers
- routine health surveillance & environmental monitoring for those working in other hazardous areas
- age-related routine medical examinations

- eye-screening
- vaccinations
- counselling
- first aid training and health education
- treatment of minor injuries caused by accidents at work, illness occurring at work and advice on aspects of health.

The Centre is run by a team of four: Anne Bell, Lin Norris, Occupational Health Nurse/Practitioner, Dr Mary Parsons, Occupational Physician and Sharon Russell, Administrator. The medical staff are highly trained in all aspects of occupational healthcare having practised both in hospitals and private industry.

### Opening hours

The Centre is open Monday to Friday from 8:30am to 4:30pm. Treatment hours are from 9:00am to 10:00am and 2:00pm to 3:00 pm. Treatment at other times is strictly by appointment except in the case of minor injuries or illness when you are asked to 'phone to notify staff of your arrival.

Dr Parsons is available for consultation, by appointment, on Monday and Wednesday afternoons and Friday mornings.

Physiotherapy, pathology and X-ray will continue to be provided by AEA but should be booked through the RAL Occupational Health Centre. All health enquiries and requests for appointments should be made to the Centre on ext 6666.



The OHC team (l to r): Sharon Russell, Lin Norris, Anne Bell and Dr Mary Parsons (93RC4364)

Accident and emergency cover will continue to be provided by AEA on the existing basis by dialling ext 2222. ■

## RAL's visitors

We have all seen them, clusters of students (recognisable by their dress) and schoolchildren (recognisable by their size), being led from building to building on their programme of events. They are among the many visitors which RAL welcomes each year to meet staff and to view our facilities.

Among the 50 or so groups who visited the Laboratory last year were eight graduate engineers from the School of Signals; 32 A-level students from Solihull Sixth

*Continued on back page*



RAL's visitors (*Continued*)

Form College; a member of the British Embassy in Bonn and 12 students from Florida State University on a three-week course on 'relativity and cosmology' at the University of Oxford's Department of Continuing Education.

RAL's programme of visits in the near future will include visits by the Friends of Rewley House, Oxford Brookes University, Our Lady's Convent and St Pauls School, Milton Keynes. Not only do such visits enable RAL to publicise its work, they are an important element in the process of raising the public awareness and understanding of science and technology.

Anyone who is interested in finding out more about the Laboratory's programme of visits or would like to act as a guide or speaker, can contact Natalie Bealing in Press and Public Relations, on ext 5777 or by e-mail (OV/VM id NDB). ■

## RAL Bulletin

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Deadline for publication is 15th  
of every month.

# Noticeboard



## Acknowledgement Diary

**Bill Lord** thanks all his many friends and colleagues for their kind good wishes on his retirement. The lovely gifts will come in very useful on his future travels. He apologises to all those he didn't see before his departure and wishes you all "Good engineering and science in the future."

## Rec Soc News

### Charity dinner

The Rec Soc has bought four tickets for a fund raising dinner to be held at the Randolph Hotel, Oxford on 24 November, in aid of the Commonwealth Games 1994 Appeal for England's team. The tickets, which are being sold in pairs, cost £60 and include the cost of reception drinks, dinner with wine and glass of brandy or port with coffee. A number of sporting personalities are expected to attend and Ronnie Corbett and Sir Jimmy Saville have agreed to say a few words. If you fancy dining in style and supporting a good cause into the bargain, tickets are available now from Rec Soc Committee members.

### Xmas buffet dance - Early warning

The Rec Soc Xmas buffet dance is planned for Saturday 11 December in R22. Further details will be published later.

### RAL Lectures

**23 December** 3:00pm R22 Lecture Theatre  
The unnatural nature of science  
Professor L Wolpert, UCL

### Nimrod seminars

**8 November** 2:00pm CR3, R61  
Low energy theorems in non-topological soliton models  
J McGovern, Manchester

### HEP seminars

**17 November** 11:00am CR3, R61  
Microstrip Gas Chambers - recent successes and breakthroughs  
Speaker to be announced

## Xmas raffle and competition

The messengers are organising a Xmas raffle and 'Guess the name of the doll' competition in aid of the Abingdon Alzheimers Club. Tickets at 20p and entry forms to the competition at 50p will be available from the messengers from the last week in November. The draw for the winners will take place on 15 December. Prizes will be on display in the R1 Post Room from the end of November.

Please give generously to this worthwhile cause - you may win something too!