

# Rutherford Laboratory Bulletin

No.14/66  
4 April 66

## General News

The next Bulletin will be issued on Friday 15 April

**FOUND** A small bunch of keys in the vicinity of R.2. These may be claimed on application to the LAO's Office, Room 2.29 Bldg R.1.

**BURSARY AND SANDWICH COURSE AWARDS, 1966.** 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.

**EXTERNAL COURSES.** The Borough Polytechnic, London, S.E.1 have announced details of the following courses:

"Metal Oxide Semiconductor Transistors", a one-day symposium to be held on Mon, 4 April commencing at 9.45 a.m.

"Radiological Protection" a course of eight lectures to be held on Thursday evenings at 7 p.m. commencing 28 April

"Nuclear Physics", a laboratory and lecture course on the design, use and maintenance of electronic equipment used in nuclear physics, to be held during the two weeks Mon, 27 June to Fri, 8 July.

Further details may be obtained from Mrs. S.A. Fones, Personnel Branch, Bldg R.20 Ext 585.

**I.A.E.A. VACANCIES.** The International Atomic Energy Agency have two vacancies at the United Arab Republic Atomic Energy Establishment near Cairo, which may be of interest to physicists, electrical engineers or electronic technicians. The work is for a duration of 3-4 months and is concerned with the design, construction and testing of a small particle accelerator with variable energy up to 300 KV. Further details from Mr. G.N. Pickles or Mr. E.W. Young, Personnel Group, Building R.20.

**I.A.E.A. INTERNATIONAL COURSE.** The International Centre for Theoretical Physics at Trieste (Italy) is organising a series of lectures and seminars on Theoretical Nuclear Physics, in October, November and December, 1966. The course will be divided into two parts, the first consisting of a set of introductory lectures, the second being devoted to more advanced topics such as group theoretic methods used in nuclear structure, resonances, theories of nuclear reactions etc. Further brief details from H.F. Norris Building R.20 Ext 484.

**NATO-INTERNATIONAL ADVANCED STUDY INSTITUTE,** on "Symmetry Principles and Fundamental Particles", in Istanbul, Turkey, 8-27 August 1966. Closing date for applications, 1 June. Further details from H.F. Norris, Bldg R.20 Ext 484.

**OVERSEAS VISIT.** Dr. K.F. Chackett, to CERN on 1 April for approximately three weeks to attend seminar on "The Interaction of High-Energy Particles and Complex Nuclei" and to carry out experiments on the CERN S.C.

## Machine Schedules

NIMROD Period 1 - Cycle 4 (6.4.66-26.4.66.)

Machine Physics  
High Energy Physics

<u>Team</u>	<u>Beam</u>	<u>Experiment</u>	
Hydrogen Bubble Chamber Collabor- ation	K1	K <sup>-</sup> d Interaction	Data
UCL/Westfield Coll.	$\pi$ 2	$\pi^+$ p Differential Cross- section Measurements	Data
Oxford Univ.	K4	A Study of the Decay Modes of the K <sup>+</sup>	Setting up and Data



<u>Team</u>	<u>Beam</u>	<u>Experiment</u>	
Birmingham Univ/ Cambridge Univ/ RHEL	K6	K <sup>-</sup> -nucleon Total Cross- section Measurements	Setting up and Data
UCL	P3X	A Study of the $\eta^0$ Meson	Data

P.L.A.

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
4-5 April	Oxford Univ.	Si <sup>29</sup> (p,d) Reactions
6-11 April	Kings Coll, London and RHEL	Polarization Studies
12-14 April		Maintenance
15-21 April	Manchester Univ.	(p,p <sup>1</sup> ) Reaction Studies on Li <sup>6</sup> and Li <sup>7</sup>

## Internal Events

Mon 4 April 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. K. Winter (CERN)	Decay Properties of K <sup>0</sup> <sub>S</sub> and K <sup>0</sup> <sub>L</sub> behind a Regenerator
Wed, 13 April 12.40 p.m. Thurs, 14 April, 1.15 p.m. Lecture Theatre		Film Show	"Against the Tide", a 37 min. colour film.

A safety film which takes a real life situation to bring home the fact that in the final analysis safety depends on all-round team-work and a sense of individual responsibility. Based on fact, that men in the gas rescue team in a north-east coast steelworks are also members of the local volunteer lifeboat crew, this then is developed through a dramatic account of lives saved in the works and along the coast. It is a British Iron and Steel Federation film.

Thurs, 14 April 3.30 p.m. Lecture Theatre	Applied Physics Series	Dr. D. Thomas	Bubble Chambers
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The first lecture in the Applied Physics Series on the SOC by Dr. F.M. Russell has had to be postponed owing to the absence of a number of people who had expressed a wish to attend. This lecture will be fitted into the series at a later date.

Mon, 18 April 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. Y. Yamaguchi (CERN)	Vector Meson Production in Hadron-Hadron and Photon- Hadron Collisions
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## Social News

**DARTS TOURNAMENT.** The RHEL Annual Darts Competition will be held in the Coffee Lounge of R.22 on a date to be announced later, which will probably be about the middle of May. It will be a knock-out competition for teams of four, pairs and singles, the pairs and singles must be drawn from the teams. If sufficient support is forthcoming, a ladies cup will be awarded. Entries should be sent to either Tudor Morgan, Bldg R.9 Ext 6171 or Bernard Keen, Bldg R.2 Ext 6615.

**RECORD PROGRAMME.** 12.30 p.m. Tuesday 5 April, Lecture Theatre

Selections from "Nabucco" an opera by Verdi which tells the story of the Hebrews in captivity.

The next programme will be given on 19 April

**CHRISTIAN FELLOWSHIP.** The next meeting will be on Thursday 7 April, at 12.30 p.m. in the PLA Conference Room, R.12, when Mr. Robin Elliott of the Nimrod Beams Physics Group will lead Bible Study on the Epistle to Titus. All are welcome. Further information from B.E. Kingdon R.20 Ext 6297. (14 April: Mr. G. Vinden - China Missionary)

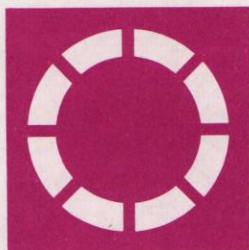
Date for your Diary: 14-17 April, International Audio Festival and Fair at the Hotel Russell, Russell Sq. London W.1. This is the Mecca of all Hi-Fi enthusiasts.

Rutherford Laboratory  
1 April 1966

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



No. 15/66  
18 Apr 66



# Rutherford Laboratory Bulletin

## General News

**BURSARY AND SANDWICH COURSE AWARDS 1966.** 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 Mr. A.G. Taylor, Bldg R.20 Ext 495.

**SUMMER SCHOOL.** The Seventh Annual Scottish Universities Summer School in Physics will be held at Newbattle Abbey, near Edinburgh, from 1-20 August, 1966. The subject this year is "Particle Interactions at High Energy". The closing date for applications is 21 May. Further details may be obtained from H.F. Norris, Bldg R.20 Ext 484.

**OVERSEAS VISITS.** The Director and the Deputy Director, to Pisa, Italy 15-18 April to attend a meeting on some aspects of the European collaboration in Physics.

Mr. J.M. Dickson, to the U.S.A. 18 April - 8 May, to attend an International Conference on Isochronous Cyclotrons at Gatlinburg, Tennessee and to visit various laboratories working on linear accelerator and polarized particle sources.

**UNCLAIMED MAIL.** A letter has been received from E. Carraz at CERN. It is a reply to a letter sent from the Rutherford Laboratory, dated 18 March, evidently asking about the supply of certain materials. Would the writer of the letter please get in touch with Scientific Administration, Bldg R.20 Ext 484.

## Machine Schedules

P.L.A.

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
18-21 Apr	Man. Univ.	(p,p') Reaction Studies on $\text{Li}^6$ and $\text{Li}^7$
22-23 Apr	RHEL & King's College London	Proton Elastic and Inelastic Scattering from $\text{Mg}^{24}$

## Internal Events

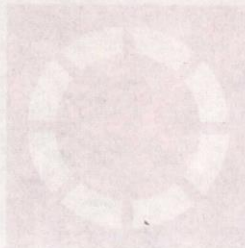
Mon, 18 Apr 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. Y. Yamaguchi (C.E.R.N.)	Vector Meson Production in Hadron-Hadron and Photon-Hadron Collisions
Wed, 20 April 12.40 p.m. Thurs 21 Apr. 1.15 p.m. Lecture Theatre		Film	"The Rutherford Laboratory" a 26min colour film. A repeat showing for the benefit of newly joined staff.
Thurs, 21 April 3.30 p.m. Lecture Theatre	Applied Physics Series	Mr. D.H. Lord	Hough-Powell Bubble Chamber Film Measuring Device
Mon 25 Apr 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. J. Eades (Copenhagen)	Search for Heavy Objects
Wed, 20 Apr 3.30 p.m. Lecture Theatre	Popular Lecture Series	Dr. H.H. Atkinson	The Polarized Proton Target.

## External Events

Tues 19 Apr 7.30 p.m. Clarendon Lab. Oxford.	I.E.R.E. District Meeting	Dr. C.H. Vincent (A.W.R.E.)	Hybrid Analogue/Digital Computers (visitors welcome)
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Mon 18 Apr. 5.30 p.m. Savoy Place, London W.C.2. An IEE Electronics Division Discussion on "Computer Bulk Storage", during which the following contributions will be presented:





"Bulk Storage on Cards" by B. Birch (I.C.T. Ltd.,)  
"The Design of a Low Cost Magnetic Tape Store", by D.T. Gwillim (Plessey Radar Ltd)  
"Why Discs", by G. Pirkhoffer, (IBM (U.K.) Ltd.,)

A.E.R.E.

Tues, 19 Apr, 10.30 a.m. Conf. Rm, Bldg 7.21	Synchrocyclotron & Proton Physics Groups Colloq.	Dr. B. Rose	Nucleon-nucleon Scattering below 1 GeV - Experimental Aspects
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### Social News

CHRISTIAN FELLOWSHIP. The next meeting (postponed from 7 April) will be on Thursday 21 April at 12.30 p.m. in the PLA Conference Room R.12, when Mr. Robin Elliott of the Nimrod Beams Physics Group will lead Bible Study on the Epistle to Titus. All are welcome. Further details from B.E. Kingdon R.20 Ext 6297.

RECORD PROGRAMME. "Transatlantic session, with a recording of a lecture given by Dylan Thomas to a group of American students and also records of American Folk Music.

CIVIL SERVICE MOTORING ASSOCIATION. Members of the CSMA who have not been contacted recently by Mr. C.H. Booth, are asked to get in touch with him as soon as possible. He is located in Room 53, Bldg R.20 Ext 277.

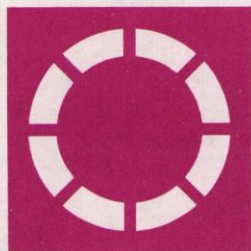
RUTHERFORD AND ATLAS LABORATORIES RECREATIONAL SOCIETY.  
Wanted - old golf balls and clubs (not the Indian type) for use on the new putting green. Of course new balls and new putters are also very acceptable. Offers to T. Harper, Bldg R.25 Ext 6116.

MILITARY BAND CONCERT. The British Legion will present a concert by the Berkshire and Westminster Dragoons in the Barn Theatre on Tuesday, 19 April at 8.15 p.m. Admission 5/-, programmes from Wyn Spinks, Rm 1.37 Bldg R.1 Ext 6177

Rutherford Laboratory  
15.4.66.

H.F. NORRIS Ext 484  
Scientific Admin Group  
Building R.20





# Rutherford Laboratory Bulletin

No. 16/66  
25 Apr 66

## General News

**VACUUM DISCUSSION GROUP.** A discussion sponsored by the Research Group Vacuum Panel will be held in the large Conference Room, Building 220, AERE on Tuesday 3 May commencing at 9 a.m. The chairman will be Mr. J.R. Bailey of AWRE and the theme will be "Adhesive Jointing Materials". Admission will be by ticket obtainable from Mr. F.P. Moran, Room G.39 Building 424 Ext 72-2723 or Standards Section Library, Ext 72-2251. Further information, if required, can be obtained from Mr. D.A. Cragg, Ext 6276.

**PHOTOGRAPHIC CONVENTION.** The first International Convention of Photography and Cinematography in Industry and Technology will be held during the "1966 photokina", World Fair of Photography, in Cologne from 1-9 October, 1966. The actual Convention is from 6-8 October. A considerable amount of information is available about this convention and anyone interested should contact H.F. Norris, Bldg R.20 Ext 484.

**OVERSEAS VISITS.** Mr. M. Snowden, Dr. D. Thomas, Dr. P. Williams and Dr. R. Newport to CERN, 24-26 April for discussions with Dr. Burger on new bubble chamber designs.

Mr. H. Hadley to Oerlikon, Zurich and CERN, 25-28 April for discussions.

Dr. J.H. Coupland to the USA 28 April for approx. two weeks to attend an international Conference on Isochronous Cyclotrons at Gatlingburg, Tennessee and to visit various laboratories.

Dr. N.H. Lipman, to Aachen, Germany, 1-3 May, to give a talk on "The K2 puzzle" at Aachen University.

## Machine Schedules

NIMROD Period 1 - Cycle 5 (27.4.66.-16.5.66.)

Machine Physics  
High Energy Physics

Team	Beam	Experiment	
AERE/Southampton/ UCL	P3	Study of $\pi^- + p \rightarrow \begin{pmatrix} n + x \\ p + x \end{pmatrix}$ processes	Data
Hydrogen Bubble Chamber Collabora- tion	K1	$K^-p$ Scattering	Data
Imp. Coll./RHEL	$\phi 1$	A Study of the $\phi \rightarrow e^+ + e^-$ decay	Data
UCL/Westfield Coll.	$\pi 2$	Vidicon Tests	

### P.L.A.

Date	Team	Experiment
25-26 Apr	Man. Univ.	(p,p') Reaction Studies on $Li^6$ and $Li^7$
27 Apr		P.P.S. Tests
28-29 Apr		Maintenance
30 Apr	Imp. Coll.	Satellite Counter Test
31 Apr	Radiation Pro. Group	Induced Activity in $H_2O$

## Internal Events

Mon, 25 Apr 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. J. Eades (Copenhagen)	Search for Heavy Objects
Thurs, 28 Apr 3.30 p.m. Lecture Theatre	Applied Physics Series	Dr. F.M. Russell (RHEL)	The Separated Orbit Cyclotron (SOC) - Recent Developments



## External Events

Mon, 2 May  
11.15 a.m. Lecture  
Theatre

Nimrod  
Lecture  
Seires

Dr. P. Stein  
(Frascati  
Laboratory)

Electro-magnetic Form  
Factors of the Neutron

I.E.E. Forthcoming Meetings: Thurs, 28 April, 5.30 p.m. Savoy Place, London WC2,  
The fifty-seventh Kelvin Lecture on "Scientific Research in Space", by Sir Harry Massey.

Fri, 29 April, 5.30 p.m. Savoy Place, London WC2 - Three papers on:-

- (1) Distribution of Mechanical Forces in Magnetized Material, by  
Prof. G.W. Carter (Leeds)
- (2) A Note on the Distribution of Mechanical Forces in Magnetized  
Material, by C.L. Carpenter (Imp. Coll)
- (3) Evaluation of Magnetized Energy Density in Magnetized Matter,  
by B.D. Popovic (Belgrade)

10-20 May, Earls Court: "Mechanical Handling Exhibition", daily 10 a.m. - 6 p.m.  
Tickets should be available shortly from H.F. Norris Bldg R.20 Ext 484.

### AERE

Thurs, 28 Apr  
2 p.m. Conf. Rm  
Bldg 8.9

Joint Applied  
Maths Grp  
Seminar

Dr. J.M. Hammersley  
(Oxford)

The Monomer-Dimer Problem

## Social News

**DAKTS TOURNAMENT.** The date - 10 June, Time - 7.30 p.m. Place - Coffee Lounge R.22  
More entries are still required especially from the ladies. Several Ladies teams have  
already promised to compete and if 2 or 3 more are forthcoming a special Ladies Cup  
will be awarded. The closing date is 27 May, and the fee is 5/- per person, i.e.  
£1 per team. If you wish to enter a team contact any of the following who will be  
very pleased to take your money; Brian Goodenough, Ron Hazell, John Short, Bernard Keer  
or Eric Kirby.

**RECORD PROGRAMME** Tuesday, 26 March 12.30 p.m. Lecture Theatre.

"Eine Kleine Nachtmusik", Mozart  
"Symphony No.5 in B flat", Schubert

Two tuneful Viennese works from the lighter classical repertoire.

**CHRISTIAN FELLOWSHIP.** The Fellowship Group will meet on Thursday, 28 April at  
12.30 p.m. in the PLA Conference Room R.12, for a short time of prayer. Please contact  
BE Kingdon, R.20, Ext 6297 for further information.

Rutherford Laboratory  
22 Apr 66

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