



Rutherford  
Laboratory

22 May-5 June 1972  
bulletin 19  
R(12), NDT(60,3), ISW(3500), ANGLE(60), VINT(60), DUM(6,3), NACHT(48), XCEN(12), CF(12), THRS(12), CHA(12), ARMMON/CFID/MFX(20,3), MFY(20,3), NFDX(10,3), NFX(3), NFD(3), IB(2,20,3), NX(100,4), NY(100,4), XN(2), YN(8), IB(100,2), X(100,2), JDX(4), JDY(4), IHS(4), IOV(2), IUN(2), IDE(2), DECF(16), IFS, NFS, FX, FY, JK, PIC, KPIC, NCOUNT, NBIN, MAX, UNAXN, CTA, CTB, MX, MY, JA, JB, JC, JD, JE, JF, XF(20,3), YF(10), MMON/CJACK/NSY(20,30), NMS(20), NDR(20), bulletin 19, A(20), BX(20), NST1(20), NST2(20), INER(20), NSX(20,30), AWT(60)

RUTHERFORD LABORATORY  
LECTURE  
3.15 p m  
Lecture Theatre

Dr A W M Coombs of the Post Office Research Station will give a talk entitled:

'THE ADVENT OF THE INTELLIGENT MACHINE'

Summary:

The industrial revolution came as a result of man's discovery of easily accessible sources of energy in nature, which enabled him to substitute machine power for muscle power. The present computer revolution arises from the mechanisation of such mental processes such as arithmetic and logic, made economically possible largely by transistor technology and the development of large scale "memories". And now the possibility arises of mechanising those more esoteric qualities of the human brain which are usually called "intelligent". The paper takes a not-too-solemn look at the current state of the art, from the clever but mindless instinctive machine up to (though barely including) the cognitive machine, and illustrates its points with examples from pattern recognition.

BEREAVEMENT NOTICE

Mrs Marie Smith wishes to thank all friends and colleagues for their flowers and messages of sympathy following the death of her husband Bernard.

FILM BADGE NOTICE

It is period 6, colour strip YELLOW for 8y films and fast neutron packs. Please check that you are wearing the correct dosimeters and that all old ones are returned.

OVERSEAS VISITS

Dr D P Owen to CERN 21 May - 1 June to work on plumbicon cameras for Omega.  
Dr J G V Guy to Universite-Libre De Bruxelles 21 - 23 May to attend KII (RHEL Heavy Liquid Bubble Chamber XI - zero Experiment) Collaboration meeting.  
Dr J B Forsyth to Grenoble, 22 - 26 May for discussions on provisions of polarized beam monochromators. Dr Hong-Mo Chan to Grado Italy 22 - 30 May to lecture at CERN School. Dr G C Oades to Black Forest Germany 22 - 26 May to attend discussion meeting on High Energy Scattering of Elementary Particles. Mr D Evans, Mr R L Roberts, Dr J W Dean and Dr R W Newport to Eindhoven 23 - 26 May to attend ICEC4 Conference. Dr G E Kalmus to CERN 23 - 26 May to attend TCC & ECFA Meetings. Dr C M Fisher to CERN 24 - 26 May to attend BEBC-ECFA Working Party. Dr G A Ringland to CERN 24 - 27 May for discussions and to attend ECFA Meeting. Mr D A Gray and Dr D B Thomas to CERN 25 - 26 May to attend ECFA Meeting. Dr G H Stafford to CERN 25 - 26 May to attend ECFA Meeting and give Talk.



## INTERNAL EVENTS

### NIMROD LECTURE SERIES

Monday 22 May  
11.30  
Lecture Theatre

Phenomenological Model for Meson Baryon Scattering

*Dr R Roberts/RHEL*

### HEP DISCUSSION GROUP

Wednesday 24 May  
11.00  
Conference Room R1

Constraints in Correlations in Inclusive Reactions

*Dr L Brown/Imperial College*

### RUTHERFORD LABORATORY LECTURE

Thursday 25 May  
3.15  
Lecture Theatre

The Advent of the Intelligent Machine - See page 1 for details

*Dr A W Coombs/Post Office Research Station*

### NIMROD LECTURE SERIES

Friday 2 June  
11.30  
Lecture Theatre

Recent Results in  $K^0$  Decay

*Dr J Steinberger/CERN*

### RUTHERFORD LABORATORY STAFF MEETING

A Rutherford Laboratory Staff Meeting will be held in the Lecture Theatre at 3.00 p m on Monday 5 June. Details will be promulgated, shortly, in a circular.

## NIMROD SCHEDULE

CYCLE 6 16 5 72 - 6 6 72

### MACHINE PHYSICS

### HIGH ENERGY PHYSICS

<u>Team</u>	<u>Beam</u>	<u>Experiment</u>	<u>State</u>
Imperial College Southampton University	$\pi^7$ K12A	Studies of $\eta$ $\omega$ and A2 Tests on $K^+$ detectors	Data
Glasgow University RHEL	$\pi^9, N4$	Polarisation Measurements in $\pi^- p$ Charge Exchange	Setting up
Bristol University Southampton University RHEL	K15	$K^+ p$ and $\pi^+ p$ Differential Cross-Sections	Data
Oxford University	K10S P71	Study of Neutral States in $K^- p$ reactions Cherenkov Counter Tests for NAL Experiment	Data
Barts Medical College RHEL	$\pi^{11}$	Radiobiological Experiment	Data
Cambridge University RHEL	K13C	Associated Production Cross Sections	Setting up
RHEL	K9	HBC - Technical Tests for future experiments	Data



## EXTERNAL EVENTS

### PHYSICS & GEOPHICS COLLOQUIUM

Monday 22 May  
5.00 p m  
University of Bristol

High Energy Elastic Scattering Experiments by the Bristol Particle Physics Group at Nimrod.

*Dr R J Tappen/University of Bristol*

### THEORETICAL PHYSICS SEMINAR

Monday 22 May  
3.45 p m  
Queen Mary College London

The Hydrodynamic Model of a Bose Liquid

*Dr B D Josephson/Cambridge*

### NUCLEAR STRUCTURE SEMINAR

Monday 22 May  
2.30 p m  
Nuclear Physics Laboratory  
Oxford

Nuclear Spin Flip and other processes observed in Scattering

*Dr F Schmidt/CERN*

### THEORETICAL PHYSICS DIVISION

Tuesday 23 May  
2.00 p m  
Conference Room Building 8.9  
AERE

Atomic and Ionic Binding Energies for Large Atomic Number

*Professor N H March/University of Sheffield*

### COMPUTING SCIENCE SEMINAR

Tuesday 23 May  
2.00 p m  
Culham Laboratory

A High Resolution Laser Display and Plotter

*C Lang/University of Cambridge*

### DARESBURY LECTURE SERIES

Tuesday 23 May  
2.00 p m  
Daresbury Laboratory

Amplitude Analysis and All that

*Dr C Michael/CERN*

### ELEMENTARY PARTICLE PHYSICS SEMINAR

Tuesday 23 May - 2.30 p m  
Nuclear Physics Laboratory  
Oxford

Spin 0 - Spin  $\frac{1}{2}$  Final States in  $K\bar{p}$  Reactions near 3 GeV/c

*Dr C Wohl*

### THEORETICAL PHYSICS SEMINAR

Thursday 25 May  
4.15 p m  
Clarendon Laboratory Oxford

Crystalline Helium - A Quantum Crystal

*Professor L M Nosanow/Minnesota and Sussex*

### FORTHCOMING EVENT

#### THE INSTITUTE OF PHYSICS INTERNATIONAL CONFERENCE

Defects in Semi-conductors. 19 - 21 July 1972. Further details and application forms from The Meetings Officer, The Institute of Physics, 47 Belgrave Square London SW1X 8QX. Closing date for applications: 27 May 1972.

RUTHERFORD LABORATORY BULLETIN

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Deadline  
for  
Insertions

GENERAL & SOCIAL NEWS

Tuesday 1600

INTERNAL & EXTERNAL EVENTS

Wednesday 1200

Room 40 Building R20  
Rutherford Laboratory  
Chilton Didcot Berks  
Abingdon 1900 Ext 6114



## SOCIAL NEWS

### THE RUTHERFORD AND ATLAS LABORATORIES RECREATIONAL SOCIETY

Membership Cards: New membership cards have now been distributed, would any member who has not received their card please contact J Rice Ext 232. British Rail Theatre Line: We have received details of the special offers for this month from Didcot Travel Centre. Anyone interested should ring J Rice Ext 232 for details.

This year SRC Sports Day will take place on Monday 19 June at the Civil Service Sports Ground at Chiswick.

The events will include: Tennis (mens and mixed doubles), Bowls; Six-a-Side Football; Netball and Chess. There will be a Social Evening afterwards. Names of participants to be in as soon as possible (26 May latest). Rutherford names to P Craske Building R2 Ext 232 and Atlas names to G Holt or R Brandwood Ext 6257.

### CHRISTIAN FELLOWSHIP

Friday 26 May; 1230 p m. Everyone is welcome to come along. "And they were all filled with the Holy Spirit and began to speak with other tongues, as the Spirit gave them utterance" (Acts 2:4). This is the time when Christians remember the first Whitsun. Ernie Newbold will lead a study on "Should all Christians have a Pentecost experience."

Friday 2 June. Derek Smaje will lead our monthly prayer meeting in the R12 Conference Room at 12.30 p m. All are welcome.

### CANCER RESEARCH FUND

The Guild of King Alfred Players will present "The Glass Menagerie" by Tennessee Williams in St Mary's School Wantage, on Friday 26 May and Saturday 27 May. Tickets at 35p (proceeds to the Cancer Research Fund) obtainable from Miss H Leonard, Building R1 Ext 258.

### RECORD SOCIETY

Tuesday 23 May 12.40 p m. Tchaikovsky's 5th Symphony.

### SEVEN-A-SIDE SOCCER

Thursday 11 May Stores - 5 R25 - 3.  
Monday 15 May R18 v Transport a draw.

For the Six-a-Side Soccer at the SRC Sports Day at Chiswick on Monday 19 June Mr Les Patton will be organising the three teams representing the Rutherford Laboratory. All enquiries please to Ext 6115.

### FOLK CLUB

The Rutherford and Atlas Recreational Society Folk Club meets every Friday in R22 Coffee Lounge at 8 p m Licensed Bar.

26 May Roger Sutcliffe (Blues)  
2 June Dick Ganghan (Scottish Traditional)