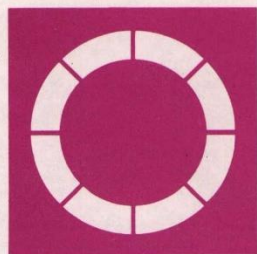


No. 31/69
8 Sept. 69.



Rutherford Laboratory Bulletin

General News

WINSTON CHURCHILL TRAVELLING FELLOWSHIPS. Details of Travelling Fellowships for 1970, offered by the Winston Churchill Memorial Trust are available from D. Williams, Personnel Group, Building R.20.

CIVIL SERVICE COUNCIL FOR FURTHER EDUCATION - PRIZE FUND 1968/69. All S.R.C. staff are eligible to apply for awards (166 regional prizes of £5 & £10. and six national prizes of £25 and £50) under the above scheme, but the purpose of the Prize Fund is to encourage voluntary effort, so that work done in official time (e.g. on day release or training courses) cannot be considered. Applications can also be based on meritorious performance in educational, cultural or recreational activities not measurable by examination. Further details from T. F. Gubbins, Building R.20 Ext. 266. Closing date, 30 September.

FILM NOTICE. Period 10 commences Monday, 8 September. Colour Strip - BROWN for $\beta\gamma$ and fast neutron films. Regular TLD change for surnames commencing K, L, M, N. Please return all old films and change your dosimeter promptly.

OXFORD COLLEGE OF TECHNOLOGY. All efforts to obtain 1969-70 time-tables have so far failed and we are now promised copies about the end of September. Prospective students are advised to telephone the appropriate Head of Department (Oxford 63434) for further information.

OVERSEAS VISITS. Mr. G. B. Stapleton, to CERN, 7-8 September to attend Study Group meeting on 300 GeV radiation problems.

Dr. G. R. Stevenson, to CERN, 7-10 September to attend Study Group meeting on 300 GeV radiation problems and for discussions.

Dr. L. C. W. Hobbs, to CERN, 7-12 September to attend 300 GeV Machine Committee meeting and meetings of its Study Groups.

Mr. K. C. Myers, to CERN, 8-10 September for discussions on safety matters.

Mr. J. A. Fox, to CERN, 11-23 September for discussions and computer runs in conjunction with the CE/SF comparison being made by the GeV Study group.

Machine Schedules

Nimrod Cycle 10 (26.8.69 - 16.9.69)

Machine Physics: High Energy Physics (X2/K11, X2/K12, X2/K12, X2/K14A, P71, π 7, K8, X3/ π 8 and X3/K15)
Full details of Cycle 10 were given in Bulletin No. 30/69.

P.L.A.

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
8-29 September	Manchester University	Inelastic proton scattering at 50 MeV by even tin isotopes and strontium isotopes

Internal Events

EXHIBITION: A comprehensive display of "Genevac" Vacuum Equipment, made by the General Engineering Co. (Radcliffe) Ltd. will be held on Tuesday, 9 September from 9.30 a.m. to 4.30 p.m. in the P.L.A. Conference Room, R.12. Further information may be obtained from H. F. Norris, R.20, Ext. 484.

Wed., 10 Sept. 11 a.m., Lecture Theatre	HEP Disc. Grp.	Dr. P. Landshoff (Cambridge)	Regge Cuts: A Review of the Theory.
Fri., 12 Sept. 11.30 a.m. Lecture Theatre	Special Nimrod Lecture	Prof. C. Callan (Inst. for Advanced Studies, Princeton U.S.A.)	On the Theory of Inelastic Electron Scattering.

The Nimrod Lecture series will re-commence on Monday, 22 September with a review of the Daresbury Conference by Drs. P. Kabir and J. H. Field.

Social News

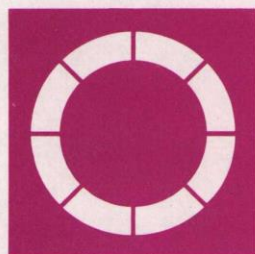
30 MINUTE BREAK. The Christian Fellowship, led by Ray Powell discuss The Lord's Day Observance Society and what it stands for and its effectiveness. Join them in the P.L.A. Conference Room at 12.30 p.m. on Friday 12 September.

Rutherford Laboratory
5.9.69

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

STOP PRESS: OVERSEAS VISITS - Dr. R. C. Hanna, to the U.S.A. 7-16 September to attend Conference on High Energy Physics and Nuclear Structure, at Columbia University, N.Y. and to visit Brookhaven Nat. Lab.
Dr. J. W. Elder, to Stockholm, Sweden, 10-14 September, to attend DECUS Fifth European Seminar.

No. 32/69
15 Sept. 69



Rutherford Laboratory Bulletin

General News

A LETTER OF THANKS. Miss P.L. Woodcock retired at the end of July after fifteen years service, first at Harwell which she joined in 1954, and from 1964 as Manageress of the Rutherford Laboratory's hostel at The Coseners House.

On the occasion of her retirement the Director, on behalf of her many friends and colleagues, presented her with a silver Armada Dish.

Phyllis Woodcock has written a letter in which she expresses her delight for the gift and continues - "This is something that will be a constant reminder of a very many happy years at The Coseners House".

We feel sure that the many friends she made will join in wishing her a long and happy retirement.

ELECTRONICS EXHIBITION AND CONVENTION. The Institute of Electronics are holding their Annual Exhibition and Convention at Manchester from 29 September to 3 October 1969. The exhibition will include displays of electronic devices, instruments, controls and components, whilst the convention will incorporate an extensive programme of lectures. Further details from H.F. Norris.

The Laboratory is providing an exhibit in the Scientific and Industrial Research Section. This will display two recent inventions by Laboratory staff - a Cryogenic Liquid Level Indicator and a High Speed Electronic Analogue Wattmeter.

MISSING EQUIPMENT. The following items of equipment have been reported missing:-

Hotplate, SRC No. 14/3344, AERE No. 19127
Wee Megger., Ser. No. 1306079.

These items missing from R2 Electrical Workshops. Information please on their present whereabouts to Mr. G.J. Hackett, Ext. 322.

Wolf $\frac{1}{4}$ " drill, 110 Volt, SRC No. 14/0234, Ser. No. 1632683.

Missing from R18 Electrical Workshop. Information please on this item to Mr. J.V. Lawler., Ext. 578.

VISITORS. A party of about twenty S.R.C. staff on an induction course, will visit the Atlas and Rutherford Laboratories on Wednesday, 17 September.

One hundred & twenty-five participants of the International Cyclotron Conference at Oxford will visit the Laboratory on Saturday, 20 September.

OXFORD COLLEGE OF TECHNOLOGY. School of Science timetables have now been received and have been distributed to the Library and Local Admin. Offices. School of Engineering timetables are not yet available and prospective students must telephone the Head of Department for further information.

FILM NOTICE. It is Period 10. Colour Strip - BROWN for $\beta\gamma$ and fast neutron films. Please check that you are wearing the current films.

READING COLLEGE OF TECHNOLOGY. The Reading College of Technology have announced their programme of short courses for the Autumn and Spring Terms. The courses cover; Computer Programming (ALGOL); Colour Television; Tape Recording; Electronics for Mechanical Engineers; Servos and Control; Semiconductor Circuitry; Illuminating Engineering; Acoustic Noise and Analogue Computing. Further details from H.F. Norris.

FORTHCOMING EXHIBITIONS & CONFERENCES.

- 6 - 11 Oct., Nuclex 69., at Basle, Switzerland.
- 7 - 8 Oct., Ultrasonics for Industry, at London.
- 10 - 13 Nov., Racalex, London.

RUTHERFORD LABORATORY LECTURES. Admission to these lectures is by ticket only. Tickets for the first lecture on 25 September will be available from Local Admin. Offices by the end of the current week.

OVERSEAS VISITS. Dr. N.H. Lipman, to Yugoslavia, 14 - 22 Sept., to give lecture at the Herceg Novi Summer School of Elementary Particle Physics.

Mr. H. Wroe and Mr. E.G. Higgins, to Liege, 16 - 18 Sept., to attend Edinburgh - Leige Project Review Meeting.

The following will be attending the S.E.A.S. Annual Meeting at Grenoble, France, from 17 - 20 Sept:-

Dr. R. Taylor, Mr. J. Burren, Mr. H. Hurst, Dr. A. Bryden and Mr. J. MacEwan. Mr. Burren will also visit CERN two days prior to the Grenoble meeting.

Machine Schedules

P.L.A. The full schedule until 29 September was given in Bulletin 31/69.

NIMROD Cycle 11 (16.9.69 - 7.10.69)
Machine Physics
High Energy Physics

<u>Team</u>	<u>Beam</u>	<u>Experiment</u>	
Camb. U.	X1/K9	(i) Test Exposures	Data
RHEL/CERN/UCL		(ii) Λ^0 Beta Decay Studies	Data
Imp.Coll/Westfield Coll.		(iii) 2 - 2.8 GeV/c K^+d Interactions	Data
Birmingham U/RHEL	X2/K12	K^+p Differential Cross-section Measurements from 0.45 - 0.85 GeV/c.	Data
RHEL/Camb.U.	X2/K13A	Studies of $K^0 \rightarrow \pi^+ \pi^- \pi^0$	Setting up
Oxford U/RHEL	X2/K14A	Polarization Effects in π^+p Elastic Scattering	Setting up
AERE/QMC/RHEL/Bergen	P.71	pp Elastic Scattering at Large Angles between 1.5 and 4.0 GeV/c	Setting up
Westfield Coll/RHEL	X3/ π 8	Study of Associated Production of Y^* s and their Decay	Setting up
Bristol U.	X3/K15	K^+p Differential Cross-section Measurements from 1.07 - 2.0 GeV/c	Setting up

Internal Events

Mon. 15 Sept., 10.30 a.m., Conference Room, R.1.	Informal Talk	Dr. J.D. Lawson	Superconducting Magnet Work Reported at the Yeveran Conference.
Wed., 17 Sept, 10.30 a.m., Lecture Theatre	Staff Meeting		The Director will preside (by invitation only)
Wed. 17 Sept., 12.40 p.m., Thurs. 18 Sept., 1.15 p.m., Lecture Theatre	Film Show		"The Argonne 12' Bubble Chamber Magnet". 18 min. Colour film.

The 1969/70 film season opens with the story of a superconducting magnet and its manufacture. The Argonne Bubble Chamber is the largest of its kind in the world. An excellent film has been made showing how the material is made, how the coils are wound and how the magnet is assembled.

Mon., 22 Sept., 11.30 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. P. Kabir & Dr. J.H. Field	Review of Daresbury Conference.
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External Events

Tues., 16 Sept., 2 p.m., Conference Room, Building 89 A.E.R.E.	Theor. Phys. Seminar	Dr. E. Balcar (AERE)	Bound States in Heisenberg Magnets.
Tues., 16 Sept., 7.45 p.m., University of Reading	British Computer Soc. Lecture.	Prof. S. Gill	Is Computing Too Important to be left to Computer People? (Non-members welcome).

Social News

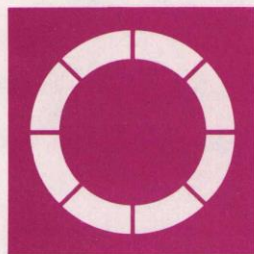
P.L.A. CLOSING DOWN DANCE - 2 Oct. 1969, 8.30 p.m. The response to the proposal to hold a closing down dance has been sufficient to ensure that the dance can definitely take place. By request, friends may also be included and will be most welcome. The buffet will be a knife and fork affair of turkey and ham salad with a fully licenced bar open until 11.30 p.m.

Tickets may now be obtained at one guinea per head from D. Jones or G. Bartlett in R12, Ext. 466.

30 MINUTE BREAK - THE MINISTER WITH A.E.R.E. AS PART OF HIS PARISH. To be the Vicar of Harwell has always meant to have the A.E.R.E. establishment as part of your parish. The Rev. Atkin will speak at the Christian Fellowship at 12.30 p.m. in the P.L.A. Conf. Rm. on Fri., 19 Sept., and he invites you to join him.

FILM SHOW. See 'Internal Events' for details of the first film of the 1969/70 programme.

No. 33/69
22 Sept. 69



Rutherford Laboratory Bulletin

General News

VISITORS. A party of Soviet Scientists attending the International Symposium on Electron Photo Interactions at High Energies, at Liverpool, will visit the Laboratory on Monday, 22 September.

CONFERENCES, SYMPOSIA, EXHIBITIONS. The following list covers the period Oct. - Dec. 1969.

- 6-11 Oct: "Nuclex 69" at Basle, Switzerland.
- 7-16 Oct: "Scientific and Industrial Instrument Exhibition", at Utrecht, Netherlands.
- 13-17 Oct: "Radiation Safety Problems in the Design and Operation of 'Hot' Facilities", at Saclay, France.
- 29-31 Oct: "22nd Gaseous Electronics Conf", at Gatlinburg, U.S.A.
- 29-31 Oct: "Nuclear Science Symposium & Exhibition", at San Francisco, U.S.A.
- 28 Oct-4 Nov: "Conference on Superconductors", Paris, France.
- 5-7 Nov: "2nd International Conference on Accelerator Dosimetry & Experience", at Stanford U.S.A.
(some doubt about the date, as 12-14 Nov. given in some lists).
- 18-20 Nov: "Fall Joint Computer Conference", at Las Vegas, U.S.A.
- 10-20 Dec: "Conference on Reliability Electronics", at London.

Further information on the above may be obtained from H. F. Norris, R.20.

FIIM NOTICE. It is Period 10. Colour Strip - BROWN for $\beta\gamma$ and fast neutron films. Please check that you are wearing the correct films and that all old films are returned.

BULLETIN NOTICE. All items for inclusion in the Bulletin should be sent to the Editor, H. F. Norris, Room 42, Building R.20 Ext. 484. Please note the following revision of times:- Mid-day on Wednesdays for all material and 5.00 p.m. on Wednesdays for late items only. Where possible, please send in written form.

LECTURE COURSE AT DARESBURY. A lecture course for experimentalists based on a course given at the University of Manchester earlier this year, will be given at Daresbury from 22-26 Sept. at 11.45 a.m. The course entitled "Introduction to Group Theory and Unitary Symmetry" will be given by Dr. P. N. Ndili (D.N.P.L.).

W.E.A. CLASSES AT WANTAGE

- (a) At Icknield School, Springfield Road.
 - Archaeology, 24 weeks commencing Monday 22 Sept.
 - Geology 24 weeks commencing Monday 29 Sept.
 - The British Political Crisis, 12 weeks commencing Wednesday 24 Sept.
- (b) At the Guildry, Denchworth Road,
 - Modern Literature, 24 weeks commencing Thursday 25 Sept.
 - All classes start at 7.30 p.m. Enrol at the first meeting.
 - Fees: 12 week course 24/-; 24 week course 48/-.
 - Further details from Mrs. J. Banford, 9 Foliat Drive, Wantage, Tel. 3181.

OVERSEAS VISITS. Dr. A. Astbury, to CERN, 21-24 Sept. to present pp proposal to EEC.

Mr. G. S. Grossart, Mr. D. Moore and Mr. R. J. Elsey, to West Berlin, 21-28 Sept., to attend meeting of the International Standards Organisations Technical Committee for Vacuum Technology.

Dr. G. Manning to CERN, 22-24 Sept., to attend ISR Committee Meeting and NPRE Committee Meeting.

Dr. M. R. Jane, to CERN, 22-25 Sept., for discussions on $K^0 \rightarrow 2\pi$ analysis.

The following will be visiting CERN on the dates shown in connection with work on Dr. Bugg's and Dr. Thresher's experiments:-

Mr. L. Phillips, Mr. P. O'Brien, Mr. E. Towndrow and Mr. J. Bucknell - 22 Oct. - 17 Nov.

Mr. A. Dobbs and Mr. W. Russett - 22 Oct. - 8 Nov.

Mr. K. H. Davis, Mr. A. Holcroft and Mr. H. Taylor - 23-30 Sept.

Dr. T. G. Walker, to CERN, 23-24 Sept., to attend ISR Meeting and for discussions on Omega Project.

Mr. J. R. Stokoe, to CERN, 23-30 Sept., for work and discussions related to targets.

Machine Schedules

NIMROD Cycle 11 (16.9.69-7.10.69)

Machine Physics: High Energy Physics (X1/K9, X2/K12, X2/K13A, X2/K14A, P71, X3/ π 8 and X3/K15)

Full details of Cycle 11 were given in Bulletin No. 32/69.

P.L.A. The full schedule until 29 September was given in Bulletin No. 31/69.

Internal Events

Mon., 22 Sept., 11.30 a.m.,
Lecture Theatre

Nimrod Lecture Series

Dr. P. Kabir
& Dr. J. H. Field

Review of Daresbury Conference.

Wed., 24 Sept., 11 a.m.,
Conf. Rm., Bldg. R.1

H.E.P. Disc. Group

Dr. G. Shaw
(Columbia U.)

Review of Experimental Evidence
on $\pi\pi$ Phase Shifts below
1 GeV.

Wed., 24 Sept., 12.40 p.m.
Thurs., 25 Sept. 1.15 p.m.
Lecture Theatre

Film Show

"Computer Fluid Dynamics", a 24 mins., colour film,
produced by AEC's Los Alamos Scientific Laboratory.

This film demonstrates how the modern large computers are solving fluid flow problems. Many examples are shown including several with the emphasis on the use of calculations for practical engineering design work as well as for increasing knowledge about the basic theories of fluid flow. Actual motion pictures of a bridge being shaken to pieces followed by computer produced film that reveal the swirling wind eddies responsible for the catastrophe are included. The film also presents a brief description of how computer calculations are accomplished. (no special mathematical background is required of the viewer - it says!!).

Thurs. 25 Sept 3.15 p.m. Lecture Theatre	Rutherford Laboratory Lecture	Dr. D. W. Sciama (Cambridge)	The Recent Renaissance of Observational Cosmology.
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Admission to this lecture is by ticket only which are now available from all Local Admin. Offices.

Fri., 26 Sept., 11 a.m., Conf. Rm., Bldg R.1	H.E.P. Disc Group	Dr. G. V. Dass	Review of Stony Brook and Boulder Conferences.
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Mon., 29 Sept., 11.30 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. M. Ferro-Luzzi (CERN)	Title not received at time of going to press.
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EVENT AT A.E.R.E.

Tues., 23 Sept., 2 p.m., Conf. Rm. Bldg. 8.9	Theor. Phys. Seminar	Prof. G. S. Rush- brooke (Newcastle Univ.)	Some Recent Work on the Heisenberg Model.
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Social News

RUTHERFORD AND ATLAS LABORATORIES ANNUAL CHESS TOURNAMENT. The tournament is due to start on 6 October 1969. Players wishing to enter must submit their names to P. Craske, Ext. 275, by 1 October at latest.

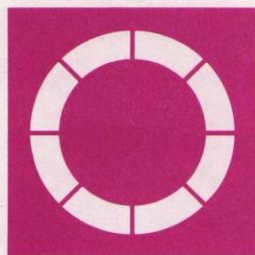
CHRISTIAN FELLOWSHIP - ELECTION OF COMMITTEE. The annual election of the Fellowship committee will take place at the usual meeting place - the P.L.A. Conf. Rm., on 26 September at 12.30 p.m. Nominations will be accepted at the meeting, nominees consent having already been obtained before their names are put up for election.

Dates for your diary: 15-25 Oct. Motor Show, at Earls Court, London.
16-22 Oct. Audio Fair, at Olympia, London.

Rutherford Laboratory
19.9.69.
TB.

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

No. 34/69
29 Sept 69



Rutherford Laboratory Bulletin

RUTHERFORD LABORATORY SUGGESTION AWARD

On 23rd September 1969, under the Rutherford Laboratory Suggestion Awards Scheme, a presentation of £100 was made to Mr. John Carr by Mr. P. Bowles, Chief Engineer. Mr. Carr is a skilled craftsman employed in the Electrical Design and Services Group.

The suggestion has resulted in a substantial saving to the Laboratory and concerns a jig which produces very accurate stripping of RG 174/U coaxial cable. The cable is used with B.I.C. Burndy crimped connectors and the quality of the final termination relies to a very large extent on accurate cable stripping. The jig is attached to a stripping tool so that measuring and stripping is done in one operation with high accuracy.

Financial savings were brought about by

- (a) a substantial speed-up in production AND
- (b) the almost complete avoidance of failures which were causing excessive materials costs.



General News

BULLETIN NOTICE. All items for inclusion in the Bulletin should be sent to the Editor, H.F. Norris, R42, Building R20, Extension 484. Please note the following revision of times: Mid-day on Wednesday for all material and 5 p.m. on Wednesdays for late items only. Where possible please send in written form. (This is a repeat of last week's notice for the benefit of those people who missed reading it!)

FILM NOTICE. It is Period 10. Colour Strip - BROWN for. and fast neutron films. Next film change, Monday 6 October.

OVERSEAS VISITS. Mr. D.A. Gray, to CERN, 29-30 Sept., to attend meeting of the Magnet Working Party for the 300 GeV machine.

Mr. M.J. Cawthraw, to Petten, Holland, 29 Sept. - 2 Oct., to attend E.S.O.N.E. Meeting.

The Director, to Geneva, 1 - 2 Oct., to attend meeting of Conference Committee of European Physical Society.

Machine Schedules

NIMROD Cycle 11 (16.9.69. - 7.10.69.)

Machine Physics; High Energy Physics (X1/K9, X2/K12, X2/K13A, X2/K14A, P71, X3/ 8 and X3/K15)

Full details of Cycle 11 were given in Bulletin 32/69.

Internal Events

Mon., 29 Sept., 11.30 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. M. Ferro-Luzzi (CERN)	Hyperon Resonances.
Wed., 1 Oct., 11 a.m. Conf. Rm., Bldg. R.1.	H.E.P. Disc. Group	Dr. D. Lyth (Lancaster U.)	Some New Dispersion Sum Rules.
Wed., 1 Oct., 12.40 p.m. Thurs., 2 Oct., 1.15 p.m. Lecture Theatre.	Film Show	"A History of the Helicopter" a 27 min., film from Shell Mex on the development of rotary winged flight from its earliest stages.	
Mon., 6 Oct., 11.30 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. P. Grannis (RHEL)	Associated Production between 3 and 14 GeV/c.
EVENT AT AERE			
Thurs., 2 Oct., 3.30 p.m. Conf. Rm., Bldg. H8.	Nucl. Phys. Colloq.	Dr. E.R. Rae	Possible Research Programme with an Improved Electron Linac.

Social News

30 MINUTE BREAK - MEET THE MINISTER. The Reverend David Price, Curate in charge, Christ Church, Northcourt, Abingdon, will be with the Christian Fellowship at the P.L.A. Conf. Rm., R12 on Friday 3 October. He has been in his present living for two years and has been able to lead the Fellowship here at the Laboratory from time to time. Join the Fellowship at 12.30 pm.

ANNUAL CHESS TOURNAMENT. Closing date, 1 Oct., names to Peter Craske, Ext. 275, please.

Rutherford Laboratory
26.9.69.

H. F. Norris Ext. 484
Scientific Admin. Group, Bldg. R20