

RUTHERFORD LABORATORY BULLETIN

No. 20/64 for the week commencing Monday 25th May, 1964

VISITORS Thirty-six members of the staff of British Brown-Boveri Ltd., are expected to visit the Laboratory on Saturday, 30th May.

P.L.A. The programme scheduled for the P.L.A. during the current week is as follows:

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
29th-31st May	Univ. Coll. London	Spin Rotation in (p-He) Scattering.

LIBRARY NOTICE To facilitate its move to Building R.20, the Library will be closed from 25th-29th May. This also refers to the Xerox-914 copier. The Library will be reopened on Monday, 1st June. Staff requiring material urgently should contact the A.E.R.E. Library, Ext. 72-2849.

SCIENTIFIC ADMINISTRATION NOTICE Owing to the transfer of the Scientific Administration general office from Building R.32 to Building R.20, the telephone extension, 484, will be out of operation for several days from Monday, 25th May. Any urgent enquiries during this period should be made to Mr. B. Southworth, ext. 6286.

INTERNAL EVENTS

Mon., 25th May, 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. H.R. Rubinstein (Brookhaven)	High Energy Proton- Proton Scattering
Thurs., 28th May, 5.30 p.m. Lecture Theatre	Evening Lecture Series	Dr. W. Fuller (King's College)	The Genetic Code
Mon., 1st June, 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. J.J. Sakurai (Orsay)	Possible Dynamical Approaches to the SU(3) Numerologies.

EVENTS AT THE ATLAS COMPUTER LABORATORY

Fri., 29th May, 2.30 p.m. Atlas Lab. Conf. Rm.	Informal Talk	Mr. C. Strachey (Churchill College Cambridge)	A General Macro Generator
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EVENTS AT A.E.R.E.

Tues., 26th May, 2.00 p.m. Conf. Rm. Bldg 8.9	Theor. Phys. Seminar	Dr. R.V. Lange	Gapless Superconductivity
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EXTERNAL EVENTS

Tues., 26th May, 2.30 p.m. 21 Banbury Rd, Oxford.	Nuclear Physics Seminar	Prof. K.G. McNeill (Toronto Univ)	Angular Distributions of Fast Photoproducts using Bremsstrahlung of 30 MeV
Thurs., 28th May, 2.30 p.m. Clarendon Lab., Oxford	Colloq.	Prof. F.M. Blatt (Michigan State Univ.)	Thermo-electricity in Metals
Thurs., 28th May, 4.15 p.m. Clarendon Lab., Oxford	Theor. Phys. Seminar	Dr. R.J. Elliott	Vibrations of Defects in Lattices
Fri., 29th May, 4.15 p.m. Clarendon Lab., Oxford.	Colloq	Prof. R.E. Peierls (Oxford)	Waves and Particles (Some simple minded Answers to Simple Queries).

The Society for Visiting Scientists will hold a Discussion Meeting on "The Pros and Cons of International Research Centres" at The English-Speaking Union, Dartmouth House, 37 Charles St. London, W.1 on Wednesday, 3rd June, at 7.30 p.m. Chairman: Sir John Cockcroft. Speakers: Dr. J.B. Adams, Dr. J.C. Kendrew and Professor A. Haddow.

RUTHERFORD LABORATORY BULLETIN

No.21/64 for the week commencing Monday, 1st June, 1964

APPOINTMENT. Dr. R. C. Hanna has been appointed Head of the P.L.A. Division of the Rutherford High Energy Laboratory.

VISITS ABROAD. Mr. K. Batchelor of the P.L.A. Division will visit Warsaw, Poland, from 5th-12th June, for discussions on linear accelerator problems with the linear accelerator group at the Institute for Nuclear Research, Swierk.

P.L.A. The programme scheduled for the P.L.A. during the current week is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
1st-5th June	Univ. Coll. London	Spin Rotation in (p- He) Scattering

SCIENTIFIC ADMINISTRATION NOTICE. The general office of Scientific Administration is now located in Room 21, Building R.20. The telephone extensions in this office are:- Mr. B. E. Kingdon, Ext.6297 and Mr. H. F. Norris, Ext.484.

INTERNAL EVENTS.

Mon., 1st June, 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. I. Hughes (Glasgow)	Some Aspects of the 3.5 GeV/c K^- + Proton Experiments
Mon., 8th June, 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. J. J. Sakurai (Orsay)	Possible Dynamical Approaches to the SU(3) Numerologies

(Please note corrected dates for above lectures)

EVENTS AT A.E.R.E.

Fri., 5th June, Social Club A.E.R.E.	Exhibition	Feedback Ltd., Mobile Demonstration Unit.	Teaching equipment for digital, logic and servo systems and other items
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EXTERNAL EVENTS.

Tues., 2nd June, 2.30 p.m., 21 Banbury Rd., Oxford	Nuclear Physics Seminar	Dr. S. Hinds (A.W.R.E.)	A Study of Triton Reactions
Thurs., 4th June, 2.30 p.m. Clarendon Lab., Oxford	Colloq.	Dr. T. P. McLean (R.R.E. Malvern)	Non-linear Optical Effects
Thurs., 4th June, 4.15 p.m., Clarendon Lab., Oxford	Theor. Phys. Seminar	Dr. E. I. Blount (Bell Laboratories and Cambridge)	Block Electrons in a Magnetic Field
Fri., 5th June, 4.15 p.m., Clarendon Lab., Oxford	Colloq.	Prof. J. A. Krumhansl (Cornell Univ.)	Phonons in solids interacting with themselves and with probes

2nd-8th July: International Congress on "Nuclear Physics".
International Union of Pure and Applied Physics, at Paris, France.

Rutherford Laboratory
29th May, 1964

H. F. Norris
Scientific Administration

RUTHERFORD LABORATORY BULLETIN

No.22/64 for the week commencing Monday, 8th June, 1964

VISITS ABROAD. Dr. C. M. Fisher and Dr. A. M. Segar will visit C.E.R.N., Geneva on 10th June for two weeks to assist in British National Hydrogen Bubble Chamber experiments.

Mr. P. A. Hibberd will leave for C.E.R.N., Geneva on 8th June where he will be attached to the British National Hydrogen Bubble Chamber team for the next 13 months.

FILM SHOWS. Two films entitled "The Rutherford High Energy Laboratory" and the "Nimrod Vacuum Chamber" will be shown in the Lecture Theatre during the week commencing 15th June. Full details in next week's Bulletin.

P.L.A. The programme scheduled for the P.L.A. during the current week is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
10th-12th June	Oxford University	Carbon 12 ($p, p^- \gamma$) Reaction Studies
13th-15th June	King's College, London	Beam Transport Check and Counter Calibration of the $N\frac{1}{2}$ Magnet.

MISSING EQUIPMENT. Would anyone who knows the whereabouts of the following inventory items please inform Mr. F. Harden, Building R.25, Ext. 373.

Avometer Model 8.	Ser.No. 36881-C-855
" " 8.	Ser.No. 42274-C-1255
Scalamp Galvo, Type: 20/25 mm/ μ A.	
Wolf Drill $\frac{1}{4}$ "	Ser.No. 8409

EXTERNAL COURSE. An International School of Physics on "Symmetries in Elementary Particle Physics", sponsored by C.E.R.N., the Italian Physical Society and N.A.T.O., will be held at Eryx, Sicily, from 27th August - 7th September 1964. The closing date for applications is 10th July. Details may be obtained from the Scientific Administration Office, Room 21, Building R.20, Ext. 484 or 6297.

INTERNAL EVENTS.

Mon., 8th June, 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. J.J. Sakuari (Orsay)	Possible Dynamical Approaches to the SU(3) Numerologies
Thurs., 11th June, 5.30 p.m., Lecture Theatre	Evening Lecture Series	Mr. E.R. Harrison	Olber's Paradox, or Why is the Sky Dark at Night?
Mon., 15th June, 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. W.P. Dodd (Birmingham)	On the A_1 , A_2 and B Mesons found in 4 GeV/c π -p Collisions

EVENTS AT THE ATLAS COMPUTER LABORATORY.

Tues., 9th June, 2.30 p.m., Atlas Lab. Conf. Rm.	Informal Talk	Prof. Alfréd Rényi	Work on the Theory of Probability and its Applications at the Mathematical Institute of the Hungarian Inst. of Sciences.
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EXTERNAL EVENTS.

Tues., 9th June, 2.30 p.m., Banbury Road, Oxford.	Nuclear Physics Seminar	A.R. Poletti (Oxford Univ.)	O^{16} ($He^3 p \gamma$) F^{18} Angular Correlation Experiments and the Nuclear Structure of F^{18} .
Fri., 12th June, 4.15 p.m., Clarendon Lab., Oxford.	Clarendon Lab. Colloq.	Prof. R.H. Dalitz	Unitary Symmetry and the Elementary Particles.

Rutherford Laboratory

5th June, 1964.

H.F. Norris

Scientific Administration

RUTHERFORD LABORATORY BULLETIN

No.23/64 for the week commencing Monday, 15th June, 1964.

VISITORS. A party of engineering students from Reading Technical College will visit the Laboratory on Wednesday, 17th June.

Dr. W. Gaade of the Elsevier Publishing Co. will be at the Laboratory on Thursday, 25th June. He will be pleased to discuss with potential authors the possibility of their writing books for Elsevier, or to talk about any other matter in the field of scientific publishing. Anyone wishing to see Dr. Gaade should contact Mr. B. Southworth, Scientific Administration, Building R.20, Ext.6286.

VISITS ABROAD. The Director will attend a meeting of the C.E.R.N. Council at Geneva on 18th and 19th June.

Mr. I. K. Daly, Central Engineering Group, will visit C.E.R.N. for five weeks commencing 15th June, to assist in operating the British National Hydrogen Bubble Chamber.

ATTACHED STAFF. Dr. J. L. Rouse of the Physics Department, University of Melbourne, is visiting the Laboratory and will be attached to the P.L.A. Division for a period of approximately twelve months. His office is in Room 26, Building R.35, Ext.514.

P.L.A. The programme scheduled for the P.L.A. during the current week is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
15th-16th June	King's College, London.	Beam Transport Check and Counter Calibration of the N_2^1 Magnet.
17th-22nd June	R.H.E.L. and Q.M.C.	(p,n) Reaction Studies by the Time-of-Flight Method.

A.E.R.E. TELEPHONE NUMBER. With effect from 25th June, 1964, the A.E.R.E. telephone number will be: Abingdon 4141.

FILM SHOWS. The following films will be shown in the Lecture Theatre on the dates indicated:-

Tues., 16th and Thurs., 18th June	} 12.30 p.m. 1 p.m.	"The Rutherford High Energy Laboratory". "The Nimrod Vacuum Chamber".
Wed., 17th and Fri., 19th June	} 12.30 p.m. 1 p.m.	"The Nimrod Vacuum Chamber". "The Rutherford High Energy Laboratory".

INTERNAL EVENTS.

Mon., 15th June, 11.15 a.m., Lecture Theatre
Nimrod Lecture Series
Dr. W. P. Dodd (Birmingham Univ.)
On the A₁, A₂ and B Mesons found in 4 GeV/c π -p Collisions

Tues., 16th June : Exhibition of Electronic Measuring Instruments by various manufacturers, arranged by Livingston Laboratories Ltd. 9.30 a.m.-4.30 p.m. in the P.L.A. Conference Room, Building R.12. (Further details are available from Scientific Administration, Room 21, Building R.20, Ext.484 or 6297).

Wed., 17th June, 2 p.m., P.L.A. Conf. Rm., Bldg.R.12
P.L.A. Seminar
Dr. J. C. Dore (Birmingham Univ.)
Differential Cross-Sections and Polarization in Elastic and Inelastic Scattering of Protons from Carbon and Silicon

(Details of the Nimrod Lecture on 22nd June will be announced later).

EXTERNAL EVENTS.

16th-19th June : Second International Reinforced Plastics Exhibition, Earls Court, London S.W.5. (Tickets may be obtained from Scientific Administration, Ext.484 or 6297).

Tues., 16th June, 2.30 p.m., 21 Banbury Rd., Oxford
Nuclear Physics Seminar
Short contributions by members of the Oxford Nuclear Physics Dept. speaking at the Paris Conference on Nuclear Physics, 2nd-8th July, 1964

Wed., 17th June, 5 p.m., Clarendon Lab., Oxford
Theor. Physics Seminar
Dr. J. Wheeler (Princeton Univ.)
Gravitational Collapse and Baryon Conservation

RUTHERFORD LABORATORY BULLETIN

No. 24/64 for the week commencing Monday, 22nd June, 1964

VISITORS. A party of 28 members of the Austrian Federation of Trade Unions will visit the Laboratory on Monday, 22nd June.

Twelve members of the Wantage Rotary Club will visit the Laboratory on Monday, 22nd June.

VISITS ABROAD. Mr. G.E. Simmonds, Mr. A.R. Mortimer and Mr. G.N. Pickles will visit C.E.R.N. on 22nd - 24th June to interview candidates for technical vacancies on bubble chamber work (VN.222).

Mr. E.W. Kendall of the Nimrod Machine Physics Group will visit S.A.M.E.S., Grenoble, France on 22nd - 25th June in connection with Nimrod pre-injector E.H.T. equipment tests.

Mr. D. Morgan of the Theoretical Studies Group will be attached to the Theory Division, C.E.R.N., for 13 months commencing 29th June.

P.L.A. The programme scheduled for the P.L.A. during the current week is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
22nd June	R.H.E.L. and Q.M.C.	(p,n) Reaction Studies by the Time-of-Flight Method.
26th-28th June	Oxford University	Carbon 12 (p,p' γ) Reaction Studies.

UNCLAIMED MAIL. Would anyone who has recently ordered a set of Telefunken electronic equipment bulletins please contact Scientific Administration, Building R.20, Ext. 484 or 6297.

INTERNAL EVENTS.

(There will be no lecture in the Nimrod Series during the current week.)

Thurs., 25th June, 5.30 p.m., Lecture Theatre	Evening Lecture Series	Mr. J.D. Lawson	An Electrical Engineer looks at Photons.
Mon., 29th June, 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. P.J. Duke	A Spark Chamber Experiment on Lambda - Beta Decay.

EVENTS AT A.E.R.E.

Tues., 23rd June, 2.00 p.m., Conf. Rm., Bldg. 8.9	Theor. Phys. Seminar	Prof. P.S. Signell (Pennsylvania State University)	The Two-Nucleon Interaction.
Thurs., 25th June, 11.15 a.m., Train- ing Centre, Bldg.328.T	Lecture	Mr. S.F. Atkinson (U.K.A.E.A. London Office)	Superannuation.

(Anyone wishing to attend the above lecture should contact Scientific Administration, Building R.20, Ext. 484 or 6297).

EXTERNAL EVENTS.

25th June - 9th July: International Machine Tool Exhibition, at Olympia. (Tickets are available from Scientific Administration, Building R.20, Ext. 484 or 6297).

Rutherford Laboratory
19th June, 1964.

B. E. Kingdon
Scientific Administration

RUTHERFORD LABORATORY BULLETIN

No.25/64 for the week commencing Monday, 29th June, 1964

FRENCH BUBBLE CHAMBER. An 82-centimetre hydrogen bubble chamber from Saclay will arrive at the Laboratory on Saturday, 27th June. The chamber has previously been in use with the 3 GeV proton synchrotron "Saturne". It is expected to remain at the Laboratory for about eighteen months, for bubble chamber experiments with Nimrod. A team of French scientists will collaborate in the experiments. (Further details are given in Press Release N/1/64, which may be seen on any notice-board).

VISITORS. Professor Karl Strauch of the Department of Physics, Harvard University, will visit the Laboratory on Tuesday, 30th June, and his host will be Dr. G. H. Stafford.

VISITS ABROAD. Dr. W. A. Smith, Mr. T. R. Mason and Mr. H. E. Wicks will visit Emil Haefely and Co., Basle, on 29th June-2nd July, in connection with separator H.T. sets for Nimrod.

Dr. L. P. Robertson, Dr. R. C. Hanna, Dr. C. J. Batty, Dr. P. Zupranski, Dr. R. J. Griffiths (Westfield College) and Mr. J. G. Cuninghame (A.E.R.E.) will be attending the International Conference on Nuclear Physics, Paris, on 2nd-8th July.

Dr. D. P. Jones will leave on 4th July to attend a course at the International School of Physics, Varenna, Italy. He will be away for three weeks and will visit C.E.R.N. on his return journey.

NUCLEAR PHYSICS CONFERENCE. Those wishing to attend the I.P.P.S. Conference on "Low and Medium Energy Nuclear Physics", to be held at the University of Sussex on 9th-11th September, 1964, are reminded that all applications should be forwarded through Dr. G. H. Stafford, Building R.1. The closing date for registration is 17th July.

P.L.A. The programme scheduled for the P.L.A. during the current week is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
28th June.	Oxford University.	Carbon 12 (p, p' γ) Reaction Studies.
29th June-	King's College,	Measurement of (p,p) Elastic and Inelastic
4th July.	London.	Scattering at 50 MeV, using the N ₂ ¹ Analyzing Magnet.

MISSING EQUIPMENT. Will anyone who knows the whereabouts of the following inventory item please inform Mr. L. J. C. Appleby, Building R.25, Ext.373:-
D & N Type 2001 Digital Voltmeter, Ser. No. 10043.

LIBRARY NOTICE. Three copies of "Theory and Design of Electron Beams" by J. R. Pierce are missing. Will anyone who knows the location of any of these copies please notify the Library immediately, Ext.384.

UNCLAIMED MAIL. A letter has been received from Jena Glaswerk Schott & Gen., of Mainz, Germany, in reply to a letter from Building R.1., of 22nd May, about glass types BK7, SF9, LaK7 and LaK9. The originator of this correspondence is asked to contact the L.A.O., Building R.1., Ext.258.

INTERNAL EVENTS. A series of lectures on "Particle Physics and SU₃" will be given by Professor J. J. de Swart, of the University of Nijmegen, Holland, in the Lecture Theatre during the next two weeks. The first lecture will commence at 9.15 a.m. on Monday, 29th June, when details of dates and times for the rest of the series will be available.

Mon., 29th June, 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. P. J. Duke	A Spark Chamber Experiment on Lambda-Beta Decay.
Mon., 6th July, 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Mr. E. R. Harrison	Quasars and Neutron Stars.

EXTERNAL EVENTS. 29th June-9th July: International Machine Tool Exhibition, at Olympia. (Tickets from Scientific Admin., Building R.20, Ext.484 or 6297).

2nd-8th July: Electronics, Instruments and Components Exhibition and Convention, College of Science & Technology, Manchester. (Details from the Secretary, Institution of Electronic Pennine House, 78 Shaw Road, Rochdale.)

6th-10th July: International Conference on "Magnetic Recording" in London, sponsored by the I.E.R.E., the I.E.E. and the I.E.E.E. (Further information from the I.C.M.R. Secretary, I.E.E., Savoy Place, London, W.C.2.)

RUTHERFORD LABORATORY BULLETIN

No. 26/64 for the week commencing Monday, 6th July, 1964

VISITORS. A party of Medical Research Council personnel, attending a Conference on Mathematics and Computer Science in Biology and Medicine at Oxford, will visit the Atlas Computer Laboratory on Thursday morning, 9th July.

A party of 30 members from the École Polytechnique, University of Lausanne, will visit the Rutherford Laboratory on Thursday 9th July.

18 members of the Bristol University Air Squadron will visit the Laboratory on Friday, 10th July.

Dr. Richard Taylor, of the Linear Accelerator Center, Stanford University, will visit the Laboratory on 10 - 14th July for discussions on high energy physics experiments. His host will be Dr. A. Astbury, Building R.1, Ext. 6161.

VISITS ABROAD Mr. P. Wilde and Dr. E. Auld will visit Karlsruhe, Germany, on 12-17th July, where they will present papers at the E.A.N.D.C. (European-American Nuclear Data Committee) Conference on the Automatic Acquisition and Reduction of Nuclear Data.

Mr. W. Walkinshaw, Mr. J.M. Dickson, Mr. A. Carne and Mr. H. Wroe will present papers at a Linear Accelerator Conference, at the MURA Laboratory, Madison, Wisconsin, U.S.A., on 20th - 24th July. They will also visit various Universities and Laboratories in the United States before returning on 31st July, 5th August, 5th August and 2nd August respectively.

P.L.A. The programme scheduled for the P.L.A. during the current week is as follows :-

Date	Team	Experiment
6th July	King's College	Measurement of (p,p) Elastic and Inelastic Scattering at 50 MeV, using the N_2^+ Analyzing Magnet
9th-13th July	Queen's Univ., Belfast, & Westfield College.	Measurement of (p, α) Scattering at 50 MeV.

MISSING EQUIPMENT. Would anyone who knows the whereabouts of the following item please inform Lab. 6, Building R.1. Ext. 389 :- "Dymo" Embossing Tool, Model M-2C, Serial No.3689. (The serial number appears inside the tape holder).

BURSARIES. Applications are invited for awards under the Royal Society and Nuffield Foundation Commonwealth Bursaries Scheme, for travel and study abroad, commencing during the period January to June, 1965. The closing date for applications is 15th September, 1964. Details may be obtained from Mr. A.G. Taylor, Personnel Branch, Building R.20, Ext. 495.

VACANCIES AT C.E.R.N. Further vacancy notices, covering a wide range of posts, have been received from C.E.R.N., Geneva. Details may be obtained from Mr. E.W. Young, Personnel Branch, Building R.20. Ext. 510.

POST GRADUATE EDUCATION CENTRE, A.E.R.E. A series of lectures on "High Voltage Technology" will be given at the Reactor School on 28th September - 2nd October, 1964. Applications should be made through Division Heads to Mr. H.F. Norris, Scientific Administration, Building R.20, Ext 484, from whom further details may be obtained.

INTERNAL EVENTS

Monday, 6th July
11.15 a.m., Lecture Theatre.
Nimrod Lecture Series
Mr. E.R. Harrison Quasars and Neutron Stars.

The Thursday Evening Lecture Series will be resumed in the Autumn.

Friday, 10th July: Mobile Exhibition of Electronic Test Equipment by Marconi Instruments Ltd. 10 a.m. - 3.30 p.m., adjacent to Building R.20.

Mon 13th July,
11.15 a.m., Lecture Theatre.
Nimrod Dr. R.G. Moorhouse Pion-Nucleon Scattering in the Range 300-70 MeV and the possible P_{11} Resonance.
Lecture Series

(Last Lecture in the present series)

EXTERNAL EVENTS

6th - 9th July: International Machine Tool Exhibition, at Olympia. (Tickets from Scientific Administration, Building R.20. Ext. 484 or 6297).

5th July - 4th Sept. : Continuous exhibition by Members of the Production Engineering Research Association of Great Britain. PERA Exhibition Hall, Melton Mowbray, Leics.

Fues., 7th July, 3.45 p.m., Univ. of Leeds. Physics Department. Dr. L. Mandel Can Independent Colloq. (Imperial Coll.) Photons Interfere?

The N.S. Savannah will be on show to the public at Southampton on the 10th, 11th and 12th July, from 9 a.m. to 4 p.m. in Berth 101, New Docks. Entry by Gate No. 8. Cars are not allowed inside the docks.

Building R.20

3rd July, 1964

RUTHERFORD LABORATORY BULLETIN

No. 27/64 for the week commencing Monday, 13th July, 1964

VISITORS. A party of 20 students from Radley College, Abingdon, will visit the Laboratory on Saturday morning, 18th July.

A party of students from the Grammar School, Sandown, I.O.W., is also expected to visit the Laboratory on Saturday morning, 18th July.

VISITS ABROAD. Miss K.M. Knight, High Energy Physics Division, has been released for six months commencing 1st July, to take up a post with the National Science Development Board of the Phillipines Atomic Energy Commission, sponsored by the International Atomic Energy Agency. She will return to H.E.P. Division on completion of her tour of duty.

Dr. R.G. Moorhouse, Theoretical Studies Group, and Dr. P.J. O'Donnell, Durham University, will visit the German Computing Centre, Darmstadt, for 17 days commencing 13th July.

Mr. T.R. Walsh, Scientific Administration, will visit C.E.R.N. on 14th-16th July as Rutherford Laboratory representative at the British National Hydrogen Bubble Chamber Press Conference, and to discuss the organisation of the High Energy Physics Conference to be held in September, 1965.

Dr. R.F. Churchhouse, Atlas Laboratory, will visit the Euratom Centre for Documentation and Information Retrieval, Brussels, on 14th-17th July, for discussions.

P.L.A. The programme scheduled for the P.L.A. during the current week is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
13th July	Queen's Univ., Belfast & Westfield College	Measurement of (p, α) Scattering at 50 MeV.
14th-16th July	Accel. Physics, R.H.E.L.	Neutron Surveys.

RECREATIONAL ASSOCIATION. A meeting will be held in the Lecture Theatre on Wednesday, 22nd July at 12.45 p.m., to discuss the formation of a Recreational Association at the Laboratory, and to elect a committee. Nominations for the committee, proposed and seconded, should be forwarded to Mr. R. Hazell, Bldg. R.25, or to Mr. M. Hecken, R.18, by Monday, 20th July.

PYROTENAX CABLE. A number of lengths of hollow copper pyrotenax cable are available with outside diameter 0.40 in., and conductor diameter 0.27 in; also 0.50 in. square-section externally, and 0.0153 sq.in. conductor cross-sectional area. Anyone interested should apply immediately to Mr. A.G. Hewitt, Bldg. R.25, Ext. 357.

INFORMATION COLLOQUIUM. A.E.R.E. Library have offered to hold an Information Colloquium at the Rutherford Laboratory, towards the end of July. Would anyone interested please contact Scientific Administration Office, Bldg. R.20, Ext. 484 or 6297.

INTERNAL EVENTS

Mon., 13th July, 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. R.G. Moorhouse	Pion-Nucleon Scattering in the Range 300-700 MeV and the Possible P_{11} Resonance.
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(Last lecture in the present series)

EVENTS AT A.E.R.E. The following Nuclear Physics Division Lectures will be given by Prof. E.W. Titterton, C.M.G., Head of the Nuclear Laboratory of the Australian National University, Canberra:-

- (i) Mon., 13th July, 3 p.m., Conf. Rm., Hangar 8: "Work at the Australian National University."
- (ii) Thurs., 16th July, 2.15 p.m., Conf. Rm., Hangar 8: "The Organisation of Physical Sciences in Australia, and the Functions of the Australian National University and National Institute for Nuclear Science and Engineering."

(Anyone without a pass who wishes to attend should contact B.E. Kingdon, Scientific Administration, Bldg. R.20, Ext. 484 or 6297, before 10 a.m. on Mon., 13th July for the first lecture, or before 10 a.m. on Wed., 15th July for the second lecture).

EXTERNAL EVENTS.

13th - 17th July : International Industrial Equipment Exhibition for Safety and Health at Work. Royal Horticultural Halls, London, S.W.1.

Scientific Administration, Building R.20

10th July, 1964.

RUTHERFORD LABORATORY BULLETIN

No. 28/64 for the week commencing Monday, 20th July, 1964

VISITORS. A party of 30 members of Abingdon School will visit the Laboratory on Tuesday, 21st July.

20 members attending the "International Young Technologists' Fortnight", held at Watford College of Technology, will visit the Laboratory on Thursday, 23rd July.

VISITS ABROAD. Mr. P.A. Denny and Mr. D.J. Wagon of the Theoretical Studies Group will visit the German Computing Centre, Darmstadt, for three weeks commencing 23rd July, for the development of bubble chamber programmes.

P.L.A. The programme scheduled for the P.L.A. during the current week is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
26th July	R.H.E.L. Nuclear Chemistry	Fission Studies at 30 MeV

RECREATIONAL ASSOCIATION. A meeting and committee election will take place on Wednesday, 22nd July, at 12.45 p.m. in the Lecture Theatre. The closing date for committee nominations, which should be sent to Mr. R. Hazell, Bldg. R.25, or Mr. M. Hecken, Bldg. R.18, is Monday, 20th July.

CONFERENCES. The Institute of Physics and the Physical Society have arranged the following conferences during 1964:-

Symposium on "Sonic Investigations on Internal Damping in Solids".
5th - 7th August, at Imperial College.

International Conference on "Magnetism".
7th - 11th September, at the University of Nottingham.

First European Colloquium on "Electron Probe X-Ray Microanalysis".
14th - 15th September, at Delft, Holland.

Conference on "Luminescence".
15th - 17th September, at the University of Hull.

Conference on "Many Body Problems".
22nd - 24th September, at the University of Manchester.

Conference on "Fundamental Problems of Low Pressure Measurements".
23rd - 25th September, at N.P.L., Teddington.

Conference on "Electron Emission".
1st - 2nd October, at the University of Keele.

Conference on "Accuracy in X-Ray Analysis".
12th - 13th November, at the Institution of Mechanical Engineers, London, S.W.1.

(Further details may be obtained from Scientific Administration, Rm.21, Bldg. R.20, Ext. 484 or 6297).

EXTERNAL COURSES. Details have been received of various courses in Radiation Protection and allied subjects. Anyone interested should contact Mr. W. Burrells, Building R.20, Ext. 253.

EVENT AT THE ATLAS COMPUTER LABORATORY

Tues., 21st July, 2.30 p.m., Atlas Lab. Conf. Room	Informal Talk	Dr. Stephen Vajda (Admiralty Res. Lab., Teddington)	Recent Developments in the Theory of Games.
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EVENT AT A.E.R.E.

Fri., 17th July, 3.30 p.m., Conf. Rm., Bldg. 8.9	Theor. Phys. Seminar	Dr. O.W. Greenberg (Univ. of Maryland)	Selection Rules for Parafields and the Absence of Para-Part- icles in Nature.
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(Anyone without a pass who wishes to attend should contact Mrs. M.R. Jackson, D.A.O. Theoretical Physics Div., Ext. 72-2996 or 72-3513).

RUTHERFORD LABORATORY BULLETIN. Contributors to the Bulletin are asked to note that the next issue (No.29/64) will cover the two weeks commencing Monday, 27th July.

Scientific Administration, Building R.20

17th July, 1964.

RUTHERFORD LABORATORY BULLETIN

No. 29/64 for the fortnight commencing Monday, 27th July, 1964.

VISITORS Dr. L.T. Kerth of the Lawrence Radiation Laboratory, Berkeley, will visit the Laboratory from 30th July - 4th August for discussions on high energy physics with Dr. Thresher.

About 50 people from the International Teachers' Conference will visit the Laboratory on Tuesday, 4th August.

VISITS ABROAD Dr. K.D. Srivastava to America on 2nd August for two weeks, where he will visit the Brookhaven and Argonne National Laboratories, also the High Voltage Engineering Corporation, Burlington, Mass., for discussions on problems associated with high voltage power supplies.

Dr. J.J. Thresher, to the U.S.S.R. on 3rd August for two weeks, where he will attend the International Conference on High Energy Physics at Dubna.

P.L.A. The programme scheduled for the P.L.A. during the current fortnight is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
27th - 28th July	R.H.E.L. Nuclear Chemistry	Fission Studies at 30 MeV
31st July - 5th August	King's College	Measurement of (p,p) Elastic and Inelastic Scattering at 50 MeV using the N_2^1 Analysing Magnet.
6th - 7th August	Oxford Univ.	B^{10} (p,2n) C^{13} Reaction Studies
8th - 10th August	R.H.E.L. Nuclear Chemistry	Fission Studies of Th^{230} at 50 MeV

POST GRADUATE EDUCATION CENTRE, A.E.R.E. The second course on "Process Instrumentation" will be held at the Harwell Reactor School from 9th to 20th November, 1964. Applications should be made through Division Heads to H.F. Norris Scientific Administration, Building R.20, Ext 484, from whom further details may be obtained.

B.B.C. TALK At 6.18 p.m., on Sunday 26th July, Dr. Hanna will give a talk on work on the P.L.A. (B.B.C. European Service, 232 metres, medium wave).

FIRST AID LECTURE A lecture giving a general outline on First Aid, will be given by Dr. R. Orr of Medical Division, A.E.R.E., at 2.30 p.m. on Friday, 7th August, in the R.12 Conference Room. This lecture, which will last approximately 2 hours, is open to anyone who may be interested.

Scientific Administration, Building R.20

25th July, 1964.