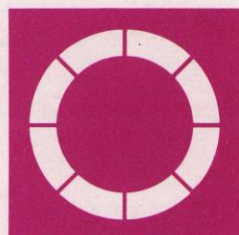


No. 20/67
5th June, 1967



Rutherford Laboratory Bulletin

General News

VISITORS. A party of 25 Sixth Form Students from Bradfield College, Reading, will visit the Atlas and Rutherford Laboratories on Tuesday, 6 June.

OVERSEAS VISITS. Dr. G. Manning to CERN, 2 - 7 June, to attend meetings of the EEC (Electronics Experiments Committee) and the NRPC (Nuclear Physics Research Committee).

Dr. L.C.W. Hobbs to CERN, 5 - 6 June, for discussions on the proposed 300 GeV machine.

RADIATION PROTECTION NOTICE. Period 6 continues until 12 June. Colour Strip - BROWN for $\beta\gamma$ and fast neutron films. Please check that you are wearing the current films and return all old films promptly.

SUMMER SCHOOL. A NATO International Advanced Study Institute on "New Methods and Problems in Scattering Theory" will be held in Istanbul, Turkey, on 24 July - 4 August. Details may be obtained from B.E. Kingdon, R.20 - Ext. 6297.

EXTERNAL COURSE. A study course on "Modern Electronic Devices" will be held on 11 - 13 July inclusive at West Ham College of Technology. Details may be obtained from Mr. E. Newbold, R.20 - Ext. 585.

Machine Schedules

NIMROD Cycle 5 (23.5.67 - 13.6.67)

High Energy Physics (π^4 , π^5 , KLS)

Full details of Cycle 5 were given in Bulletin No. 19/67.

P.L.A.

Date	Team	Experiment
6 June		Maintenance
7 June	RHEL (Accel. Physics)	Injector Emittance Tests.
8 - 15 June	RHEL and QMC 1	(p,d) and (p,t) Reactions on Samarium.

Internal Events

Mon, 5 June, 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Prof. G. Trilling (CERN)	The K^+ Nucleon Interaction near 1 BeV.
Wed, 7 June, 11 a.m. Conf. Room, R.1	HEP Discussion Group	Dr. A. Gal (Weizmann Inst.)	Systematics of Hypernuclear Binding Energies
Thurs, 8 June, 2 p.m. Lecture Theatre	Special Lecture	Dr. L. Reed (Brookhaven)	(Title to be announced) <i>*Backward Pion-Proton Scattering Experiment at the AGS</i>
Mon, 12 June, 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. C. Michael (R.H.E.L.)	What is a Resonance?

External Events

Tues, 6 June, 2.30 p.m. 21 Banbury Road, Oxford	Nuclear Physics Seminar	Prof. A.D. Shirley (Clarendon Lab.)	Resonance and Relaxation in Oriented Nuclei
Weds., 7, 14, 21 June, 11 a.m. at Imperial College, London:	Three Seminars on "Differential Dynamic Programming". To be given by Prof. A.R. Bergen (Berkeley).		
Thurs, 8 June, 4.15 p.m. Clarendon Lab., Oxford	Theoretical Physics Seminar	Dr. B.D. Josephson (Mond Laboratory, Cambridge)	Scaling Laws for Critical Phenomena
Fri, 2 June, 4.15 p.m. Clarendon Lab., Oxford	Colloquium	Dr. M. Sott (Nuclear Research Inst., Prague)	The Organization of Science and Research in Physics in Czechoslovakia.
EVENTS AT A.E.R.E.			
Tues, 6 June, 2 p.m. Conf. Room, Bldg. 8.9	Theoretical Physics Seminar	Dr. J. Tait (A.E.R.E.)	The Calculation of Long-Range Forces between Atoms.
Thurs, 8 June, 2 p.m. Conf. Room, Bldg. 8.9	Joint Applied Maths. Group Seminar	Dr. J.K. Reid (Univ. of Sussex)	On the Conjugate Gradient Method for Solving Ill-Conditioned Linear Systems
Thurs, 8 June, 2 p.m. Conf. Room, Bldg. 7.21	Theoretical Physics Division Seminar	Prof. M.E. Fisher (Cornell Univ.)	Boundary and Finite Size Effects at Critical Points.

Social News

RUTHERFORD AND ATLAS RECREATIONAL SOCIETY.

Darts

The Society is again sponsoring the Annual Darts Tournament this year. This will be held on Friday, 9 June in the Restaurant Coffee Lounge. A licenced Bar and Buffet will be available and an extension has been applied for.

The tournament is open to all S.R.C. employees and their guests, but the Challenge Cups will be played for by S.R.C. teams only. Matches will however be arranged between the guests and the fourth member of the S.R.C. teams, on a friendly basis and without an entry fee.

In addition the Society will present a "Ladies Challenge Cup" if sufficient ladies' teams are entered. This cup, as with the other cups, will be played for each year.

Any team of four players who wish to compete should notify either Mr. B. Keen, Bldg. R.2, Ext. 6615 or Mr. R. Hazell, Bldg. R.25, Ext. 6116 by 6 June, the names of any guests being given at the same time. If anyone is interested in a game but cannot get into a team, Mr. Keen will do his best to make suitable arrangements.

Putting

A Putting Green is now available during the lunch break and may be used by all S.R.C. employees and their guests. The charges are 3d. per session for Society members and 6d. for non-members. Golf balls and putters will be issued by the organisers, Mrs. M. Irving and Mr. R. Hazell, in Lab. 2-13, Bldg. R.25, and should be returned on the same day.

Archery

A provisional committee has been formed, the members being Mr. D.A. Cragg, Mr. D. Falconer, Mr. E.B. Iberson and Dr. G. Stevenson. This sport can be enjoyed by both ladies and men, and anyone wishing to try their hand without any obligation to join the Club should contact a committee member who will arrange for beginner equipment and tuition to be available on a practice evening (usually on Fridays at 4.15 p.m. on the range by the R.22 Restaurant).

RECORD SOCIETY. 12.30 p.m. Tuesday, 6 June, Lecture Theatre.

Songs by British composers, sung by John Shirley-Quirk (baritone), accompanied by Viola Tunnard (piano).

This rising young singer is rapidly gaining an enviable reputation in musical circles and his fine voice is heard to advantage in this recording. The selection includes "Linden Lea" and "Silent Noon" by Vaughan Williams, the famous "Sea Fever" by John Ireland, "Drake's Drum" and "The Old Superb" by Stanford, "Trade Winds" by Frederick Keel and "Captain Stratton's Fancy" by Peter Warlock.

CHRISTIAN FELLOWSHIP. 12.30 p.m. Thursday, 8 June in the Lecture Theatre.

Professor A.G. Weaver of the Royal Military College of Science, Shrivenham will speak on "The Faith of a Scientist".

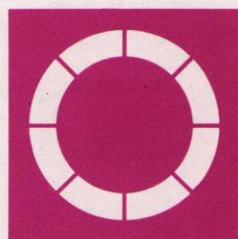
The speaker and the subject both deserve a packed house. It is hoped that all who can will take this opportunity to hear what should be one of the finest and most thought-provoking talks we have ever had.

DATE FOR YOUR DIARY: International Hospital Equipment and Medical Services Exhibition, Olympia, 5 - 9 June (Includes a display by A.E.R.E.).

Rutherford Laboratory
1.6.67.

B.E. Kingdon, Ext. 6297
Scientific Admin. Group
Building R.20

No. 21/67
12 June 67



Rutherford Laboratory Bulletin

General News

VISITORS. The following parties will visit the Laboratory during this week: 36 students from University of Amsterdam on Tuesday afternoon, 13 June. 48 members of Institute of Mechanical Engineers on Wednesday afternoon, 14 June. 10 members of the Physical Society, Queen Mary College, London, on Saturday afternoon, 17 June.

RADIATION PROTECTION NOTICE. Period 7 commences on Monday, 12 June. Colour Strip - ORANGE for $\beta\gamma$ and fast neutron films. Users are asked to change their films promptly and to return all old ones.

EXTERNAL COURSE. A course on "Microwave Transistors" will be held on 21-22 June at Borough Polytechnic, London, S.E.1. Details may be obtained from Mr. E. Newbold, R.20, Ext. 585.

CONFERENCE. Authors intending to submit papers to the I.P.P.S. Conference on "High Voltage Insulation in Vacuum", to be held in London on 13-14 September, 1967, are reminded that abstracts should be forwarded by 16 June. (Further details from B.E. Kingdon).

Machine Schedules

NIMROD Cycle 5 (23.5.67 - 13.6.67)

High Energy Physics (π^4 , π^5 , K^1s)

Full details of Cycle 5 were given in Bulletin No. 19/67.

Cycle 6 (13.6.67 - 4.7.67)

1. Machine Physics - Magnet pulsing tests. 2. High Energy Physics.

Team	Beam	Experiment	
AERE/QMC/RHEL	π^4	A study of Σ^- beta decay.	Setting up
Bristol Univ.	π^5	π^+p differential cross-section measurements.	"
AERE/RHEL/QMC	K^7	Σ^- polarization measurements.	"
Univ. Coll. London	K^8	K^+p elastic scattering studies.	"
Oxford/Liverpool	K^1s	Coherent reactions in Helium at ≈ 2 GeV/c	Data

P.L.A.

Date	Team	Experiment
12 - 15 June	RHEL and QMC I	(p,d) and (p,t) Reactions on Samarium
16 - 18 June	QMC & Queen's Univ., Belfast	"p" Measurement (prelim. run)

Internal Events

Mon, 12 June, 11.15 a.m.
Lecture Theatre

Nimrod Lecture Series

Dr. C. Michael
(R.H.E.L.)

What is a Resonance?

Wed, 14 June, 11 a.m.
Conf. Room, Bldg. R.1

HEP Discussion Group

Mr. D. Morgan
(R.H.E.L.)

Remarks on Pion Production
below 1 GeV.

External Events

Tues, 13 June, 2.30 p.m.
21 Banbury Rd., Oxford

Nuclear Physics
Seminar

Prof. E.H.S. Burhop
(Univ. Coll. London)

K-meson-Nucleon Distribution in
the Nuclear Surface.

14 - 15 June: EIA Engineering Exhibition, Civil Hall, Guildford, 10 am-7.30 pm (Tickets & details: B.E.Kingdon, R.20, Ext.6297)
14 - 22 June: Industrial & Scientific Photographic Equipment Exhibition, U.S. Trade Center, 57 St. James's St., S.W.1.(ditto)

Tues, 13 June, 2 p.m.
Conf. Rm., 8.9, AERE

Theor. Physics
Seminar

Dr. M. Tanaka
(AERE)

Correlation Function Formalism in
the Scattering of Light.

Thurs, 15 June, 2 p.m.
Conf. Rm., E6, Culham Lab.

Joint Applied Maths.
Group Seminar

Mr. A.A. Gnanadoss
(Portsmouth Coll. of Tech.)

Cosmic Singularities of Laplace's
& Helmholtz's Equation.

Thurs, 15 June, 2 p.m.
Rm. 117, F5, Culham Lab.

Atomic Physics Seminar

Prof. P.A. Fraser
(Ontario and A.E.R.E.)

Slow Positron Scattering and
Annihilation in Gases.

Social News

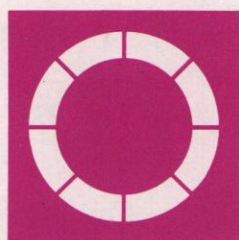
RECORD SOCIETY. 12.30 p.m. Tuesday, 13 June, Lecture Theatre: Folk Music from the Caucasus.

CHRISTIAN FELLOWSHIP 12.30 p.m. Thursday, 15 June, in the PLA Conf. Room, R.12. Bible Study on St. John's Gospel will continue with Chapter 18, verse 1. A warm welcome is extended to all.

Rutherford Laboratory
8.6.67

B.E. Kingdon, Ext. 6297
Scientific Admin. Group
Building R.20

No. 22 /67
19 June 67



Rutherford Laboratory Bulletin

General News

SECOND INTERNATIONAL CONFERENCE ON MAGNET TECHNOLOGY at Oxford on 11-14 July. Participants and observers invited to the Conference may obtain preprints from T.R. Walsh, Bldg. R.20.

SAFETY CROSSWORD COMPETITION. On Friday, 26 May, the Suggestion Awards Committee met to judge the entries for the crossword competition. Out of the fifty eight entries received thirty-five were correct and the following entries for the original clue were chosen.

1. If I read avo correctly I get the safety message. (B. Kingdon, R.20)
2. To lessen the risk stay in the frying pan. (H.E. Clark, R.8)
3. Don't let wild currents make "hot currents" of your home. (Miss G. Harding, R.1)
4. You need the absence of bright sparks to do this. (H. Webb, R.9)

An award of 7 gns. is to be presented for entry No. 1 which has been sent to the National Competition. Three equal awards of 2 gns. will go to the runners up.

RADIATION PROTECTION NOTICE. Period 7 commenced Mon, 12 June. Colour Strip - ORANGE for $\beta\gamma$ and fast neutron films. Please check that you are wearing the current films and return all old films promptly.

Please ensure that: (1) Films are worn in the holder correctly with both the number and colour strip showing in the open window. This side of the badge to be worn facing forward.
(2) All metal fillers in the holders are intact.
(3) If a new holder is required please contact Miss J. Towers, R.20, Ext. 430.

OVERSEAS VISITS. Dr. R.H. Thomas to Stockholm, 19-21 June, to take part in task force to revise the International Commission on Radiological Protection publications Nos. 3 & 4.

Mr. A. Carne to CERN, 19-20 June, for discussion on linacs.

Dr. J.J. Thresher to Canada and the U.S.A., 20 June - 1 July, to visit various laboratories and to give invited talk at the joint APS, CAP and SMF meeting at the University of Toronto.

Dr. B.E. Bonnar and Dr. K. Ramavataram to Brela, Yugoslavia, 25 June - 6 July, to attend symposium on light nuclei and few body problems.

Machine Schedules

NIMROD Cycle 6 (13.6.67 - 4.7.67)

Machine Physics - Magnet Pulsing tests. High Energy Physics (π 4, π 5, K7, K8 & K1s)
Full details of Cycle 6 were given in Bulletin No. 21/67.

P.L.A.

Date	Team	Experiment
18 June	QMC & Queens Univ., Belfast	"D" Measurement (prelim. run)
19 - 20 June		Maintenance
21 - 25 June	RHEL & QMC 2	(p,n) Reactions by Time of Flight Method.

Internal Events

Please note that there is no lecture in the Nimrod Series on Monday, 19 June.

Thurs, 22 June 3.15 p.m. Lecture Theatre	Rutherford Laboratory Lecture	Dr. L.C.W. Hobbis	The Proposed European 300 GeV Accelerator
Mon, 26 June 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. W. Chinowsky (Dept. of Nuc.Phys. Oxford)	Resonance Production in Proton-Proton Interactions.

EXHIBITION. A demonstration and discussion of the new range of 200 MHz High Energy Physics Instrumentation by Chronetics Inc. will be held in the Conference Room, Bldg. R.1 on Tuesday, 20 June between 10.30 a.m. and 1 p.m. The visit has been arranged by Claude Lyons Ltd. and senior members of both companies will be present. (Further details from B.E. Kingdon, R.20, Ext. 6297).

External Events

Mon, 19 June 4.45 p.m., Royal Fort, Bristol U.	Physics & Geophysics Colloq.	Prof. H. Tadokoro (U. of Osaka)	Structure of Crystalline Polyethers.
Thurs, 22 June 11 a.m., Imp. Coll., London	Seminar	Prof. A.R. Bergen (U. of California Berkeley)	Lyapunov Function for Infinite Dimensional Systems
EVENT AT AERE			
Tues, 20 June 2 p.m. Conf. Rm., Bldg. 8.9	Theor.Phys.Div. Seminar	Dr. E. Leader (Cambridge)	Regge Daughters - are they Legitimate?
EVENT AT CULHAM			
Thurs, 22 June 2 p.m. Conf. Rm., Bldg. E.6	Joint Applied Maths Group Seminar	Mr. K.L. Stewart (English Electric Co. Ltd.)	The Theory of Dissection of Disordered Systems

EXHIBITION. INTERPLAS '67. Britains Plastic Exhibition at Olympia, 21 June - 1 July, 10 a.m. - 6 p.m. daily. Tickets are available from H.F. Norris, Bldg. R.20, Ext. 484.

Social News

RECORD SOCIETY. The weekly programmes have been discontinued for the summer months. It is hoped to start again in the early autumn.

CHRISTIAN FELLOWSHIP. Thurs, 22 June, 12.30 p.m., P.L.A. Conf.Rm., R.12. Bible Study on St. John's Gospel, Ch.18:28-40, led by Mr. E.J.D. Newbold.
Mr. Newbold has tickets available for the TV relay at Oxford of Billy Graham's Crusade meeting at London on Friday, 23 June.

Prelim. Notice: AGM, Thurs, 29 June, 12.30 p.m., in R.25 Conf.Rm.

DARTS TOURNAMENT. The annual darts tournament was held on Friday evening, 9 June in the Restaurant Coffee Lounge and was enjoyed by all present. Nine teams entered for the tournament and the results of the various events are as follows:

Team Cup Winners: Nimrod Services Team: Bernard Keen, Mick Bishop, Joe Kenvin and Bill Rouse.

Runners up: R.12 Electrical Workshop: Bill Glasgow, Bill Russell, Nigel Gomersall & Stan Gregory.

Doubles Cup Winners: Nimrod Services: Mick Bishop & Bill Rouse

Runners up: R.1 Admin.: Eddie Smith & Ron Price

Singles Cup Winner: Bill Oliver (R.1 Admin. Team)

Runner up: Bill Higgins (R2 Records Office)

Congratulations to all the winners and in particular to Bill Oliver for winning the Singles Cup for three years running.

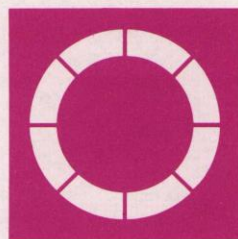
Rutherford Laboratory

16.6.67

H.F. Norris, Ext. 484

Scientific Admin. Group,
Building R.20

No. 23/67
26 June 67



Rutherford Laboratory Bulletin

General News

OPENING CEREMONY. The Prime Minister officially opened the Daresbury Nuclear Physics Laboratory on Friday, 16 June when he pressed the appropriate button to start NINA, and NINA it can be said was on her best behaviour.

VISITORS. Pupils of the County Grammar School for Girls, Faringdon, Berks., will visit the Laboratory on Monday, 26 June.

RADIATION PROTECTION NOTICE. Period 7 commenced Mon, 12 June. Colour Strip - ORANGE for $\beta\gamma$ and fast neutron films. Please check that you are wearing the current films and return all old films promptly.

Please ensure that (1) Films are worn in the holder correctly with both the number and colour strip showing in the open window. This side of the badge to be worn facing forward.
(2) All metal filters in the holders are intact.
(3) If a new holder is required please contact Miss J. Towers, R.20, Ext. 430.

OVERSEAS VISITS. Mr. W. Walkinshaw and Mr. J.F. MacEwan to CERN 26 - 28 June for discussions on computer applications. Dr. G. Shaw to Sicily, 30 June for two weeks to attend the International School of Physics "Ettore Majorana", Erice.

Machine Schedules

NIMROD Cycle 6 (13.6.67 - 4.7.67)

Machine Physics - Magnet Pulsing tests. High Energy Physics (π 4, π 5, K7, K8 & K1s). Full details of Cycle 6 were given in Bulletin No. 21/67.

P.L.A.

Date	Team	Experiment
26 - 28 June	Oxford U.	(p,d) (p,t) Reactions
29 June	Radiation Protection Group	
30 June - 3 July		Maintenance and Installation of P.P.S.

Internal Events

Mon, 26 June, 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. W. Chinowsky (Dept. of Nuc.Phys., Oxford)	Resonance Production in Proton-Proton Interactions
Wed, 28 June, 11 a.m., Conf.Rm., Bldg. R.1	HEP Discussion Group	"Current Algebra and Axial Vector Mesons" by Dr. G. Costa "Prospects for W Production" by Dr. P.K. Kabir	

External Events

Mon, 26 June, 5.30 p.m., Imp. Coll., London	Inst. of Maths Lecture	Dr. D. Kuchemann (RAE)	Some Unsolved Problems in Aerofoil Theory
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EVENT AT AERE

Tues, 27 June, 2 p.m., Conf.Rm., Bldg. 8.9	Theor.Phys. Seminar	Dr. R.J. Elliott (Oxford U)	Magnetic Symmetry and Spin Waves
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Social News

RECREATIONAL SOCIETY. CRICKET - It is proposed to form a Rutherford & Atlas Laboratories Recreational Society Cricket Club, to organise inter-departmental and inter-establishment cricket matches. In order for this scheme to proceed a number of interested players and the formation of a management committee is required. If you are interested please contact R. McClure, Ext. 275 or P. Craske, Ext. 225.

Recreational Society Hut, R.14. Volunteers are required for a working party to clean the hut. Would anyone who can spare half an hour or so between 12.30 p.m. and 1.30 p.m. on Monday, 26 June or Tuesday, 27 June please contact E.W. Clark, R.8, Ext. 6290/519.

CHRISTIAN FELLOWSHIP. The Annual General Meeting will be held in R.25 Conference Room at 12.30 p.m. on Thursday, 29 June. Will all members make an effort to attend.

Rutherford Laboratory
23.6.67

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