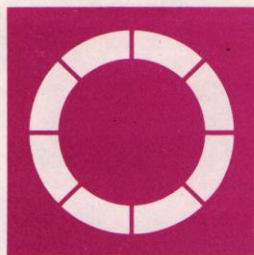


No. 14/69  
14 Apr 69



# Rutherford Laboratory Bulletin

## General News

**OBITUARY NOTICE.** We deeply regret to announce the death of Mr. E. A. J. Slade of the Engineering Services Department on Tuesday, 8th April. Jim Slade who was aged 48 joined the Laboratory in October, 1960 after long-term service in the Royal Navy. He held the post of Chargehand Craftsman in the Electronic Workshops, Building R.18, and will be sadly missed by his colleagues for his unfailing courtesy and kindness. Our deepest sympathy is extended to his wife and daughter.

**VISITORS.** The following visits to the Laboratory have been arranged:-

Friday, 11th April: Eighteen members of the CEEB Radiation Protection staff.  
Friday, 18th April: Five Southern Electricity Board Control Engineers.  
Saturday, 19th April: Sixty members of the British Association of Young Scientists.

**FILM NOTICE.** Period 5 commences Monday, 21st April. Colour Strip - RED for  $\beta$  films. There will be no fast neutron film issue until the end of the Nimrod shutdown.

**BURSARY AND SANDWICH COURSE AWARDS 1969.** A limited number of awards are available to members of staff who wish to undertake full-time or Sandwich courses at Universities. Details may be obtained from Personnel Group, and anyone who would like to be considered for such an award should contact Mr. D. Williams, R.20, Ext. 495.

**CONFERENCE ON COMBINATORIAL MATHEMATICS AND ITS APPLICATIONS.** The Institute of Mathematics and its Applications has arranged a conference on Combinatorial Mathematics and its Applications, to be held at the Mathematical Institute in Oxford from 7-10 July 1969. Preliminary details only available from H. F. Norris, R.20, Ext. 484.

**SYMPOSIUM.** The Second Symposium on Field Effect Transistors will be held by West Ham College of Technology in the Municipal Hall, Stratford, London E.15 on 6-7 May. A detailed programme may be seen in the Scientific Administration Office, Room 42, R.20.

**MISSING EQUIPMENT.** The following items of equipment have been reported missing from Building R.18:-

Avometer Model 8, Ser. No. 132969 - C - 661  
Marconi Valve Voltmeter, Type T.F. 1041 C, Ser. No. JA 903/009  
Anyone with information on the present whereabouts of these items please contact Mr. R. J. Rice, R.18, Ext. 6628

An Electrical Hotplate, Ser. No. AERE 7501, is missing from Lab. 1, Building R.1. Anyone with information is asked to contact Mr. J. C. Sleeman, Ext. 6642.

A Fi-Cord Portable Dictating Unit, Type 303A, Ser. No. 3-302248 has been missing from Dr. I. Butterworth's office in Building R.1 since about 20th March. Anyone with information please contact Miss M. Horner, Ext. 248.

**LOST PROPERTY.** A Gent's Umbrella was left in the Cash Office, Building R.25, before Easter. Anyone claiming it should ring Ext. 390.

**OUTDATED DIRECTORIES.** The following directories etc. have now been superseded by new editions and are therefore surplus to Library requirements. They are available on a come-and-get-it, first-come-first-served basis from Room 37, Building R.20. Items not taken by the end of April will be disposed of.

Machinery's Buyers' Guide 1967  
Yearbook of International Organisations 1964-65  
Electrical and Electronic Trader Yearbook 1966  
Industrial Research in Britain 1962  
Kelly's Oxford Directory 1967  
Kelly's Directory of Manufacturers and Merchants - Vol. 1 : U.K. and Eire 1965-66  
Kelly's Directory of Manufacturers and Merchants - Vol. 2 : Rest of World 1965-66  
Ryland's Trade Directory 1966-67  
Electronics Buyers' Guide 1967  
Data Processing Yearbook 1963-64  
Electrical Trades Directory 1967  
Government and Municipal Contractors Register 1967-68  
World Nuclear Directory 1963  
Commonwealth Universities Yearbook 1967

**OVERSEAS VISITS.** Mr. H. Hurst, to Berlin, 13-15 April, to attend meetings of the GUIDE Computer Users' Organisation and the European SHARE Organisation  
Dr. F. M. Russell and Dr. D. J. Nicholas, to CERN, 13-15 April and 13-17 April respectively, for discussions on polarized proton targets.  
Mr. M. J. Cawthraw, to Berlin, 14-16 April, to take part in discussions on the CAMAC Intercreate Highway System at the Hahn-Meitner Institute.  
Dr. L. C. W. Hobbs, to Vienna, 15-17 April, to accompany Dr. W. L. Francis on a CERN Committee of Council visit to the site offered by Austria for the 300 GeV machine.  
Mr. T. D. Perry, to CERN, 15-17 April, for discussions with TC Division.

## Machine Schedules

P.L.A.

| Date        | Team              | Experiment                          |
|-------------|-------------------|-------------------------------------|
| 14-17 April | Oxford University | (p,p) Reactions on Ni <sup>58</sup> |

(Continued Over)



## P.L.A. (Continued)

| <u>Date</u> | <u>Team</u>            | <u>Experiment</u>   |
|-------------|------------------------|---|
| 18-27 April | Kings' College, London | Asymmetry Measurement at Large<br>Angles from $Mg^{24}$ and $Si^{28}$ |

## Internal Events

|   |                          |  |   |
|---|--------------------------|--|---|
| Mon. 14 Apr., 11.30 a.m.<br>Lecture Theatre | Nimrod Lecture<br>Series | Dr. Bialas<br>(CERN)                             | A Study of the Reaction Mechanism in<br>Three-Body Processes at Intermediate<br>Energy. |
| Wed. 16 Apr., 11 a.m.<br>Conf. Room, R.1    | H.E.P. Disc.<br>Group    | Dr. L. A. Copley<br>(Oxford)                     | Single Pion Photoproduction and Quark<br>Model.   |
| Wed. 16 Apr., 2 p.m.<br>Conf. Room, R.12    | P.L.A.<br>Seminar        | Dr. W. R. Phillips<br>(Manchester/<br>Minnesota) | Re-orientation of the Quadrupole State<br>in $^{208}Pb$ .                               |
| Thurs. 17 Apr., 11 a.m.<br>Lecture Theatre  | H.E.P. Disc.<br>Group    | Mr. G. Ross<br>(Durham)                          | Analysis of Low Energy $\bar{K}N$<br>Interactions.                                      |
| Mon. 21 Apr., 11.30 a.m.<br>Lecture Theatre | Nimrod Lecture<br>Series | Mr. R. M. Bull<br>(Notts. Univ.)                 | High Energy Muon Interaction Experiments.   |

## External Events

|  |                            |                                 |   |
|--|----------------------------|---------------------------------|---|
| Mon. 14 Apr., 5 p.m.<br>H.H. Wills Phys. Lab., Bristol | Physics<br>Colloq.         | Prof. R. Katz<br>(Nebraska)     | Particle Tracks in Emulsion and Related<br>Phenomena. |
| Wed. 16 Apr., 5.30 p.m.<br>Univ. Coll. London          | Inst. of Maths.<br>Lecture | Prof. E. C. Zeeman<br>(Warwick) | Structural Stability in Differential<br>Equations.    |

## Social News

CHRISTIAN FELLOWSHIP - 30 Minute Break. The Christian Fellowship meet to search the Scriptures and discover what they say about "The Flesh". Ray Powell leads this study group in the "Everyman a Bible Student" series.

By the flesh is meant man's original nature inherited from Adam. Meet with the group in the P.L.A. Conference Room at 12.30 p.m. on Friday, 18 April.

RECORD SOCIETY. 12.30 p.m. Tuesday, 15 April in the Lecture Theatre (All welcome):-

Excerpts from "Salad Days" and "The Boy Friend" - (Stereo)

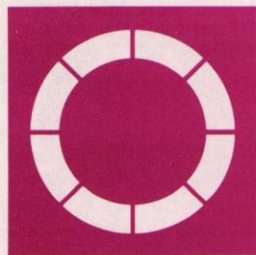
A short selection of items from each of these famous shows, guaranteed to act like a spring tonic on all listeners!

Rutherford Laboratory  
11.4.69

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



No. 15/69  
21 Apr 69



# Rutherford Laboratory Bulletin

## General News

### SITE EMERGENCY EXERCISE

1. A site emergency exercise will be conducted by A.E.R.E. to test the procedure for ensuring the safety of staff, contractors' employees and visitors. It will take place on Monday, 21 April, 1969. All persons on the Rutherford Laboratory site are required to co-operate.
2. THE SITE WARNING WILL BE SOUNDED DURING THE EXERCISE. All persons are reminded that they should remain in the building they are in, or if in the open, enter the nearest suitable building.
3. All doors and windows should be promptly closed since it is possible that the warning may have to be sounded because of an actual site incident.
4. CODE WORDS. The code words "Exercise Teacher" will be used in all messages and orders connected with the test.
5. Staff who have "visitors" will be responsible for ensuring that these persons obey the regulations and Contracts Supervising Officers for ensuring that contractors' employees are aware of the action required of them.

FILM NOTICE. Period 5 commences Monday, 21 April. Colour strip - RED for  $\beta\gamma$  films. There will be no issue of fast neutron films until the end of the Nimrod shutdown. Please return all old films promptly.

Regular TLD issues to people with surnames beginning Q.R.S.T.

MISSING EQUIPMENT. The following item of equipment has been reported missing from the Klystron Hall area of R.12:-

Avometer, Model 7 Serial No. 36795-C-855.

Anyone with information on the present whereabouts of this instrument is asked to contact Mr. J. H. Aram, Ext. 281/471.

VISITORS. The following visit to the Laboratory have been arranged:-

- Tues., 22 April: Twelve Oxford Area Telephone Engineers.  
Wed., 23 April: Thirty members of the Bristol University Physical Society.  
Fri., 25 April: Twenty-five people attending the High Voltage Technology Course at Harwell.

OVERSEAS VISITS. Mr. N. M. King and Mr. J. R. M. Maidment, to CERN, 20-23 April, to attend 300 GeV Steering Group Meeting.

Dr. I. Butterworth, Mr. P. J. Litchfield, Dr. J. R. Smith, Dr. J. J. Phelan and Dr. R. J. Miller to CERN on 20 April for bubble chamber exposure. Dr. Butterworth and Mr. Litchfield will attend a collaboration meeting at Saclay on 22 April and return to the Laboratory. Dr. Smith will also attend the Saclay meeting but will then rejoin the CERN party, which will return to the Laboratory on 26 April.

Mr. E. G. Sandels, to CERN, 21-23 April to co-operate on work on the P.S. extracted beam.

Dr. G. H. Stafford to CERN, 23 April, to attend meeting of Nuclear Physics Research Committee.

Mr. D. A. Gray, to CERN, 23-24 April, to attend meeting of 300 GeV Magnet Working Group.

## Machine Schedules

### P.L.A.

| <u>Date</u> | <u>Team</u>            | <u>Experiment</u>  |
|-------------|------------------------|--|
| 21-27 April | King's College, London | Asymmetry Measurement at Large Angles from $Mg^{24}$ and $Si^{28}$ |

## Internal Events

|   |                       |                                      |   |
|---|-----------------------|--------------------------------------|---|
| Mon., 21 Apr, 1130 a.m.,<br>Lecture Theatre     | Nimrod Lecture Series | Mr. R. M. Bull<br>(Notts University) | High Energy Muon Interaction Experiments                      |
| Tues., 22 Apr, 2 p.m.,<br>Conference Room, R.1. | H.E.P. Disc Group     | Dr. N. Dombey<br>(Sussex University) | Fixed Pole, Coulomb Transition and Gauge Invariance           |
| Wed., 23 Apr, 11 a.m.,<br>Conference Room, R.1  | H.E.P. Disc Group     | Mr. A. Love (Glasgow University)     | Sidewise Convergence Relation                                 |
| Mon., 28 Apr, 11.30 a.m.,<br>Lecture Theatre    | Nimrod Lecture Series | Dr. L. Bertocchi<br>(Trieste)        | Coherent High Energy Scattering of $\pi^-$ mesons on Deutrons |



## External Events

|  |                              |                                 |                        |
|--|------------------------------|---------------------------------|------------------------|
| Mon., 21 Apr, 2.30 p.m.,<br>University of Bristol  | Physics College              | Prof. W. Cochran<br>(Edinburgh) | Structural Transitions |
| Thurs., 24 Apr, 7.30 p.m.<br>University of Reading | I.E.R.E. District<br>Meeting | B. S. Walker<br>(Reading)       | Computer Graphics      |

(This lecture is preceded by the annual general meeting of the section at 7.p.m.).

EVENT AT A.E.R.E.

|   |                      |                                     |                     |
|---|----------------------|-------------------------------------|---------------------|
| Tues., 22 Apr, 2.p.m.<br>Conference Room, Bldg. 8.9 | Theor. Phys. Seminar | Dr. R. J. N. Phillips<br>(R.H.E.L.) | The Veneziano Model |
|---|----------------------|-------------------------------------|---------------------|

## Social News

RECORD SOCIETY. 12.30 p.m., Tuesday, 22 April, Lecture Theatre (All welcome)

"The Instruments of the Orchestra"

Introduced by Sir Adrian Boult, with members of the London Philharmonic Orchestra (stereo). The programme covers the String and Brass sections; we hope to play the Wood-wind and Percussion illustrations at a later date. The record is a simple but fascinating introduction to the world of the orchestra, which should be of interest to many, including the "Hi-Fi" enthusiasts.

S.R.C. SPORTS DAY. The second annual S.R.C. Sports Day will be held at Chiswick on Wednesday, 2 July 1969. This year's event will include knock-out cricket, tennis and bowls, and is open to all personnel of the Laboratory. Readers are reminded that the Laboratory is the holder of the Cricket Cup.

Would all players or spectators who are interested in the above sports please give their names to P. Craske, Ext. 275.

CHRISTIAN FELLOWSHIP.- BIBLE STUDY (Second helping), the left-overs from a previous rather full session which will provide a meaty discussion, led by J. L. Thomas, in the P.L.A. Conference Room on Friday, 25 April at 12.35 p.m. "Growing Old" in the Christian Faith", is the subject to be continued, so come along and join in the fellowship.

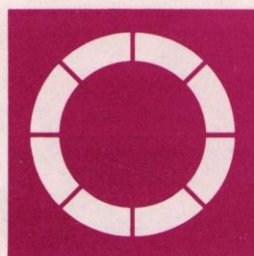
Rutherford Laboratory  
18.4.69.

LDB.

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



16/69  
28 Apr 69



# Rutherford Laboratory Bulletin

## General News

**VISITORS.** Fifteen Students from the Westminster Training College at Oxford will visit the Laboratory on Saturday, 3 May.

**RUTHERFORD LABORATORY LECTURE.** The next lecture in the series is to be given by Professor Ziman who is known not only for his contributions to solid state physics, but also for his lively interest in science in general and its place in society. Please see "Internal Events" section for details including note on restriction of admission to ticket holders only.

**FILM NOTICE.** It is Period 5. Colour Strip - RED for  $\beta\gamma$  films. Fast neutron films will be issued when NIMROD becomes operational again, and for P.L.A. personnel - 5 May.

Please return all old films promptly.

**P.L.A.** The P.L.A. will be shut down from 28th April to 4th May inclusive.

**OPEN DAY.** The Imperial College of Science and Technology are holding an Open Day on Thursday 8th May. Selected exhibits of work in the Royal College of Science, Royal School of Mines and the City and Guilds College will be on view from 1400 hours to 1900 hours.

**OVERSEAS VISITS.** Dr. L.C.W. Hobbis and Mr. J.A. Fox, to CERN on 29 April to attend meeting of the 300 GeV Steering Group and the Working Group Conveners. Dr. Hobbis will return on 1 May and Mr. Fox will proceed to Dortmund for discussions with the German Power Co. (V.E.W.) returning on 2 May.

Dr. S.M. Deen, to Saclay, 30 April to attend collaboration meeting. He will then travel to CERN where he will be joined by Dr. T.C. Bacon on 1 May, for bubble chamber run, both returning on 9 May.

**EXHIBITION.** Racal Instruments have announced an exhibition of Polish electronic instruments at the Polish Commercial Counsellor's Office, 15 Devonshire Street, London, W.1, 10 a.m. to 5 p.m. daily, from 28-30 April inclusive. Further details from H.F. Norris, R.20, Ext. 484.

## Internal Events

|   |                               |   |  |
|---|-------------------------------|---|--|
| Mon., 28 Apr., 11.30 a.m.<br>Lecture Theatre. | Nimrod Lecture Series.        | Dr. L. Bertocchi (Trieste)  | Coherent High Energy Scattering of $\pi$ - mesons on Deutrons.                           |
| Wed., 30 Apr., 11 a.m.<br>Lecture Theatre.    | H.E.P. Disc. Group.           | H.R.J. Walters (Camb. U.)   | Regge Model and $\Lambda N$ Interaction.   |
| Thurs., 1 May 3.15 p.m.<br>Lecture Theatre.   | Rutherford Laboratory Lecture | Prof. J.M. Ziman F.R.S. (Bristol)   | What is Science Anyway?<br>(Admission will be by ticket only, available through L.A.Os). |
| Fri., 2 May, 11 a.m.<br>Lecture Theatre       | Staff Meeting                 | The Director will preside.<br>Admission by ticket only - applications to be made to DAO's/LAO's not later than 4.30 p.m. on Wed., 30 Apr. (for further details see RLC16/69). |  |
| Mon., 5 May., 11.30 a.m.<br>Lecture Theatre.  | Nimrod Lecture Series         | Dr. Pier Luigi (Braccini, Pisa)   | Photo production of $\omega$ on Complex Nuclei.  |

## External Events

|   |                                    |                               |  |
|---|------------------------------------|-------------------------------|--|
| Mon., 28 Apr., 4.15 p.m.<br>Clarendon Lab., Oxford.   | Elementary Particle Theory Seminar | Prof. J. Wess (Karlsruhe)     | Phenomenological Lagrangians.                        |
| Mon., 28 Apr., 4.15 p.m.<br>Queen Mary Coll. London.  | Theor. Phys. Seminar               | Dr. R. Delbourgo (Imp. Coll.) | Renormalisation of Non-linear Lagrangians.           |
| Mon., 28 Apr., 5 p.m.<br>Univ. of Reading.            | Colloq.                            | Prof. J. Hopfield (Cambridge) | Interference Effects in the Optics of Solids.        |
| Mon., 28 Apr., 5 p.m.,<br>Univ. of Bristol.           | Phys. and Geo-Phys., Colloq.       | Dr. A.E. Ennos (N.P.L.)       | Hologram Interferometry.                             |
| Tues., 29 Apr., 2 p.m.,<br>Lecture Theatre, Daresbury | Daresbury Lecture Series           | Dr. R.E. Rand (Daresbury)     | Photoproduction of Wide Angle Electron Pairs (WAPP). |
| Thurs., 1 May., 4.15 p.m.<br>Clarendon Lab., Oxford.  | Theor. Phys. Seminar               | Dr. P.K. Kabir (R.H.E.L.)     | Do Physical Laws Prefer a Direction in Time?         |

### EVENTS AT AERE

|   |                       |                                |  |
|---|-----------------------|--------------------------------|--|
| Tues., 29 Apr. 2 p.m.<br>Conf. Rm., Bldg. 8.9.  | Theor. Phys. Seminar. | Prof. R.E. Peierls (Oxford)    | Use and Misuse of Green Functions in Transport Problems. |
| Fri., 2 May., 11 a.m.,<br>Conf. Rm., Bldg. 8.9. | Theor. Phys. Seminar  | Prof. M.E. Fisher (Cornell U.) | Rigorous Inequalities for Critical Scattering Exponents. |



## Social News

TABLE TENNIS NEWS. A team from R.25 playing in the A.E.R.E. Table Tennis Lunch Hour League, have won the Division II Championship. The R25 team, Peter Parry (Capt.) John Crawford and David Longstaffe in their final game, played the "Russell" team from Harwell on Wednesday, 16th April and beat them 5-4, both teams having previously played 5 and won 5. Congratulations to Peter Parry and his team who finished with a record of 47 games for and 7 against in their 6 matches. They now have to face a challenge match with John Shaves team who won the Division I Championship, to be played shortly.

RECORD SOCIETY. 12.30 p.m., Tues., 29th April, Lecture Theatre (All welcome).

Beethovens Symphony No: 6 in F ("The Pastoral")

Played by the Concertgebouw Orchestra of Amsterdam, and conducted by Wolfgang Sawallisch.

This is a fine performance of a well-loved symphony, in a superb modern stereo recording. One of the few examples of "programme music" among Beethovens works, it vividly depicts the life of the country-side, the five movements being entitled - "Awakening of joyous feelings on arrival in the country", "By the brook"; "Rustic dance and merrymaking"; "The storm"; and "Thanksgiving after the storm".

CHRISTIAN FELLOWSHIP - 30 MINUTE BREAK. Hymn writing seems to be something that has ceased to play a great part in the life of the Christian Church. The young Christian, however, is in evidence as he sings about his faith in a way he can understand and could well be the modern counterpart to Isaac Watts and the hymn writers of yesteryear. Join the Christian Fellowship at 12.30 p.m., in the P.L.A. Conference Room, R12 on Friday, 2 May when modern Christian songs and their singers will be played on records and discussed.

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

Rutherford Laboratory.  
25.4.69.