Bulletin
of the Rutherford Appleton Laboratory 25 Oct 1982 No.16

CERN/RAL at the Science Museum

Under the title 'The Building Blocks of Matter', the Science Museum is staging an exhibition about particle physics until 28 November. The exhibition has been prepared by CERN with RAL providing some of the material. Visitors are introduced to current views on the quark structure of matter and the experimental facilities required to pursue the study of these basic constituents of matter.

Information about CERN's accelerators and particle detection systems and components from the machines are presented and details are given on the LEP (Large Electron Positron) storage ring currently under construction.

The Role of RAL

There is a six-minute video programme prepared by the Laboratory's Scientific Administration Group and the Council's Public Relations Unit about UK universities and RAL involvement in the particle physics programme at CERN. Other exhibits provide more information on this role of the universities and the RAL facilities in the exploitation of CERN. The involvement of UK industry is also featured.

Mr William Shelton (Parliamentary Under Secretary, Department of Education and Science) opened the exhibition on 29 September. Among those attending the opening ceremony were Mr Brian Oakley (Secretary, SERC), and CERN's Director-General (Professor Schopper) and Technical Director (Dr Brianti).

Themes

The exhibition, which is in the Museum's Gallery 65, includes a working spark chamber detecting cosmic rays which was supplied by RAL, and a life-size replica 'slice' of the LEP tunnel. Five themes are portrayed by panels, video programmes and equipment:

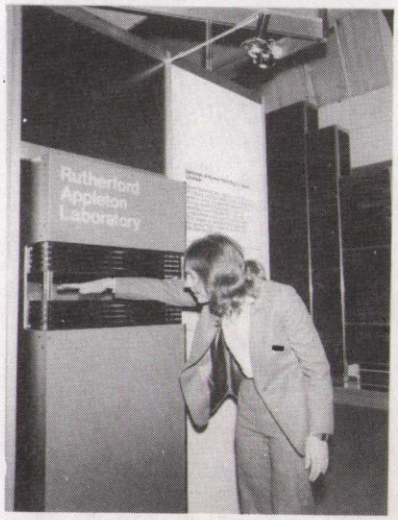
Model of the tunnel which will receive the LEP collider. (82 RB 4879).

1. What CERN does in particle physics research.
2. How the research is carried out.
3. Applications in other fields.
4. The nature of CERN.
5. International facilities and the role of the home base.

With regard to the last theme, it is explained that efficient use must be made of CERN's large-scale facilities but a strong home base is essential to help national teams to participate in the experiments.

During the period of the exhibition a series of lectures on 'Aspects of Particle Physics' will be given.

For information contact J Banford.



The Spark Chamber causes interest. (82 RB 4880).

INTERNAL Events

HEP SEMINARS
R61 CONF RM - 1100 hrs.

27 Oct. Dr K Green/RAL
'An Experimental Search for $n - \bar{n}$ Oscillations'

3 Nov. Dr N Parsons/Oxford
'The Quenched Eguchi-Kwai Model'

10 Nov. Prof T Walcher/MPI Heidelburg
'A New Measurement of the $p\bar{p}$ Excitation Function at Momenta between 370 and 1100 MeV/c.'

NIMROD LECTURES
R61 CONF RM - 1400 hrs.

1 Nov. Dr Nathan Isgur/Oxford & Toronto
'Do Multiquark States Exist?'

CONDENSED MATTER SCIENCE SEMINARS
R3 CONF RM - 0930 hrs.

16 Nov. P Wohlfarth/Imperial
'Metallic Magnetism at High Pressures'

30 Nov. A J Leadbetter/RAL
'Smetic Liquid Crystals'

2 Nov. R J Newport/RAL
'X-ray Techniques for the Analysis of Amorphous Structures'

EXTERNAL Events

THEO. PHYS. SEMINARS
MANCHESTER - 1430 hrs.

27 Oct. Prof A Houghton/Imperial
'Towards the Theory of Disordered Electronic Systems'

3 Nov. Prof D Smith/Heriot-Watt
'Free Electron Lasers'

10 Nov. Dr L Goldfarb/Manchester
'Anatomy of Heavy Ion Scattering via the Folding Model'

THEOR. GROUP SEMINARS
DARESBURY - 1400 hrs.

1 Nov. Dr J Dudek/Warsaw
'High Spin States and Nuclear Superfluidity'

8 Nov. Dr M Jaros/Newcastle
'Electronic Structure and Stability of Localised Defects in Semiconductors'

PART PHYS. DISC GP MEETINGS
BIRMINGHAM - 1515 hrs.

29 Oct. Dr K Freudenreich/CERN
'Production of Massive Muon Pairs by Intense Pion Beams'

5 Nov. Dr W Allison/Oxford
'The Identification of Secondaries by Ionisation Sampling (ISIS)'

HEP SEMINARS
MANCHESTER - 1430 hrs.

2 Nov. Dario Barberis/Manchester
'Search for the F meson in High Energy Photoproduction'

9 Nov. Chris Bowdery/Manchester
'Inclusive Dimuon Physics in e^+e^- Interactions with the JADE Detector'

THEO. PHYS. SEMINARS
QMC - LONDON - 1615 hrs.

1 Nov. Dr D Broadhurst/Open U.
'Can QCD Sum Rules Fix Properties of a Single Resonance?'

PHYSICS COLLOQUIA
CLARENDON LAB - OXFORD - 1615 hrs.

29 Oct. Prof M J Ashwood-Smith/Ulm
'Philosophical and Practical Aspects of the Applications of Cryogenic Temperatures in Biology and Medicine'

5 Nov. Dr M A Grace, FRS/Oxford
'Magnetic Moments and Short-lived Nuclei'

THEO. PHYS. SEMINARS
DAMPT - CAMBRIDGE - 1500 hrs.

29 Oct. Alan McKane/Edinburgh
'Some Applications of Gauge Field Theories in Statistical Mechanics'

RAL Lectures

The first lecture of the 82/83 series will be held on Thursday 4 November at 3.15pm in the R22 Lecture Theatre

THE EVOLUTION OF LARGE BASALTIC SHIELD VOLCANOES
by
Dr W J Wadsworth
University of Manchester

Basaltic Shield Volcanoes form some of the largest individual geological features constructed on the Earth's surface. Their evolutionary behaviour has been studied from the short term (days to decades), medium term (centuries) and long term (thousands to millions of years) view points.

After a brief reference to the shorter end of this range, as exemplified by Etna and Kilauwea (Hawaii), we shall concentrate on the longer term evolutionary aspects, with particular reference to Reunion Island in the Western Indian Ocean, where the anatomy of individual volcanoes is exceptionally well displayed.

RAL TECHNOLOGY LECTURES

This is a new series of lectures aimed at providing a forum for internal and external speakers to intoduce new ideas and novel advances in technology. All lectures will take place in the R22 Lecture Theatre at 1500 hrs. All are welcome.

18 Nov. Dr D B Thomas/RAL
'Information Technology and SERC'

27 Jan. Dr J Burren/RAL
'Project UNIVERSE'

24 Feb. Prof. R M Needham/Cambridge
'New Direction in Computing Research'

10 Mar. Dr M N Wilson/RAL
'Superconductivity: New Ideas, New Applications'

5 May Prof. C Freeman/Sussex
'Technical Innovation and the British Economy'

2 June Dr J V Kittler/RAL
'Computer Vision Systems for Robots'

Missing

The following inventory items are missing: all have Appleton Lab nos.

4504 Avo Model 9 (in brown)
6042 Weir Microreg PSU type 300 S/No 10333
6465 Farnell Sine/Square Oscillator type LFM2
7794 Levell DC Multimeter TM9B S/No 2644
9294 Grant thermostatic circulator LC 10 S/No A17650
9746 Fluke Wavetek Generator Type 142 S/No 75360
9749 Brookdeal Lock-in Amplfier type 9501 S/No 501188
9808 Advance Oscilloscope OS 250 S/No 6667
11354 McLennon Stepper Motor PSU SM8021
11436 Impectron Wideband Isolator (Hughes)

Please look in your lab for these, if anything is found contact R Knight, R20.

D[redacted]'t Be Stoney

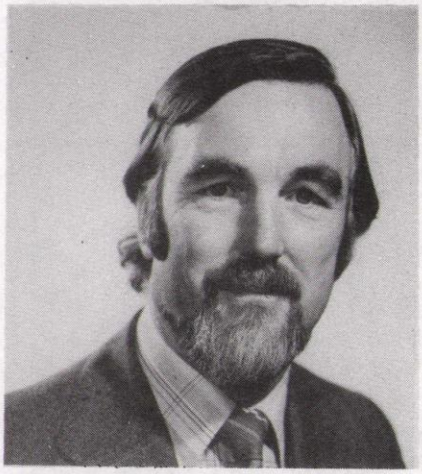
Although there are now more than 1½ million regular blood donors, more are always needed to enable the National Blood Transfusion Service to keep pace with the increasing calls made upon it.

RAL staff have been participating in donor clinics for many years, staff at Chilton originally joining in with Harwell colleagues. It was not until 1963 that we had our own clinic and in the 20 years since then, staff have contributed 759 gallons of blood.

Two donor clinics are held each year, in May and in November - periods when staff are usually available. Two days are set aside in each of those months for the Service to hold the clinics which are now held in the Colloquium in the Atlas Centre. Each clinic averages about 120 donors a day. An average of 15 new donors turn up for each visit of the Service - a feature that it is hoped will be repeated at the next visit on 22 and 23 November. There will, of course, be all the usual reminders nearer the time so keep an eye out for the posters and notices.

The Oxford Region of the National Blood Transfusion Service is fortunate in having Dorothy Irvine (R12) as the site contact. She tells us that jaundice is no longer a barrier to giving blood provided that one year has elapsed since recovering. Donors should be between the ages of 18 and 65 and weigh more than 8 stones. It is important that a donor has a light meal within the three hours before attending the clinic.

New Head for Neutron Division



Professor Alan J Leadbetter took up his duties as Associate Director for Science Board Activities and Head of Neutron Division on 1 October. Educated at Liverpool University, Professor Leadbetter gained his BSc in 1954 and his PhD in 1957. He received the degree of DSc in 1971 from Bristol University where he was employed from 1959 to 1974. He has been Professor of Physical Chemistry at Exeter since 1975. His research field is neutron scattering. Professor Leadbetter is a Fellow of the Royal Society of Chemistry and a Fellow of the Institute of Physics.

CERN Fellows

The CERN Fellowship Programme offers a number of awards for suitably qualified scientists and technologists to enable them to work at CERN in Geneva. Further information on the awards and application forms (which have to be submitted by 17 November) are available from Miss J Duck at SERC Central Office (ext 2223 at Swindon).

Recognition

The Council of the Institution of Electrical Engineers has awarded the Maxwell Premium (value £100) jointly to Mr C W (Bill) Trowbridge and Mr J (John) Simkin for their paper on 'Three dimensional non-linear electromagnetic field computations using scalar potentials'.

The award was received by Mr Simkin (Mr Trowbridge was abroad at the time) at the opening meeting of the IEE Science, Education and Technology Division on 21 October in London.

Film Badge Notice

It is period 11. Colour strip PINK for B[redacted] films.
Please check that your are wearing the correct dosimeter and all old ones are returned.

Next Film Issue

Monday 8 November.

Golden Shoes

Two of our colleagues in SNS Division have recently become life members of the Golden Shoe Club. This is a safety footwear manufacturer's 'club' for those who have been spared serious injury at work because they were wearing safety shoes or boots.

Eddie Gray and Kevin Comley were presented with their insignias of membership (certificate, club tie and key ring) by Dr Trevor Hyman who pointed out that accidents do happen even to those who are safety conscious such as Eddie and Kevin. Had they not been wearing the correct safety footwear, they would have each lost toes or at the least been badly hurt.

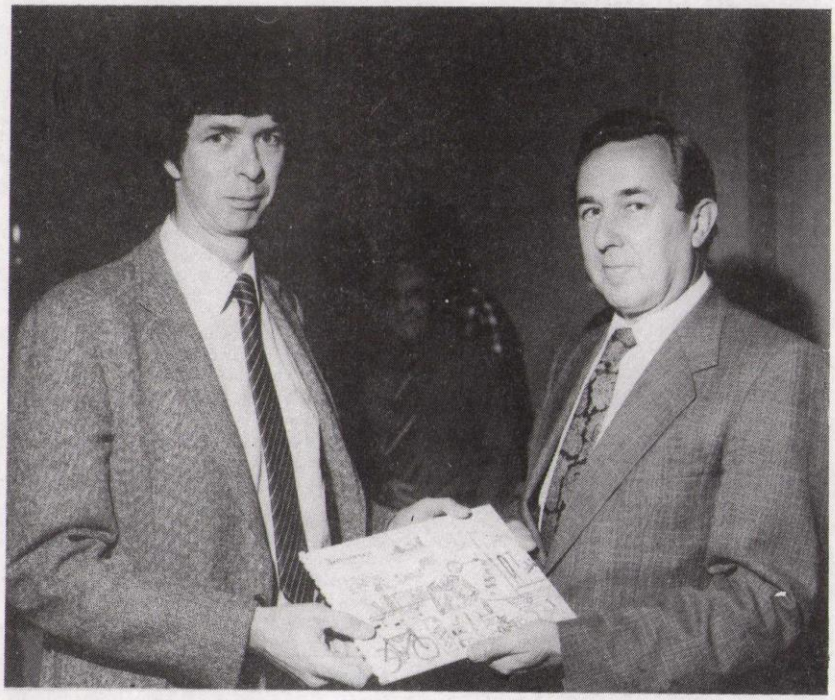
Eddie Gray's accident happened while he was handling a ferrite assembly on a special transporting trolley which had about 2 in. clearance between part of the sharp-edged steel frame and the floor. During the operation, the edge of the trolley frame ran on to the toecap of Eddie's left shoe, bringing the trolley to a halt and trapping his foot beneath it. As the trolley and its load weighed about 2 tons, there is no doubt that but for the safety shoe, serious foot injury would have resulted.

A few weeks before this mishap, Kevin Comley was handling a heavy piece of brass plate which slipped from his grasp and fell on to his foot. Instead of crushing his toes, the plate merely lacerated the leather over the steel toecap of the safety shoe.

If your work entails the risk of heavy objects falling or rolling on to your feet, ask your supervisor to authorise the issue of safety shoes to you - and wear them all the time at work.

Eddie Gray, Trevor Hyman and Kevin Comley inspect the Award Certificates. (82 RB 4692).

JET Propelled



Mike Watson(left) and Ron Newport admire the specially designed farewell card. (82 RB 4752).

Friends and colleagues of Mike W[illegible]on turned out en masse on Friday 1 October to say farewell and to present him with a momento of his days at RAL. Dr Ron Newport, making the presentation, said he had first become aware of Mike in 1960 when he was a member of the bubble chamber operating crew. Not many people were taller than Ron himself, but this tall preditory figure kept hovering around. Since that time, Mike had been away to Brunel to study for an engineering degree, returned to work in the design section with Mac Snowden and Peter Clee and finally in Ron's group. During this final phase he had actively participated in various projects for the ASR Board and the Oxford Spectrometer. Now he is moving to Culham to work on the JET project. "We shall certainly miss him, said Ron", both his cryogenic expertise and his presence in general and we wish him well in his new venture." Ron then presented Mike with a card as a memento from his colleagues and three books "European Experiment" which is about JET, "Formulae for Stress and Strain" which is nothing to do with psychology, and a road atlas for Great Britain.
Mike replied by thanking everyone for the tremendous help and support they had given him over the years. He was staggered by everyones generosity in providing him with such a magnificent gift. "If my stay at Culham is half as pleasurable as it has been at RAL it will be well worth while", he ended.

Challengers Lose

SNS Division showed their mettle in a cricket match on Steventon Village ground recently when they beat Neutron Division, the challengers. SNS won the toss and Ray Brown and Rob Hambleton took the score at a fair pace up to 52 when both were retired. Ray scored 40, including a six and five fours. Gordon Eaton was the next highest scorer with ten - and he too was retired. SNS were eventually all out for 81, Dave Cebula taking three for 12 and Steve Uden two for 16. Other wicket takers were Bill Pulford and Richard Lawrence.

Neutron Division were quickly in trouble, losing Dave Cebula first ball to Russell Newman. Fortunately Gavin Williams (eventually run out for 31; including four fours) and Ken Knowles (12) propped up the Neutrons who reached 60 for the loss of six wickets. Disaster struck again and they lost their last four wickets for 13 runs, their total being 73. For SNS, Russell Newman had the best bowling figures (four for 4 in three overs). The teams thank Steve Hancock for his organisation of an enjoyable evening and the umpires Peter Craske and Charlie Wakeford.

RAL RecSoc

It is possibly not generally realised that Rec Soc membership equates with membership of the Civil Service Sports Council which entitles members to enter the many CSSC clubs throughout the country and to use their facilities. For more information about CSSC Clubs and where they are ring D Barrand or G Stuart on ext 6172. If you wish to join the RAL Rec Soc (and if not why not?) ring Tudor Morgan on 5563.

Small Club

It has been suggested that a Micro-users Club should be set up under the auspices of the Rutherford Rec Soc. Anyone wishing to join should contact Peter Dorrington (ext 5232) or Peter Craske (ext 6273).

For Drayton Read Abingdon

All Drayton telephone numbers have been transferred to the Abingdon exchange (9). All Drayton three-digit numbers should now be prefixed with 31. For Drayton four-digit telephone numbers, delete the first digit and prefix the remainder with 31.

Bulletin

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Deadline for insertions: