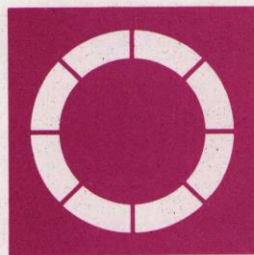


No 25/70
6 July 70



Rutherford Laboratory Bulletin

General News

VISITORS. Approximately forty members of the staff of Brentford Electrics Ltd, Crawley will visit the Laboratory on Saturday, 11 July.

Twelve members of staff and pupils from St Edward's School, Oxford, will visit the Laboratory on Thursday, 9 July.

FILM NOTICE. It is Period 7. Colour Strip - ORANGE for B_y and fast neutron packs. Please check that you are wearing the correct films and that all old ones are returned.

SITE EMERGENCY EXERCISE AT AERE. The following notice will appear in the current issue of the Harwell Bulletin:-

1. A site emergency exercise to test the procedure for ensuring the safety of staff, contractors' employees and visitors, will take place on Tuesday 14th July 1970.
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. The sounding of the ALL CLEAR will be preceded by a message being passed around the site using the cascade telephones and HUW teletypes systems.
5. Service Groups, Police and Fire Brigade will carry out various exercises during the test and may be wearing protective clothing and respirators. These services and the staff of buildings directly involved in the assumed incident will be required to carry on with the exercise for a short period after the sounding of the all clear (this will be indicated in the message to be passed around the Site - see para. 4 above).
6. **CODE WORDS.** The code words "Exercise Teacher" will be used in all messages and orders connected with the test.
7. 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.

OVERSEAS VISITS. Mr G B Stapleton and Mr G S Levine to CERN, 7-8 July and Dr G R Stevenson, 7-9 July, to attend meeting of the 300 GeV Radiation Problems Study Group.

Machine Schedules

NIMROD Cycle 8 (30 6 70 - 21 7 70)

Machine Physics: High Energy Physics (X1/K9, K2/K13B, X2/K14A, π^7 , X3/ π^8 , X3/K15, X2/K12A and P71)
Full details of Cycle 8 were given in Bulletin No 24/70.

Internal Events

Mon, 6 July 1130 am Lecture Theatre	Nimrod Lecture Series	Prof K Lubelsmeyer (U of Bonn)	Recent Results on Pseudoscalar Photoproduction
Mon, 6 July 2 pm	Lecture Theatre	Nimrod Proposal Lectures	
1. Proposal No 82: "A Bubble Chamber Study of Hyperon-Nucleon Interactions with Enriched Hyperon Beams", lecture by Dr W W Neale and Dr J G Rushbrooke of Cambridge University.			
2. Proposal No 83: "A Proposal to Measure Differential Cross-Sections of π^+p Elastic Scattering in the Momentum Range 0.6 to 2.0 GeV/c", lecture by Dr R S Gilmore of Bristol University.			
Wed, 8 July 11 am Conf Room, RI	HEP Disc Grp	Dr H Banerjee (CERN)	The K_{L3} Puzzle
Wed, 8 July 4 pm Conf Room, RI	Special HEP Disc Group Meeting	Prof A Salam (Imp Coll)	Quantum Gravity and Infinities in QED
Mon, 13 July 1130 am Lecture Theatre	Nimrod Lecture Series	Dr A Blalas (Krakow/RHEL)	Title to be announced

Social News

CHRISTIAN FELLOWSHIP 1230 pm, 10 July, R12 Conf Room.

It is hoped that Ken Brighton from the Berks and Bucks Evangelistic Association will again be making a visit to the Laboratory. During July, Ken will be holding a campaign at Faringdon. All welcome.

CSMA - OXFORD GROUP Don't forget the "Treasure Hunt on the Table Top". A simple route on the OS158 map. Bring your own map, pencils and ruler - no previous experience necessary. Friday, 10 July at 8 pm at the Old White House. Ladies, while the men are taking the wrong turning, you will be busy on your own event as a "Picture Quiz has been devised of feminine interest", it says!

If you want to know more, contact your local rep - Mr L N Dutton, R25, Ext 224.

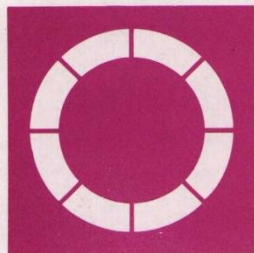
AERE HORTICULTURAL SOCIETY - 25th SHOW; in the Marquee (opposite the AERE Shopping Centre) on 16 July, 1230 pm to 8 pm and 17 July, 12 noon to 1.30 pm. Entry forms must be completed and returned together with entry fees to the Show Secretary, Mrs O Collett, Building 521, AERE, not later than Friday, 10 July. Schedules and Entry Forms can be obtained from H F Norris, Room 42, R20.

Rutherford Laboratory

3 7 70

H F Norris Ext 484
Scientific Admin Group
Building R20

No 26/70
13 July 70



Rutherford Laboratory Bulletin

General News

RUTHERFORD LABORATORY SUGGESTION AWARD For the second time within a year an award of £100 has been made under the Rutherford Laboratory Suggestion Award Scheme. On Tuesday 7 July, the Director, Dr G H Stafford, presented a cheque for £100 to Mr G McGee, a skilled craftsman employed in the Mechanical Installation and Maintenance Group of the Nimrod Engineering Department. Mr McGee, who lives in Didcot came to the Laboratory two years ago after working for a firm in the North of England. He is mainly employed on the assembly and commissioning of particle separators but when skilled assistance was required for the development work on field monitoring equipment he was appointed to assist.

A problem at the time was the encapsulation of magneto-resistors in epoxy resin. Owing to the extremely fragile construction of the magneto-resistors and the high viscosity of the resin mix, damage can occur under normal injection methods. Mr McGee suggested a way out of the problem by making the mouldings first in two halves, each with a cavity to take the magneto-resistors and then bonding the complete assembly together. His suggestion proved to be technically sound and entirely successful in batch production; it also assists in making it suitable for sub contract production off the site.

Here then is an example of, to quote the Director "a relatively simple suggestion" which has solved a difficult problem, has resulted in financial saving AND encouraged others to emulate George McGee and pocket a nice cheque.

George in expressing his thanks said that on behalf of himself and others who had not had the chance of replying he would like to thank the Director for the operation of such a Scheme.



MESSAGE FROM THE DIRECTOR

"I should like to thank all those who worked so hard to make such a success of our Open Days. All reports that I have received confirm my own impressions that everything went off very well."

RUTHERFORD LABORATORY LECTURE Since the last war there has been an increasing interest in astronomy and many readers will remember the visit by Prof Fred Hoyle and the record attendance at his lecture. On Thursday 16 July we are fortunate in having Prof R L F Boyd FRS, Professor of Physics, University College London, to lecture on X-Ray Astronomy. Prof Boyd has been Head of the Mullard Space Science Laboratory since 1965 (see 'Quest', Vol 1, No 3 July 1968). He has kindly supplied the following brief resume of his lecture.

"Since the discovery of the first non solar X-ray sources in the sky in 1962 the view through this new window in the electromagnetic spectrum has surpassed all expectations. The variety of x-ray sources ranges from pulsar supernova remnants to external galaxies and their powers in some cases far exceed their emission in other parts of the spectrum. X-ray astronomy is thus no mere adjunct to conventional astronomy but for some objects of outstanding interest it is the main approach. This lecture will briefly review the present situation in our knowledge and discuss some of the techniques we are applying in this field."

NATIONAL SAVINGS SCHEME - WEEKLY CYCLE - Ending 26 July. At the close of the present cycle the Rutherford Laboratory will be operating its own National Savings Scheme, and staff wishing to participate (including present members) should apply to the Cash Office, R20, for an Enrolment Form. The cycle will be operated to comply with decimalisation currency and the minimum deduction will be 1/- per week for a period of 20 weeks. Completed deduction forms must be returned to the Cash Office by Friday, 24 July at the latest. Certificates for the current cycle will be ready for collection after the 4 August. In addition to the above Savings Scheme regular savings can also be effected under the SAYE arrangements.

ALEXANDRA ROSE DAY - 26 JUNE 1970 Mrs H Salmon, the local organiser has expressed her thanks for the splendid contributions received this year. The total amount collected from RHEL, Atlas, AERE Harwell, WRL and Culham was £142 13 0, £20 more than last year. The RHEL and Atlas contribution being £15 19 11 which in itself was an increase on the previous year.

FILM NOTICE - Period 8 commences Monday 13 July. Colour Strip - GREEN for B_y and fast neutron packs. TLD change for people with surnames commencing CDEF. Please change all films promptly.

OVERSEAS VISITS Dr G Manning, to Aachen, 12-14 July, to give a lecture at the University.
 Mr G A Lambert and Mr R Fraser, to Geneva 12-16 July as part of an exchange between CERN and RHEL computer operating staff.
 Mr Lambert will return via Munich to discuss problems associated with running a large IBM System 360 and RJE, returning home on 18 July.
 Mr R W Wimblett and Mr A Holcroft, to CERN, 13-15 July and 13-18 July respectively, to investigate and dis-assemble items of LH₂ target equipment from epistle project at CERN to be shipped back to the Rutherford Laboratory.
 Messrs L Phillips, C Page, W Clark and A Dobbs, to CERN, 13-17 July, to dismantle Dr Buggs beam line equipment prior to shipping to the Rutherford Laboratory.
 Mr D A Gray and Mr J A Fox, to CERN, 16-17 July, to attend meeting of 300 GeV Machine Committee.

Machine Schedules

NIMROD Cycle 8 (30 6 70 - 21 7 70)

Machine Physics: High Energy Physics (X1/K9, X2/K13B, X2/K14A, π 7, X3/ π 8, X3/K15, X2/K12A and P71).
 Full details of Cycle 8 were given in Bulletin No 24/70.

Internal Events

Mon 13 July 1130 am Lecture Theatre	Nimrod Lecture Series	Dr A Bialas (Krakow and RHEL)	Some Recent Results in the Quark Model of High Energy Scattering
Wed 15 July 11 am Conf Rm, RI	HEP Disc Grp	Dr A N Kamal (U of Alberta Canada)	Weinberg's Spectral Function Sum Rules
Thurs, 16 July 3.15 pm Lecture Theatre (See General News for details)	Rutherford Laboratory Lecture	Prof RLF Boyd FRS (Univ Coll London)	X-Ray Astronomy
Mon 20 July 1130 am Lecture Theatre	Nimrod Lecture Series	To be arranged	

External Events

EVENTS AT AERE

Thurs 16 July 11 am Conf Rm, H8	Nucl Phys Colloq	Dr J L Whitton (Chalk River)	Channelling in the Ion Implantation of Semi-Conductors
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Social News

CHRISTIAN FELLOWSHIP Change of programme. The talk by Ken Brighton, announced in last weeks Bulletin will now be given on Friday 17 July in the R12 Conference Room at 1230 pm.

This Friday, 10 July R12 Conf Rm at 1230 pm. Michael Campbell will lead a Bible Study on Romans Ch 7-9. All welcome.

SPORTS DAY 1970 A report on this years event is being held over until the next issue.

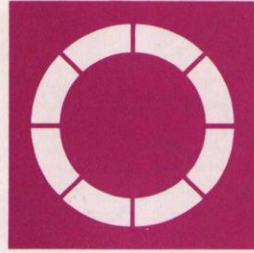
Rutherford Laboratory
10 7 70

H F NORRIS Ext 484
Scientific Admin Group
Building R20

STOP PRESS

AERE HORTICULTURAL SOCIETY - 25th SHOW
 A leaflet entitled "Hints for Exhibitors" is now available from the Bulletin Editor.

Supplement
to
26/70
13 July 70



Rutherford Laboratory

Bulletin

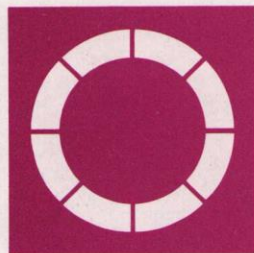
SITE EMERGENCY EXERCISE

1. A site emergency exercise to test the procedure for ensuring the safety of staff, contractors' employees and visitors will take place on Tuesday, 14th July.
2. The Rutherford Laboratory will be involved in the exercise and the site klaxon warning will sound at the Laboratory.
3. Nimrod, the Beam Lines, Bubble Chamber and the IBM 360 Computer will continue to operate during the exercise.
4. All persons are reminded that they should remain in the Building they are in or if in the open, enter the nearest suitable Building.
5. 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.
6. Everyone is asked to co-operate with and carry out all requests of Security Wardens, Building Wardens and other authorised persons. Staff who have visitors and Contract Supervising Officers are responsible for ensuring that visitors and contractor's employees comply with the site emergency procedures.

H F Norris Ext 484

Scientific Admin Group
Building R20

No 27/70
20 July 70



Rutherford Laboratory Bulletin

General News

OBITUARY NOTICE We deeply regret to announce the death of Mr P O Carolan of the Bubble Chamber Group on Saturday 11 July. Peter Carolan who was aged 49 joined the Laboratory early in 1965 having worked here for a number of years for one of the site Contractors. He was promoted to Non-Tech IV in April 1969. Those who were privileged to know him speak highly of his friendship and the willing help extended both to his colleagues at work and to many causes outside the Laboratory. He was a very active social worker, a member of the Board of Managers of Chilton Primary School, a Chilton Parish Councillor and a member of the Chilton Recreational Association. Peter who was a widower, leaves a son and daughter to whom we extend our deepest sympathy.

BULLETIN NOTICE Starting with the issue dated 27 July the Bulletin will be published at fortnightly intervals until early September.

FILM NOTICE It is Period 8. Colour Strip - GREEN for 8y and fast neutron packs. Please check that you are wearing the correct films and that all old ones are returned.

FOUND A treasury note has been handed to the Personnel Group. Enquiries should be made to Mr D Williams, Ext: 495.

Machine Schedules

NIMROD Cycle 9 (21 7 70 - 11 8 70)
Machine Physics - Resonant Extraction Experiments with X3.
High Energy Physics.

Team	Beam		
Birmingham U/RHEL	X2/K12A	K ⁺ -n Elastic Scattering between 450 and 950 GeV/c	Setting up
Camb. U/RHEL	X2/K13	Testing of Apparatus - Future Experiments	Setting up
Oxford U/RHEL	X2/K14A	Polarization Effects in $\pi^+\pi$ Elastic Scattering	Data
Imp. Coll/Soton	π^+	Investigation of Narrow Bosons Produced in $\pi^+\pi$ Collisions	Data
QMC/RHEL	P71	Counter and Spark Chamber Tests for CERN Experiment	
Surrey/B'ham/RHEL	π^0	Total Reaction Cross-Sections for Pions on Nuclei	Setting up

Internal Events

Mon 20 July 1130 am Lecture Theatre	Nimrod Lecture Series	Dr R M Brown (RHEL)	B - Decay of Polarized Λ^0
Wed 22 July 11am Conf. Rm. R1	HEP Disc. Grp	Dr R Jengo (Trieste)	Models for Deep Inelastic Electro-Scattering
Mon 27 July 1130 am Lecture Theatre	Nimrod Lecture Series	P H Sharp	A Test of the $\Delta S = \Delta Q$ Rule in K_{e3} Decay

Social News

SRC SPORTS DAY A fine but windy day saw one hundred people from the Rutherford and Atlas Laboratories battling for honours at this years SRC Sports Day resulting in two losses and one gain, Rutherford losing the Cricket and Bowls and winning the Football.

CRICKET: Rutherford were unfortunate in having only 9 in their team but the footballers came to the rescue, although no mention has been made of their method of batting, ie did they head bouncers?

RESULTS: First round:- Atlas beat RSRS (Slough) 67-6 against 64-8.

Semi-finals:- Daresbury 49-1 beat Atlas 45 all out

Rutherford 87-5 beat RGO 86-8, a very close game

Final:- Daresbury 37-8 beat Rutherford 35 all out. This was a very low scoring game with Daresbury, after being 27-1 just getting home by 2 wickets.

BOWLS: A good competition with our players being beaten by RGO.

NETBALL: The ladies netball was won by RGO who beat Atlas in the final by 14-13. It was a very exciting game with RGO leading most of the time although the Atlas girls staged a late rally and were leading near the end by 13-12. The Rutherford girls were beaten in an earlier round by RGO by 7-5, a game which could have gone either way. Altogether a fine performance by the Rutherford and Atlas girls as both teams were short of practice. However, there is next year to come - what about it girls?

SIX-A-SIDE FOOTBALL: A very good competition giving the Rutherford its only success this year. Ten teams entered, each playing at least four games, resulting in the Rutherford 'C' team (John Carr, Les Patton, Dave Kilgraiff, Jeff Bezzel, Jim Taylor and John Whittaker) beating the Rutherford 'A' team by 3-2 in the final.

TENNIS: Ray Bull and Bill Turner playing together for the first time put up a fine performance only dropping three games all day. Unfortunately this was not quite good enough to win and they finished worthy runners-up in the mens doubles.

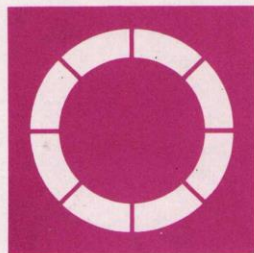
So another Sports Day ended having provided some very keen competition.

CHRISTIAN FELLOWSHIP Friday 24 July in the R12 Conf Rm at 12.30 p.m. All welcome.

Rutherford Laboratory
17 7 70

H F Norris Ext 484
Scientific Admin Group
Building R20

No 28/70
27 July 20



Rutherford Laboratory Bulletin

General News

BULLETIN NOTICE As announced in Bulletin No 27/70, the current and subsequent issues will cover two weeks. Contributions for the next issue should be sent to the Editor by Wednesday, 5 August.

FILM NOTICE It is Period 8. Colour Strip - GREEN for $\beta\gamma$ and fast neutron packs. Please check that you are wearing the correct badges and that all old ones are returned.

MISSING EQUIPMENT The following items of equipment have been reported missing from the Heavy Lab, R25:-

1/4" Electric Drill, Ser/No 13104
Extension Lead, Ser/No 14/1682

Anyone with information on the present location of these items is asked to contact Mr R G Fowler or Mr M M Cheshire, R25.

The following items have been reported missing from R12:-

2 - Dymo 3/8" Tape writers one only with Ser/No E514

Anyone with information on the present location of these items is asked to contact R J Griffiths, R12, Ext 486.

QUEST The summer issue has now been distributed. Comments etc are welcomed and should be sent to the local correspondent as should any spare or unwanted copies as there appears to be a shortage. Spare copies and comments to H F Norris, R20.

Machine Schedules

NIMROD Cycle 9 (21 7 70 - 11 8 70)

Machine Physics - Resonant Extraction Experiments with X3

High Energy Physics (X2/K12A, X2/K13, X2/K14A, π^7 , P71 and π^{10})

Full details of Cycle 9 were given in Bulletin No 27/70.

Internal Events

The lecture in the Nimrod Series for Mon, 27 Aug has been cancelled.

Tues, 28 July 2 pm
Lecture Theatre

Special Lecture

Dr S L Wipf
(Atoms International
California)

Electromagnetic Levitation and Guidance
of High Speed Vehicles

Wed, 29 July 11 am
Conf Rm, R1

HEP Disc Grp

Dr R Carlitz
(Caltech and Cavendish
Camb)

Quark Spin in the Veneziano Model

Nimrod Lecture Series. No programme has been arranged for the month of August. However it may be possible to obtain speakers from time to time in which case notices will be sent out.

Wed, 5 Aug 11 am
R12 Conf Rm

HEP Disc Grp

Dr M Pusterla
(Padua)

Padé Approximates and an Application to
a Relativistic Quark Model

Thurs 6 Aug approx 10 am - 4 pm, Exhibition and Demonstration by Edwards Vacuum Components Ltd, in the R12 Conf Rm, who will be showing a range of new total pressure measuring instruments. These instruments while not new in principle (ie Pirani, Thermocouple Penning and Ionisation) are of improved design and will be demonstrated in conjunction with a small pumping system. Further details from H F Norris, R20, Ext 484.

Social News

EVENING CRICKET RESULT On Thursday, 16 July, the Latrinos (R2 Mech, D0) suffered their first defeat of the season. Scores - Latrinos - 85 for 8
Assorted Physicists - 96 for 5 (Peter Sharp 57-retired).

SPORTS DAY The Rec Assoc would like to express their appreciation of the services of Bill Butler, R2, at the SRC Sports Day at Chiswick. Bill, who is a member of the St John's Ambulance Brigade rendered first aid throughout the day and treated 18 victims of the sports! (There is no truth in the rumour of dirty work on the Ludo Board - Ed.)

CHRISTIAN FELLOWSHIP - July 24 Continuation of a Bible Study in the Epistle to the Romans, led by Michael Campbell.

July 31 - What is Holiness? Today there seems to be much opposition to the Biblical teaching on Holiness. What does the Bible teach on this? Dennis Peplar will lead a Study on this subject.

August 7 - John Dennis from Harwell will be leading the Fellowship for a half-hour of prayer.

All the above meetings will be held in the R12 Conf Rm commencing at 1230 pm and a welcome is extended to anyone wishing to attend.

Rutherford Laboratory
24 7 70

H F Norris Ext 484
Scientific Admin Group
Building R20