

RUTHERFORD LABORATORY BULLETIN NO.10

for the week commencing Monday, 14th November, 1960.

Extra-Mural Research

Agreements have been signed with Oxford University under which the Institute will finance the following research projects to be carried out by the University on behalf of the Laboratory:

- BC Nim ✓
- (a) A 2-year design study for a large Helium Bubble Chamber for use with 'Nimrod'; estimated cost £33,000.
- BC P.L.A. ✓
- (b) The completion and commissioning of a small Deuterium Bubble Chamber to be used with the P.L.A.; estimated cost £5,000. (This is a continuation of work originally sponsored by the A.E.R.E.)
- Nim ✓
- (c) A 2-year programme covering the computation of kinematical tables for elementary particle interactions, and the preparation of computer programmes designed to solve kinematical problems arising in connection with proposed experiments on 'Nimrod'; estimated cost £2,600.

BC Nim ✓

The Institute-sponsored work to be carried out at Oxford on methods for producing intense separated particle beams from 'Nimrod', mentioned in last week's Bulletin, will in particular be directed to a study of the intense stopping K^- beam, (a beam which would be important for the proposed Helium Bubble Chamber referred to above). This work will proceed in close collaboration with the main work on 'Nimrod' beam extraction being carried out at the Laboratory.

Visits Abroad

BC ✓

Mr. R. Wimblett of the Engineering Design Group, and Dr. W. Evans of Liverpool University, who is attached to the Laboratory, will visit C.E.R.N. from 16th to 19th November, to discuss arrangements for the transportation there and installation of the British National Hydrogen Bubble Chamber. The chamber will be used in experiments with the C.E.R.N. proton synchrotron prior to its return to the Rutherford Laboratory in time for the start-up of 'Nimrod'.

Visitors

✓

Two parties of visitors from Marston Excelsior Limited of Wolverhampton, who are engaged in the manufacture of the vacuum chamber for 'Nimrod', will visit the Laboratory on Monday, 14th November, and Monday, 21st November.

P.L.A.

✓

The P.L.A. will be closed down for a period of approximately four weeks, commencing 14th November. During this time, the polarised proton source will be installed and general maintenance will be carried out. Building work on an extension of the experimental area will also begin.

Vacuum Training Course

✓

A series of lectures on vacuum technique, with practical instruction, will be given between 17th and 29th November, in the Conference Room, Building R.1. The course is intended primarily for industrial staff and non-technical grades employed on the installation, operation and leak testing of the 'Nimrod' vacuum system, but a number of places may be available to similar grades in Groups other than the Vacuum Group, where knowledge of the vacuum system would be advantageous. The closing date for applications is 14th November, and further details may be obtained from Mr. G. S. Grossart, Office 2, Building R.8, Ext. 3467.

Internal Events /

Internal Events

Monday, 14th November, 11 a.m. Conference Room, Building R.1.	Theor. Group Colloquium.	Professor J. Hamilton (University College, London.)	"Anti-Protons"
Friday, 18th November, 11 a.m., P.L.A. Conference Room, Building R.12.	P.L.A. Group Lecture.	Mr. K. Batchelor	"Impedance Matching and Standing- Wave Measurements"

External Events

Monday, 14th November, 5.30 p.m. Savoy Place, London, W.C.2.	I.E.E. Meeting (Electronics and Communications Section).	Discussion opened by Dr. G. B. Chaplin and Dr. R. W. Scarr	"Tunnel-Diode Applications and Circuitry"
Wednesday, 16th November, 2 p.m. Conference Room, Building 8.9, A.E.R.E., Harwell.	Theor. Physics Seminar	Mr. R.T.P. Whipple	"Beam Probes"

Correction

✓ The unofficial report in last week's Bulletin (taken from Nucleonics Weekly, Vol.1, 20th October, 1960) of Professor V. F. Weisskopf's appointment as Director-General of C.E.R.N., should have stated that he would succeed Dr. J. B. Adams, the present Director-General, when Dr. Adams' other appointment as Director of the A.E.A. Establishment at Culham becomes full-time in August, 1961.

✓ It has since been officially announced from C.E.R.N. that Professor Weisskopf has accepted an appointment as one of the research members of the C.E.R.N. Directorate. This Directorate, which has been formed to assist the Director-General, will consist of five members: the Director-General, two members for research, one for applied physics, and one for administration.

G. L. COOPER

11th November, 1960.

MSG.

RUTHERFORD LABORATORY BULLETIN NO.11

for the week commencing Monday, 21st November, 1960.

N.I.R.N.S. Annual Report for 1959-60

✓ The Third Annual Report of the National Institute will be published on Wednesday, 23rd November. Copies will be distributed to Laboratory staff during the week.

Visiting Committee

The Visiting Committee of the Institute met at the Rutherford Laboratory on November 11th. Professor Massey of University College, London, is the Chairman of this Committee, which consists essentially of senior representatives of the university users of the Laboratory, and advises the Director and the Governing Board on matters relating to the experimental use of the accelerators. Two of their conclusions are as follows:

- ✓
- (a) They considered that the programme of experiments on the P.L.A. is a very full one, and will continue to occupy the machine to capacity when it goes on to 24-hour operation at full power next year. While exceptional cases must be allowed for, they recommended that the present number of experiments is the maximum which should normally be scheduled.
 - (b) It was decided to form a study group to begin to identify the first experiments to be prepared on Nimrod.

Unclaimed Mail

✓ The following letter is awaiting collection from Mr. E. Newberry, Bldg.R.1:

From Messrs. Hoffmann Manufacturing Co. Ltd., Chelmsford, Essex.
Catalogues of Ball and Roller Bearings (in reply to enquiry dated 28th October, 1960)

Internal Events

Thurs., 24th Nov., 11 a.m., Conf. Room, Bldg. R.1 (A resume of the Berkeley Conference, and an account of recent work at CERN)	Theor. Group Lecture	Dr. Y. Goldschmidt- Clermont (CERN)	"Bubble Chamber Data Reduction"
Fri., 25th Nov., 11 a.m., P.L.A. Conf. Room, Bldg. R.12	P.L.A. Group Lecture	Mr. K. Batchelor	"Measurements on Cavity Resonators"
Mon. 28th Nov., 11 a.m., Conf. Room, Bldg. R.1	Theor. Group Colloquium	Dr. P. Matthews (Imperial College)	"Strong Inter- actions"

External Events

Tues., 22nd Nov., 7 p.m. School of Management Studies, Unity Street, Bristol.	Brit. I.R.E. Meeting (South-Western Section)	Mr. E. Wolfendale	"Transistors in Control Circuits"
Wed., 23rd Nov., 2 p.m. Conf. Room, Bldg. 8.9, A.E.R.E.	Theor. Physics Seminar	Prof. M.H.L. Pryce (Bristol University)	"The Momentum Carried by Phonons"

G. L. COOPER

18th November, 1960

SA.

RUTHERFORD LABORATORY BULLETIN No. 12.

for the week commencing 28th November, 1960

HYDROGEN BUBBLE CHAMBER

✓ A number of major parts for the British National Hydrogen Bubble Chamber arrived at the Laboratory on Wednesday, 23rd November. These were the chamber itself (an aluminium alloy forging, measuring 88" x 44" x 31" and weighing 2½ tons) two large clamping flanges for the windows, 88" x 44" x 17", and one of the hydrogen shields. The chamber and flanges were made by High Duty Alloys Limited, Redditch, Worcs., from a single casting, probably the largest light alloy casting ever produced.

The Chamber, which will hold 500 litres of liquid hydrogen, will be assembled and tested before being shipped to C.E.R.N., as mentioned in Bulletin No. 10.

NIMROD INJECTOR ROOM

✓ The present state of installation in the Nimrod Injector Room has resulted in the area being highly congested, and for safety reasons it would be appreciated if general 'sight-seeing' visits there by staff and visitors to the Laboratory could be restricted as much as possible until further notice. Anyone who particularly wishes to take visitors into the Injector Room should first consult a senior member of staff engaged on the installation.

UNCLAIMED MAIL

✓ The following letter is awaiting collection from Mr. E. Newberry, Building R.1:

From Messrs. Aero Controls Limited, of Northampton. Quotation for Jacking Units and Caps for Jack Brackets (in reply to enquiry made on 18th November, 1960).

STORES CATALOGUES

✓ A comprehensive distribution list of A.E.R.E. Stores Catalogues is being prepared by Specifications and Manuals Section. Requests to be placed on this distribution list should be made to Mrs. B. Medley, S.&M. Section, Building 511/T, Ext. 2125.

INTERNAL EVENTS

Mon., 28th Nov., 11 a.m., Conf. Room,*	Theor. Group Colloquium	Dr. P. Matthews (Imperial College)	"Strong Inter- actions"
Wed., 30th Nov., 2 p.m., Conf. Room, Building R.1	P.L.A. Group Nuclear Physics Seminar	Dr. P.E. Cavanagh (A.E.R.E.)	Progress Report by the Proton Physics Group
Fri. 2nd Dec., 11 a.m., P.L.A. Conf. Room, Building R.12	P.L.A. Group Lecture	Dr. C. J. Batty	"Elementary Nuclear Physics" (First lecture of new series).

EXTERNAL EVENTS

Mon., 28th Nov., 6 p.m., Savoy Place, London, W.C.2	I.E.E. Education Discussion Circle	Prof. G.H. Rawcliffe and Dr. G.A.V. Sowler	"Training for Research"
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*Building R.1

EXTERNAL EVENTS (Cont'd)

Wed., 30th Nov., Theor. Physics Dr. R. J. Tayler "Theoretical Plasma
2 p.m., Conf. Room Seminar Physics and Astro-
Bldg. 8.9, A.E.R.E. Physics at the Max
Planck Institute"

Thurs., 1st. Dec., Lecture under the Mr. Purcell "Some Character-
5.45-7.15 p.m., auspices of the (Westinghouse Brake istics and
Cockcroft Hall, Assoc. of and Signal Co. Ltd) Applications of
A.E.R.E. Supervising Electrical Silicon
Engineers Controlled
Rectifiers."

Thurs. 1st. Dec., 5.15-8 p.m., and Fri., 2nd Dec., 10 a.m.-4 p.m. Cockcroft Hall,
A.E.R.E., Exhibition of Semi-conductors by the Westinghouse Brake and Signal Co.,
Ltd.

Fri., 2nd Dec., Brit. I.R.E. Messrs. D. Roberts, "Progress in
London School Meeting D.S. Campbell, and Microminiature
of Hygiene and (Computer P.M. Thompson Circuit Tech-
Tropical Medicine, Group) niques for Digital
Keppel Street, Computers"
W.C.1.

Fri., 2nd Dec., to Moor Park College, London University Residential Week-end
Sun., 4th Dec. Farnham, Surrey Course, "Science and the State."

(Details are displayed on the Library notice-board, Building R.1)

G. L. Cooper.

28th November, 1960

RUTHERFORD LABORATORY BULLETIN NO. 13

for the week commencing 5th December, 1960

VISITS ABROAD

Dr. T. G. Pickavance will be in Geneva from 7th to 10th December, to attend a C.E.R.N. Council meeting.

Mr. P. Bowles and Mr. J. C. Louth will be in Switzerland from 7th to 10th December. They will visit Brown-Boveri Limited for technical discussions and inspection of equipment on test, and also C.E.R.N. for discussions on machine operation and engineering services.

Mr. W. Boyd and Mr. R. Billinge will visit Saclay, France from 8th to 14th December to participate in experiments on the 'Saturne' machine.

Mr. K. Batchelor and Mr. C. F. Bradshaw will visit C.E.R.N. from 13th to 18th December for discussions on linear accelerators.

EXTRA-MURAL RESEARCH

An Agreement has been signed with University College, London, under which the Institute will finance a 2-year development project, to be carried out by the College on behalf of the Laboratory, covering the design and construction of a Heavy Liquid Bubble Chamber for use with Nimrod. The College expenses covered by the Agreement are estimated to be £50,000, and the total cost of construction of the Chamber and associated buildings, £420,000.

UNCLAIMED MAIL

The following letter is awaiting collection from Mr. E. Newberry, Building R.1:

From Messrs. Dzus Fastener Europe Ltd., Farnham, Surrey, enclosing catalogue.
(In reply to letter dated 24th November, 1960.)

INTERNAL EVENTS

Friday, 9th December, 11 a.m., P.L.A. Conference Room, Building R.12	P.L.A. Group Lecture	Dr. C. J. Batty	"Elementary Nuclear Physics" (2nd Lecture)
Monday, 12th December, 11 a.m., Conference Room, Building R.1	Theor. Group Colloquium	Dr. J.C. Polking- horne. (Cambridge University)	"Analyticity and Physics"

EXTERNAL EVENTS

Tuesday, 6th December, 5.30 p.m., Savoy Place, London, W.C.2	I.E.E. Meeting (Measurements and Control Section).	Prof. D. Gabor, Dr. W.P.L. Wilby, and Dr. R. Woodcock	"A Universal Non-linear Filter, Pre- dictor and Simulator, which Optimizes itself by a Learning Process"
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EXTERNAL EVENTS (cont'd.)

Tuesday, 6th
December,
7.30 p.m.
Town Hall,
Oxford. Institute of
Production
Engineers
Meeting. Mr. D.G.W. Claydon "Non-
destructive
Testing as
an Aid to
Production"

Wednesday, 7th December, and Thursday, 8th December, 10 a.m. -
4.30 p.m., Games Room, Social Club, A.E.R.E. Demonstration of
Calibration, Measuring and Test Equipment by Bryans Aeroequipment Ltd.

Thursday, 8th
December,
3 p.m.,
Cockcroft Hall,
A.E.R.E. I.Mech.E.
Lecture Mr. K.D. Cooper "Photography
as an
Experimental
Tool"

Thursday, 8th
December,
6.30 p.m.,
University of
Birmingham. Institute of
Physics and
Physical Society
Lecture Prof. P.B. Moon,
F.R.S. "Gamma-Ray
Spectroscopy"

Monday, 12th
December,
5.30 p.m.,
Savoy Place,
London, W.C.2 I.E.E. Meeting
(Electronics
and
Communications
Section) Dr. P.R. Bryant "Topology
Concepts in
Network
Theory"

G. L. COOPER

2nd December, 1960.

RUTHERFORD LABORATORY BULLETIN NO. 14
for the week commencing 12th December, 1960

VISITORS

A party of 25 students from the Newbury College of Further Education will visit the Laboratory on Monday, 19th December, 1960.

TRANSISTOR LECTURES

A series of 11 lectures on Transistor Theory and Applications has been arranged for Tuesday evenings, from 5.30 p.m. onwards, starting on 17th January, 1961. The lectures will be given in the Cockcroft Hall by a panel of lecturers from Mullard Research Laboratories. Further details will be announced early in January.

VACUUM TECHNOLOGY COURSE

A course of 12 lectures, with related practical work, on Basic High Vacuum Technology will be held in the Physics Department of the Brunel College of Technology, Acton, London, W.3, commencing on Monday, 2nd January, 1961, from 6.30 p.m. to 9.30 p.m. The fee for the course is £1. Further details may be obtained from the Technical Training Office, Building 328T, Ext. 3331.

I.E.E. MICROWAVE CONFERENCE

The Electronics and Communications Section of the I.E.E. will be holding a three-day conference on Microwave Measurements in September, 1961, at Savoy Place. The organising committee welcomes papers, which should be submitted before 15th February, 1961. In conjunction with the Conference, an exhibition of microwave measurement techniques will also be held.

INTERNAL EVENTS

Monday, 12th December, 11 a.m., Conference Rm., Building R.1.	Theor. Group Colloquium.	Dr. J.C. Polkinghorne (Cambridge University)	"Analyticity and "Physics."
Wednesday, 14th December, 2 p.m., Conference Rm., Building R.1.	P.L.A. Group Nuclear Physics Seminar.	Mr. R. Wahl ("Inter- technique," Paris).	"Transistorised Equipment, including Multi- Channel Analysers, for Nuclear Research."
Friday, 16th December, 11 a.m., P.L.A. Conference Rm., Building R.12.	P.L.A. Group Lecture.	Dr. C.J. Batty	"Elementary Nuclear Physics." (3rd Lecture)

EXTERNAL EVENTS

Monday, 12th December, 5.30 p.m., Savoy Place, London, W.C.2.	I.E.E. Meeting (Electronics and Communi- cations Section).	Dr. P.R. Bryant	"Topology Concepts in Network Theory."
Tuesday, 13th December, 5.30 p.m. 4.7 Belgrave Sq., London, S.W.1.	Inst. Physics and Phys. Soc. Lecture.	Dr. E.H. Putley	"A Photo- conductive Detector of Sub-Milli- metre and Millimetre Wave Radiation"

EXTERNAL EVENTS (contd.)

Wednesday, 14th December, 2 p.m., Conference Rm., Building 8.9, A.E.R.E.	Theor. Physics Seminar	Mr. M.J.B. Powell	"A Scheme for Handling Functions on an Automatic Computer"
Wednesday, 14th December, 7 p.m., Lanchester Building, University of Southampton.	Brit. I.R.E. Meeting (Southern Section)	Mr. A.E. Crawford	"Some New Piezo-Electric Devices."

ACCELERATOR NEWS

Great Britain

✓ The U.K.A.E.A. have received delivery of a mobile 4.3 MeV electron linear accelerator, believed to be the first of its type in the world. The machine, designed by Mullard Research Laboratories, will be used to make X-ray examinations of the steel pressure vessels of nuclear power stations under construction, with the minimum of disturbance to work on the site. It will be used for the first time at the C.E.G.B's Trawsfynydd power station being built in Merionethshire.

U.S.A.

✓ The University of Pennsylvania has received a £360,000 grant from the American National Science Foundation to buy a 12 MeV tandem generator. The equipment will be used in low energy nuclear physics research.

G. L. COOPER

9th December, 1960.

RUTHERFORD LABORATORY BULLETIN No. 15.

for the week commencing 19th December, 1960

RUTHERFORD LABORATORY RESTAURANT

Treasury approval has been received for the building of a Restaurant at the Rutherford Laboratory, at an estimated cost of £85,500. The site proposed is at the South-East end of the Laboratory.

INTERNAL EVENTS

No internal events have been notified for this week.

The P.L.A. Group Lectures on Elementary Nuclear Physics, and the series of Theoretical Physics Colloquia have been discontinued until early January, 1961.

EXTERNAL EVENTS

Tues., 20th Dec., 5.30 p.m., Savoy Place, London, W.C.2	I.E.E. Meeting (Measurements and Control Section)	Mr. L. Airey	"Digital Trans- ducers."
Wed., 21st Dec., 5.30 p.m., Savoy Place, London, W.C.2	I.E.E. Meeting (Electronics and Communications Section)	Mr. L. J. Ward	"Micro- miniaturization"

Tues., 3rd Jan., 4.30 p.m., Main Lecture Theatre, Physics Dept., Imperial College, London, S.W.7. Lecture by Prof. D. A. Glaser on "The Bubble Chamber".

The A.E.R.E. Theoretical Physics Seminars are discontinued until 4th January, 1961.

FOREIGN NEWS

The following is a summary of several Press Releases, recently issued by C.E.R.N.:

The appointment of Professor V. F. Weisskopf as the fourth Director-General of C.E.R.N. was officially announced following the 18th Session of the C.E.R.N. Council held on 8th December. Professor Weisskopf will serve for two years from 1st August, 1961, in succession to Dr. J. B. Adams.

The members of the new C.E.R.N. Directorate, appointed to help the Director-General, have also been announced, together with the membership of the new Committee of Council, elected on 9th December.

As from 1st January, 1961, the number of Divisions at C.E.R.N. will be increased from six to twelve. These will be the following: Proton Synchrotron, Synchro-Cyclotron, Nuclear Physics Experimentation, Engineering, Data handling, Theory, Track Chambers, Nuclear Physics Apparatus, Accelerator Research, Site and Buildings, Finance, and General Administration.

The C.E.R.N. Budget for 1961 will amount to 67.7M Swiss Francs (about £5.5M).

The application by Spain to join C.E.R.N. has been accepted, and will take effect from 1st January, 1961. This will increase the number of Member States to 14.

(Copies of these Press Releases may be seen in the N.I.R.N.S. Library, Building R.1.)

G.L.Cooper

C. J. HEMING

RUTHERFORD LABORATORY BULLETIN No.16.

for the week commencing Monday, 2nd January, 1961

VISITS ABROAD

✓ Mr. K. Batchelor of the P.L.A. Group will visit the Brookhaven National Laboratory, U.S.A., from 8th January to 17th February, where he will be attached to the Group working on the injector of the new 30 GeV Proton Synchrotron. He will also visit the University of California Radiation Laboratory at Berkeley and the Argonne National Laboratory for discussions on proton linear accelerators.

EXTERNAL COURSES

✓ A course of 10 lectures on "Digital Computer Methods in the Solution of Partial Differential Equations" is to be held at the Royal Technical College, Salford, on Tuesdays (6.30 - 8.30 p.m.) commencing 10th January. The fee is £1 18s. 6d. (Further details may be obtained from the Principal of the College).

A course of 15 lectures on "Nuclear Particle Techniques" will be given at the Borough Polytechnic, London, S.E.1., on Wednesdays at 7 p.m. commencing 11th January. The fee is £2 10s. Od. (Further details are given on the P.L.A. Notice-Board opposite Lab. 19, Building R.12).

EXTERNAL EVENTS

X Tues., 3rd Jan., 4.30 p.m. Physics Dept., Imperial College, London. S.W.7.	Prof. D. A. Glaser (University of California)	"The Bubble Chamber"
Mon., 9th Jan., 5.30 p.m., Savoy Place London, W.C.2.	I.E.E. Meeting	Dr. G. H. Metson
		"Recent Research in Thermionics"

ACCELERATOR NEWS

✓ An 8 MeV linear electron accelerator, claimed to be the world's most powerful X-ray machine designed for the high speed radiography of metals, is now being built by the High Voltage Engineering Corporation of Burlington, Massachusetts, for installation at the A. O. Smith Corporation plant, Milwaukee, this Spring. The machine, which will have a focal spot variable between 1 and 5 mm., will produce 6,000 R/min. at full power and be able to radiograph steel up to 18 inches thick.

B. E. Kingdon

RUTHERFORD LABORATORY BULLETIN No. 17

for the week commencing Monday, 9th January, 1961

VISITORS

✓ Senior representatives of Messrs. Brown-Boveri Limited, makers of the converter equipment for the Nimrod power supplies will visit the Laboratory on Tuesday 10th January for discussions with Mr. P. Bowles.

VISITS ABROAD

✓ Dr. L. C. W. Hobbis and Mr. E. W. Kendall of the Nimrod Injector Group leave for Grenoble, France on 8th January for discussions with S.A.M.E.S. on E.H.T. equipment. They will also visit C.E.R.N. for discussions with the Proton Synchrotron Group.

HIGHER DEGREE AWARD

✓ Mr. R. W. Newport of Liverpool University, a member of the Hydrogen Bubble Chamber Group working at the Laboratory, has been awarded a Ph.D. for his thesis on the capture of negative pions by protons in a liquid hydrogen bubble chamber.

UNCLAIMED MAIL

A letter from Messrs. J. G. Meakes Limited, Bridge Works, Marlow, Bucks., is awaiting collection from Mr. E. Newberry, Building R.1

INTERNAL EVENTS

X Fri., 13th Jan., P.L.A. Group Dr. C. J. Batty "Elementary
11 a.m. P.L.A. Conf. Lecture Nuclear Physics"
Room, Building R.12 (4th Lecture)

EXTERNAL EVENTS

X Wed., 11th Jan., Brit. I.R.E. Dr. G. F. Taylor "Multi-layer
7 p.m., London Lecture Switching
School of Hygiene and Tropical Medicine, Keppel Street, W.C.1. Devices"

Mon., 16th Jan., - The 1961 Annual Exhibition of the Institute of
Fri. 20th Jan., Royal Physics and the Physical Society.
Horticultural Society's (Tickets available from Mr. E. Newberry Building
Halls, Westminster, S.W.1. R.1).

G. L. COOPER

Mr. B. Kingdon
P. 20

RUTHERFORD LABORATORY BULLETIN NO. 18

for the week commencing Monday 23rd Jan. 1961

INTERNAL EVENTS

Monday, 23rd Jan. 11 a.m., Conference Room, Building R.1.	Theoretical Group Colloquium	Mr. N. M. King	"Aspects of Beam Handling Theory "
X Wednesday, 25th Jan. 2.00 p.m., Conference Room, Building R.1.	P.L.A. Group Seminar	Prof. L.R.B. Elton, (Battersea College of Technology.)	"Evidence of Nuclear size from Nuclear interactions"
Monday, 30th Jan. 11 a.m., Conference Room, Building R.1.	Theoretical Group Colloquium	Prof. C.C. Butler (Imperial College of Science and Technology)	"Bubble Chamber Physics."

EXTERNAL EVENTS

X Tuesday, 24th Jan. 5.30 p.m., Cockcroft Hall, A.E.R.E.	Lecture	Mr. J.R.A. Beale (Mullard Research Laboratories)	"Transistor Theory, design & construction (2nd of a series of Lectures).
Wednesday, 25th Jan. 2.00 p.m., Conference Room, Building 8.9, AERE	Theoretical Physics Seminar	Mr. A.R. Curtis	"Character- istics of the Atlas Computer"
X Friday, 27th Jan. 4.15 p.m., Lindemann Lecture Theatre, Clarendon Laboratory, Oxford.	Colloquium	Dr. J.H. Mulvey (Clarendon Laboratory)	"Research in Nuclear Physics by the Photo- graphic Emulsion Group"

UNCLAIMED MAIL

The following letters are awaiting collection from Mr. E. Newberry,
Building R.1:

- From Messrs. Roneo Ltd., London W.1.
- Messrs. Firth-Vickers Stainless Steels Ltd., Birmingham
- Messrs. Taylor, Tunnicliff & Co. Ltd., London W.C.1.

G. L. COOPER

20th January, 1961.

RUTHERFORD LABORATORY BULLETIN NO. 19

for the week commencing Monday, 30th January 1961

VISITS ABROAD

- ✓ 1. Dr. D. J. Thompson of the Nimrod R.F. Group leaves for Eindhoven, Holland on 30th January to visit Messrs. Philips, manufacturers of the ferrite frames for the Nimrod accelerating unit.
- ✓ 2. Mr. R. Sheldon of the Nimrod Vacuum Group leaves for Chicago on 5th February to attend a conference organised by the Reinforced Plastics Division of the American Society of the Plastics Industry Incorporated.
- ✓ 3. Dr. W. Galbraith leaves for Lemont, U.S.A. on 5th February to attend a meeting of the Argonne Accelerator Users Group at the Argonne National Laboratory. He will be away for approximately one week.

INTERNAL EVENTS

Monday, 30th January, 11 a.m. Conference Room, Building R.1.	Theoretical Group Colloquium	Professor C.C. Butler (Imperial College of Science & Technology)	"Bubble Chamber Physics"
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EXTERNAL EVENTS

Tuesday, 31st January, 5.30 p.m. Cockcroft Hall, A.E.R.E.	Lecture	Mr. L. G. Cripps (Mullard Research Laboratories)	"Basic electrical character- istics of transistors" (3rd of a series of Lectures)
Tuesday, 31st January, 6.30 p.m., Manson House, 26 Portland Place, W.1.	Meeting of the Society of Instrument Technology	Mr. L. S. Yoxall	"Instrument- ation past, present and future."
Friday, 3rd February, 4.15 p.m. Lindemann Lecture Theatre, Clarendon Laboratory, Oxford.	Colloquium	Dr. W. A. Nierenburg	"Atomic Beam research at Berkeley."

EXHIBITION

✓ A mobile showroom from Marconi Instruments Ltd. will be visiting Harwell on Monday and Tuesday 30th and 31st January. The exhibition which contains a representative range of new equipment including a 10 Mc/s electronic counter, will be open from 11.00 a.m. to 4.30 p.m. on both days and will be situated on the North Side of the Social Club, A.E.R.E.

27th January, 1961.

G. L. COOPER