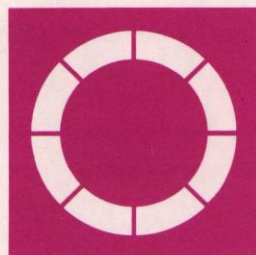


No. 43/68  
2 Dec 68



# Rutherford Laboratory Bulletin

## General News

**SPECIAL SEMINARS AT CAMBRIDGE.** The following "Special Seminars on Phase Contours and Bootstrap" have been arranged at the Cavendish Laboratory, University of Cambridge:-

Thurs, 5 Dec.,	4 p.m.	R. J. Eden	- Introduction to Phase Contours
Fri., 6 Dec.,	10 a.m.	R. J. Eden	- Consistency under Crossing Symmetry
" "	11.30 a.m.	M. B. Green	- Energy Variations in Phase Contours
" "	2.30 p.m.	C. B. Chiu	- Linear Bootstraps and Phase Contours

**MISSING EQUIPMENT.** The following item of equipment has been reported missing:-

Avometer, Model 8, Ser/No. 53012-167, in leather carrying case.  
(The name E. G. Sandels, is on both meter and case)

Will the finder or borrower please contact E. G. Sandels, Ext. 6133.

**RADIATION PROTECTION NOTICE - FILM ISSUES.** Period 13 commences Monday, 2 December. Colour Strip - PURPLE for  $\beta\gamma$  and fast neutron films. Please change films promptly and return all old films as soon as possible.

**OVERSEAS VISITS** Dr. N. H. Lipman, to CERN, 28 Nov - 3 Dec, to attend Omega Progress Meeting.

Dr. M. Gettner and Dr. V. Peterson to CERN, 28 Nov - 3 Dec and 1 - 4 Dec respectively for discussion on counters.

Dr. G. H. Stafford, Dr. G. Manning, Dr. N. E. Booth, Mr. P. H. Sharp, Mr. C. W. Planner and Dr. R. C. Hanna, to CERN, to attend I.S.R. meeting on 2 - 3 Dec. Dr. Hanna will continue on to Strasburg to attend the Conference on Experimental Methods in Nuclear and Particle Physics on 4 - 6 Dec.

Dr. D. B. Scott and Mr. T. Brueton to DESY Hamburg, 2 - 3 Dec, and Zeeman Lab., Amsterdam, 4 - 5 Dec for discussions on H.P.D. Collaboration and program development.

Dr. I. Butterworth and Dr. C. M. Fisher, to CERN, 3 - 4 Dec., for discussions on the High Field Bubble Chamber Proposal.

Mr. J. V. Cresswell, to the USA 3 Dec for 10 days for consultation on semi-conductor devices with various manufacturers.

## Machine Schedules

NIMROD Cycle 14 (5.12.68 - 24.12.68)  
Machine Physics  
High Energy Physics

<u>Team</u>	<u>Beam</u>	<u>Experiment</u>	
UCL/CERN/Brussels U./Tufts U. (USA)	X2/K11	2.3 GeV/c $K^-$ Exposure in the Propane Bubble Chamber	Data
Cambridge/RHEL	X2/K13	Measurement of the Amplitude for $\Delta S = -\Delta Q$ Interactions in $K^0$ Decay	Data
Birmingham U.	X2/K12	$K^{\pm}_p$ Differential Cross-Sections, 0.45 - 0.85 GeV/c	Data
UCL/RHEL	K8	$K^-_p$ Differential Cross-Sections 0.85 - 2.2 GeV/c	Data
Imp. Coll./Southampton U.	$\pi^7$	An Investigation of Narrow Bosons produced in $\pi^-p$ Collisions	Setting Up
AERE/QMC/RHEL/Bergen U. (Norway)	P71	pp Elastic Scattering at Large Angles between 1.5 and 4.0 GeV/c	Setting Up

### P.L.A.

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
2 - 9 Dec	Kings' Coll. London and Chelsea Coll.	(a) Total Cross-Section Measurements on $C^{12}$ at 20-50 MeV (b) $(p,p)$ and $(p,p')$ Reactions on $Sm^{148}$ at 50 MeV. (c) $(p,p)$ Reactions on $Ni^{62}$ and $Ni^{64}$ at 30 MeV.

## Internal Events

Mon., 2 Dec. 11.30 a.m., Lecture Theatre.	Nimrod Lecture Series	Dr. S. Goldsack (Imp. Coll.)	10 GeV $K^-$ Interactions.
Mon., 2 Dec. 2 p.m. Conf. Rm., Bldg. R.1.	Special Lecture	Dr. K. Igi (CERN)	Crossing Symetric Regge Behaved Amplitudes for $\pi N$ Scattering and its Predictions.
Wed., 4 Dec. 11 a.m. Conf. Rm., Bldg. R.1.	HEP Disc Grp.	Dr. V. von Schlippe (Westfield Coll.)	$\pi^+p$ Phase Shift above 2 GeV/c
Wed., 4 Dec. 12.40 p.m. Thurs. 5 Dec. 1.15 p.m. Lecture Theatre	Film	"World of Clay", a 27 min colour film.	

There are thos amongst us whose thoughts will immediately turn to gardens. However this is a film about Cornwall's china

Continued . . .



R20

clay industry which is Britain's second largest bulk exporter. It describes how the clay deposits were laid down, their "quarrying", purifying, blending, drying and grading; the main uses - for china ware and the paper industry; and research and quality control etc.

Mobile Exhibition. Recal Instruments Limited will display a wide range of their products, and those of their associated firms, in a Demonstration Vehicle parked outside Bldg. R.25 (facing R.1) on Thursday, 5 December, commencing at 9.30 a.m. Details of items to be shown may be obtained from B. E. Kingdon, Bldg. R.20, Ext. 6297.

Mon., 9 Dec., and Tues., 10 Dec., 11.30 a.m. Lecture Theatre. Summary Talk on High Energy Scattering by Dr. G. Bellettini (CERN).

## External Events

Mon, 2 Dec. 4.15 p.m. Queen Mary Coll. London.	Theor. Phys. Seminar	Prof. J.R. Taylor (Colorado and Imp. Coll.)	Must Particles be Bosons or Fermions?
Mon, 2 Dec. 4.15 p.m. Clarendon Lab. Oxford.	Elementary Particle Theory Seminar	Dr. Nora S. Thornber (Bristol)	Inelastic Electron Scattering in The Symmetric Quark Model
Mon. 2 Dec. 5 p.m. Univ. of Bristol	Phys. & Geo-Phys. Colloq.	Prof. T. Evans (Reading)	Research using High Pressure at Reading.
Tues. 3 Dec. 2.30 p.m. 21 Banbury Rd., Oxford.	Nuclear Phys. Seminar	Prof. J.S. Blair (Seattle & Surrey)	Excitation of Isobaric Analogue Resonance - Theory and Experiment.
Wed. 4 Dec. 2.15 p.m. Botany Theatre, UCL.	Inst. of Maths Symposium	Various speakers	Postgraduate Education in Applied Mathematics
Wed. 4 Dec. 2.30 p.m. Univ. of Manchester	Theor. Phys. Seminar	Prof. R.E. Cutkosky (Cambridge & C.I.T.)	Analysis of Differential Cross- Section Data.
Wed. 4 Dec. 3 p.m. Univ. of Cambridge	H.E.P. Seminar	Dr. D. Atkinson (Imp. Coll.)	A Proof of the Existence of Functions that Satisfy Exactly both Crossing and Unitarity.
Thurs. 5 Dec. 4 p.m. UCL	Elementary Particle Seminar	Dr. D. Imrie	Recent Measurements of Nucleon Form Factors.
Thurs. 5 Dec. 4.15 p.m. Clarendon Lab. Oxford.	Theor. Phys. Seminar	Prof. G. Rickayzen (Kent)	Fluctuations in Superconduction
Thurs. 5 Dec. 7.30 p.m. Univ. of Reading.	I.E.R.E. District Meeting	G. W. Boulton (Dynamco Ltd)	Digital Voltmeters
Thurs. 5 Dec. 8.30 p.m. 21 Banbury Rd. Oxford.	Seminar in Elementary Particle Physics	Dr. L. Montanet (CERN)	Meson Resonances - Recent Results obtained with pp Annihilations at Low Energy.
Fri. 6 Dec. 4.30 p.m. Queen Mary Coll. London	Particle Physics Seminar	Dr. I. Butterworth (RHEL)	Automatic Analysis of Bubble Chamber Pictures.
EVENTS AT AERE			
Tues. 3 Dec. 2 p.m. Conf. Rm., Bldg. 8.9	Theor. Phys. Seminar	Dr. C. B. Amphlett (AERE)	Recent Developments in Radiation Chemistry.
Thurs. 5 Dec. 3.30 p.m. Conf. Rm., H.8	Nucl. Phys. Colloq.	Dr. A. J. Elwyn (AERE & Argonne)	Intermediate Structure Neutron Scattering.

## Social News

RECORD SOCIETY. Tues., 3 Dec. 12.30 p.m., Lecture Theatre

Excerpts from "At the Drop of Another Hat".

This recording made at a live performance of the (in)famous Flanders and Swann show at the Theatre Royal, Haymarket, includes "The Laws of Thermodynamics", "The Gasman Cometh", and the hilarious "An Ill Wind", based on the well-known Mozart Horn Concerto tune. Come and forget all your cares for half-an-hour or so!

CHRISTIAN FELLOWSHIP 12.30 p.m., Fri., 6 Dec. PLA Conf. Rm., R.12

John Mathews of the Nimrod Engineering Group will lead a study session on "what the Bible has to say about Prayer". All are welcome.

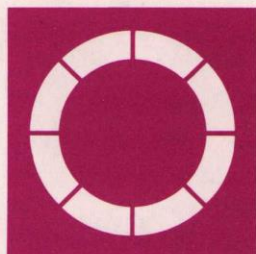
Rutherford Laboratory.

29.11.68.

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



No. 44/68  
9 Dec 68



# Rutherford Laboratory Bulletin

## General News

**INTERNAL SYMPOSIUM** Honeywell Controls Ltd., are presenting a two-day symposium on small computers, in the Lecture Theatre on Tuesday and Wednesday, 10 & 11 December. The program is as follows:-

Tues, 10 Dec, 10.30 a.m.: Presentation of DD P-516 with a detail discussion to follow on Hardware

" " " 2.00 p.m.: Presentation of DD P-516 software with discussion to follow.

(It must be emphasized that this first day is concerned with new developments and future prospects, especially in the software session)

Wed, 11 Dec, 10.00 a.m.: Presentation of H632 hardware and software (The H632 is a new time sharing computer)

" " " 2.00 p.m.: Presentation of DDP-516 for members of Culham Laboratory and others unable to attend on Tuesday.

(A shortened version of Tuesdays program)

Coffee will be in the Lounge at 10.15 a.m. on Tuesday & 9.45 a.m. on Wednesday. Tea at 3.30 p.m. each day.

**PRACTICAL TECHNIQUES IN COMPUTER PROGRAMMING COURSE - CULHAM LABORATORY** A course of six lectures to be given by Dr. K. V. Roberts, is to be given in the Lecture Theatre at the CULHAM LABORATORY on 12, 17, 19 December and 7, 9, 14 January, commencing at 11 a.m. Main subject headings will include: Theory of Program Structure, Comparison of Languages, Programming Techniques, Documentation, Software Instrumentation, Execution Efficiency, Input-Output, Character Manipulation and Information Retrieval. The course will subsequently be published as a Culham Report. Further information from H. F. Norris, R.20, Ext. 484.

**RADIATION PROTECTION GROUP NOTICE - FILM ISSUES** It is Period 13. Colour Strip - PURPLE for  $\beta\gamma$  and fast neutron films. Please CHECK that you are wearing the current films and that all old films have been returned.

**OVERSEAS VISITS** Dr. G. H. Stafford, to CERN, 10-11 Dec, to attend meeting of Nuclear Physics Research Committee and E.P.S. Main Organising Committee for Inaugural Meeting.

Dr. L.C.W. Hobbs, Dr. J. Ranft & Dr. G.R. Stevenson to Saclay, 11-13 Dec, to attend meeting of the ECFA Study Group.

**MISSING EQUIPMENT** The following item of equipment has been reported missing:- Addo-X Adding Machine, Ser./No. 686110. Anyone with information on its present whereabouts is asked to contact Mr. J.T. Reader, R.1, Ext. 238.

## Machine Schedules

NIMROD Cycle 14 (5.12.68-24.12.68)

Machine Physics: High Energy Physics (K11, K12, K13, K8,  $\pi$ 7 & P71)

Full details of Cycle 14 were given in Bulletin No. 43/68.

### P.L.A.

Date	Team	Experiment
10 Dec.	Manchester Univ.	Reaction Studies on Ca, Yt and Zr Nuclei
11-12 Dec.		Maintenance
13-23 Dec.	Manchester Univ.	Reaction Studies on Ca, Yt and Zr Nuclei

## Internal Events

Mon, 9 Dec, 11.30 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. G. Bellettini (CERN)	Summary Talk on High Energy Scattering - Part 1 (see below for Part 2)
Tues, 10 Dec, 11.30 a.m. Conf. Rm, R.1.	Nimrod Lecture Series	Part 2 of Dr. G. Bellettini Summary Talk on High Energy Scattering. (Please note change of venue)	
Tues, 10 Dec, 10.30 a.m.	Two Day Symposium by Honeywell Controls Ltd. on Small Computers. Please see 'General News' section for details.		
Wed, 11 Dec, 10.00 a.m. Lecture Theatre			
Thurs, 12 Dec, 1.15 p.m.	Film	'Design for a Garden' a 24 min. colour film (a new film produced this year by Fisons)	
Fri, 13 Dec, 12.40 p.m. Lecture Theatre			

Gardeners, this is your week. This film shows what happened when a new owner moved into a house and decided to redesign the garden. The job took two and a half years and involved replacing a hedge with a brick wall, laying a new footpath, moving a large tree, replacing shrubs and flowers etc. and the largest job - taking up the back lawn and relaying it on split levels. Whether the new garden is an improvement on the old is a question which is likely to produce quite an argument.

Mon, 16 Dec, 11.30 a.m. Conf. Rm, R.1.	Nimrod Lecture Series	Dr. T. Massam (CERN)	Boson Studies with the CERN-Bologna Missing Mass Spectrometer.
Mon, Tues & Wed 16-18 Dec, Lecture Theatre	Rutherford Laboratory Theoretical Physics Meeting (details in next Bulletin)		

Please note changes of venues and timing in various events this week.

## External Events

Mon, 9 Dec, 4.15 p.m. Queen Mary Coll, London	Theor. Phys. Seminar	Prof. S. Engelsberg (Massachusetts & Imperial College)	Spin Fluctuations in Nearly Magnetic Systems
Tues, 10 Dec, 4.15 p.m. Univ. Coll. London	Elementary Particles & Astrophysics Joint Seminar	Prof. E.R. Salpeter (Cornell Univ. & Cambridge)	Neutrino Astrophysics

Continued ...



Wed, 11 Dec, 2 p.m. Univ. of Southampton	Surface Physics Grp Meeting	Mr. T. G. Rawlins (S.R.D.E. Christchurch)	Semiconductor Epitaxy
Wed, 11 Dec, 2.30 p.m. Univ. of Manchester	Theor. Phys. Seminar	Dr. R.C. Johnson (Surrey)	Recent Work on Deuteron Stripping and Pick-up Reactions
Thurs, 12 Dec, 4 p.m. Univ. Coll. London	Elementary Particle Seminar	Dr. D. Atkinson	A Proof of the Existence of Functions which satisfy Crossing and Unitarity
Thurs, 12 Dec, 4.15 p.m. Univ. of Birmingham	Maths Phys. Seminar	Dr. B. R. Martin (U.C.L.)	Low-Energy $K^-p$ and Pion-Hyperon Inter- actions, and the Kaon-Nucleon Coupling Constants
<b>EVENT AT ATLAS LAB. &amp; AERE</b>			
Mon, 9 Dec, 2.45 p.m. Conf. Rm, Atlas Lab.	Talk	Rosemary Stewart (Ox. Centre for Management Studies)	The Effective Use of Time
Tues, 10 Dec, 2 p.m. Conf. Rm, Bldg. 8.9 AERE	Theor. Phys. Seminar	Dr. C. Mackay (Cambridge)	Evolution of Radio Sources

## Social News

**OPEN CHESS TOURNAMENT** The tournament has now reached the halfway stage with four rounds completed and the fifth in progress. The competition is very keen this year with a lot of matches ending in a draw. Some of the favourites are lagging behind at the moment and at the end of the fourth round Lyndsey Duncan, Phillip Thomas and Bill Turner were leading with  $3\frac{1}{2}$  points each. Close behind with 3 points each were Roy Culliford, Mike Newman, Jim Pudley and Colin Uden.

The club played another friendly last Monday, 2 Dec, at Wantage and lost 5 to 4. Phillip Thomas and Noel Stewart both won their matches and Alan Oxley, Roy Culliford, Mike Davies and Dick Apsey drew. This was a close match against a team which competes in the second division of the Oxford League.

**RECORD SOCIETY** 12.45 p.m., Tues., 10 Dec., Lecture Theatre (Please note time of starting)

"Mary Poppins" Excerpts from the sound-track of the light-hearted "cine musical", featuring the irresistible Julie Andrews and the irrepressible Dick Van Dyke. Come and feel young again!

**CHRISTIAN FELLOWSHIP** 12.30 p.m., Fri, 13 Dec, PLA Conf. Rm, R.12.

The Rev. G. E. Shackleton of Didcot Baptist Church will give a talk on "EMMANUEL". A warm invitation is given to all.

**Advance Notice:** Christmas Carol sing-song in the Lecture Theatre at 12.35 p.m. on Friday 20 December.

**FOLK SONG CONCERT:** Wed, 18 December, 12.45 p.m. Lecture Theatre - more details next week.

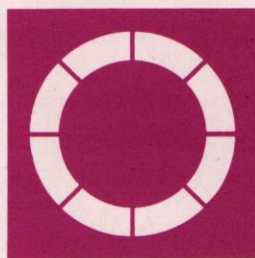
H. F. Norris, Ext. 484  
Scientific Administration Group  
Building R.20.

Rutherford Laboratory

6.12.68



No. 45/68  
16 Dec. 68



# Rutherford Laboratory Bulletin

## General News

**SCIENTIFIC ADMIN. NOTICE.** The next issue of the Bulletin will be published on Friday, 20 December and will cover two weeks. Copy for this issue should be sent to H. F. Norris, Bldg. R20 not later than 9 a.m. Thursday, 19 December.

**MISSING.** During the weekend of 30 November, a Donkey Jacket was removed from the Local Administration Office, Building R.20. Will the borrower of this jacket please return it to the above office.

**RADIATION PROTECTION NOTICE - FILM ISSUES.** It is Period 13. Colour Strip - PURPLE for  $\beta\gamma$  and fast neutron films. Next film change - Monday, 30 December.

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

"Electrical Insulation: Design and Testing for Reliability", a course of nine lectures to be given on Tuesday evenings from 7 p.m., commencing 14 January 1969.

"Advanced Circuit Theory", a course of ten lectures to be given on Wednesday evenings from 6-8 p.m., commencing 22 January 1969.

Reading College of Technology, Department of Electrical and Electronic Engineering courses are as follows:-

"Semiconductor Circuitry", twelve lectures, commencing 6 January, 7 - 9.15 p.m.

"Analogue and Hybrid Computing", ten lectures, commencing 7 January, 7 - 9.15 p.m.

Further enquiries on all the above courses to Mr. E.J.D. Newbold, Personnel Branch, Building R.20, Extn: 585.

**POST-GRADUATE COURSE ON CRYOGENICS AND ITS APPLICATIONS.** The University of Southampton will be holding a series of one-day seminars on various aspects of cryogenics on Fridays, commencing 31 January. Further details from H.F. Norris, R.20, Extn: 484.

**VACUUM TECHNOLOGY COURSE,** 6-10 January 1969 at the Education and Training Department, A.E.R.E. Harwell. This is a new course intended to continue the development of the subject from the stage reached in two previous courses. It is intended mainly for engineering, experimental, technical and design staff. Further details from H.F. Norris, R.20, Extn: 484.

**OVERSEAS VISIT.** Dr. I. Butterworth to Israel to deliver the Sulamith Goldhaber Memorial Lectures at Tel Aviv University on 22 December. The subject of the lecture will be - "Problems with the Low-massed Mesons".

## Machine Schedules

NIMROD Cycle 14 (5.12.68 - 24.12.68)

Machine Physics: High Energy Physics (K11, K12, K13, K8,  $\pi$  7 and P71)

Full details of Cycle 14 were given in Bulletin No. 43/68.

P.L.A. See Bulletin 44/68 for the schedule up to 23 December.

## Internal Events

Mon. 16 Dec., 11.30 a.m.  
Conf. Rm. Bldg. R.1

Nimrod Lecture  
Series

Dr. T. Massam  
(C.E.R.N.)

Boson Studies with the CERN - Bologna  
Missing Mass Spectrometer

Mon.- Wed, 16-18 Dec.  
Lecture Theatre

Rutherford Laboratory  
Theoretical Physics Meeting

The programme is as follows:-

Mon. 16 December,  
10 - 11.00 a.m.

Dr. G.H. Stafford  
& Prof. P. Murphy

The Experimental Programmes on Nimrod and Nina

11.45 - 12.45

Dr. C.B. Chiu

Non-Forward Scattering

14.30 - 15.30

Dr. D. Morgan

Pion-Pion Phenomenology

16.15 - 17.15

Dr. L. Stodolsky

Rho Dominance

Tues. 17 December,  
10.00 - 11.00

Dr. D. Atkinson

Non-Linear Techniques in S-Matrix Theory;  
Methods and Results

11.45 - 12.45

Dr. A. Donnachie

Baryon Spectroscopy

14.30 - 15.30

Dr. C. Schmid

Regge Poles and Resonances

16.15 - 17.15

Prof. E.J. Squires

Discussion Session

Wed. 18 December,

10.00 - 11.00

Dr. N. Brene

The Present Status of Cabibbo Theory

11.45 - 12.45

Prof. T.D. Lee

A Possible Way to Remove Divergence Difficulties  
in Physics

- continued -



## Social News

AERE FILM SOCIETY. 7.45 p.m. Tues/Wed, 17/18 December, Cockcroft Hall. "The tenth victim", a colour film starring Ursula Andress and Marcello Mastroianni. Guest tickets from I. Sewter, R.20, Extn: 6668.

RECORD SOCIETY. 1.0 p.m. Tues., 17 Dec., Lecture Theatre: (Please note time of starting).

Christmas Carols in traditional settings, sung by the St. Paul's Cathedral Choir. This is a stereo recording of all the old favourites.

All are welcome.

ABINGDON CHRISTMAS FESTIVAL. Once again you are invited to the Market Square, Abingdon, on Thursday, 19 December, 6.30 - 7.30 p.m. to sing your favourite carols and see the whole Christmas story enacted by local school children, in a colourful series of torchlight processions and tableaux. The singing will be led by the Abingdon Salvation Army Band. Come and join the throng! (If wet, in the Abbey Hall). *Borough*

CHRISTMAS CAROLS. 12.35 - 1.05 p.m. Fri., 20 Dec. Lecture Theatre.

The Christian Fellowship invites you to a Christmas Carol Sing-Song led by the Rev. David Price of Christchurch, Northcourt, Abingdon.

We supply the song sheets - you provide the song!

A hearty welcome is extended to all.

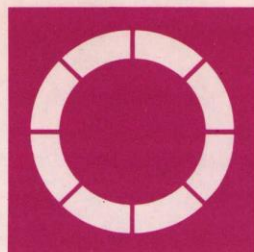
RECREATIONAL SOCIETY CONCERT. 12.45 p.m. Lecture Theatre, Wed., 18 Dec. Gill and Dusty singing Folk Songs.

H. F. Norris Extn: 484  
Scientific Administration Group,  
Building R.20

Rutherford Laboratory  
13.12.68



No. 46/68  
23 Dec. 68



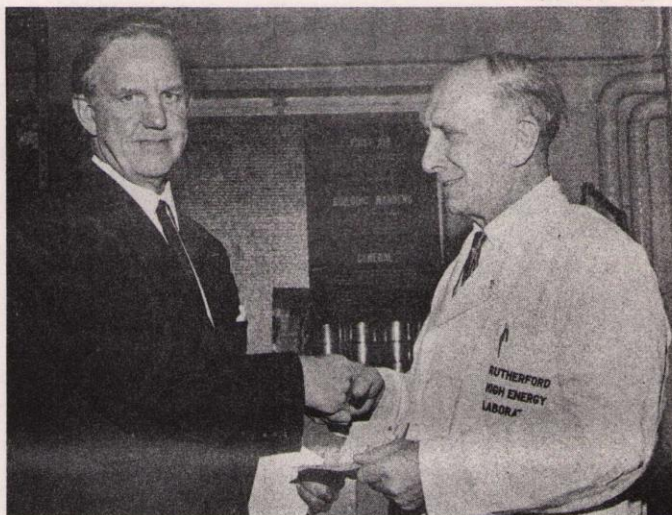
# Rutherford Laboratory Bulletin

## RUTHERFORD LABORATORY SUGGESTION AWARDS SCHEME

The following information is inserted at the request of Mr. Bob. Pepperell, recently appointed Secretary of the Suggestion Awards Committee.

On 16th December, a cheque for £35 was presented by Mr. P. Bowles, Chief Engineer, to Mr. E.A. Bourne, an Experimental Worker in the Power Supplies Group Workshop. Mr. Bourne's suggestion had contained some pertinent and useful criticisms on training in the use of Breathing Apparatus at the Laboratory, and this led to a re-appraisal by Management of the whole matter and to a different, more satisfactory solution, which in turn produced an appreciable saving of man-hours spent on training and the removal of a possible hazard to personnel.

Since 1st April this year, the total of awards made under the Scheme amounts to £247. Further information about these awards will be given in a Bulletin early next year.



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## General News

'POLES' APART. During the last few days many strange faces have been seen around the Laboratory. These belonged to people attending the three day Theoretical Physics Meeting. About one hundred were accommodated at Wadham College, Oxford, and many others commuted daily from various parts of the country. At times it almost became necessary to put up 'House Full' notices as over two hundred people somehow managed to squeeze into the Lecture Theatre.

On Tuesday there was the long awaited confrontation between Dr. C. Schmid of CERN and his many attackers. There was very active discussion both inside and outside the Lecture Theatre and at least positions have been clarified on a number of points.

A rousing finish to the three day meeting was provided by Professor T.D. Lee who presented his new work on the use of negative metric to remove divergencies in electromagnetic and weak interactions.

HEE-HAW. With reference to the note relating to the missing item in Bulletin 45/68, enquiries have shown that the group involved were not entitled to have a donkey on their complement. The return of the item is therefore more urgent as the donkey is likely to be redeployed shortly.

RADIATION PROTECTION NOTICE - FILM ISSUE. Period 1 for 1969 commences Monday, 30th December. Colour Strip - ORANGE for  $\beta\gamma$  and fast neutron films.

FOUND. A treasury note has been found in the Restaurant. Will the loser please contact Mr. D. Williams, Personnel Section, Building R.20.

UNIVERSITY EXTENSION LECTURES 1969. A course of ten lectures illustrated by colour cine-films on 'Filming Natural History' is to be held on Fridays, 7.30 - 9 p.m. in the Lecture Room, University Museum, Parks Road, Oxford. Course ticket £1. Obtainable in advance from: Rewley House, Wellington Sq., Oxford. Single Tickets 2/6, payable at door. Information from H.F. Norris, R.20.

MISSING EQUIPMENT. The following item of equipment has been reported missing:-

Wee Megger. Ser. No. 1838305, in leather case.

Anyone with information on the present whereabouts of this instrument is asked to contact Mr. R.A. Swales, R.25, Ext: 6614.

## Machine Schedules

NIMROD Cycle 1 (1969) - (31.12.68. - 21.1.69.)  
Machine Physics  
High Energy Physics

Team	Beam	Experiment	
Cambridge U.	X1/K9	Study of the Neutron-Nucleon Interaction in the 1.5 m Bubble Chamber	Data
Birmingham U.	K12	$K^{\pm}$ p Differential Cross-section Measurements from 0.45 - 0.85 GeV/c	Data



<u>Team</u>	<u>Beam</u>	<u>Experiment</u>	
Cambridge U./RHEL	K13	Measurement of the Amplitude for $\Delta S = -\Delta Q$ Interactions in $K^0$ Decay.	Data
Westfield Coll./RHEL	K14	Non-leptonic Decay Parameters of the $\Sigma^+$	Data
Imp.Coll./Southampton U.	$\pi^7$	An Investigation of Narrow Bosons Produced in $\pi^- p$ Collisions.	Setting up
Oxford U.	K10S	Study of $K^- p \rightarrow$ Neutral Final States for $K^-$ Momenta in the Range 0.6 - 1.8 GeV/c.	Setting up
AERE/QMC/RHEL/ Bergen U.(Norway)	P71	pp Elastic Scattering at Large Angles between 1.5 and 4.0 GeV/c.	Setting up

#### P.L.A.

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
24 - 29 Dec.		Shut-down.
30 - 31 Dec.		Maintenance, Setting up and Polarized Proton Source installation.
1 - 3 Jan.		P.P.S. Tests.
4 - 13 Jan.	Birmingham U.	Polarization Studies.

### Social News

**CHESS CLUB.** The chess club have notched up another victory by beating Abingdon on Tuesday, 17th December by 4 matches to 3. This is another good win as Abingdon play in the first division of the Oxford League.

Noel Stewart, Lyndsey Duncan and Alan Oxley won their games and Peter Craske and Mike Davies drew.

**DATES FOR YOUR DIARY.** 1 - 11 Jan, International Boat Show, Earls Court, London.  
8 - 18 Jan, International Racing Car Show, Olympia, London.

**RECORD SOCIETY.** Tues., 31 Dec., 12.30 p.m. Lecture Theatre.

'Scotland on Parade', the Gordon Highlanders with Pipes, Drums etc.

A programme of rousing marches to end the year. All are welcome.

**CHRISTIAN FELLOWSHIP.** 12.30 p.m., Fri. 3 Jan., P.L.A. Conference Room, R.12. The Rev. John Savage of Brightwell will speak on "The Second Coming". All are welcome.

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The Editor would like to thank all those who have helped in the production of the Bulletin in 1968. In particular, thanks are due to the Typists, Reproduction Section and the Post Ladies, who have all contributed to ensuring that copies are on your desks within 24 hours of the proof copy leaving the editorial office each Thursday afternoon.

A Happy Christmas and a Prosperous New Year to all our readers.

Rutherford Laboratory  
20.12.68.

H. F. Norris Ext: 484  
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