



RUTHERFORD LABORATORY LECTURE The next lecture in this series will be given by Dr Russell Stannard of the Open University at 3.15 pm on Thursday 7 October in the Lecture Theatre.

The Open University is probably the most adventurous experiment ever undertaken in higher education. Its teaching methods involve a unique combination of correspondence material, television and radio broadcasts, home experimental kits, summer schools and tuition through a net-work of study centres.

Teaching science under these conditions is particularly challenging, and Dr Stannard describes in this talk how the Science Faculty has set about its task.

Although it is much too early to gauge the ultimate success or failure of the project, some idea is given of how the university appears to be progressing in its first year of operation.

FILM NOTICE Period II commences Monday 4 October. Colour Strip - BROWN for βγ and fast neutron packs. Six monthly TLD change for people with surnames commencing 0 P Q R. Please change your dosimeters promptly and return all old ones.

MISSING EQUIPMENT The following item of equipment has been reported missing from KIOs Control room:-

Wolf Sapphire Electric Drill, Ser No 0529305

Anyone with information on the present whereabouts of this item is asked to contact Dr A M Segar, Room G63, Building RI Extn 6262.

OVERSEAS VISITS Dr L C W Hobbis and Mr H C Brooks, to the USA and Canada 3-18 Oct., to have discussions on HFBR project at Oak Ridge National Laboratory, Brookhaven National Laboratory and AECL Chalk River.
Mr P Wilde to Paris 4-8 Oct., to attend General Assembly of ESONE Committee at Saclay.

Machine Schedules

NIMROD Cycle 12 (21 9 71 - 12 10 71) Provisional Schedule High Energy Physics ($\pi 8$, KI5, πII , $\pi 9$ N4, KI3C, KI0s, $\pi 7$, X2/KI2A, $\pi I0$ and K9) Full details of Cycle 12 were given in Bulletin No 32/71

Internal Events

Mon 4 Oct 11.30 am Lecture Theatre	Nimrod Lecture Series	Madame M Fidecaro (CERN)	Pion Scattering on a Polarised Target at 2 and 4 GeV/c
Tues 5 Oct 11.30 am Lecture Theatre	Special Nimrod Lecture	Dr J T Donohue (Nice)	Baryon Spin Determination using Polarised Targets
Wed 6 Oct II am Conf Rm, RI	HEP Disc Grp	Dr D M Binnie (Imp Coll)	Results on the A_2 from $\pi 7$ Experiment
Thurs 7 Oct 12.40 pm Fri 8 Oct 1.15 pm Lecture	Film Show	(Please note change o	Oil Search a 32 mm colour film from the Shell film unit day for this week)

Set in Borneo, the film opens with an explanation of the formation of oil, then how oil prospecting has begun to look to the sea to provide new fields. From rock samples from the shore, survey of rock structure off-shore and the finding of the seismic geologist in particular trial drillings commence. All the stages of drilling are well illustrated being supplemented by some explanatory animation.

Thurs 7 Oct 3.15 pm Lecture Theatre

Rutherford Lab Lecture Dr Russell Stannard (Open University) The Open University's Approach to Science Teaching

Fri 8 Oct II am Conf Rm, RI2 Computing and Automation Division General Meeting

The meeting is mainly intended for members of the C & A Division. Amongst topics to be discussed will be the status of the 195 installation plus reports from the recent SHARE/SEAS Meeting.

Mon II Oct II.30 am

Nimrod Lecture Series Dr B French (CERN) Problems of Experimentation at 200 GeV

External Events

Mon 4 Oct 5 pm Univ of Reading Collog

Prof E W J Mitchell (Reading Univ) The Use of Neutrons for Study of Condensed

Matte

Wed 6 Oct 2.30 pm Univ of Manchester Theor Phys Seminar Dr C D Barry (Oxford) Computer Display of Molecules

EVENT AT AERE

Tues 5 Oct 2 pm Conf Rm, Bldg 8.9 Theor Phys Seminar Dr W M Lomer Mr N G Stewart Dr J Williams Points from the 1971 Geneva Conference

Social News

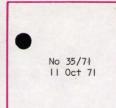
DARTS EVENING Teams of four are invited to participate in a darts competition on Friday 22 October at 8 pm prompt. Bar Licence extension applied for.

The competition will be run on "World Cup" style and further 'singles' and 'doubles' evenings will follow.

Players names including team nick-names and 50p per team (which includes supper) to Alan Slater or John Rice, Room 3.12A Building R2, Ext 232 before Tuesday 19 October.

SUPPER DANCE 8 OCTOBER Tickets for this dance still available from Mrs V Goodwin (RI), Mrs T Batchellier (R34), Mr J Rice (R2), Mrs M Stoker (R20), Mr R Hecken (R2), Mr J Hoskins (R58) and Mr A B Jones (R50) at 50p. Dancing from 8pm to lam to 'The Rhythm Aces' Licensed bar etc.

CHRISTIAN FELLOWSHIP 12.30 pm Friday 8 October Conference Room RI2.
Robin Dawson of AERE will lead a Bible Study on the first epistle of Paul to Timothy, Chapter 5. All are welcome.





Rutherford Laboratory

General News

VISITORS. Twenty members of the staff of Logica Ltd., London, will visit the Laboratory on Saturday 9 October.

RESTAURANT NOTICE. To allow for Supper Dance preparations, no meals will be served from the grill bar after 7 p.m. on Friday 8 October.

Due to resurfacing and alteration to the RI car park will all people attending the Supper Dance on Friday 8 October please use the Green car park outside the fence.

FILM NOTICE. It is Period II. Colour strip - BROWN for $\beta\gamma$ films and fast neutron packs. Please check that you are wearing the correct dosimeter and that all old ones are returned.

MISSING EQUIPMENT. The following items of equipment have been reported missing from Lab G4A, R2:-

Two Telequipment S32A Serviscopes Ser. Nos 86590 and 86560.

Anyone with information on the present location of these items is asked to contact J A Turner R2, Ext 584.

Also missing from Lab G4 Store R2 another Telequipment S32A Serviscope Ser No 68/841.

Information on the present location of this instrument to Dr J T Hyman R2 Ext 383.

LOST OR BORROWED? Water Treatment Handbook, second edition, by S A Degreiment, translated from the French by D F Long. Library number, NI 362 or HA 39419. Will the finder, or borrower please return this handbook to either Mr N Garnsey Building R2 or the Librarian, R20.

OVERSEAS VISITS. Mr G S Grossart, to the USA, 10 Oct-2 Nov, to attend the 5th International Vacuum Congress at Boston, Mass., to attend as a British Delegate the International Standards Organisation Meeting on Vacuum Technology at New York, and to visit ANL, NAL and LRL for discussions.

Dr J J Thresher, to CERN, 11-12 Oct, to attend NPRC meeting.

Mr H M Foster to CERN, II-15 Oct, for commissioning of camera control system on ISR Muon detector experiment.

Mr B O'Hagan to CERN, II-15 Oct to work on equipment on ISR project.

Dr CJS Damerell, to CERN, II-15 Oct for installation of equipment for 2 GeV/c experiment and to attend EEC Meeting.

Mr K A Freestone and Mr S A Ballard to CERN, II-19 Oct for installation work on I S R project.

Dr G Manning to CERN I2-17 Oct for I S R discussions.

Mrs E Marsh to CERN I3-15 Oct for discussion with CERN Librarian and Staff.

Machine Schedules

NIMROD Cycle 13 (12 10 71 - 2 11 71) Machine Physics High Energy Physics

31			
Team Westfield Coll/RHEL	Beam π8	Experiment Measurement of Assymetry in Eta Decay	Data
Bristol U/Soton U/RHEL	KI5	$K^{\dagger}p$ and $\pi^{\dagger}p$ Differential Cross-Sections	Data
RHEL	πΙΙ	Irradiation Experiments	Data
Glasgow U/RHEL	π9,N4	Polarisation Measurements in π p Charge Exchange Reactions	Setting up
Cambridge U/RHEL	KI3C	Associated Production Measurements	Setting up
Oxford U	KIOS	Study of Neutral States in K ⁻ p Reactions	Data
Imp Coll/Soton U	π7	Studies of the η ω and A_2	Setting up
RHEL	К9	HBC/Target Development Tests	

Internal Events

Mon 11 Oct 11.30 a.m Lecture Theatre

Nimrod Lecture Series

Dr B French (CERN)

Problems of Experimentation at 200 GeV

Wed 13 Oct 11 am Conf Rm, R1	HEP Disc Grp	Prof R Vinh Mau (University of	Analytic, Crossing Symmetric, Unitary $\pi\pi$ Amplitud	es
Wed 13 Oct 1.15 pm Thurs 14 Oct 12.40 pm	Film Show	Paris)	Port of Manchester, a 21 minute colour film.	

The Manchester sea-way, the Queen Elizabeth II oil dock, Ellesmere Port, the container terminal and the South 6 Dock transit shed all appear in this film. Produced by Technical and Scientific Films in conjunction with the Film Producers Guild, it sets out to portray a day in the life of the Port as seen from the 'Manchester Mariner', a large freighter, inward-bound. Superbly produced it provides a real insight into the operational working of a port, which by the way, is 60 miles inland from the open sea.

Mon 18 Oct 11.30 am	Nimrod Lecture	Dr C Franzinette	Recent Progress in Neutrino Physics	
Lecture Theatre	Series	(CERN)		150

External Events

Mon II Oct 2 pm New Conf Rm Daresbury Lab.	Theor Phys Seminar	F Bloore (Liverpool)	Schwinger's Action Principle and Current Commutators
Tues 12 Oct 2.30 pm	Daresbury	N Dombey	Photoproduction and Electroproduction at Low and
Daresbury Lab	Lecture Series	(Sussex Univ)	High Energies
Tues 12 Oct 7.45 pm	British Computer	S B Harrison	Paving the way to Success or How Rediffusion's
Univ of Reading	Soc Meeting		Long-Term Approach Paid Off
Wed 13 Oct 2.30 pm	Theor Phys	Dr A Watt	Angular Momentum Projection from Non-axial Intrinsic States
Univ of Manchester	Seminar	(Glasgow)	
Wed 13 Oct 7 pm	IEE District	Dr C R Evans	Conversations with Computers
Culham Laboratory	Meeting	(N P L)	(Ladies evening)
EVENTS AT AERE Tues 12 Oct 2 pm Conf Rm Bldg 8.9	Theor Phys Seminar	Dr R Phillips (RHEL)	Duality in High Energy Physics
Thurs 14 Oct 3.30 pm Conf Rm H8	Nuclear Phys Div	Dr D Pooley (Mat Dev Div)	Information Storage by Radiation Damage

Social News

RUTHERFORD AND ATLAS LABS OPEN FISHING TOURNAMENT. This tournament will take place on Saturday 16 October at NEWBRIDGE on the Thames. Anyone interested in taking part is asked to contact W RcuseExt 6223 Building R2 or P Craske Ext 232 Building R2.

Names should be in by Monday II October at the latest. 18 Participants so far.

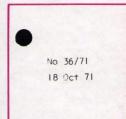
SUPPER DANCE. Details about car parking in General News Section.

DARTS EVENING. Entries for the darts competition should be sent to Alan Slater or John Rice Building R2 Ext 232 before Thursday 19 October. The competition is for teams of 4 and your entry should include players names, team nick-name and 50p, which does include supper.

CHRISTIAN FELLOWSHIP Everyone welcome to a meeting led by Dr John Savage of the M R C which will be at 12.30 pm on Friday 15 October in the RI2 Conference Room.

H F Norris Ext 484 Scientific Admin Group Building R20

18 10 71





Rutherford Laboratory BILLETIN

General News

SITE EMERGENCY EXERCISE There will be a site emergency exercise on Tuesday 19 October. Apart from the special exceptions that have been made, staff will be required to observe the rules for a site emergency (see RL Safety Notice No 8/69 or Safety Handbook). Special arrangements will be made for visitors.

LIBRARY NOTICE The undermentioned bound volumes of periodicals have been removed from the Library without a record being made or permission. To avoid inconvenience to other members of staff will the borrower(s) please return these items and note that bound volumes may not be removed from the Library without permission from the Library Staff.

Physical Review, Vol 110, 1958 Nuclear Physics, Vol 81, 1966 Physics Letters, Vol 27B, 1968

BORROWED The following books have been borrowed from R J Prowse, Room 2.60, Building RI, Ext 209, and asks that they are returned to him as soon as possible:-

Applied Thermodynamics - by Robinson & Dickson Theory of Machines - by Toft & Kersey Hydraulics - by Lewitt

MISSING EQUIPMENT The following item of equipment has been reported missing from Lab 6, Building RI

Avometer Model 8 Ser No 120224-C-351, RHEL No 03215

Information on the present whereabouts of this item to Mr C E Halliday, RI, Ext 389/473.

FILM NOTICE $\,$ It is period II. Colour Strip - BROWN for $\beta\gamma$ and fast neutron packs. Please check that you are wearing the correct dosimeters and that all old ones are returned.

OVERSEAS VISITS Mr A P Banford to Yugoslavia, 17-19 Oct to attend Meeting of European Physical Society Conference Committee at Split.

Dr J R J Bennett, to the USA, 17 Oct - 6 Nov for discussions at various laboratories on superconducting accelerators, superconducting separators etc.

Mr P J Barker and Mr P Trowbridge, to Holland 18-19 Oct, for TDI liaison at ESTEC

Machine Schedules

NIMROD Cycle 13 (12 10 71 - 2 11 71) Machine Physics; High Energy (π 8, KI5, π 11, π 9 N4, KI3C, KIOS, π 7 and K9) Full details of Cycle 13 were given in Bulletin No 35/71.

Internal Events

Mon 18 Oct 1130 am	Nimrod Lecture	Dr C Franzinette	Recent Progress in Neutrino Physics
Lecture Theatre	Series	(CERN)	
Mon 18 Oct 2 30 pm Lecture Theatre	ECFA Study Week Meeting		t ECFA Study Week on the 300 GeV Accelerator G Conforto, Dr I Butterworth and Dr C J S Damerell Sion.
Wed 20 Oct II am	HEP Disc Grp	Dr H Miettinen	New Results in Diffractive N* Production at
Conf Rm RI		(RHEL)	High Energies
Wed 20 Oct 15 pm Thurs 21 Oct 1240 pm	Film Show	The Choice, 29 minute	e, colour

Preserving the environment and the problems of pollution, words with which we are all familiar. This film, from ICI Ltd while not hiding the formidable truth, looks at what has been done to combat the pollution of earth, air and water. The Choice really depends on everyone, Industry, the Community and individuals caring and being prepared to pay for action.

Fri 22 Oct II am Lecture Theatre Lecture

Mr R A Lawes

The H.P.D. Flying Spot Digitizer

Mon 25 Oct 1130 am Lecture Theatre

Nimrod Lecture Series

Prof E J Squires (DURHAM UNIV)

Inclusive Reactions and Duality

External Events

Mon 18 Oct 4 15 pm Queen Mary Coll London Theor Phys Seminar

Dr B U Felderhof (Q M C)

Non-Equilibrium Statistical Mechanics of One-Dimensional Binary Systems

Tues 19 Oct 2 30 pm Dept of Nucl Phys Oxford

Seminar

Dr A Zuker (SACLAY) Shell Model Calculations in the (2s ld) Shell

Tues 19 Oct 2 30 pm Daresbury Laboratory Daresbury Lecture Series Prof G Kane (Michigan Univ How Much of the Diffraction Dissociation Cross-Section is Diffractive?

& RHEL)

Tues 19 Oct 4 30 pm Nucl Phys Lab Oxford (Please note change of time and day for this particular lecture)

Seminar in Elemt Part Physics

Dr H Harari (Weizmann Inst)

Some Topics Concerning the Physics of Multi-particle

Final States

Wed 20 Oct 2 30 pm Univ of Manchester

Theor Phys Seminar

Prof E J Squires (Durham Univ)

Hadron Phenomenology

Fri 22 Oct 2 30 pm Clarendon Lab Oxford Elemt Part Theory J Harnad Seminar

Regge Cuts, Geometry and πp - ηn

EVENTS AT AERE

Tues 19 Oct 2 pm Conf Rm Bldg 8.9

Theor Phys Seminar

Prof Sir Rudolph Peierls

Phase Transitions in 1, 2 or 3 Dimensions

(Oxford)

Thurs 21 Oct 3 30 pm Conf Rm H.8

Nucl Phys Div Collog

Dr M J Poole

Isotope Powered Generators

Social News

CHRISTIAN FELLOWSHIP All welcome to 2 special meetings led by Mr J L Thomas. The first one is entitled "Babylon; Yesterday and Today". The meeting commences at 12 30 pm and is held in the RI2 Conference Room.

DARTS EVENING Last chance to enter for the Darts Competition on Friday 22 October. Entries must be with either Alan Slater or John Rice, R2, Ext 232 before Tuesday 19 October.

Rutherford Laboratory

15 10 71 dg

H F NORRIS Ext 484 Scientific Admin Grp Building R20





Rutherford Laboratory

General News

OBITUARY NOTICE We deeply regret to announce the death of Mr M Stonehouse on Thursday 14 October. He was aged 39. Martin Stonehouse, a Technician 3 in the Operation and Electrical Engineering Group of the Nimrod Engineering Department joined the Laboratory in June 1961 from Bristol Siddeley. He will be sadly missed by his many friends and colleagues. We extend our deepest sympathy to his Wife and Children.

30 August 1871. The Centenary Celebrations which are being held in this country during the forthcoming week are being organised by the Royal Society.

The first visit will be to the Cavendish Laboratory at Cambridge University on Wednesday 27 October, continuing on Thursday with lectures and a soirce in London. On Friday 29 October, the Rutherford Laboratory will be host to the Royal Society party, when about fifty people representing a wide range of scientific interests are expected.

The party which includes representatives from overseas Scientific Academies, Societies, Universities at which Rutherford worked and former colleagues of Rutherford himself, will arrive at the Laboratory at 10.45 a.m. After a short welcoming talk by the Director, coffee will be served, after which the party with their guides will tour the Laboratory for about $\frac{1}{2}$ hours. During this tour items to be seen will include Nimrod, the KIZA Experiment (RHEL/ After a Birmingham collaboration on Kaon/Nucleon Scattering) and a display of experimental techniques such as counters and target technology. Individual interests of visitors will be catered for by having items available, such as bubble chambers, computing, film scanning and superconducting magnets.

After the tour the party will take lunch in the restaurant and leave for their visit to the Culham Laboratory at 2 p.m. A Rutherford Laboratory Circular will be issued shortly giving details of alterations to lunch arrangements.

The final visit of the Royal Society party on Saturday will be to the Rutherford College at Canterbury, an appropriate choice as of course Rutherford himself attended the University of Canterbury in New Zealand.

Readers may also be interested in the BBC2 Horizon programme on Monday 25 October at 9.20 p.m. when two films are being shown to celebrate two centenaries, entitled Rutherford and, The Cavendish Laboratory Today.

FILM NOTICE It is Period II. Colour Strip - BROWN for By films and fast neutron packs. Please check that you are wearing the correct dosimeter and all old ones are returned. Next film change - Monday | November.

LEVERHULME AND NUFFIELD FELLOWSHIPS 1972-73 These fellowships are offered to Civil Servants (including \$RC staff) of Principle, Assistant Secretary or equivalent level in the Professional, Scientific or Technical Classes to enable them to become better acquainted with the administration problems and experience of the Commonwealth, and of countries in Europe, the Middle East, South East Asia and Latin America. Further information from Training Section, Building R20 Ext 266.

EVENING MSc COURSE IN NUCLEAR PHYSICS There is a possibility that the North East London Polytechnic may run an extramural MSc Course in Nuclear Physics somewhere on the Harwell site provided there is sufficient local support. Further information from T F Gubbins Ext 266.

MISSING EQUIPMENT The following items of equipment have been reported missing by Dr A Astbury:-ELECTRIC DRILL AERE No 18206

AMPLIFIER TYPE 82 Ser No 1981

Anyone with information on the present whereabouts of either of these items is asked to contact Mrs B McLoughlin Ext 570.

The following item was borrowed from Mr H Webb, R9 Manufacturing Workshop:-Model D 35,000 RPM Air Grinder.

Would the borrower please return this Item or contact Mr G Fallon Ext 558 as soon as possible.

OVERSEAS VISITS Dr J J Thresher to CERN 24 - 26 October to attend ECFA Meeting.

OVERSEAS VISITS Dr J J Infesher to CERN 24 - 20 October to alrend Euro meeting.

Dr J Garvey to CERN 24 - 27 October for discussions on plumbicon and to attend Omega Meeting.

Dr G C Oades to Copenhagen Denmark 24 October - II November for discussions with Nordita High Energy Theoretical Group.

Dr G Conforto to CERN 24 October - I3 November to work on SIO4 experiment.

Dr N H Lipman to CERN 26 - 29 October to attend Omega Meeting and to discuss plumbicon.

Dr L C W Hobbis to Grenoble France 27 - 29 October for discussions on HFBR.

Dr R J Esterling to Saclay and CERN 27 - 29 October for discussions on proposed n-p Scattering experiment and then to attend Omega Meeting.

Dr F G Walker to CERN 27 October - 3 November to work on SIO4 Experiment.

Machine Schedules

NIMROD Cycle 13 (12 10 71 - 2 11 71) Machine Physics; High Energy ($\pi 8$, KI5, πII , $\pi 9$ N4, KI3C, KIOS, $\pi 7$ and K9) Full details of Cycle 13 were given in Bulletin No 34/71.

Internal Events

Mon 25 Oct 11.30 a.m. Nimrod Lecture Prof E J Squires Inclusive Reactions and Duality (Durham Univ) Lecture Theatre Series Proposal No 100: "A Proposal to Study the Reactions π^+ + p + Σ^+ +K $^+$, K + p + π + Σ^+ and Other Two-Body Processes at 10 GeV/c". Lecture will be given by Dr C J S Damerell Mon 25 Oct 2.30 p.m. Proposal Lecture Lecture Theatre A New Kinematic Variable Wed 27 Oct II a.m. H E P Disc Grp Prof E Leader (Westfield Coll) Conf Room RI Sometime Scrambler, 25 minutes, colour. Wed 27 Oct 12.20 p.m. Film Show Thurs 28 Oct 12.40 p.m. PLEASE NOTE CHANGE OF TIME FOR WEDNESDAY Lecture Theatre

The subject is motor sport on two wheels and the Editor hopes that it will satisfy the large number of people who have requested such a film. The story follows the fortunes of a professional scrambler Malcolm Davies in the 1970 Italian Moto-Cross Grand Prix held at San Severino Marche. A good film with excellent camera work which should provide exciting viewing for anyone. Please note that the Wednesday showing time has had to be altered owing to a prior booking. The film will be screened at 12.20 p.m. sharp.

Mon Nov 1.30 a.m.	Nimrod Lecture	Prof G Kane	A Current Review of Regge and Dual Model
Lecture Theatre	Series	(Michigan & RHEL)	Physics (Based on Oxford Meeting Review Talk).

External Events

Mon 25 Oct 2 p.m. Daresbury Laboratory	Theor Phys Seminar	B R Martin	Low Energy $\overline{\text{KN}}$ Interactions and the Y $_{\text{O}}^{\circ}$ (1405) Resonance
Mon 25 Oct 4.15 p.m.	Theor Phys	Prof C Møller	Thermodynamic Potentials in the Theory of Relativity
Queen Mary Coll London	Seminar	(Copenhagen)	
Mon 25 Oct 5 p.m.	Phys and Geo-Phys	Dr D A Rees	Polysacchavide Conformations and Associations in Some Aqueous Systems
Univ of Bristol	Colloq	(Unilever)	
Tues 26 Oct 2.30 p.m. Daresbury Laboratory	Lecture Series	J Litt (CERN)	Elastic Proton - Proton Scattering at the I S R
Wed 27 Oct 2.30 p.m.	Theor Phys	Dr R C Jones	Spin Waves on Disordered Magnetic Systems
Univ of Manchester	Seminar	(Birmingham)	
Thurs 28 Oct 8.30 p.m.	Seminar in Elemt	Dr W Allison	Some New Data on pp $\rightarrow \pi\pi$ and the Search for Heavy Boson Resonances
Nucl Phys Lab Oxford	Part Physics	(Oxford)	
Fri 29 Oct 2.30 p.m.	Elemt Part Theory	H Osborn	Dynamics at Infinite Momentum
Clarendon Lab Oxford	Seminar	(Cambridge)	

Social News

CHRISTIAN FELLOWSHIP Friday 29 October 12.30 p.m., Building RI2 Conference Room. All welcome to the second of two meetings led by J L Thomas. The subject this week will be "Babylon and the E E C". This meeting should proove interesting and there will be time for discussion.