

No. 13/65
5 April 65

General News

OVERSEAS VISIT. Dr. R.G. Moorhouse, to Saclay and CERN on 5 April for 4 weeks.

LEAVE OF ABSENCE. Miss K.M. Knight, High Energy Physics Division returned to the Laboratory on 1 April after a nine months leave of absence. During this period she has been with the Phillipines Atomic Energy Commission on a post sponsored by the International Atomic Energy Agency.

MISSING EQUIPMENT. The following item of equipment has been reported missing from Lab. 19, Electronics Section, P.L.A. Division:-

Avometer, Model 8. Ser. No. 68534-C-1257

Will anyone with information on the whereabouts of this instrument please inform Dr. L.J. Herbst, Ext. 596/466.

FOUND. A "copper" coloured key was found outside Building R.25 early on Sunday morning, 28 March. Owner should contact H.F. Norris, Scientific Administration, Bldg R.20, Ext. 484.

EXHIBITION and EDUCATION WEEK. The Oxford College of Technology in association with the Institution of Production Engineers is holding an Exhibition and Education week from Tuesday 6 April until Saturday 10 April. The opening ceremony is at 2.30 p.m. on Tuesday 6 April and the Exhibition will be open daily from 10 a.m. to 9 p.m., closing at mid-day on Saturday 10 April. A number of lectures will be given including one by Prof. Loxham of the College of Aeronautics, Cranfield on "The Production Engineer of the Future", on Wednesday 7 April at 2.30 p.m. Further information will be available shortly from H.F. Norris, Scientific Administration, R.20, Ext. 484.

Machine Schedules

P.L.A.

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
5-8 April		Maintenance
9-12 April	Queen's Univ. Belfast and Westfield College	Differential Cross-section Measurements of the (p, α) Reaction at 50 MeV

*M.S. Brennan EX211.
(Joe Marsh) enquiring
for further details.*

*John Clarke might want
ticket for Phys Soc Thurs
afternoon. (will ring later)*

Internal Events

There is no lecture in the Nimrod Series on Monday, 5 April.

Wed., 7 April, 12.45 p.m.	Film	"The Worlds Within", an A.E.C.
Thurs., 8 April, 1.15 p.m.,		29 minute colour film.
Lecture Theatre		

This non-technical film describes the design, construction and use of the new Stanford Linear Accelerator. Some historical background is given on the development of linear accelerators. As well as dealing with various aspects of the problems associated with the design, construction and operation of this huge instrument the fabrication of the 2 mile long copper tube, with a bore of only one inch in diameter, through which the electrons will be fired, is shown.

Mon., 12 April,	Nimrod	Dr. A.N. Diddens	Various Experimental Results of
11.15 a.m., Lecture	Lecture	(C.E.R.N.)	an on-line Experiment on
Theatre	Series		Proton Scattering at 19 GeV/c

External Events

I.E.E. MEETING: "The Mode and Use and the Assessment of Precision Coaxial Connectors", lecture to be given by I.A. Harris, at 5.30 p.m., Wednesday, 7 April, at the I.E.E., Savoy Place, London, W.C.2.

Social News

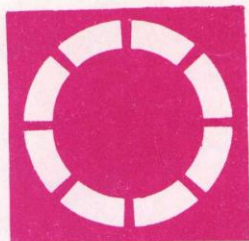
RECORD PROGRAMME. Over the next seven months, the seven Sibelius symphonies will be played. Since no copy of Symphony No. 1 can be unearthed at present, the series starts with Symphony No. 2. This may not be a bad thing because No. 2 has proved the most popular of the seven. Sibelius continued to develop the traditional form of the classical symphony and did not throw the form overboard as did most of his contemporaries composing at the beginning of this century. Nevertheless, his work has a distinctive flavour often obviously influenced by the environment in which he composed - Finland. This symphony is a good introduction to his work. The programme will be presented at 12.30 p.m. on Tuesday, 6 April in the Lecture Theatre.

FILM SHOW. See "Internal Events" for details of the next film show which will be given on Wednesday and Thursday. This is a non-technical film of general interest.

Rutherford Laboratory
2 April 1965

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

No. 13/65,
Supplement
5 April, 1965



Rutherford Laboratory Bulletin

The following statement was issued to the press on 2nd April:

MODIFICATION OF NIMROD POWER SUPPLY

Careful examinations have been carried out on the Nimrod alternator which was damaged on 22nd February, and the stresses on the rotor component which fractured have been analysed. The investigation has confirmed that the failure was due to metal fatigue and recent technological advances emphasise the importance of stress concentration effects. In the light of this, other factors which contribute to the steady and fluctuating stresses assume a greater significance than previously appreciated.

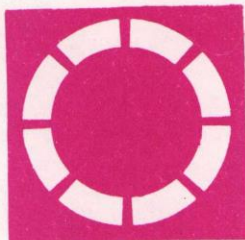
Since the breakdown, the second alternator, which normally runs on the same shaft as the damaged one, has been fitted with instruments to measure the stresses, and is currently being run to check the conclusions about the fracture and to help establish whether there are significant differences between the two machines, such that one alternator could operate safely for a limited period. This would enable high energy physics experiments to be resumed during May and June. Whether or not this is the case, it is clear that the long term operation of Nimrod calls for modification of both alternators, incorporating a redesign of the rotors to take account of the higher stresses. Within the next month, the manufacturer of the plant is to obtain the special components required, and will give priority to the rebuilding of the damaged rotor.

It is intended to run a modified Nimrod experimental programme in which completion of some experiments will be delayed, while other experiments will take less experimental data than previously intended.

Offers of experimental collaboration have been received from a number of high energy physics laboratories with a view to minimising the disruption of the Nimrod programme and this possibility is being explored.

ALL INQUIRIES FROM THE PRESS SHOULD BE REFERRED
TO SCIENTIFIC ADMINISTRATION GROUP, EXTENSION 438.

No. 14/65
12 April 65



Rutherford Laboratory Bulletin

General News

OVERSEAS VISITS. Mr. D. Jones, P.L.A. Nuclear Physics Group, to Paris, 12-13 April, to visit the International Exhibition of Electronic Components.

Mr. J.D. Lawson, Dr. J.H. Coupland, Mr. T.C. Randle, Mr. P.S. Rogers, Dr. J.R.J. Bennett, Mr. D.H. Trew, Mr. H.E. Payne and Mr. A.R. Mayhook, Applied Physics Division, to Eindhoven Holland, 20-24 April, to attend European Cyclotron Symposium.

FILMS. The attendance at recent film shows has been very encouraging. The present series will end at the beginning of June and the programme for the Autumn series is being planned. Comments on the present series and suggestions for future films would be appreciated; contact H.F. Norris, Films Officer, Scientific Administration, Building R.20 Ext 484.

PHOTOGRAPHIC CONVENTION 1965. The Institute of Incorporated Photographers are organising the 1965 Photographic Convention which will be held at the Congress Theatre and Winter Garden, Eastbourne from 4-7 May. A series of lectures, demonstrations and special activities has been arranged. Registration is necessary for this convention; the fee to non-members is £6 6s 0d. Further details may be obtained from H.F. Norris, Building R.20. Ext 484.

SEMINAR. A seminar on "High Energy Physics and Elementary Particles" will be held from 3 May to 30 June at Trieste, Italy. Address for enquiries is:- International Centre for Theoretical Physics, Oberdan 6, Trieste, Italy.

Machine Schedules

P.L.A.

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
12-14 April	Queen's Univ. Belfast and Westfield College	Differential Cross-section Measurements of the (p, α) Reaction at 50 MeV
15 April	RHEL Radiation Protection Group	Neutron Shielding Experiment
16-19 April	Oxford Univ.	C^{12} (p,t) and (p,p') Reaction Studies
20-21 April		Maintenance
22 April	RHEL and Queen Mary College	Measurement of the Polarization of Neutrons from the $D(p,n)2p$ Reactions at 50 MeV.
23-26 April	Kings College London	Elastic Scattering of Protons from C^{12} and O^{16}

Internal Events

Mon., 12 April, 3.30 p.m., Lecture Theatre	Nimrod Lecture Series	Dr. A.N. Diddens (C.E.R.N.)	Various Experimental Results of an on-line Experiment on Proton Scattering at 19 GeV/c
Wed., 14 April, 2 p.m., Conf. Rm., R.12	P.L.A. Div. Seminar	Prof. R. Eisberg (Univ. of California)	Recent Measurements of Total Reaction Cross-sections for Protons
Fri., 23 April, 2.15 p.m., Main Conf. Rm., Atlas Lab.	Lecture	Dr. A.C. Hearn (RHEL and Clarendon Lab. Oxford)	Algebraic Computations in Physics using LISP

External Events

21-30 April: London International Engineering Exhibition, at Olympia and Earls Court.

10-14 May: Symposium on Pulsed Neutron Research, at Karlsruhe, Germany.

I.E.E. MEETING: Colloquium on "Problems and Development in Electron Linear Accelerators and Associated Radio Frequency Valves", at 2.30 and 5 p.m., 13 April, Savoy Place, W.C.2

Social News

RECORD PROGRAMME. The programme this week is devoted to Easter music. The first work is the mighty opening chorus of the St. John Passion. The St. John is the more dramatic of the two great Bach Passions and the emphasis on drama is immediately obvious from this chorus. It will be followed by items from the well known Easter Music of Handel's Messiah, culminating in the Hallelujah Chorus.

CHRISTIAN FELLOWSHIP. The Group meets on the second and fourth Wednesday of each month in the P.L.A. Conference Room, R.12, from 1-1.30 p.m. The next meeting will be on 14 April, when Mr. Graham White of Electronics Division, A.E.R.E. will lead Bible Study on the First Epistle of St. John, Ch. 4, vv. 7-21. Further details from B.E. Kingdon, Building R.20, Ext 6297.

Advance Notice: The R.H.E.L. Group A.G.M. will be on Wed., 28 April at 1 p.m.

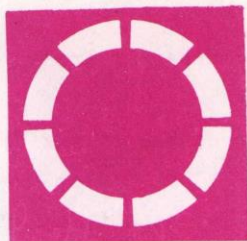
RUGBY A.E.R.E. are running a 7-a-side rugby tournament on Sunday, 2 May. It is hoped to raise one or more teams from the Rutherford Laboratory to take part in this event. All R.H.E.L. staff are eligible and all those interested are asked to contact Mr. D. Gibbings, Building R.1, Ext 338.

Date for your Diary:

22-25 April, International Audio Festival and Fair, at the Russell Hotel, London.

Rutherford Laboratory
9 April, 1965

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



15/65
26 Apr 65

General News

DEATH OF BILL ANNS. We are very sorry to announce the sudden death on Wednesday, 21 April of Bill Anns. Bill who worked in R.9 Workshops was aged 64. He joined Harwell in 1946 and had previously served in the Royal Navy for 21 years as a stoker. Our deepest sympathy is extended to his wife and step-son.

SECONDMENT Mr. A.H. Fryer will be returning to Engineering Group, U.K.A.E.A., Risley, on Monday, 3 May, 1965.

For the past twelve months he has carried out the duties of Engineering Training Officer. These duties are now being taken over by Mr. M.J. Marchbanks, Rm 2.71, Bldg. R.1, Ext 472, to whom all queries on engineering training should in future be forwarded.

BURSARY AND SANDWICH COURSE AWARDS, 1965. A limited number of awards are available to members of staff who wish to undertake full-time or sandwich courses at Universities or Colleges of Advanced Technology. Details may be obtained from the Personnel Group, and anyone who would like to be considered for such an award should contact A.G. Taylor, Bldg R.20, (Ext 495) without delay.

LECTURE THEATRE CLOSURE. The Lecture Theatre will be closed from 1-14 May to facilitate the installation of a sound proof booth to house the slide and cine projector.

POST GRADUATE EDUCATION CENTRE. A series of twelve lectures on "Electrical Properties of Materials" will be given by Mr. M. Garrod, Oxford College of Technology, in the Post Graduate School. The lectures will be held at 2.15 p.m. on Monday, 26 April and on each subsequent Monday until 19 July, excluding the 7 June. A limited number of places are still available.

SEMICONDUCTOR DEVICE PHYSICS. A series of twelve lectures will be given in the Post Graduate School by Dr. A.K. Jonschev, Chelsea College of Science and Technology. The series will commence on 5 May and will be held on each subsequent Wednesday (except 9 June) until 16 June, 1965. These lectures are complementary to the series on Semiconductor Physics given by Dr. T.P. McLean.

Applications for the above courses should be made through Division Heads to Mrs. M.C. Gould, Personnel Branch, Building R.20, Ext 575, from whom further details may be obtained.

MISSING EQUIPMENT. The following item of equipment has been reported missing from Lab 3, R.1:-

Tektronic Oscilloscope Plug-in-Unit. Type CA Ser. No. 102141.

Will anyone with information on the whereabouts of this item please contact Mr. P.H.T. Banks, Ext 309/323.

EXTERNAL COURSES. The following courses will be held at the Borough Polytechnic, London, S.E.1. on the dates indicated:-

"Psychological Aspects of Work", a two day symposium commencing 10.00 a.m. on Tuesday and Wednesday, 18 and 19 May.

"Technical Writing", a course of eight lectures, on Friday afternoons commencing 21 May, from 2.00 to 4.30 p.m.

"Information for Industry and Commerce", a course of six lectures, on Thursday afternoons, commencing 20 May, from 2.00 to 4.30 p.m.

Further details of the above mentioned courses may be obtained from Mrs. M.C. Gould, Personnel Branch, Building R.20. Ext 575.

OVERSEAS VISITS. Dr. N.H. Lipman, to the U.S.A. on 25 April for three weeks, to attend meeting of the American Physical Society at Washington where he will give a paper on the K_2^0 experiment. He will also visit the Pardue Meeting on Experimental Techniques and various other Laboratories.

Mr. J.D. Forbes, to the Instituto Nazionale Di Fisica Nucleare, Bologna, Italy, 27 April-1 May for discussions on the Italian condensing system for the H.P.D.

Dr. G.H. Stafford, to the U.S.A., 28 April-15 May, to attend the Pardue Conference on Instrumentation for High Energy Physics and to visit various Laboratories.

Mr. P. Wilde, to the U.S.A., 29 April-15 May, to attend the Pardue Conference, and various Laboratories.

Machine Schedules

P.L.A.

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
26-28 April	Kings College London	Elastic Scattering of Protons from C^{12} and O^{16} .
29-30 April	R.H.E.L. and Queen Mary College	(p,n) Reactions by the Time of Flight Method.
1 May	R.H.E.L. Accelerator Physics	

Internal Events

Mon., 26 April 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. P.G. Murphy	Experimental Information on the Nucleon Isobars
Wed., 28 April 12.45 p.m. Thurs, 29 April, 1.15 p.m., Lecture Theatre		Films	(a) High Speed Photography in Nuclear Reactor Development (b) The Nuclear Ship Savannah (c) Heavy Particle Beams in Medicine

The programme consists of three 10 minute colour films from the A.E.C. Film Library. The first film shows high speed pictures of nuclear reactor studies at the Argonne, culminating in the deliberate self destruction of an early nuclear reactor.

The film on the Nuclear Ship Savannah was produced especially for showing at the Third United Nations International Conference on the Peaceful Uses of Atomic Energy held in Geneva last year. The last of the films to be shown was also produced for showing at the same Conference and includes a brief historical development of the medical uses of cyclotrons and shows the unique properties of accelerator-produced heavy particles.

Thurs., 29 April, 10.00 a.m.-2.30 p.m.: Mobile Exhibition, (adjacent to Building R.20) of Keithley Electronics Instruments, by Messrs Livingston Laboratories Ltd., London N.W.1. Items on display will include: True R.M.S. Voltmeter, Guarded Differential Voltmeter, Nano-voltmeter, Milli-ohmmeter, Pico-ammeters, various types of Amplifier and Electrometer, and a Regulated High Voltage Power Supply.

Thurs., 29 April 2.30 p.m., Atlas Lab. Conf. Rm.	Informal Talk	Dr. R.B.E. Napper (Dept of Computer Science, Univ. of Manchester)	A System of Programming in Natural English.
Fri., 30 April, 2.30 p.m., Atlas Lab. Conf. Rm.	Informal Talk	Prof. Germund Dahlquist (Prof. at the Royal Institute of Technology, Stockholm)	Education and Research in Information Processing in Swedish Universities
Mon., 3 May, 11.15 a.m., Main Conf. Rm., R.1.	Nimrod Lecture Series	Dr. P. Falk-Vairant (Univ. of Paris)	Neutral Processes in π^- -p High Energy Interactions

External Events

Tues., 27 April 2.30 p.m., 21 Banbury Rd, Oxford	Nuclear Physics Seminar	Dr. J.J. Thresher	Pion Nucleon Scattering
Wed., 28 April 7.30 p.m., Royal Oak, Oxford.	A.S.E.E. Lecture	Mr. H. Westwood (Dowding and Mills Ltd.)	Electrical Breakdowns and their Causes

28 June - 24 July: Summer School on Theoretical Physics, at the Institut D'Etudes Scientifiques De Cargese. Further details from H.F. Norris, Scientific Administration Building R.20, Ext 484.

Thurs, 29 April 5.30 p.m., Savoy Place, London	I.E.E. Kelvin Lecture	Prof. O.R. Frisch F.R.S.	The Particles of Modern Physics.
Fri., 30 April, 4.15 p.m., Clarendon Lab., Oxford.	Colloq.	Dr. W.C. Marshall (A.E.R.E.)	Fluctuations of Magnetic Systems near the Critical Temperature

Social News

FILM SHOW. See "Internal Events" for details of the next film show which will be given on Wednesday and Thursday.

CHRISTIAN FELLOWSHIP. All members are urged to attend the RHEL Group A.G.M., which will be held at 1 p.m. on Wednesday 28 April, in the P.L.A. Conference Room, R.12. Nominations for committee members are invited and proposals may be forwarded beforehand. The meeting will include a review of the past year and a discussion of future programmes. Further details may be obtained from B.E. Kingdon, Bldg R.20 Ext 6297.

RECORD PROGRAMME. Due to a misunderstanding the programme for Tuesday, 20 April was not presented; however, it is hoped to play "Scheherezade" at a later date. The programme for Tuesday 27 April will be presented by Bob Hopgood of the Atlas Laboratory and is entitled "Jazz Piano". It will feature three well known pianists, Jelly Roll Morton, James P. Johnson and Errol Garner. Jelly Roll Morton who died some years ago was a very accomplished organist as well as a pianist and his style will be represented by an early recording, a Red Hot Peppers number and a late recording. James P. Johnson's style will be shown by an early recording, a number where he accompanies Bessie Smith and an item from the "Spirituals to Swing" concert given in the Carnegie Hall in the late thirties. The programme will end with examples of Errol Garner's technique, when he first became well known in the late forties with his treatment of the "Pops" of that period.

Rutherford Laboratory
23 April, 1965

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