

Rutherford Laboratory Bulletin

General News

VISITORS. Thirty physics members of the City University Union Society will visit the Laboratory on Saturday, 7 October.

OVERSEAS VISITS. Dr. G.H. Stafford to CERN, 3 - 4 Oct., to attend NRPC meeting.
Dr. G. Manning and Dr. J.J. Thresher to CERN, 1 - 3 Oct., to attend EEC meeting.
Dr. C.M. Fisher and Mr. R.J. Ellis to Yugoslavia, 1 - 10 Oct. and 1 - 15 Oct. respectively, to attend the International School on Elementary Particle Physics at Herceg Novi.
Dr. R.F. Churchhouse to Italy, 3 - 10 Oct. to give two lectures at the European Nuclear Energy Agency at ISPRA and to meet the Director of the Vatican Observatory and the Chancellor of the Papal Academy of Sciences.

RADIATION PROTECTION NOTICE. Period 11 commences Monday, 2 October. Colour Strip - ORANGE - for $\beta\gamma$ and fast neutron films. As Monday is the privilege holiday please change films on Friday afternoon (29 Sept.) or at the earliest opportunity.

Machine Schedules

P.L.A.

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
3 - 10 Oct.	King's Coll., London	Polarization Studies in Cu ^{63,65} and Zn ^{64,68} at 30 MeV.

Internal Events

Wed., 4 Oct., 11 a.m. Lecture Theatre

HEP Discussion Group Meeting

"Reports on Theory - Heidelberg and Stanford" by Dr. C. Michael (RHEL), Dr. R.J.N. Phillips (AERE) and Dr. G. Shaw (RHEL)

External Events

EVENTS AT AERE.

Tues., 3 Oct, 2 p.m., Conf.Rm. Bldg. 8.9	Theoretical Physics Seminar	Dr. J. Ranninger	Lattice conduction.
Thurs., 5 Oct, 3.30 p.m., Conf. Room, H.8	Nuclear Physics Divn. Colloq.	Dr. W.N. Charman	Radio pulses from cosmic ray extensive air showers.

Social News

SQUASH. Would anyone who would like to play for the Rutherford Laboratory Squash Team(s) in the AERE Inter-Divisional Competition please contact A. Carne, R.1., Ext. 206.

RECREATIONAL SOCIETY NEWS.

CHESS CLUB. There has been a good response to the proposed lunch-time competition. An annual competition is envisaged and a display plaque is to be donated by the Recreational Society; winner's names will be engraved on small shields mounted on the plaque. Cash prizes for the winner and runner up will be funded from an entrance fee of 2s.6d. Rules and details of the first round will be issued to each competitor by D.R. Culliford.

PUTTING. The putting course is out of action as from Friday, 29 Sept. for ground improvements. The course will re-open sometime in the late Spring.

Volunteers are required for painting the inside of the Recreational Hut, R.14. Willing helpers with some out-of-hours time to spare are asked to contact Mr. E.W. Clark, R.8., Ext. 6290/519.

RECORD SOCIETY. Tuesday, 3 Oct., 12.30 p.m., Lecture Theatre.

The first concert of the winter programme will be given this week.

"Carnival Overture", Dvorak.

"Carnival of the Animals", Saint-Saens.

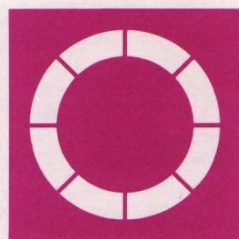
It is hoped that both will be stereo versions. Please come along and give your support.

CHRISTIAN FELLOWSHIP. 12.30 p.m., Friday, 6 Oct., P.L.A. Conference Room, R.12. Prayer meeting. All are welcome.

R.C. Pepperell, Ext. 6287
Scientific Admin. Group,
Building R.20.

Rutherford Laboratory.
29.9.67.

37/67
9 Oct 67



Rutherford Laboratory Bulletin

General News

VISITORS. About thirty members of the Oxford Federation of Townswomens Guilds will visit the Laboratory on Tuesday, 10 October.

Six members of the staff of I.C.T. Stevenage will visit the Laboratory on Wednesday, 11 October.

On Saturday, 14 October, fifteen members of the Eighteen Plus Group, Oxford, will visit the Laboratory.

RADIATION PROTECTION NOTICE. Period 11 commenced 2 October. Colour Strip - ORANGE. Please note that fast neutron films will not be issued during this period. Therefore please return all old fast neutron films but retain the holders for the next issue which will be Period 12.

Machine Schedules

P.L.A.

Date	Team	Experiment
9 - 10 Oct.	King's Coll., London	Polarization Studies in $\text{Cu}^{63,65}$ and $\text{Zn}^{64,68}$ at 30 MeV
11 - 14 Oct.	Oxford U.	(p,t) and (p,He ³) Reactions
15 Oct.		Maintenance

Internal Events

Mon, 9 Oct., 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. G. Manning	Review of CP Violations Including Recent Results presented at the Heidelberg Conference.
Wed, 11 Oct., 11 a.m., Conf.Rm., R.1	HEP Discussion Group	Dr. R.J.N. Phillips (AERE)	Regge Parameters and Superconvergence.
Wed, 11 Oct., 12.40 p.m. Thurs, 12 Oct., 1.15 p.m. Lecture Theatre	Film	NIMROD: A Machine to Smash Atoms - Part 1, What is a Proton Synchrotron?	

In May this year Parts 1 and 2 of this series were shown. Unfortunately, owing to teething troubles with the new projector the showing of Parts 3 and 4 had to be cancelled. The projector problems have been solved and it is therefore thought appropriate to start this winter's film shows with Part 1 in which Dr. Pickavance explains why it is necessary to work on such a large scale in one specialised branch of physics. He gives an account of how Nimrod was designed and built and how the physicists go about using it in their research. Parts 2, 3 and 4 will be shown at fortnightly intervals. In between and after this particular series has been shown it is hoped to include a wide variety of films such as Brookhaven Spectrum, the Daresbury film, Superconducting Magnets, etc.

Wed, 11 Oct., 2 p.m., P.L.A. Conf.Rm., R.12	P.L.A. Division Seminar	Dr. N.S. Chant Dr. B.E. Bonner	The Gordon Conference on Nuclear Structure The Brela Conference on Nucleon Systems
Mon, 16 Oct., 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. D. Sutherland (Glasgow U.)	Remarks on the η Decay

External Events

Tues, 10 Oct., 7.30 p.m., Univ. of Reading	I.E.R.E. District Meeting	D.H. Roberts (Plessey Co.)	Integrated Circuits
Wed, 11 Oct., 2.30 p.m., Physics Dept., U.C.L.	High Energy Physics Seminar	Prof. E.C.G. Sudarshan (Syracuse Univ.)	A Theory of Universal Primary Interactions
Wed, 11 Oct., 7 p.m., 37, George Street, Oxford	I.E.E. District Meeting	Mr. B.J. Rogers (Bush - Murphy)	Colour Television
EVENTS AT A.E.R.E.			
Tues, 10 Oct., 2 p.m., Conf.Rm., Bldg. 8.9	Theor.Phys.Div. Seminar	Dr. R.H. Bartram	Theory of F-Centre g Values in Divalent Compounds
Thurs, 12 Oct., 3.30 p.m., Conf.Rm., H.8	Nuclear Phys.Div. Colloq.	Dr. O.N. Jarvis	Inelastic Scattering of α -Particles from Some Rare Earth Nuclei.

Social News

FILM SHOW. Please see "Internal Events" for details of this week's film show.

RECORD SOCIETY. Tuesday, 10 Oct., 12.30 p.m., Lecture Theatre.

A Stereo recording of George Shearing and his Group.

George Shearing, the blind pianist, has been resident in the U.S.A. for many years, where he has earned a very high reputation for his artistry.

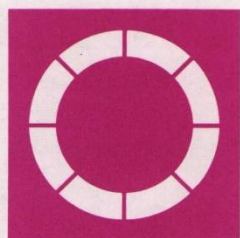
Date for your Diary: Motor Show, 18 - 28 Oct., Earls Court, London.

CHRISTIAN FELLOWSHIP. 12.30 p.m., Friday, 13 October, P.L.A. Conference Room, R.12. Talk by the Rev. E.C. Atkins, Vicar of Harwell Parish Church on "The Power of Praise". All are welcome.

H.F. Norris, Ext. 484
Scientific Admin. Group,
Building R.20.

Rutherford Laboratory.
6.10.67.

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16 Oct 67



Rutherford Laboratory Bulletin

General News

VISITORS. Thirty members of the University of Southampton Physical Society will visit the Laboratory on Saturday, 21 October.

RADIATION PROTECTION NOTICE. Period 11 commenced 2 October. Colour Strip - ORANGE - for $\beta\gamma$ films. Please check that the correct film is being worn and note that all fast neutron films must be returned (retaining holders). Due to the Nimrod shutdown there is no fast neutron film issue during this period.

POST-GRADUATE EDUCATION CENTRE. The P.G.E.C. are holding a course on "Pulse Techniques for Nuclear Particle Counting" from 29 Jan to 2 Feb. The fee for the course is £26. 5s. Further information may be obtained from Mr. E.J.D. Newbold, Personnel Branch, Bldg. R.20, Ext. 585.

OVERSEAS VISIT. Dr. R. Taylor, Mr. E.C. Sedman, Mr. A.R. Mayhook, Mr. H. Hurst, Mr. A.G. Lambert and Mr. T. Noland to Copenhagen, 15 - 18 Oct., to attend the SHARE European Association Conference at the Northern Europe University Computing Centre.

Mr. R.A. Lawes and Mr. J.F. MacEwan to the U.S.A. - 21 Oct - 16 Nov., to visit various laboratories engaged in automatic analysis of spark and bubble chamber photographs. Also to visit a number of companies dealing with small computers and associated equipment.

Machine Schedules

P.L.A.

Date	Team	Experiment
16 - 20 Oct.		Polarimeter Calibration
21 - 29 Oct.	Queen's Univ. Belfast and Westfield Coll.	Polarization Measurements of B^{10} Reactions.

Internal Events

Mon, 16 Oct., 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. D. Sutherland (Glasgow U.)	Remarks on the η Decay -
Wed, 18 Oct., 12.40 p.m., Thurs, 19 Oct., 1.15 p.m., Lecture Theatre.	Film	Brookhaven Spectrum. A 25 min., U.S.A.E.C. colour film	

This film surveys some of the varied aspects of nuclear research and engineering at the Brookhaven Laboratory. Amongst the research projects reviewed are: preservations of perishable foods with high intensity radiation; autoradiography of rare oil paintings by neutron activation; studies with radiation on the mechanisms of aging; an experiment on the combined effects of weightlessness and radiation on living organisms in outer space and an experiment at the 33 BeV Alternating Gradient Synchrotron. This is not a specialists film and therefore it should be of interest to everyone.

Thurs, 19 Oct., 10 a.m. - 4 p.m. - An Exhibition of "Graviner" temperature control, industrial explosion protection and gas detection equipment will be held in the P.L.A. Conf. Rm., R.12. Further details, including brochures, may be obtained from H.F. Norris, Room 21, Bldg. R.20, Ext. 484.

Mon, 23 Oct., 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. I. Butterworth (Imp. Coll.)	Meson Resonances (repeat of talk given at the Heidelberg Conference)
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External Events

Mon, 16 Oct., 4.15 p.m., Queen Mary College	Theor.Phys.Seminar	Prof. P.T. Matthews (Imp. Coll.)	Covariant Phase Shift Analysis and Regge Poles.
Wed, 18 Oct., 2.30 p.m., Univ. Coll. London	HEP Seminar	Prof. L. Castillejo and Dr. B.G. Duff	Report on the Heidelberg Conference on Elementary Particles
Thurs, 19 Oct., 2.30 p.m., Clarendon Lab., Oxford	Low Temp. & Solid State Physics Seminar	Dr. T.G. Phillips	Reports on the Magnetism Congress
Fri, 20 Oct., 4.15 p.m., Clarendon Lab., Oxford	Colloq.	Dr. J. Thresher (RHUL)	High Energy Physics with Polarized Targets

EVENTS AT AERE.

Tues, 17 Oct., 2 p.m., Conf.Rm., B.8.9	Theor.Phys.Div. Seminar	Dr. J. Macek	Effect of Resonances on Electron- Hydrogen Excitation
Thurs, 19 Oct., 3.30 p.m., Conf.Rm., H.8	Nuclear Phys.Div.Colloq.	Dr. N. Tanner	A Proposed Test of Time Reversal in Variance

Social News

RECORD SOCIETY. Tues, 17 October, 12.30 p.m., Lecture Theatre.

"Guys and Dolls" - music from the famous show with songs by Bing Crosby, Frank Sinatra, Dean Martin and Sammy Davis, Jr. etc.

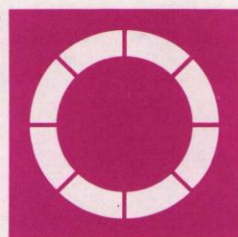
The Record Society would be very glad to hear from anyone possessing a recording of Walton's "Belshazzar's Feast", conducted by Sir Malcolm Sargent as it is hoped to feature this in a future programme as a tribute to Sir Malcolm.

CHRISTIAN FELLOWSHIP. 12.30 p.m., Friday, 20 Oct., P.L.A. Conf.Room, R.12. "The PAROUSIA" continued. All are welcome.

Rutherford Laboratory.
13.10.67.

H.F. Norris, Ext. 484
Scientific Admin. Group, Building R.20.

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23 Oct 67



Rutherford Laboratory Bulletin

General News

VISITORS. Nine Western German University Administrators will visit the Laboratory on Tuesday, 24 October.

Twenty-two people, attending a course on the Measurement of Radioactivity at AERE, will visit the Laboratory on Thursday, 26 October.

RADIATION PROTECTION NOTICE. It is Period 11. Colour Strip - ORANGE. Please return all old films promptly. Note that all fast neutron films MUST be returned, but please retain holders.

OVERSEAS VISIT. Dr. J.R.J. Bennett to Delft, Eindhoven, Paris, CERN and Grenoble, 23 Oct - 10 Nov, for discussions on various subjects and to attend the third European Cyclotron meeting.

NEWS FROM SERPUKHOV. The 100 MeV injector for the 70 GeV proton synchrotron being built at Serpukhov is now operating. The synchrotron itself is expected to be operational next month

Machine Schedules

P.L.A.

Date

Team

Experiment

23 - 29 Oct.

Queen's Univ., Belfast and Westfield Coll.

Polarization Measurements of B^{10} Reactions.

External Events

Mon, 23 Oct., 4.15 p.m., Queen Mary Coll.	Theor. Phys. Seminar	Prof. P.W. Anderson (Cambridge)	Ground State of a Magnetic Impurity in a Metal
Wed., 25 Oct., 2.30 p.m., Univ. Coll. London	HEP Seminar	Prof. L. Castillejo & Dr. S. Zienau	Further Report on the Heidelberg Conference and a Report on the Stanford Conference on High Energy Electron-Photon Interactions.
Wed. 25 Oct., 4.45 p.m., Royal Fort, Bristol	Physics & Geo- physics Colloq.	Dr. R.F. Greene (US Naval Ordnance Lab., Maryland)	Behaviour of Conduction Electrons near Crystal Surfaces.
Thurs, 26 Oct., 4.15 p.m., Clarendon Lab. Oxford	Theor. Phys. Seminar	Prof. M.A. Ruderman (New York Univ. & Imp. Coll.)	Neutrinos, Crystals and White Dwarfs.
Fri, 27 Oct., 4.15 p.m., Clarendon Lab., Oxford	Colloq.	Prof. F. Keffer (U. of Pittsburgh, U.S.A.)	Magnetic Materials

EVENTS AT AERE

Tues, 24 Oct., 2 p.m., Conf. Rm., Bldg. 8.9	Theor. Phys. Div. Seminar	Dr. D. Beeman	Nuclear Spin-Lattice Relaxation in Magnetic Insulators
Tues, 24 Oct., 3.30 p.m., Conf. Rm., Bldg. 393/T	Metallurgy Div. Colloq.	Mr. F. Twentyman (Electric Power Storage Ltd., Manchester)	Fuel Cells (including a 15 minute film)
Thurs, 26 Oct., 3.30 p.m., Conf. Rm., H.8	Nuclear Phys. Div. Colloq.	Dr. C. Clement	Single Particle Strength in Nuclei

Internal Events

Mon, 23 Oct., 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. I. Butterworth (Imp. Coll.)	Meson Resonances (repeat of talk given at the Heidelberg Conference)
Wed, 25 Oct., 11 a.m., Conf. Rm., Bldg. R.1	HEP Discussion Group	Dr. A.T. Lea	K^+ p Phase Shift Analysis and a Z_1^* Resonance?
Thurs, 26 Oct., 12.40 p.m., Fri, 27 Oct., 1.15 p.m. Lecture Theatre	Film		NIMROD: Part 2.

(Please note change of days)

In Part 2, Dr. Pickavance continues the story and deals with the design and construction of Nimrod up to the point of actual commissioning of the machine.

Thurs, 26 Oct., 3.15 p.m., Lecture Theatre	Rutherford Laboratory Lecture	Mr. L.B. Mullett (Min. of Tech.)	The Ministry of Technology and Research Planning
Mon, 30 Oct., 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Prof. S. Ting (DESY)	Photo-Production of Pairs at High Energies

Social News

FILM SHOW. See "Internal Events" for details and note change of days for this week only.

RECORD SOCIETY. Tues, 24 Oct., 12.30 p.m., Lecture Theatre.

Owing to a misunderstanding the record show last week did not take place. Apologies to those people who came and sat in the dark - in silence. However, we will do our very best to present "Guys & Dolls" this week.

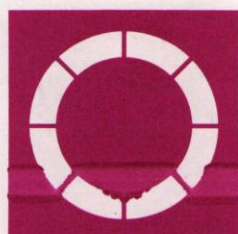
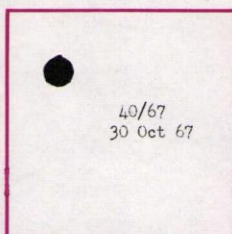
The request for a recording of Walton's "Belshazzars Feast" has been met and it is hoped to present this shortly as a tribute to Sir Malcolm Sargent.

CHRISTIAN FELLOWSHIP. 12.30 p.m., Friday, 27 Oct., P.L.A. Conf.Rm., R.12. Bible Study. All are welcome.

H.F. Norris. Ext. 484

Scientific Administration Group,
Building R.20.

Rutherford Laboratory.
20.10.67.



Rutherford Laboratory Bulletin

General News

PLA Shutdown. The annual shutdown of the PLA is scheduled from 30 Oct to 27 Nov inclusive.

RADIATION PROTECTION NOTICE. Period 12 commences Monday, 30 October. Colour Strip - BROWN. Fast neutron films will not be issued until the 14 November when Nimrod is brought back into operation. Please ensure that all old fast neutron films are returned.

OVERSEAS VISITS. Dr. G. Manning to Princeton, U.S.A., 2 - 5 Nov., to attend an Informal Conference on Decays of K Mesons and then to CERN, 6 Nov., to attend the EEC Meeting.
Mr. A.J. Holt to CERN, 31 Oct - 2 Nov., for discussions on bubble chamber and target safety.

Internal Events

Mon, 30 Oct., 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Prof. S. Ting (DESY)	Photo-Production of Pairs at High Energies.
Mon, 30 Oct, 2 p.m., Lecture Theatre	Nimrod Users Meeting		
Wed, 1 Nov., 11 a.m., Conf.Rm., R.1	HEP Discussion Group	Dr. C. Cox - K^+p Polarization Results Dr. G. Shaw - PCAC Consistency Conditions and Dispersion Relations.	
Wed, 1 Nov., 12.40 p.m. Thurs, 2 Nov., 1.15 p.m., Lecture Theatre	Film	The Daresbury Electron Synchrotron - NINA (A 30 min, colour film)	

This is a film of NINA, from the early days of construction, through to completion.

Mon, 6 Nov., 11.15 a.m., Lecture Theatre.	Nimrod Lecture Series	Dr. J.C. Sens, CERN	K^+p Scattering using a Polarized Hydrogen Target.
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External Events

Mon, 30 Oct., 4.15 p.m., Queen Mary Coll.	Theor.Phys. Seminar	Dr. L.J. Sham (QMC)	The Inhomogeneous Electron Gas
Mon, 30 Oct., 5 p.m., Univ. of Reading	Colloq.	Dr. M. Hart (Bristol U.)	Precision Topographic Lattice Parameter Measurements.
Wed, 1 Nov., 4.45 p.m., Royal Fort, Bristol	Physics and Geophysics Colloq.	Prof. R. Street (Oxford)	Spin Density Wave Magnetism
Thurs, 2 Nov., 2.30 p.m., Clarendon Lab., Oxford	Low Temp. & Solid State Phys. Seminar	Prof. F. Keffer (Univ. of Pittsburgh)	Parallel Pumping of Nuclear Spin Waves
Thurs, 2 Nov., 3 p.m., Cavendish Lab., Cambridge	HEP Seminar	Dr. C.P. Ryan (Univ.Coll., Dublin)	Theory of $K_{\alpha 2}$ Decay
Thurs, 2 Nov., 4.15 p.m., Clarendon Lab., Oxford	Theor.Phys. Seminar	Prof. P.W. Anderson (Cambridge)	Anomalies in Scattering Caused by the Presence of a Fermi Surface
Fri, 3 Nov., 4.15 p.m., Clarendon Lab., Oxford	Colloq.	Dr. G. Burniston Brown (U.C.L.)	What is Wrong with Relativity?
EVENT AT THE ATLAS LAB.			
Tues, 31 Oct., 2.30 p.m., Conf.Rm.	Talk	D.J. Howarth (I.C.T. Ltd.)	Experience with the Atlas Supervisor
EVENTS AT AERE.			
Tues, 31 Oct., 2 p.m., Conf.Rm., Bldg. 8.9	Theor.Phys.Div. Seminar	Dr. J. Beeby	Theory of Phonons in Liquids and Glasses
Thurs, 2 Nov., 3.30 p.m., Conf.Rm., H.8	Nuclear Phys.Div. Colloq.	Dr. T.E. Cranshaw	The Work of the Harwell Mössbauer Group
EVENTS AT DARESBURY			
Tues, 31 Oct., 2 p.m., Lecture Theatre	Daresbury Lecture Series	Dr. A. Donnachie (Glasgow U.)	Strangeness Zero Baryon Resonances.
Wed, 1 Nov., 2 p.m., Lecture Theatre	Special Physics Lecture	Prof. S. Ting (M.I.T. & DESY)	Vector Mesons

Social News

RECORD SOCIETY. Tues, 31 Oct., 12.30 p.m., Lecture Theatre.

Ghouls, ghosties and things that go bang in the night OR, a programme designed for the season of the year.

"A Night on the Bare Mountain" by Moussorgsky.

"Music for the Royal Fireworks" by Handel.

"Witches' Sabbath" from the Symphonie Fantastique by Berlioz.

CHRISTIAN FELLOWSHIP. 12.30 p.m., Friday, 3 Nov., P.L.A.Conf.Rm., R.12. Prayer Meeting. All are welcome.

H.F. Norris, Ext. 484
Scientific Administration Group,
Building R.20.

Rutherford Laboratory.
27.10.67.