





## INTERNAL EVENTS

### NIMROD LECTURE SERIES

Monday 26 January  
1130  
Lecture Theatre

High Statistics Study of Particle and Antiparticle Elastic Scattering and  $C = -1$  Exchange.

*Dr M Davier/Orsay*

### HEP SEMINAR

Wednesday 28 January  
1100  
R61 Conference Room

Asymptotic Behaviour of Chiral Non-Symmetric Structure Functions in non-Abelian Gauge Theories.

*R Horgan/Oxford*

### HEP DATA HANDLING SECTION SEMINAR

Wednesday 28 January  
1330  
R61 Conference Room

Languages I have known.

*C Osland/RL*

### SAFETY FILM SHOW

Wednesday 28 January @ 1230  
Thursday 29 January @ 1315  
Lecture Theatre

Make Light of Lifting, a 17 minute colour film, showing the right and wrong ways of using the body to handle heavy weights. 25% of all industrial injuries occur during the handling of materials. Many of these are injuries to the back caused by lifting and moving loads incorrectly and the penalties are great. This film demonstrates correct techniques for lifting and moving boxes, sacks, drums, cylinders etc. Even if you only move the dustbin weekly - Make Light of Lifting it!

### NIMROD LECTURE SERIES

Monday 2 February  
1130  
Lecture Theatre

$\mu$ - $\psi$  Physics from Old Ideas

*Dr Chan Hong-Mo/RL*

### HEP SEMINAR

Wednesday 4 February  
1100  
R61 Conference Room

$K^+ p \rightarrow \Lambda \pi$  in the Formation Region using Barrelet Zero

*A de Belleton/College de France*

### FILM SHOW

Thursday 5 February  
1240  
Lecture Theatre

The History of the Motor Car, Part 3, The Vintage Years, a 27 minute colour film. Some years ago we showed the whole of the series, however, apart from those who would like to see the film again, there are a lot of newcomers to the Lab since the previous showing who may like to be transported (temporarily) to the motor racing scene of 50 years ago.

### FILM SHOW

Friday 6 February  
1240  
Lecture Theatre

The Chemistry of Oil, a 13 minute colour film of a more technical nature. Simple organic chemistry is explained and is then used to explain the separating and conversion processes in an oil refinery.

### SEMINAR IN COMPUTING

Friday 6 February  
1100  
R61 Conference Room

IBM's New Time Sharing System - VSPC

*J Cable (IBM (UK) Ltd)*

Virtual Storage Personal Computing (VSPC) is a multi-access time-sharing system designed to be complimentary to T.S.O. In many ways it is similar to ELECTRIC but with the addition of interactive compiling and execution. VSPC provides interactive Basic, APL and Fortran; overall its facilities are less sophisticated than those in TSO but it can handle more simultaneous users on a given machine.

## NIMROD SCHEDULE

Cycle 2 3.2.76-24.2.76

No change from Cycle 1  
See Bulletin 1/76 for details



## EXTERNAL EVENTS

### OXFORD UNIVERSITY

SEMINARS ON THEORETICAL HIGH ENERGY PHYSICS/NP DEPT - 1430 hours.

- 30 Jan: Zwerg Rule Violations as a Consequence of Dual Unitarization - Dr Chan Hong-Mo/RL
- 6 Feb: Green Functions and Quantization on Curved Space-Times - Dr M Brown/Oxford.

ELEMENTARY PARTICLE PHYSICS SEMINARS/NP DEPT - 1430 hours.

- 29 Jan: Partial Wave Analysis of Three Pions - Dr S Orebi Gann/.C.
- 5 Feb: Report on the Amsterdam - CERN - Nijmegen-Oxford (high statistics)  $K^+p$  Bubble Chamber Experiment at 4.2 GeV/c - Dr P Grossmann.

THEORETICAL PHYSICS SEMINARS/CLARENDON LAB - 1615 hours

- 29 Jan: The Pauli Principle and the Scattering of Complex Nuclei - Dr H Friedrich.
- 5 Feb: Superfluid Helium 3 and the Renormalisation Group - Dr D R T Jones.

### DARES BURY LABORATORY

THEORY SEMINARS/CONFERENCE ROOM 3 - 1400 hours.

- 26 Jan: Complex Angular Momentum and Molecular Collisions - J Connor/Manchester.
- 2 Feb: Theory of Electron-Photon Coincidence Experiments in Hydrogen and the Alkalies - M R McDowell/Royal Holloway College.
- 9 Feb: Application of Model Potential Methods to Atoms with Two Valence Electrons - C Laughlin/Nottingham.

### QUEEN MARY COLLEGE

THEORETICAL PHYSICS SEMINARS/PHYSICS LECTURE THEATRE - 1615 hours.

- 26 Jan: Semi-classical Quantisation of Bound States - Prof I.C. Percival/QMC.
- 2 Feb: Canonical Quantum Gravity - Dr C J Isham/Kings College.
- 9 Feb: Linear and some Non-Linear Solitons - Prof R F Streater/Bedford College.

### MANCHESTER UNIVERSITY

HIGH ENERGY PHYSICS SEMINARS/4TH FLOOR SEMINAR ROOM - 1600 hours.

- 29 Jan:  $S = +1$  KN Phase Shifts in the 'Resonance Region' - B R Martin/UCL.
- 5 Feb: New Results on Hypercharge Exchange Reactions at High Energy - C Damerell/RL.

### CAMBRIDGE UNIVERSITY

HIGH ENERGY SEMINARS/CAVENDISH LAB - 1500 hours.

- 28 Jan: Clustering Effects at High Energies - Dr T Ludlam/Yale.
- 4 Feb: Exploding Black Holes - Dr G W Gibbons/DHMTF.

HIGH ENERGY PHYSICS SEMINARS/ROOM A, SILVER STREET - 1500 hours.

- 29 Jan: Regge Cuts in  $\phi^3$  Field Theory - Dr I T Drummond/Cambridge.
- 5 Feb: (Very Provisional) - title to be announced - Dr J Bartels/Hamburg.

### READING UNIVERSITY

PHYSICS DEPARTMENT COLLOQUIA/J J THOMSON LAB - 1700 hours.

- 26 Jan: Water. Has the Liquid a Structure? - Prof J B Hasted/Birbeck College
- 2 Feb: The Spin-Flip Raman Laser - Prof S D Smith/Heriot Watt U.
- 9 Feb: Atom Scattering from Surfaces - Prof J L Beeby/Leicester.

### EVENTS AT AERE, HARWELL

THEORETICAL PHYSICS DIVISION SEMINARS/CONF. RM. BUILDING 8.9 - 1415 hours.

- 30 Jan: The Discreet Charm of Coloured Quarks - Dr J M Charap/QMC.
- 6 Feb: Nucleation Theory as Applied to the Irradiation Environment - Prof K C Russell/M.I.T.

NUCLEAR PHYSICS DIVISION COLLOQUIA/CONF. RM., HANGAR 8 - 1530 hours.

- 29 Jan: Operational Numerical Weather Prediction - Dr W A McIlveen/Met Office Bracknell
- 5 Feb: Ion Beams for Implantation & Analysis - Dr G Dearnaley/NP Div.

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**FILM SHOWING AT LEIPZIG** A small group of Department of Trade officials visited the Rutherford Laboratory recently to look for material to exhibit at the forthcoming Leipzig Spring Fair. From a shortlist of new developments from the Nuclear Physics Apparatus Group, the DTI selected the new 'Film-Wire' technique, and a large exhibit highlighting this work will be seen at the Fair.

'Film-Wire' was developed for use in spark chambers so that they could be made smaller and lighter than most conventionally-built units. Traditional methods for constructing spark chambers often require many individually-tensioned wires to be used, and maintaining these wires in position requires very large and bulky frameworks.

In the RL 'Film-Wire' method, fine wires can be bonded down close together very accurately on large polyester sheets, so providing large areas of conducting material in which the positions of the wires are known with great precision. This material is very easy to handle and can be stored and, when required, incorporated into equipment with a minimum of additional installation.

Because the wires are continuous, sheets of 'Film-Wire' can be cut and stuck together to form a braid-like cable to connect with external electronics, so minimising the need for complex and unreliable soldering. As well as being made with the top surface conducting, 'Film-Wire' can also be produced with polyester insulation on both sides, but in both cases the insulation is very easy to remove, when required.

Although the use of the new technique is presently confined to the manufacture of apparatus for use in particle physics experiments, important extensions are seen in the aerospace and communications industries.

**MISSING EQUIPMENT** The following item of equipment has been removed from R2 Electrical Workshop:-

T.M.K. Multimeter, Ser No 0115080. Anyone with information on its present whereabouts is asked to contact G Hackett, Ext 322.

**CERN FELLOWSHIPS** The following awards - Fellowships, Senior Fellowships, Corresponding Fellowships, Visiting Scientists Appointments and Travelling Fellowships are available to suitably qualified UK scientists and technologists to enable them to work at CERN. Further information from Mrs R Jeans Ext 510.

**QUEEN ELIZABETH II FELLOWSHIPS IN PHYSICAL AND BIOLOGICAL SCIENCES** Up to ten fellowships may be awarded each year for full-time research by young scientists of exceptional promise and proven capacity for original work. These are post-doctoral awards tenable in an Australian university or approved research institution normally for two years. Further details from Training Section, Building R20, Ext 266.

**SAD NEWS** It was with regret that we learnt of the death of Jock Weatherburn recently. Jock who retired a few months ago, worked at the Laboratory for twelve years, firstly in the Electronics Group and then with Stores.

The collection that was made will be donated, at the wish of Mrs Weatherdown, to the British Heart Foundation. We extend our deepest sympathy to his wife and daughter.

**OVERSEAS VISITS** Dr C M Fisher and Dr R W Newport to CERN, 22-27 and 23-27 January respectively, for discussions and meetings on the rapid cycling bubble chamber project. Dr M W Johnson, to ILL Grenoble, 25-30 January, for discussions on future computing systems and to give seminar on deconvolution methods. Mr D Jones, to Brussels, 28-29 January, to attend meeting of European CAMAC Association's Information Working Group. The Director, to Rome, 29-31 January, to attend Advisory Committee for PETRA Research Programme. Dr W G Williams and Mr J Penfold, to ILL Grenoble, 1 - 6 February, for tests on Polarizing Mirrors.

## SOCIAL NEWS

**RECORD SOCIETY** The theatre and musical comedy are featured in the Record Society concert which commences at 1240 on Tuesday 27 January with songs from "The Boy Friend", sung by members of the original cast. Presented by the Players Theatre.

The following Tuesday, 3 February at 1240 - "Copland Conducts Copland" - Appalachian Spring, The Tender Land played by the Boston Symphony Orchestra. Not many orchestral pieces by American composers ever manage to make a real dent on the steely facade of what we call the standard orchestral repertoire. Aaron Copland's celebrated suite from the Martha Graham ballet Appalachian Spring is one of the handful that have made the grade; moreover, it has made the grade as few of the others that have succeeded can claim. Both concerts are in the Lecture Theatre.

**CHRISTIAN FELLOWSHIP** All are welcome to a continuation of the study on the Epistle of Paul to the Colossians. The first two studies led by John Thomas have proved both interesting and stimulating. The meeting, on Friday, 30 January, commences at 1230 in the R12 Conference Room.

The first Friday in the month is set aside for prayer and all are welcome to join with us in the R12 Conference Room at 1230 on 6 February.

### I.P.C.S MEETINGS

1. General Meeting at 1300 hours on Wednesday 28 January in the Lecture Theatre  
Subject - 'SRC's Man Power Proposals'  
Speaker - J H Aram, Chairman, Staff Side SRC Whitly Council.
2. General Meeting at 1300 hours on Wednesday 4 February in the Lecture Theatre  
Subjects - The Attack on Inflation and, TUC Affiliation  
Speaker - invited speaker from NEC.

All members invited to both meetings.