



Rutherford  
Laboratory

4-18 February 1974

bulletin

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#### RUTHERFORD LABORATORY LECTURE

Dr K V Roberts of Culham Laboratory is the speaker in the Rutherford Laboratory Lecture on Thursday, 7 February in the Lecture Theatre at 3.15 p.m.  
His talk is entitled "Thermonuclear Fusion by Laser Compression" and he has kindly supplied the following summary

*"Recent years have seen the publication of extensive computer calculations, mainly in the USA, on the burning of deuterium and tritium pellets compressed and ignited by intense laser pulses. The talk will describe the basic principles of laser fusion, and will mention some of the physical and technological problems to be solved if this approach to controlled thermonuclear fusion is to become a reality".*

#### NATIONAL SAFE DRIVING AWARDS

Once again it is our pleasure to announce the National Safe Driving Awards to the Laboratory drivers. The awards for 1973 go to:-

Mr H Patterson	-	Bar to 15 Year Medal (for 17 years of accident free driving)
Mr E A Smith	-	Oak Leaf Bar to 10 Years Medal (11 consecutive years)
Mr A Hill	-	10 Years Medal (10 consecutive years)
Mr R E Smith	-	Bar to 5 Year Medal (9 consecutive years)
Mr D Stock	-	Bar to 5 Year Medal (7 consecutive).

#### ANNUAL CHEST X-RAYS - Routine Programme Discontinued

In July 1973, the International Commission on Radiological Protection made a formal statement regarding radiation doses from X-ray diagnostic radiology. It has been known for many years that X-ray examinations make a large contribution to man's radiation exposure. The statement says 'Any deliberate exposure to radiation should be justified by the benefits that are expected to result. The Medical Department has for some years been reviewing the benefits conferred on employees by the routine chest X-ray programme. The conclusion is that such benefit is now considered to be so small as not to justify even the very small radiation dose incurred during the examination.

The routine chest X-ray programme has therefore been discontinued, except for those individuals where continued surveillance is considered to be still advisable. Chest X-rays (and other procedures) will, of course, continue to be carried out at the request of the HARWELL medical staff or employee's private doctors.

#### METRICATION TRAINING

At the special request of Nimrod Division a repeat performance of the Yorkshire-Imperial Metals film strip on metrication, followed by a brief talk by Mr E G Higgins on 'Metrication in the Rutherford Laboratory' will be held in the Lecture Theatre at 15.15 hours, on Tuesday 5 March 1974. All industrial and non-industrial staff who did not attend one of the similar courses held in November/December 1972, are invited to attend, subject to supervisor's permission.

#### THE LOST AND FOUND (AGONY?) COLUMN

FOUND A sum of money was found in Hall 3 and a key was found in the Restaurant. Enquiries should be made to Mrs S A Fones, Personnel Group, Ext. 495.

FOUND A Hewlett Packard HP35 Pocket Calculator has been found within the Laboratory premises. Any person who may have a claim on this item should ring extension 210.

LOST A Hewlett Packard HP35 Pocket Calculator has been reported missing. It bears the serial number 1143A43556. All staff and visitors having charge or possession of such instruments are strongly advised to check serial numbers (bearing in mind the 'FOUND' report above) and to get in touch with the Nimrod DAO Extension 210.

MISSING - the following items of equipment have been reported missing from the former Lab. G.57, now Room G.57, Building R1:-

Scintilla Saw	-	RHEL No. 14/2989
Electric Drill $\frac{1}{2}$ "	-	AERE No. 16735
Wolf Electric Drill $\frac{1}{2}$ "	-	RHEL No. 14/3125

Anyone with information on the present whereabouts of those items is asked to contact Dr M R Jane, Building R1, Ext 408.



# INTERNAL EVENTS

## NIMROD LECTURE SERIES

Monday 4 February  
11.30  
Lecture Theatre

\*\*\* Scattering: How Crossing and Analyticity can Ruin your Phase Shift Analysis.

*Dr M Pennington/RL*

## NIMROD USERS MEETING

Monday 4 February  
14.15  
Lecture Theatre

The two main items for discussion are:-

- (a) Beam Lines for Nimrod in 1975.
- (b) A Talk on Proportional Counters by Dr Bateman.

## HEP SEMINAR

Wednesday 6 February  
11.00  
Conference Room, Building RI

The Periphery of the Proton

*N Cottingham/Bristol*

## RUTHERFORD LABORATORY LECTURE

Thursday 7 February  
15.15  
Lecture Theatre

Thermonuclear Fusion by Laser Compression (see page 1 for details)

*Dr K V Roberts/Culham Laboratory*

## NIMROD LECTURE SERIES

Monday 11 February  
11.30  
Lecture Theatre

Quark Imprisonment Scheme

*Dr R D Peccei/RL*

## HEP SEMINAR

Wednesday 13 February  
11.00  
Conference Room, Building RI

Unitarity and Large Transverse Momenta

*M Teper/Westfield*

## MEDICAL TALK

Wednesday 13 February  
12.40  
Lecture Theatre

Proposed High Blood Pressure Studies.

*Consultant Physicians from the Radcliffe Infirmary will be speaking*

A joint study into the problems of high blood pressure (or hypertension) is to be made by medical staff from the Radcliffe Infirmary and from the medical department at AERE. This talk, at a time of day which enables the maximum number of people to attend, will give details of the screening campaign and investigations which will require the co-operation of about 150 hypertensive subjects with a similar number of matched control subjects.

High blood pressure is the underlying cause of much death and disability in middle and old age. Dr A N B Stott, Chief of Medical Services at AERE, has emphasised that this study which will be conducted at AERE will, he feels, make an outstandingly useful contribution to the problems of high blood pressure.

Heart attacks, strokes etc - all too familiar words these days; all the more reason to come along and listen to Dr Stott's proposals on this joint study.

## SEMINAR IN COMPUTING

Thursday 14 February  
11.30-15.30  
Lecture Theatre

Getting the Best Out of the ELECTRIC System.

*J W Burren, T G Pett, D B Scott/RL*

The half-day course is designed to give those who have a working knowledge of ELECTRIC, a better understanding of the many facilities available. It is a repeat of that given one year ago and is intended mainly for those users that have joined since then.

## NIMROD LECTURE SERIES

Monday 18 February  
11.30  
Lecture Theatre

A Model for Fixed Angle pp Scattering.

*Dr I Halliday/Imperial College*



# EXTERNAL EVENTS

## OXFORD UNIVERSITY

### ELEMENTARY PARTICLE PHYSICS SEMINARS - 1430 hours

7 February: Neutrino Sum Rules - Professor D H Perkins.  
14 February: 100 GeV  $\pi^-$  - Proton Interactions - Professor G Trilling/LBL, Berkeley and CERN.

### THEORETICAL PHYSICS SEMINAR/CLARENDON LAB - 14.15 hours

7 February: Are There Superselection Rules - Professor T W Kibble/Imp. Coll.

### THEORETICAL ASTROPHYSICS SEMINAR/SOUTH PARKS ROAD - 14.30 hours

4 February: Accretion Discs - J Pringle/IOA Cambridge.

### NUCLEAR PHYSICS & NUCLEAR ASTROPHYSICS SEMINAR/N.P. LAB - 14.30 hours

4 February: Proton &  $^3\text{He}$  Capture Reactions to States in  $^{16}\text{O}$  - Dr J Lowe/Birmingham.  
11 February: Ultra-Heavy Cosmic Rays - Professor P H Fowler/Bristol.  
18 February: Properties of Nuclei on the Path to Fission - Dr I S Grant/Manchester.

### LOW TEMPERATURE & SOLID STATE PHYSICS/CLARENDON LAB - 14.30 hours

7 February: Lattice Dynamics from Defect Induced Spectra - Professor W E Bron/Indiana.

### COLLOQUIA/CLARENDON LAB - 16.15 hours

8 February: UV & X-ray, Photoelectron Spectra of Molecules - Dr A F Orchard/Oxford.  
15 February: The Violation of Fundamental Symmetries in Nuclear Phenomena - Professor R J Blin-Stoyle/Sussex.

## QUEEN MARY COLLEGE

### THEORETICAL PHYSICS SEMINAR - 16.15 hours

4 February: Scale Invariance in Quantum Field Theory - Dr I J R Aitchison/Oxford.

## BRISTOL UNIVERSITY

### PHYSICS & GEOPHYSICS COLLOQUIA - 17.00 hours

4 February: Infra-red Astronomy from Balloons - Dr R E Jennings/UCL.  
11 February: Experimental Tests of Relativity - Dr F J M Farley/Shrivenham.

## MANCHESTER UNIVERSITY

### THEORETICAL PHYSICS SEMINAR - 14.30 hours

6 February: New Magic Numbers for Nuclei: Bubble Nuclei - Dr S J Krieger/Oxford.

## READING UNIVERSITY

### APPLIED PHYSICAL SCIENCES COLLOQUIA - 16.30 hours

6 February: Recovery and Recycling of Wastes - Mr G E Patrick/Dept. of Trade & Industry.  
13 February: Boomerangs - Ancient and Modern - Dr P Musgrove.

### PHYSICS COLLOQUIA - 17.00 hours

4 February: Spectroscopy of Laser Produced Plasmas - Miss J Lazenby/Reading.  
11 February: Field & Time Dependence of Hopping Conduction - Professor A K Jonscher/Chelsea.  
18 February: The Low Temperature Electron Irradiation of Gold - J N S Hancock/Reading.

## ROYAL HOLLOWAY COLLEGE

### APPLIED MATHEMATICAL SEMINARS - 15.00 hours

7 February: The Approximate Solution of a Class of Transient Mixed Boundary - Value Problems - Dr R Shail/Surrey.

### HIGH ENERGY PHYSICS SEMINARS - 15.00 hours

5 February: A Field Theory Model for Fixed Angle Proton-Proton Scattering - Dr I G Halliday/I.C.  
12 February: S-Matrix Theory of Massless Particles - Dr M R Pennington/R.L.

## DARESBUURY LABORATORY

### DARESBUURY LECTURE SERIES - 14.00 hours

12 February: Recent Developments in Hadron Spectroscopy - I Butterworth/Imp. Coll.

### THEORETICAL PHYSICS SEMINAR - 14.00 hours

4 February: Building Models the Inclusive Way - Dr R Peccei/RL.

## HARWELL

### THEORETICAL PHYSICS SEMINARS/CONF. RM. BLDG 8.9 - 14.00 hours

5 February: Binary Collisions in Simple Liquids - Dr P Schofield/AERE.  
12 February: Computer Experiments on Systems of Charged Particles - Dr I R McDonald/Holloway.

### NUCLEAR PHYSICS COLLOQUIA/CONF RM H8 - 15.30 hours

14 February: Pulse Astronomy - Its Promise and Its Problems (Searches for Prompt Emissions from Supernovae - Dr J V Jelley/N.P. Divn.

## RUTHERFORD LABORATORY BULLETIN

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Editor: H F NORRIS

Deadline  
for  
Insertions

GENERAL & SOCIAL NEWS  
Tuesday 1600

INTERNAL & EXTERNAL EVENTS  
Wednesday 1200

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## CONFERENCE NOTICES

FRANCO-BRITISH CENTENARY CONFERENCE, 5-9 April 1974, Hotel de France St Helier, Jersey, Channel Islands. This meeting is to mark the 100th anniversary of the foundation of the Société Française de Physique and the Physical Society of London. Apart from the Plenary Sessions, Specialist Parallel sessions will be held on Solid State Physics, Astrophysics, Atomic Physics and Nuclear Physics. Further information can be obtained from the Editor.

The 11th EUROPEAN CYCLOTRON PROGRESS MEETING will be held in Louvain-la-Neuve (Belgium) from 29 May - 1 June. This meeting will immediately follow the Congress of the Société Française de Physique (also in Louvain-la-Neuve) devoted to medium energy physics. In parallel with the European Cyclotron Progress Meeting and at the same place and time is the 1st Congress of the AFSAC (Association des Femmes Sacrifiées aux Cyclotrons - Association of Wives Sacrificed to Cyclotrons). A plenary session will be devoted to the subject: "The wife against the cyclotron, an actual problem". Further information from the Editor.

CRYOGENICS AND ITS APPLICATIONS - the University of Southampton have announced details of one day seminars on various aspects of cryogenics. Further information from the Editor.

READING COLLEGE OF TECHNOLOGY - Department of Electrical and Electronic Engineering Details have been received of a number of short courses on the following subjects:- Network Theory, Linear Integrated Circuit Applications and Domestic Electrics. Further information from the Training Officer.

## FILM BADGE NOTICE

Period 2 commenced Monday, 28 January. Colour Strip - BROWN for 8y films. Six monthly TLD issue for people with surnames commencing EFGH.

Please check that you are wearing the correct dosimeters and that all old ones have been returned.

## OVERSEAS VISITS

Dr M R Jane to CERN, 5-8 February for discussions on neutron counter calibration experiment.

Mr M J Cawthraw, to Brussels, 6-8 February, to attend Camac Working Group Meeting.

Mr P Gottfeldt, to CERN, 6-8 February to discuss computer based instrumentation.

Dr C J Carlile, to Grenoble and Italy, 10-21 February for (a) SRC liaison work and instrument development discussions, at ILL and (b) discussions re proposed research programme at Euratom, Ispra.

Mr D A Gray, to CERN, 12-14 February, to attend meeting of the 300 GeV machine advisory committee.

## SOCIAL NEWS

### WIMBLEDON TENNIS CHAMPIONSHIP

Application forms for tickets for this year's tennis championship at Wimbledon are available from Mrs Joyce Wells, RI Ext. 469. The closing date is the first post Friday 15 February.

### CHESS TOURNAMENT - AN INTERIM REPORT

A good tournament so far with some fine games, the position after 6 rounds being -  
Bill Turner and Peter Hemmings 5½ points  
Peter Craske, Mike Elder and John Guy 4½ points  
Jim Riddle, Roy Culliford and Mike James 4 points

Bill and Peter will be playing against each other in Round 7!

### FOLK CLUB

The meeting of the Folk Club has been cancelled for this month.

### CHRISTIAN FELLOWSHIP

Friday 8 February - D Ness Wilson of Building R36 will be leading a Bible Study on Ephesians Chapter 2. All are welcome to come along to the meeting which commences at 12.30 in the R12 Conference Room.

Friday 15 February - All welcome to join in a book review led by Ray Lucas of AERE, in the R12 Conference Room at 12.30.