

# Rutherford Laboratory Bulletin

No.46/65  
6 Dec 65

## General News

OVERSEAS VISITS. Mr. N. Marshall King, Mr. E.J.N. Wilson and Mr. M.N. Wilson to CERN, 5-9 Dec, to discuss the design of beam handling equipment, including superconducting magnets.

Mr. G.H. Rees and Mr. I.S.K. Gardner to the United States, 6-17 Dec, to visit Argonne, Princeton and Brookhaven, where they will discuss beam behaviour in accelerators.

Mr. J.D. Milne to Heppenheim, Germany, 9 Dec, to investigate ultrasonic welding techniques.

I.A.E.A. VACANCY. The Pakistan Government has a vacancy for a qualified experimental physicist, experienced in the teaching of Nuclear Physics and the use of a Van de Graaff Accelerator. This appointment, sponsored by the International Atomic Energy Agency, is for a period of twelve months. Further details may be obtained from Mr. G.N. Pickles, Personnel Group, Building R.20, Ext 520.

EXTERNAL COURSES. Various courses in vacuum technology will be organised during 1966 by Edwards High Vacuum Ltd., at Crawley, Sussex. Details from Mrs. S. Fones, Personnel Group, R.20, Ext 585.

## Machine Schedules

<u>P.L.A.</u>	<u>Date</u>	<u>Team</u>	<u>Experiment</u>
	5-6 Dec	UCL	Measurement of p-p Differential Scattering Cross-section at 50 MeV
	7 Dec	Chemist's	Irradiation Experiment
	8-12 Dec	RHEL & QMC II	(p,n) Reactions by Time-of-Flight Method

## Internal Events

Mon. 6 Dec, 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. P.J. Duke (RHEL)	High Energy Physics in the Soviet Union.
Tues. 7 Dec, 2.30 p.m., Atlas Lab. Con. Rm.	Talk	Mr. Neil Spoonley (CERN)	The CERN CDC 6600 Computer
Wed. 8 Dec, 2 p.m. PLA Conf. Rm, R.12.	PLA DIV. Seminar	Dr. P. Hansen (Risø Research Centre, Denmark)	An Experiment to Determine Whether T is a Good Quantum Number in Heavy Nuclei
FILM SHOW: Wed. 8 Dec, 12.40 p.m. and Thurs. 9 Dec, 1.15 p.m., Lecture Theatre: "THE LAND OF SUN - The Costa del Sol", a 30-minute colour film, by courtesy of Messrs. Swan Travel Agency Ltd., covering the Torremolinos area in Southern Spain, also Gibraltar and part of North Africa.			
Thurs. 9 Dec, 2 p.m., Lecture Theatre: Meeting on "Programming for Flying Spot Digitizers". (Details from Mr. J.W. Burren, R.1, Ext 459)			
Mon. 13 Dec, 11.15 a.m. Lect. Theatre	Nimrod Lecture Series	Dr. E. Leader (Cambridge Univ.)	Status of Regge Pole Theory: Critical Tests

## External Events

Mon. 6 Dec, 7.30 p.m. Great Western Hotel, Reading.	A.S.E.E. Meeting	Film, Lecture and Discussion on "Automation" Speaker: Mr. F. Griffiths (BMC Ltd)	
Wed. 8 Dec, 7.15 p.m. School of Electronic Engineering, Aborfield	I.E.R.E. Meeting	Mr. K. Bailey (Racal Instruments Ltd.)	Frequency Standards



Wed. 8 Dec, 6 p.m. I.E.E.  
Savoy Place, W.C.2 Meeting

Discussion on "Electronic Switching"  
opened by J.A. Lawrence (P.O. Eng. Dept) and  
J.R. Pollard (Ericsson Telephones Ltd.)

A.E.R.E.

Tues. 7 Dec, 2 p.m. Theor. Phys.  
Conf. Rm, Bldg 8.9 Seminar

Dr. J.M. Charap  
(Queen Mary Coll.)

Higher Symmetry Schemes in  
Particle Physics

Thurs. 9 Dec, 2 p.m. Applied Maths  
Conf. Rm, Bldg 8.9 Seminar

Dr. J.C. Laski  
(Esso Ltd)

Using Simulation for "on-line"  
control.

## Social News

FILM SHOW: See "Internal Events" for details of this week's film show.

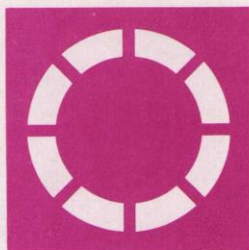
RECORD PROGRAMME: 12.30 p.m., Tuesday 7 Dec., Lecture Theatre, "Daphnis and Chloe"  
Suite No.2, by Ravel, and music from "The Three-Cornered Hat", by Falla (both in stereo).

CHRISTIAN FELLOWSHIP. The fourth talk in the series "Man in the Light of the Bible"  
will be given by the Rev. Alfred Waller of Tilehurst Free Church, on Thursday 9 Dec. at  
12.30 p.m. in the P.L.A. Conf. Room R.12. All are welcome. Further details from  
B.E. Kingdon, R.20 Ext 6297.

Rutherford Laboratory  
3.12.65.

B.E. Kingdon  
Scientific Administration Group  
Building R.20





## General News

POST GRADUATE EDUCATION CENTRE. A series of lectures on "Introduction to Data Processing" will be given in the Post Graduate School. The lectures will normally start at 9 a.m. on 10, 11, 12, 13 and 14 January 1966. Applications should be made through Division Heads to Mrs. S.A. Fones, Personnel Branch, Building R.20, Ext 585 from whom further details may be obtained. There is no closing date but applications should be made as early as possible.

FIFTH INTERNATIONAL UNIVERSITY WEEK FOR ATOMIC PHYSICS. The Institute for Theoretical Physics of the University of Graz, Austria have announced details of the Fifth International Week for Atomic Physics, to be held at Schladming, Styria, Austria from 24 February to 9 March 1966. The subject of the meeting is "Elementary Particle Theories". Applications should be made not later than 1 January 1966. Further details may be obtained from H.F. Norris Bldg R.20, Ext 484.

EXTERNAL COURSE. The Borough Polytechnic, London, S.E.1 have announced a course of twelve lectures on "Microwave Applications of Semi-conductors" to be held on Tuesday evenings from 11 January to 29 March 1966, 6.30 - 8.30 p.m. Further details may be obtained from Mrs. S.A. Fones, Personnel Branch, Bldg R.20 Ext 585.

NATIONAL SAVINGS. For the attention of weekly paid staff. The current National Savings Cycle No.61 finishes on 19 December and certificates will be available for collection from the Cash Office, Bldg R.20, on 6 January 1966. If you wish to join the new cycle or vary your existing contribution, you may do so by completing a membership form obtainable from the Cash Office. These forms must be returned to the Cash Office by Monday, 20 December.

## Machine Schedules

P.L.A.

Date	Team	Experiment
13-14 Dec		Maintenance
15-20 Dec	Man. Univ.	(p,p') Reaction Studies on $\text{Li}^6$ and $\text{Li}^7$

## Internal Events

Mon, 13 Dec 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. E. Leader (Cambridge Univ.)	Status of Regge Pole Theory. Critical Tests
Mon., 13 Dec 2.15-4.0 p.m. Lecture Theatre	Special Lectures	(a) Dr. R.M. Sulyaev The 70 BeV Proton Synchrotron (Serpukhov Inst) (b) Dr. S.N. Sokolav Optimal Planning of Indirect (Serpukhov Inst) Experiments	at the Serpukhov Institute

The first lecture will commence at 2.15 p.m. followed by tea and biscuits.  
The second lecture is expected to commence at approx 3 p.m.

EXHIBITION. A demonstration by Sumlock Comptometer Ltd., of their Electronic Desk Calculators, ANITA Mk 9 and Mk 10, will be held on Monday, 13 Dec, 11 a.m. - 4 p.m. No.4 Conf. Rm. Bldg R.1 (Details are given on Laboratory notice-boards)

Wed., 15 Dec, 3.30 p.m. Lecture Theatre	Popular Lecture Series	Dr. W. Chapman (Q.M.C.)	Proton-Proton Small Angle Scattering Measurements (P2 Experiment)
Wed., 15 Dec, 12.40 p.m. Thurs., 16 Dec, 1.15 p.m. Lecture Theatre.	Film.		"South from Chiloe", a Royal Society, 40 min. colour film.

This film tells the story of the Society's expedition to Southern Chile during the months of October 1958 to February 1959 which went to study the flora and fauna of this little-known region of the world. The expedition covered much of the ground originally investigated by Charles Darwin a century ago and the film shows the different types of country through which the expedition passed and the animal, plant and human natives of this area. The commentary is spoken by Dr. M.W. Holdgate, the leader of the expedition in the field. This will be the last film show before the New Year. The 1966 programme will open with a colour film on "Lasers". During Christmas week it is hoped to put on a special slide lecture (a lecture extraordinary).



Atlas Lab.  
Wed., 15 Dec,  
11 a.m. Atlas  
Lab. Conf. Rm.

Talk

Dr. D.J. Hudson  
(Bell Telephone  
Labs. Inc. USA)

Strictly Convex Quadratic  
Programming with Application to  
Fitting Monotonic Polynomials.

## External Events

Wed., 15 Dec,  
7.30 p.m. Woodstock  
Rd, Oxford.

ASEE  
Oxford &  
Districts  
Branch Lecture

Mr. W.G. Turner  
(Brookhirst  
Igranic Ltd)

Static Switching and Controls

Tues, 14 Dec,  
5.30 p.m. Savoy  
Place London

IEE  
Electronics  
Div. Lecture

E.H. Cooke-Yarborough Recent Developments in  
(A.E.R.E.) Nuclear Instrumentation

## Social News

FILM SHOW. See "Internal Events" for details of the last film show before the New Year.

RECORD PROGRAMME. 12.30 p.m., Tuesday, 14 December, in the Lecture Theatre.  
This programme will be devoted to Folk Songs and Music from Northumbria with additional items by Nina and Frederick. The people of the border county of Northumberland are entirely different from their Northern and Southern neighbours. They are essentially Northumbrians, neither English or Scottish. The people of the different communities, with their countless dialects, be they fishermen, pitmen, farmers of the Dales or shepherds of the remote Cheviots have their own characteristics, as do the inhabitants of the industrial areas. These varying characteristics have produced a wealth of folk songs, even the instruments are different, such as the Northumbrian small pipes. Here is a chance to hear some of the songs and music of this northern most county in England.

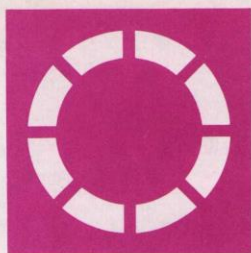
CAROL SERVICE. A short service of popular Christmas Carols has been arranged, as in previous years, by the A.E.R.E. Christian Fellowship, and will be held on Wed. 15 Dec, at 12.25 p.m., Games Room, Social Club. All are welcome.

CHRISTIAN FELLOWSHIP. The fourth talk in the series, "Man in the Light of the Bible", postponed from 9 Dec, will now take place on Thursday, 16 Dec. at 12.30 p.m. P.L.A. Conf. Rm, R.12. The speaker will be the Rev. Alfred Waller of Tilehurst Free Church. All are welcome to these meetings. Further details from B.E. Kingdon, R.20 Ext 6297.

Rutherford Laboratory  
10 Dec 65

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





# Rutherford Laboratory Bulletin

No. 48/65  
17 Dec 65

## General News

The next Bulletin will be issued on Friday, 31 December.

POST GRADUATE EDUCATION CENTRE. The following courses and lecture series have been announced:

"Lectures on Quantum Mechanics", to be given by Dr. J.R. Perring, Theoretical Physics Division, Harwell, on Tuesdays, commencing 9.30 a.m. from 11 January to 28 June 1966 inclusive. There will be a break for Easter on 29 March, 5 and 12 April.

"Pulse Techniques for Nuclear Particle Counting - Course No.4," - 31st January to 4 February, 1966.

"Lectures on Structure and Thermal Motion of Simple Liquids", to be given by Dr. P.A. Egelstaff, Solid States Physics Division, Harwell, on Thursdays, commencing 9.30 a.m. from 10 February 1966 to 24 March 1966 inclusive.

Applications should be made through Division Heads to Mrs. S.A. Fones, Personnel Branch, Building R.20, Ext 585 from whom further details may be obtained. Applications should be made as early as possible.

NATIONAL SAVINGS. For the attention of weekly paid staff. The current National Savings Cycle No.61 finishes on 19 December and certificates will be available for collection from the Cash Office, Bldg. R.20 on 6 January 1966.

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

Hot Plate - Ser. No. 15777

Will anyone with information on the whereabouts of this item please contact Mr. R. Downton, Building R.1, Ext 6642.

EXTERNAL COURSE. The Borough Polytechnic, London, S.E.1 have announced a course of ten lectures on "Radioactivation Analysis", to be held on Tuesday evenings at 7 p.m., commencing 11 January 1966. Further details may be obtained from Mrs. S.A. Fones, Personnel Branch, Bldg R.20 Ext 585.

OVERSEAS VISITS. Dr. E. Pickup, Mr. J. Smith, Dr. A.M. Segar and Mr. P.J. Litchfield to Saclay 20-21 December for discussions.

Mr. J.E. Hailstone, Atlas Laboratory, to Holland, 30-31 December where he will visit the Computer Centre, Philips, Eindhoven and The Mathematical Institute, Amsterdam.

## Machine Schedules

NIMROD - Remainder of Cycle 9 (16.12.65.-22.12.65.)

High Energy Physics.

<u>Team</u>	<u>Beam</u>	<u>Experiment</u>	
AERE/Queen			
Mary Coll./RHEL	P6	p-p Inelastic Scattering	Data
Imp. Coll.	$\phi$ 1	A search for the $S^0$ Resonance	Data
UCL/Bristol	P3X	Heavy Liquid Bubble Chamber Tests	
RHEL/Oxford	K7	$\pi^-$ p Polarisation Measurements	Setting up.
P.L.A.			

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
21-23 Dec	Oxford Univ.	A Study of Analogue States in $P^{29}$ and $Si^{29}$ using $P^{31}$ (p,t) $P^{29}$ and $P^{31}$ (p,He <sup>3</sup> ) $Si^{29}$
24-27 Dec	Christmas Shut-down	
28-31 Dec	Maintenance	
1-3 Jan	Birmingham Univ. Polarisation Studies	
4-9 Jan	Queens Univ. & Westfield Coll.	(p,d) Elastic Differential Cross-sections at 30 and 50 MeV.



## Internal Events

An informal gathering for discussions on Theoretical High Energy Physics will be held in the Lecture Theatre on 20, 21 and 22 December at the following times.

Monday 20 December, 11.15 a.m. - 12.00 p.m. and 14.15 - 18.30 p.m.  
(Coffee at 10.45 a.m. in the Lounge)

Tuesday, 21 December 9.30 a.m. - 13.00 p.m. and 14.15 - 18.30 p.m.

Wednesday 22 December, 9.30 a.m. - 13.00 p.m. If necessary the meeting may continue in the afternoon.

Apart from the first morning, coffee and tea will be served each day at 11.00 - 11.45 and 16.00 - 16.45 in the Lounge.

Thurs., 23 Dec.	Christmas	Dr. R.H. Thomas	"San Francisco to New York"
12.45 p.m. Lecture Theatre.	Lecture		a talk illustrated by Magic Lantern pictures.

(Details in "Social News" section)

## Social News

Christmas Special. In place of the usual weekly film show we are presenting a special feature. Ralph Thomas, who recently returned from a two year stay at Berkeley has been persuaded to give an informal talk on the journey he and his wife and family made by car, from San Francisco to New York, illustrated by colour slides - and music. The Editor wishes it to be understood that the content and presentation of this lecture is the responsibility of the lecturer and contrary to his expectations there will be no silver collection.

RECORD PROGRAMME. 1.00 p.m. Tuesday 21 December, in the Lecture Theatre (please note change of time which is approximate).

Christmas Music, including Carols and Haydn's "Toy Symphony"

### DATES FOR YOUR DIARY

27 Dec - 8 Jan: Daily Mail Schoolboy's and Girls' Exhibition, Olympia

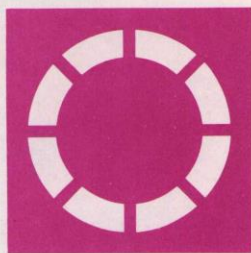
5-15 Jan: International Boat Show, Earls Court.

CHRISTIAN FELLOWSHIP. No meetings have been arranged during the Christmas period but the P.L.A. Conference Room R.12 will be available from 12.30 - 1.00 p.m. on Thursday 23rd December for any members who would like to meet there informally. Details of next year's programme will be given in the Fellowship News Letter which should appear shortly.

Rutherford Laboratory  
17 Dec 65

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





# Rutherford Laboratory Bulletin

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## Supplement

### Harwell Variable Energy Cyclotron

Mr. J. D. Lawson of the Variable Energy Cyclotron Group has issued the following statement:-

"On December 16th the V.E.C. was ready for beam trials; on December 16th a beam of  $23 \text{ MeV H}_2^+$  was obtained to full radius. Machine operation is stable, and operating conditions are as expected."

Rutherford Laboratory  
20 Dec 65

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