



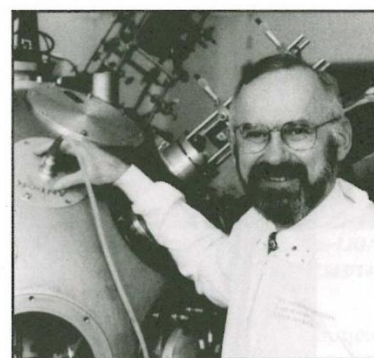
New Director for the CLF

Professor M H R (Henry) Hutchinson took up the new post of Director, Central Laser Facility (CLF) on Thursday 2 January 1997.

Professor Hutchinson studied at Queens University Belfast for his MSc (in physics) and his PhD (in laser physics) and has been involved in laser physics ever since. He was appointed Director of the Blackett Laboratory Laser Consortium at Imperial College when it was set up in 1987 (the Blackett Laboratory was set up to bring together physicists from Imperial College with similar interests to study the interaction

of laser radiation with matter) and has been Professor of Laser Physics since 1989. He has been involved in research at the CLF for many years both as a user and in the development of the high power laser systems.

"I have been involved with the CLF since its formation and have admired the contribution it has made, at an international level, to the development of lasers and their use in a wide range of scientific fields. It is a great pleasure for me to contribute to the future development of the programme at a time of exciting opportunity and to work again with



(96RC5387)

colleagues with whom I have collaborated over many years," Henry said.

Laser collaboration

A two year collaboration between the Central Laser Facility and Instituto Superior Tecnico (IST), Technical University of Lisbon to build a new CPA Nd:glass laser system has just been successfully completed. IST supplied postgraduate student effort and funds for the equipment. The technology transfer from the CLF was funded by the EU under the TMR Framework IV programme.

"The collaboration has been extremely beneficial to all parties and has resulted in the establishment of a new experimental group within Europe," according to Chris Edwards of the CLF.

The laser, built at RAL, will be used to study phenomena related to laser-plasma interactions, in particular the generation of large amplitude plasma waves through interactions with ultrashort laser pulses. Recent studies have shown

that the electric field associated with such waves can be applied towards accelerating charged particles to high energies.

The laser was transferred to Portugal in December and will be installed at IST during spring 1997.



Goncalo Figueira, University of Lisbon, and Colin Danson, RAL, align one of the amplifiers on the new laser shortly before completion

(96RC5429)

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Schools liaison

Rachel Atkinson started work at RAL in November as the new Schools Liaison Officer (SLO). Rachel and DL's SLO Anne Humphreys introduce themselves...



Rachel Atkinson (96RC5280)

Six weeks on and I'm still enjoying the job of Schools Liaison Officer. I haven't visited a school yet, but I've done plenty of liaising! For the previous year and a half I taught in a primary school in Abingdon, before which I taught in a middle school in South Hertfordshire. I have lived in Milton for two and a half years and I can probably now call myself a local.

I have been really impressed with the enthusiasm of staff at RAL, especially from those who have been involved with schools tours and talks. I'd like to take this opportunity to thank anyone who has been involved in schools links and events.

I would be very interested to hear from anyone else who could spare an hour or two to help with events including tours, talks and visits, and volunteers to 'clean' computers for a new 'gifting' programme (more on this next month - Ed.). I would also welcome any interest from people who could take on a work experience student for a week or two. If you are interested please contact me.

The contributions that are made to the schools in time and effort are greatly appreciated by the schools concerned and definitely don't go unnoticed - we have recently received a certificate for our contributions to education from West Berkshire Education and Business Partnership which is proudly hanging in the Central Exhibition area in R18!

Rachel Atkinson RAL ext. 5950

It was with great excitement that I started my new duties at Daresbury as Schools Liaison Officer in August. I have always felt very proud to work here and felt this was an opportunity not only to broadcast the work of the Laboratory to students, parents and teachers but also to encourage enthusiasm for science and increase the numbers studying science at a higher level.

My immediate aim is that a visit to Daresbury will be a vital curriculum event for most secondary schools in the local vicinity; schools outside this area would also be encouraged. To achieve this, a group of enthusiastic GCSE and A level science teachers have already toured the Laboratory and will shortly be defining areas that should be developed for hands-on displays, problem solving days and preparing work sheets. In January a group of primary teachers will be making a similar visit. Longer term, I would like to develop (in association with The British Association for the Advancement of Science Youth Section) a North West Science Trail. This could make Daresbury a national venue for educational visits and maybe eventually a family day out. Work has also started on providing INSET (teacher training) days.

I have been very encouraged by the positive response I have received from all the staff I have approached for assistance and look forward to a rapidly expanding school programme.

Anne Humphreys (93/181/10)



Anne Humphreys DL ext. 3708

Technology in the House of God

Daresbury staff recently attended Expotech 96 - a technology exhibition at an unusual venue.

Expotech 96 was an exhibition of technology and innovation aimed at helping new businesses. Organised by NIMTECH and backed by leading businesses and organisations including the Merseyside Innovation Centre, Liverpool Universities and Granada TV, it took place in the striking surroundings of Liverpool Anglican Cathedral. DL took one of 150 stands to exhibit and demonstrate how the SRS can help chemical and pharmaceutical companies improve their products, and to explain the manufacture of microcomponents using the LIGA process. Information about DIAMOND also stimulated many questions from the visitors.

Although bad weather and parking problems meant that the overall attendance at the exhibition was disappointing, the innovative nature of the Daresbury exhibit attracted many of the visitors. Microparts made by the LIGA process stimulated interest by a number of companies, as did a demonstration of CAD for design. These contacts are now being followed up and have already led to a useful arrangement with John Moores' University. Thanks are due to many people at Daresbury, particularly Ron Marl and David Kinder of the LIGA Group who put a lot of their own time



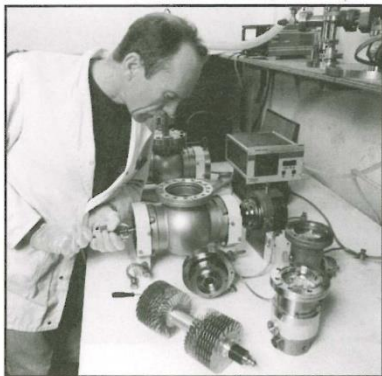
Dave Tolfree (right) and Dave Kinder (left) show LIGA microstructures to exhibition visitors (DL96/343/14)

and effort into making our contribution to this event successful.

Dave Tolfree
DRS

Get your pumps repaired at Daresbury!

How many readers know that Daresbury has a fully equipped and operational workshop for repair and maintenance of vacuum pumps? Daresbury's Dave Hands has been involved with vacuum pumps and equipment for the last 13 years and, thanks to in-house factory training and specialist courses, he is



now able to service and repair rotary, turbo, diffusion and diaphragm pumps as well as cryogenic pumps and their associated helium compressors.

From the early eighties at the NSF facility, it was recognised that savings could be achieved by keeping the repair of vacuum pumps in-house. Dave was encouraged to go further into the field of pump maintenance and, following the closure of the NSF, he brought his knowledge to the SRS. "From humble beginnings in a small workshop and then onto a polythene covered compound, I have now built a facility that is fully equipped with COSHH extract systems and the necessary services, as well as the full range of manufacturers' special tooling often needed to repair the pumps, especially turbos" he commented.

All the parts and spares are original

Dave tends to a pump (DL96/332/1)

manufacturers' items, ensuring that equipment leaves the facility up to the standard one would expect from the pump supplier. The main aim of the facility is to give to the user community a backup for their equipment should it fail when their experiments are in progress, thus avoiding expensive downtime. There are a selection of spare pumps for users to rely on and Dave works hand in hand with the vacuum section at DL.

Specialist systems such as turbo pumping rigs have already been put together in the pump bay for several stations using reconditioned pumps making significant savings over buying new - in some cases saving 50% of the cost which can be as much as £10,000.

Dave can be contacted at DL on 01925 603532

RAL raffle raises £731 for local charity

Heather Holt, Chairman of the Oxford Area Group of the National Association for colitis and Crohn's Disease, received a cheque for £731 from the Christmas raffle organiser, Rose Wadley, at the grand draw last month. "I'm very grateful to RAL for this wonderful donation and am happy to accept this cheque on behalf of the society. This money will be spent locally to carry out research into the causes of colitis and Crohn's disease," said Heather. A first prize of £50 and forty other prizes including colourful hand-knitted toys, a decorated Christmas cake, toiletries, and a 30 inch-high garden

gnome were handed out as Heather drew the winning tickets. Apart from the first prize, all the prizes were donated by staff at RAL. Ulcerated colitis and Crohn's disease affect over 120,000 people in the UK. They are diseases of the digestive tract and although there is no medical cure for either, medicines do help and surgery can be used to alleviate symptoms and, in some cases, may result in a cure.



Rose (left) and Heather with the cheque (96RC5423)

Photo caption competition

Here is a selection of captions for the photograph in last month's Labnews:

"My hair was also this long when I started here!" - Steve Hands

"You kids these days. You don't know what fun is. When I was young, a special treat was helping your mum to unravel an old sweater! You put your hands like this and..." - Peter Jones

"...and the X-rays come out - just like that!" - Graeme Bushell-Wye

"This is Norman, the invisible brick, boys and girls." - Jim Kerfoot

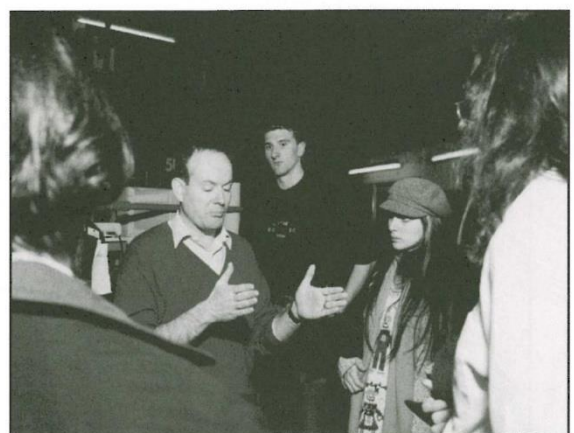
"Back in the 60s we all had hair this long and wore hats just like yours!" - Steve Angood

"If Gareth Southgate had put his penalty this much further to the left..." - Andy Dickinson

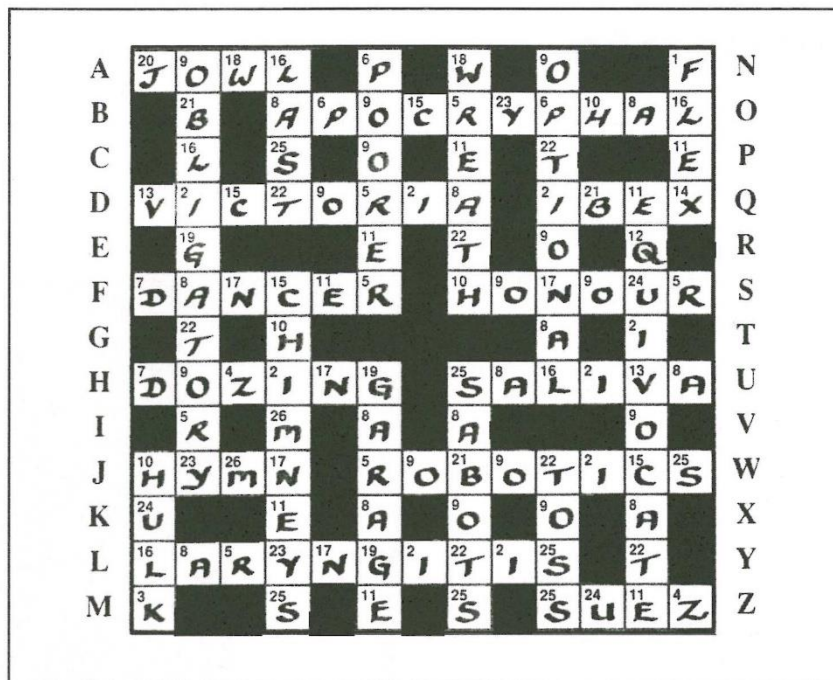
"Invisibility breakthrough - physicist takes first step on invisible ladder." - Munro Watt

"And that's just the size of my ego..." - Anon

"C'mon baby - do the locomotion." - Robert Metcalf



DL96/222/4



1	F	2	I	3	K	4	Z	5	R	6	P	7	D	8	A	9	O	10	H	11	E	12	Q	13	V
14	X	15	C	16	L	17	N	18	W	19	G	20	J	21	B	22	T	23	Y	24	U	25	S	26	M

Welcome to the first edition of Labnews in 1997. Thank you to everyone who took the time to complete the Christmas Cross Reference and to enter the caption competition. Congratulations to Graham Kerr from Administration Department at RAL whose name was pulled from the hat on Christmas Eve. He wins a huge basket of fruit courtesy of ARAMark. The solution to the puzzle is printed above. A selection of captions is printed opposite, on page 4. I really enjoyed reading them all. Sorry if yours has not been included - there wasn't enough room for all of them.

I would like to wish you all a happy and prosperous New Year. (Oh, that reminds me. I must buy my lottery ticket...)

Natalie

Letter to the Editor



Dear Natalie

Through your letters column, I would like to thank all the people at RAL who bought tickets and donated prizes for the RAL Messengers Christmas Draw. A special thank you to all the RAL Messengers, Rita Bryan and other RAL staff who gave their valuable time to sell tickets.

Yours sincerely
Mrs Rose Wadley
R71 Reception

Retirements

Sue Kinch

Friends and colleagues gathered to wish Sue Kinch 'Au revoir' on the occasion of her retirement in December.

Derek Hothersall recalled that Sue originally joined the Laboratory as an agency temp in 1978 and was soon taken on to the permanent staff as a part-time CA (now known as AA) in the Personnel Division. She quickly achieved promotion to CO (AO), working in the recruitment and reviews area.

For the past few years Sue has worked exclusively on the Review process ensuring that timetables were always met. Sue has been a most conscientious and dependable member of the Personnel team and will be sorely missed. Derek joked that she had had access to highly confidential information and would never reveal an ACR box mark... even under torture!

Sue thanked everyone for giving up their time to attend her gathering and said that the last 18 years had flown by, during which time she had met and worked with some wonderful people and made many friends. She added that her time at the Laboratory had been a very happy one.

Sue has many interests including line dancing, cycling, rambling, antiques and travel so her retirement will be a busy one.



Sue receiving a bouquet from Derek Hothersall (96RC5442)

Fred Roberts

Fred Roberts retired from RAL recently having worked in site services for 15 years. He was born in London and evacuated to the Abingdon area to foster parents who owned Cowley Concrete. He went on to work for the company after leaving school and stayed there for 17 years before joining MG Cars. He came to the Lab in 1981 and quickly developed a reputation as an 'AA' man ("If I can't fix it, I know a man who can!").

At a presentation in the Recreational Society, Fred was presented with a Ray Roberts card, a loft ladder, a CD player

and a Mike Antony 'special edition' barometer and clock. His wife Jean was presented with a beautiful bouquet of flowers.

Fred's colleagues wish him and Jean a long and happy retirement and perhaps at some time they will explain what they are doing up in the loft with a CD player!

Ray Docherty



Fred (left) looks pretty pleased with his barometer. He is pictured with Ray Docherty (96RC 5078)

Malcolm Arnold

Malcolm Arnold retired on 28 November after 34 years at RAL.

Having left school at the age of 14, Malcolm began the first two years of his 51 years in employment at a large foundry as an apprentice moulder. He then went on to serve a five year apprenticeship as a fitter and turner. "On completion of my apprenticeship", Malcolm recalls, "I was called upon to serve my country. I was very lucky to be asked to go into the Navy but, unfortunately, I spent all of my naval service at HMS Collingwood in Fareham in the apprentice artificers workshop. The only ship I went on was a ferry from Gosport to Pompey!"

The experience provided Malcolm with strong foundations for an outstanding career at RAL. Joining NIRNS in 1962 as a Craftsman, he went on to become a project estimator, retiring as a Technical Officer.

"I've come full circle", declares Malcolm, "in the spring I will be moulding again", only this time he's



Malcolm (right) and Peter Sharp admire the Ray Roberts card (96RC5272)

trying his hand at rockery stone making. At the presentation made by Peter Sharp, Malcolm received several gifts including a power drill with tools from his friends and colleagues enabling him to carry out some of his other interests, DIY, toy making and

gardening to name but a few.

Malcolm would like to thank Richard Day, Mike Sedwards and John Craig for organising the collection and everyone for his gifts, and flowers for his wife Maisie.

Life After Retirement

Ken Lea proves its not all pipe and slippers...

Daresbury Retirees started 1996 with a gathering of 33 for lunch at the Butcher's Arms, Warrington in January. A second rendezvous was held at The Noggin, Risley, in April, when 36 turned up and had the opportunity to meet a former staff member turned inn-keeper there, Carol Blinkhorn. A summer outing took the group to The Royal Oak at Worleston for lunch, then on to the Cheshire College of Agriculture at Raseheath for a guided tour of the gardens. The White Lion, Alvanley was

the venue in October and a dozen retirees joined the Retirees' table for the Christmas lunch at the Laboratory on 19 December.

Wednesday Wanderers were in action eleven times during the year, beginning with a round trip in snowy conditions from Eccleston to Chester in February, repeated with a better turn-out in fairer weather in May. Other Wanderers' excursions have taken in Hilbre Island, off the Wirral coast and, in October, Loggerheads Country Park near Mold. On good days, turn out for

the Wanderers has been well into the twenties.

Levels of interest and support have been most gratifying and has encouraged plans for continuing these activities in 1997. New Laboratory Retirees and their spouses are most welcome to join.

For more information about retirees activities, contact Ken Lea on 0161 928 3577 or for information about Wednesday Wanderers, contact Steve Darbyshire on 01606 888193

Official Openings the Order of the Day at DL

The SRS has recently seen the official opening of two new experimental stations - one for crystallography and one for ultra-dilute spectroscopy...



The XAS team (from the front of the picture): Bob Bilsborrow (station manager), David Norman (Head of Spectroscopy), Barry Dobson (leader of the project), Ian Munro and the software development team, engineers and technicians who brought it all together (DL96/347/2)

Following a tour of the X-ray Absorption Spectroscopy (XAS) group's facilities on Thursday 28 November, the SR Department Management Committee attended the opening ceremony for station 16.5. The station combines high X-ray flux from the Wiggler II source with focusing optics and the Daresbury designed high stability, fast scanning monochromator which is now manufactured under licence by Vacuum Generators and in use at SR sources world-wide. This powerful combination provides extremely high X-ray flux at the sample which would be wasted without a detection system to handle the resulting high count rates. To solve the problem, Daresbury's Non-Biological detector group has collaborated with EG&G Ortec to develop a new solid-state detector with high count-rate electronics. The user friendliness of the new station is also a great improvement thanks to a recently developed graphical user interface for data acquisition and control.

This world class facility has unique

capabilities which will enable XAS studies of systems previously considered too dilute for investigation by this technique. These include semiconductor dopants, environmental contaminants, metalloproteins and in-situ catalysis. Congratulations are due to everyone who was involved in its development - station 16.5 will be a valuable addition to the SRS's array of research facilities.

Bob Bilsborrow

Ian Munro officially 'cut the tape' recently on station 9.8, the latest addition to the SRS. EPSRC's investment of £0.8 million has resulted in a facility that will be used by most of the chemical crystallography community in the UK as well as many abroad. The new station will probe the atomic structure of materials from very small or poorly developed crystals that could not have been studied before. Its

high intensity and rapid data collection capability has already resulted in significant user demand.

The grant to construct station 9.8 was headed by Bill Clegg (Newcastle) and Richard Catlow (Royal Institution of Great Britain). Development started 18 months ago. The overall specification for the station is higher than was originally anticipated and the completed station has now been delivered ahead of schedule. The detector system has been partly funded from efficiency savings during the construction period. The station will be available for general user applications from the next round and is expected to play a major role in the understanding of structural problems in the physical sciences.

After Ian fired the first test frame on a sample, a party was held for everyone involved in the design, construction and development of the station.

Bob Cernik



Staff news

Arrivals...

Welcome to:

Mrs RL Atkinson who joined Administration Department at RAL as an EO (Band 6) on 25.11.96

Mrs J Baker who joined Administration Department at DL as a NCB2 on 18.11.96

Dr C Benmore who joined Science Department at RAL as a HSO (Band 5) on 4.11.96

Mrs S Brierley Jones who joined Administration Department at DL as an AO (Band 7) on 4.11.96

Mr N Chinnery who joined SR Departments at DL as a SO (Band 6) on 4.11.96

Mrs J Kidson who joined Administration Department at DL as an AA (Band 8) on 5.11.96

Dr S Langridge who joined Science Department at RAL as a HSO (Band 5) on 18.11.96

Dr SJ Maginn who joined SR Department at DL as a SSO (Band 4) on 25.11.96

Dr SJ Pepler who joined Space Science Department at RAL as a HSO (Band 5) on 4.11.96

Mr TC Slade who joined Technology Department at RAL as a Grad Eng (Band 6) on 18.11.96

Departures ...

Farewell to:

Mr J Addis who resigned from DL on 15.11.96

Miss FM Bolle who resigned from RAL on 29.11.96

Dr GM Courtier who retired from RAL on 31.10.96

Dr MJ Culver who retired from RAL on 24.11.96

Dr DG Cussans who resigned from RAL on 31.10.96

Mr TR Forester who resigned from DL on 22.11.96

Mr S Harper who retired from DL on 26.11.96

Mrs NG Lovegrove who resigned from RAL on 19.11.96

Mr G Miller who resigned from DL on 15.11.96

Mr FH Roberts who retired from RAL on 17.11.96

Mr DM Skuse who resigned from RAL on 1.11.96

Mr RR Whittington who resigned from DL on 8.11.96

Promotions & regradings ...

Congratulations to:

Mrs D Holden who was made substantive EO (Band 6) in Administration Department at DL on 11.11.96

Mr GW Brown who was promoted to HPTO (Band 5) in Applied Science Department at RAL on 28.10.96

Mr RE Chandler who was promoted to SPTO (Band 4) in Technology Department at RAL on 1.11.96

Miss JM Friday who was promoted to HSO (Band 5) in Technology Department at RAL on 1.10.96

Mrs B Gibson who was promoted to AO(T) (Band 7) in Administration at

RAL on 14.11.96

Mr TM Hayler who was regraded to Grad Eng (Band 6) in Science Department at RAL on 1.8.96

Mr GM Toplis who was made substantive SPTO (Band 4) in Space Science Department at RAL on 6.11.96

Mrs ND Valentine who was made substantive EO (Band 6) in Administration Department at RAL on 5.7.96

Mrs RA Wadley who was promoted to SGB1 (Band 7) in Administration Department at RAL on 16.5.96

Mr BJ Wilkes who was promoted to NC18 in Science Department at RAL on 2.11.96

Mr DW Williams who was promoted to SEO (Band 4) in Administration Department at RAL on 5.8.96

Death in Service

It is with great sadness that we announce the death in service of Mr J Lowsley of the SR Department at DL on 21.11.96

Dr SJ Unger commenced unpaid leave on 2.11.96

Apologies to Mr MC Rudman who was promoted to SO, not P&GS'D' as stated last month.

SNIPPETS



Congratulations to Allyson Reed on the birth of her son, James, who was born on Saturday 14 December. They are pictured here on James' first visit to RAL (97RC1006)

New appointments

Congratulations to Mike Lockwood (Space Science Department) who will be serving as a member of the Particle Physics and Astronomy Research Council's Astronomy Committee from 1 April 1997 for three years. This committee provides advice to the PPARC Executive on all aspects of the Council's programme in astronomy.

The Natural Environment Research Council (NERC) has appointed a part-time, non-executive Chairman. Mr James Smith CBE FEng FRSE began his four year appointment on 1 January 1997.

Faraday Network comes to DL

The Faraday-Foresight North West Network has recently re-located its main office to Daresbury. The Network's aims are to provide a vehicle for improving academic/industrial interaction by promoting wider access to, and development of, the UK's knowledge base. David Richards, Faraday's Director, said "I believe that the move

will have a significant impact on the future level of innovation in the north west of England and on the expansion of Daresbury Laboratory's industrial-customer base for the benefit of the region and UK plc."

The Faraday Steering Committee has met at the Laboratory for the last two years. The Committee is chaired by Geoffrey Piper, a leading local businessman, and comprises industrialists and universities in the north west. CCLRC is represented on the Committee by David Tolfree.

Millennium Award Scheme

The second application round for funds to run a Millennium Award Scheme opens on 6 January 1997. Under the theme 'you and your community' £20m is available for grant making organisations to run Award Schemes. These schemes should offer individuals unique opportunities to fulfil their personal aspirations and reinvest their skills and experience for the benefit of the wider community. Please contact Press & PR (RAL ext 5789) for more information if you're interested.

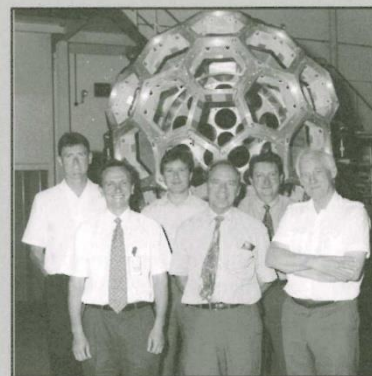
Euroball detector

Euroball, the next major g-ray detector for nuclear spectroscopy, is now under construction by a European collaboration between France, Germany, Italy, Denmark, Sweden and the UK. Several UK institutions are involved in the project including the Universities of Liverpool, Manchester and York and DL. The Laboratory's Nuclear Physics Support Group has played a key role in preparing the mechanical design, electronics and data acquisition and in the co-ordination of the project.

The mechanical structure, designed at Daresbury, was assembled at the Laboratory before being shipped to Italy where it has been installed at the

Laboratori Nazionale di Legarno. The detectors are now being fitted and the completed Euroball is expected to start operation in early 1997.

Euroball will consist of 239 individual germanium detectors, used to study bursts of gamma rays emerging from the collision of two nuclei. The new detector array is an order of magnitude more sensitive than its predecessors, allowing unprecedented study of the properties of the exotic atomic nuclei made in the collisions.



Members of the Euroball team: Jim Kay, Chris Leyland and Rob Griffiths from Daresbury, Peter Cook and Dave Seddon from the University of Liverpool and Ron King from the University of Manchester (DL96/294/4)

Nobugs workshop

Computer bug-fighters proved not to be superstitious when they met in December on Friday 13th at DL for a one-day workshop to promote the goals of Nobugs: sharing well-tested and user-approved software packages in synchrotron radiation and neutron facilities around the world. Please contact Manolis Pantos (DL ext 3275) for further details, or take a look at the web address:

<http://www.dl.ac.uk/srs/fcis/nobugs/>

SNIPPETS

Mechatronics Awareness

DL hosted the North West Mechatronics Awareness Seminar recently which proved to be a great success. Mechatronics is the process of combining mechanical, electrical, electronic and control engineering to solve motion, flow and process problems. The practice of combining technologies to resolve demanding scientific challenges is well established within CLRC but for many industries, particularly SMEs (Small to Medium Enterprises), this is a new and novel concept. Considerable improvements in performance are possible for companies who embrace this multi-discipline approach.

The Laboratory has worked with Warrington Collegiate Institute, North & Mid Cheshire Training and Enterprise Council and Cheshire County Council to establish a Mechatronics Centre of Excellence in Warrington, funded from European sources via the regional TEC. Daresbury has provided expertise and guidance in setting up and equipping the new Centre which is now proving extremely popular with local industry.

XAFS Conference

DL was the venue for the first XAFS (X-ray absorption fine structure) study weekend in 1981 and the success of that meeting led to a series of world-wide conferences with the most recent, the 9th International XAFS conference, being held in Grenoble, France in August with almost 530 delegates. More than ever before, the scientific content of XAFS IX reflected the growth and diversity of research areas using XAFS as a structural probe. The UK XAFS community was well represented with plenary lectures given by Daresbury 'old boy' Neville Greaves, and Chris Buckley (Kings College London) together with a

number of parallel session lectures given by familiar faces at the SRS - including Gopinathan Sankar (The Royal Institution), Guang-Yu Guo (DL) and Judith Corker (University of Southampton).

Overall the conference was excellent scientifically and we can look forward to future science which will be presented in XAFS X in Chicago.

JET-X testing

The flight model of the huge JET-X instrument is currently undergoing thermal tests at RAL's Space Science Department. JET-X, which is over 4 metres long and weighs half a tonne, arrived at RAL in December, where it was wrapped in multi-layer insulation and loaded into RAL's new space test chamber. In order to test this X-ray telescope in similar conditions to those it will meet in space, it will sit in a vacuum at an icy-cold -270 C and thorough tests will be carried out. JET-X will be the most sensitive X-ray telescope ever launched and will 'see' fainter and more distant X-ray objects than ever before. It will be delivered to Moscow in the Summer for integration on the Russian spacecraft Spectrum-X, and will be launched in 1998.

Youth Science Fair

If you know any young (14 - 20 years old) scientists who have completed a science or engineering project and would like to be considered for selection to represent the UK at international science fairs, please contact Press and PR (RAL ext. 5789) for more details and an application form. The British Youth Science Fair is



Father Christmas visits the Little Stars nursery with a sackful of presents (97RC1012)

an activity of the British Association: individuals or teams of up to three can enter - the winners get expenses paid trips to Italy, Germany, Sweden or the USA.

BNSC move

Please note the new address of the British National Space Centre who moved to: 151 Buckingham Palace Rd, London, SW1W 9SS at the beginning of December. BNSC's homepage on the Web can be found at: <http://www.open.gov.uk/bnsc/bnscome.htm>

Congratulations

to Paul Hardy, who works in Applied Science at RAL, on the birth of his son, Matthew Paul, on 9 December. Matthew decided he couldn't wait to be born, so Paul had to deliver him at home whilst waiting for the ambulance to arrive. After such a speedy delivery, mph were the only initials that would do for baby Hardy!

**NOTICEBOARD****DL Notices****Training News**

Places are available on a JTS Assertiveness and Self-Confidence course which will be held at Polaris House, Swindon on 13 February 1997. For further information, please contact the Training Section, A8, ext. 3600 or e-mail training@dl.ac.uk

Wednesday Wanderers

Delamere Forest and Tigers

An easy 6.5 miles winter walk. Mainly on level forest tracks (which will be muddy in places), calling at the Tiger's Head in Norley for lunch.

When: Weds 5 February 1997

Start 11am

Maps Landranger sheet 117

Pathfinder sheet 757

Meet At the Delamere Forest Visitor Centre
Map ref. 548705

How to get there: The Visitor Centre is signposted off the B5152 Frodsham/Tarporley road at Delamere station. Go past the Linmere picnic area car park to reach the visitor centre.

RAL Notices**RAL Lectures**

30 January 1997

Pickavance Lecture Theatre, 3pm

The case of hate speech to be the subject of censorship
Ms Ursula Owen, Editor - Index of Censorship

24 April 1997

Pickavance Lecture Theatre, 3pm

The Kings and Queens: an irreverent cartoon history of the British Monarchy

The Rt Hon Kenneth Baker MP

Trade Exhibition

14 vacuum and gas handling companies will be exhibiting their products in the Central Exhibition area, R18, on Tuesday 21 January between 10am and 4pm. Visitors to the exhibition, organised by Scientific Vacuum Services, will see a wide range of products including

RAL Rec Soc Christmas draw winners

Tin of chocolate biscuits	S Myers
Case of Tartan bitter	B Harrow
Case of Lager	J Carter
Bottle of red wine	R Hadley
Bottle of whiskey	R Bishop
Christmas pudding	R Brumfitt
Box biscuits for cheese	P Wastle
Roses chocolates	S Brind
Sherry	A Napper
Chardonnay	K Gregory
Martini	L Rich
Case of Boddingtons	R Bryan
Stilton and Port	M Napper
Country Satin	J Carter
Bottle of gin	S Greenall
Bottle of port	M Mills
Galaxy chocolate	A Vernon

vacuum deposition systems, cryopumps, high voltage components, spectrometers and gauges. **All welcome**

Calendar

The 1997 Space Science calendar is available for purchase from the R22 shop at RAL priced at £4.20.

Missing equipment

Two items are missing from the recently refurbished electronics lab in R8 at RAL:-

STEINEL Heat Gun R44037

Bosch Light Duty Electric Drill R41745

They went missing in the first week of December. If anyone knows their whereabouts please contact Alan Stevens on ext. 6352/5887

A Fluke87 digital multimeter disappeared from the ISIS target area in mid December at RAL. If found, please contact Simon Lay on ext. 5673