

21 May 1979 No.10

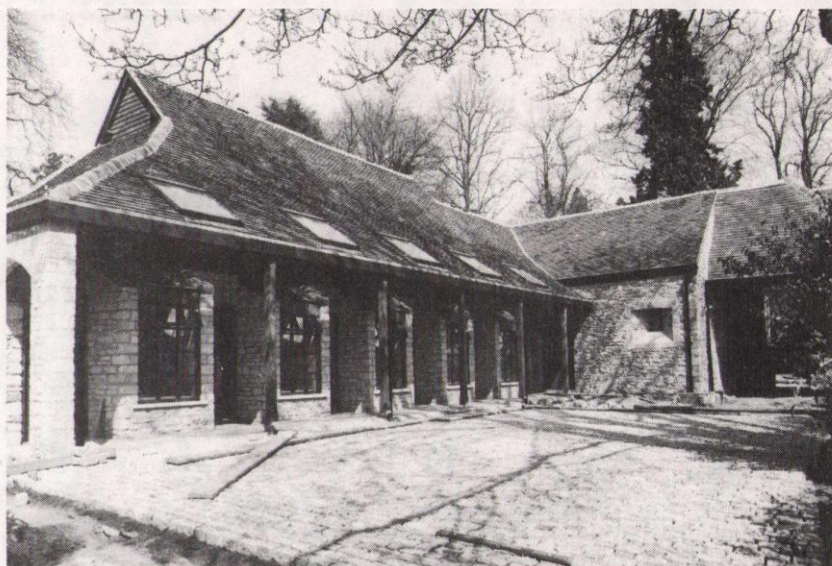
## The Many Facets of EBWD

The work of the Engineering and Building Works Division falls broadly into two categories (1) a service to the Rutherford Laboratory in the maintenance and operation of building, civil, mechanical and electrical site services and plant, and (2) a Council-wide function to other SRC establishments providing an engineering and architectural consulting service embracing the design, construction and maintenance of buildings and plant, some of which are of a highly specialised nature. As part of this function the Division also carries out assessments and technical investigations on certain Research Grant Applications from Universities.

### Essential Services

The provision of services has little glamour and does not attract attention until things go wrong. A comprehensive planned maintenance system helps to ensure that failures are minimised, but even so breakdowns occur and have to be quickly attended to. A 24 hours a day cover is maintained for essential services, and technicians are available at all times by phone as a back-up. In winter for instance, an eye is kept on the weather and salting and gritting is organised early in the morning when there is ice or snow so that roads and footpaths are safe for the arrival of the main body of staff. Much of the maintenance work is tedious (Portable Tool testing with over 5000 items in circulation is a classic example) but the work is vital for the smooth and safe working of the laboratory.

One important area of activity concerns electricity supplies to the site together with steam, gas, water and compressed air. Meters are read frequently to monitor consumption, and tariffs have to be negotiated with AERE and the SEB. Over a number of years steam consumption has been drastically reduced by better management and Optimum Start Controls on heating systems - without these savings the laboratory bill for steam would be over £200,000 per annum more than the present level. The Optimum Start Controls now being fitted incorporate sophisticated microprocessors and have little in common with the first controllers fitted only a few years ago. Technology marches on! The next stage is foreseen as having a central microprocessor in the R18 Workshop, providing instant information about the state of key



*The Cosener's House Stable conversion nearing completion*

plants around the site, together with remote control functions on some of them.

### Wide Range

Since its formation in 1972 the Science Research Council Works Unit has carried out a wide range of work for the various establishments.

This has included such items as an exhibition centre at the Royal Greenwich Observatory, opened by Patrick Moore and subsequently extensively visited by the general public. New boilers and uprated heating installations, new specialised photographic facilities and a building floor lighting scheme are examples of some of the work carried out by the Council Works Unit for the Royal Observatory, Edinburgh. Extensive new building works are in progress at both these establishments. A wide variety of work has also been undertaken for the Appleton Laboratory, not only at Slough but also at the radio telescope site at Chilbolton and the tracking station at Winkfield. An interesting project undertaken for the Appleton Laboratory by the CWU is the investigation of possible designs for a suitable housing for the proposed Millimetre Wavelength Telescope. Part of this work involved wind tunnel tests on a model of a possible enclosure.

### At the Rutherford Lab

The Unit's work at the Rutherford Laboratory has included such projects as the Library, the Laser Facility, the Electron Beam Lithography Facility, several computer installations, R25 extension, R63 and R18 office blocks, the new SNS control centre etc, etc. One particular scheme that has recently been completed is the conversion of the old stable block at the Cosener's House into self-contained study bedrooms. The Cosener's House is a building scheduled as being of historical and architectural interest and is within the Abingdon conservation area. This means that all designs have to be compatible with the surrounding buildings. Approval by both the Local Planning Authority and Central Government is required. Although the bedrooms have modern amenities, traditional materials such as stone for the walls and clay roofing tiles have been used in the construction. The extensive works in preparation for the Infra-Red Astronomical Satellite Project (IRAS) in the R1/R20 vicinity must have been noticed by many laboratory staff. The 12 m diameter dish will be assembled in situ by personnel of the Engineering and Building Works

(continued on page 2)



# INTERNAL Events

## NIMROD LECTURE SERIES LECTURE THEATRE - 1130 hrs

21 May: Dr R Cashmore/Oxford  
"TASSO Results at PETRA"

4 June: Dr D Websdale/I.C.  
Title to be announced.

## HEP SEMINARS

R61 CONFERENCE RM - 1100 hrs

28 May: Prof J G Taylor/King's  
"Unification/Superunification  
and Superalgebras"

30 May: W S Deans/Durham  
Title to be announced.

# EXTERNAL Events

## NPD COLLOQUIUM

H.8. AERE HARWELL - 1530 hrs

24 May: Dr I P Jones/AERE  
"Gas Flow in Centrifuges"

31 May: Dr W D Hamilton/Sussex  
"Gamma-ray anisotropics  
following Neutron Capture  
by Polarised Nuclei"

7 June: Dr G Dearnaley/AERE  
"The Ion Implantation of  
Metals and Carbides"

## PHYSICS COLLOQUIA

CLARENDON LAB - OXFORD - 1615 hrs

25 May: Prof S Drell/SLAC  
"The Concept of  
Elementary Particles"

1 June: Dr D N Stacey/Oxford  
"High Resolution Optical  
Spectroscopy of Atoms"

## THEO.PHYS.SEMINARS

SCHUSTER LAB. MANCHESTER - 1630 hrs

23 May: Dr M Stott/Daresbury  
"Some Universal Features  
of Atoms in Solids"

30 May: Dr M V Berry/Bristol  
"Scaling Laws in Wave  
Physics"

6 June: Prof S Koonin/Cal Tech  
"TDHF Nuclear Collective  
Motion"

## THEP SEMINARS

SOUTHAMPTON - 1430 hrs

23 May: Prof D Amati/CERN  
"The Structure of Hard  
Processes from QCD"

## PART.PHYS.DISC.GP.

BIRMINGHAM - 1615 hrs

25 May: Dr G Ross/Oxford  
"Factorisation and QCD"

1 June: Dr D Fairlie/Durham  
"Higgs Fields and the  
Determination of the  
Weinberg Angle"

8 June: Dr R Cashmore/Oxford  
"Recent Results from PETRA"

## HEP SEMINARS

DAMTP CAMBRIDGE - 1500 hrs

25 May: Dr D Amati/CERN  
"Structure of Hard  
Processes from QCD"

1 June: A B Clegg/Lancaster  
"Jets from Real Photons?"

## HEP SEMINARS

CAVENDISH LAB: CAMBRIDGE - 1500 hrs

23 May: Dr D Duke/RL  
"Asymptotic Freedom and  
Deep Inelastic Scattering"

6 June: Dr J D Dowell/Birmingham  
Title to be announced.

## ELEM.PART.PHYS.SEMINARS

WESTFIELD COLLEGE - 1400 hrs

23 May: Dr K Hidaka/Westfield  
"Spin-Spin Asymmetry in  
Large -  $P_T$  Pair Production"

30 May: Dr I Halliday/Imperial  
"Space-Time Properties  
of Hadronic Collisions"

6 June: J Stirling/Cambridge  
"Status of Theory of  
Large  $P_T$  Reactions"

## THEO.PHYS.SEMINARS

CLARENDON LAB. OXFORD - 1615 hrs

31 May: Prof I W Roxburgh/QMC  
"Very Young Stars and  
HII Regions"

7 June: Dr N Rowley/Oxford  
"Semiclassical Methods in  
Potential Scattering and  
Bound State Problems"

## NUCLEAR PHYS.SEMINARS

NPD OXFORD - 1430 hrs

21 May: Prof. M Riou/Orsay  
"Collective Excitation in  
Heavy-ion Reactions"

28 May: Prof H J Andrä/Berlin  
"Nuclear Spin Polarisation  
by Atom-Surface Collisions  
at Grazing Incidence"

4 June: Dr S Koonin/Cal Tech  
"Time-Dependent Hartree -  
Fock Theory of Heavy Ion  
Reactions"

## THEO.PHYS.SEMINARS

QMC - 1615 hrs

21 May: Prof J S Bell/CERN  
Title to be announced.

4 June: Prof E Leader/Westfield  
"The Remarkable Discoveries  
at Argonne about Nucleon -  
Nucleon Spin Structure"

## THEO.ELEM.PART.PHYS.SEMINARS

NPD OXFORD - 1430 hrs

25 May: Prof R Jaffe/Oxford  
Quark Masses for Low and  
High  $Q^2$

## ELEM.PART.PHYS.SEMINARS

NPD. OXFORD - 1430 hrs

24 May: Dr D Amati/CERN  
"Jets and QCD"

## EBWD (continued from page 1)

Division and before very long a new feature will begin to appear on the skyline adjacent to building R58.

## Planning & Records

The Planning and Records section carries out a vital job in the planning, programming and financial control of the work of the Division. With Council Works Unit projects currently on the books to a value of approximately £3 million and a Divisional budget of about 1.5 million,

very strict budgetary control of all the diverse activities is required. Some of the work is already computerised and a terminal is now being installed in R18. This will facilitate more extensive use of computer techniques both for administrative control and design purposes. A large number of drawings (approx 13,000) are held by the division for R.L. and other establishments and a major exercise of microfilming all of these has just been completed.

So with jobs ranging from the replacement of leaking tap washers to the design of an unusual telescope housing to be installed on the top of a mountain in a foreign land, the work of EBWD can be truly described as interesting, varied and always demanding.

(We are indebted to Messrs B Brooks, A Downing and R Tolcher for this article).



# Inauguration of PETRA

On Thursday 26 April guests from many countries collected together at DESY, Hamburg, for the dedication of PETRA, the highest energy electron-positron storage ring. The ceremony was held in one of the large heavy laboratories enabling all the DESY staff to be present. Incidentally, Professor Herwig Schopper, Chairman of the Board of Directors of DESY, recommends Dedication Ceremonies as an excuse for clearing out large spaces in which large amounts of little used equipment collect over the years.

The speeches, with simultaneous translation into English, started with Professor Schopper giving a description of how Petra came to be built emphasising especially the international nature of the experimental teams working on PETRA.

A large map of the world showed involvement of physicists not only from Europe, but also from the USA, USSR, China and Japan. It was noticeable that the UK has the largest number of experimental groups outside West Germany. The First Mayor of Hamburg, Herr Hans-Ulrich Klose, and the Minister for Science & Technology, Dr Volker Hauff, spoke of the value of fundamental science while at the same time commenting on the need for science to make a contribution to the short-term benefit of the nation. The problems of assessing priorities for support of fundamental science were mentioned. The President of the CERN Council, Professor Jean Teillac, spoke



Professor H Schopper, Chairman of the Board of Directors of DESY, giving the opening address at the PETRA Dedication Ceremony (Photo: DESY)

of the international nature of high energy physics and the need to extend the facilities available. Professor A Zichichi, President of the European Physical Society, produced figures to show that the total amount of money ever spent on fundamental research was less than 10 days worth of the US gross national product.

Herr Walter Scheel, West German President, then dedicated PETRA to the scientific community, many of whom had already produced experimental results, following the building of PETRA inside the original schedule.

(We thank D A Gray for this report from Hamburg)

## Trade Catalogue Library

What firms make ...?  
Have you design data for ...?  
What are the operating speeds for ...?  
What semiconductor is equivalent to ...?

These are examples of the type of questions which can be answered from a Trade Catalogue Library. The libraries in R61 and R27 give access to massive amounts of information but not trade data except for a small collection of electronic data manuals and a few general trade publications. The demand for such information is increasing with the amount of instrumentation being constructed or bought on the Chilton site. The Library has been concerned that this area is not being covered in a comprehensive way. Small collections of catalogues in various stages of completeness can be found all over the site but there is no central collection covering all subjects. The main problems in organizing such a Library are collecting the catalogues, indexing them and keeping them up to date and it has not been possible to find the staff to run such a system properly.

From the end of May however the Library will subscribe to a commercial scheme of trade catalogues on film produced by Technical Indexes Ltd. About 18,000 catalogues are included in the

system which is updated every six months. TI Ltd supply the cassettes of film with indexes listing firms under the types of equipment with their address and telephone numbers.

The cassettes are viewed on a reader/printer so that A4 sized copies of the relevant pages can be taken away. Unlike other library systems the catalogues cannot "disappear" as they can only be viewed on special equipment. This is both an advantage and a disadvantage in that it means that the films must be kept in a central place and most users will have to walk to consult them. However, for simple inquiries just ring the Library ext 384 and a copy of the appropriate page will be sent to you. As with other Library services, the Trade Catalogue Library will be available at all times. It is being housed in the Study Area opposite the R25 end of the Main Library. TI Ltd also supply beer mats with a phone number to contact for information not on the cassettes.

This is not a perfect system but we hope that it will fill a need on site. Training courses will be given when the system is installed and the Library staff are there to help. We need feed-back from users to enable us to decide on a further subscription next year so all comments and queries would be welcome. Elizabeth Marsh ext 6668.

## OVERSEAS Visits

F E Close to Orsay from 21 May to 15 June for consultations.  
R M Richardson to ILL from 21 May to 1 June to carry out experiment UK 6/154.  
R J Gray to CERN from 21 May to 14 June.  
J C Thompson to CERN from 21-28 May to work on NA2 experiment.  
M Edwards to CERN from 22-29 May to test counters.  
L C W Hobbs to ILL from 24-25 May to attend ILL Steering Committee Meeting.  
R W Morgan to CERN from 25 May to 8 June to organise return of control rooms from WA2.  
W A Smith to Copenhagen from 27 May-1 June to attend CIB Conference.  
I N Ross to USA from 27 May to 5 June to attend conference and US research establishments.  
G E Kalmus to CERN from 28-30 May to attend SPSC Meeting.  
R A Lawes to USA from 28 May to 8 June to attend EBL Conference and visit Lithography centres.  
G W Brewer to CERN from 29 May to 1 June for installation of RCBC Bellows.  
R G Roberts to Cracow from 1-17 June to lecture at Summer School.



## SRC June Sports Day

28 JUNE at CHISWICH

Events	Contact
Football (6-a-side)	R A Lawes Ext 6328/6333
Cricket (6-a-side)	R E Smith Ext 293
Hockey	M E Claringbold Ext 598
Angling	P Craske Ext 232
Bowls	E Kirby Ext 6331
Tennis (Mens Doubles & Mixed)	Mrs L Claringbold Ext 214
Netball	Mrs S Underdown Ext 443

Social and Disco after at APPLETON LAB. More details next issue or from P Craske.

## The Curtis Bennett Shield

A combined SRC cricket team represented by Ray Smith (captain) Steve Hancock, Bob Blowfield, Eddie Smith, Jim Denly and Rob Hambledon from Rutherford Laboratory, Terry Paterson, Barry Martin, Alan Buck and Graham Thomas from Appleton Laboratory, plus John Philcox from Swindon Office, beat Royal Aircraft Establishment Farnborough, at Farnborough on Wednesday 9th May, in the Civil Service National Knock-out Competition. (The Curtis Bennett Shield).

Winning the toss, SRC batted first making a score of 157 all out, with useful innings from Barry Martin 34, Jim Denly 32, and Terry Paterson 22, well supported by the rest of the team who all made runs.

In reply RAE were dismissed for 140, most of these runs being due to a good knock by their number one batsman who scored 67.

John Philcox and Steve Hancock, SRC's main bowlers, returned very respectable bowling figures: Philcox 4 for 50 off 19 overs, Hancock 3 for 35 off 12 overs.

We look forward eagerly to the next round of the Shield which will be played at Wargrave early in June - our opponents are as yet unknown.

## Angling

### 1978/79 Season

It was a quiet season, with only 3 major events.

In July we fished a match versus British Rail (Didcot) in the Railway Pit adjacent to the station. We had a good result, a narrow win in the Team Event, and the Individual Winner was P Craske.

The Rutherford Individual Championship was again fished on the Thames at Clifton Hampden at the end of September. This year's winner was Charlie Halliday. (14 members fished).

The other event in which we competed was the Civil Service Southern Area Team Championship; fished on the River Stour at Ringwood. The previous year we had finished second, so this year we were looking for a first place. Alas, all did not go as planned and we finished well down the field.

## Crib

The Lunchtime Crib League has started with a very good response from players. There are 9 teams.

Some of the results from the first fixture were remarkable.

P Craske	beat	B Wheeler	2-1
A Grant	bt	J Ellis	2-1
B Childs	bt	B Holsman	2-1
C Grindrod	bt	T Lubbock	2-1
H Webb	bt	B Apsey	2-1

## Training

### "VACUUM TECHNOLOGY"

Reading College of Technology is proposing to offer, in September, a one year course, one evening a week, on the theory and practice of vacuum techniques.

Holders of the NHC in Applied Physics may, if they are successful in the terminal examination, receive an endorsement towards the Associateship of the Institute of Physics. Further information from Training Section R20. ext 266.

## Missing

The following item has been lost from the Heavy Duty Lab of R25:-

'Britool' Torque Wrench type AVT 300

Anyone knowing the whereabouts of this item please contact Brian Wyborn Ext 6215.

## Chess

There was only one Tournament this season. The Rutherford Individual Event, this year was an all-play-all with 10 players taking part. As usual some very good and enjoyable games were played. The overall winner was Peter Hemmings with 8½ points from 9 games. Roy Culliford with 7½ points was second.

## Christian Fellowship

17 May: The present series of Bible based discussions are proving both stimulating and interesting. We are finding out what makes a person 'tick' and how we relate to others in our daily lives. All are warmly invited to share with us at 12.30 pm in the R12 Conference Room.

24 May: All are welcome to come along to the R2 Conference Room at 12.30 pm when Mrs Newbold will be the speaker.

31 May: All are welcome to a half hour of music with a gospel emphasis arranged by Meyrick Wyard. 12.45 in the lecture theatre.

## Lunchtime Music

Wednesday 23 May 12.30 pm  
DEEP PURPLE - THE PURPLE  
SINGLES MK II.

A Group with a tremendous bassy sound. This record is part live performance and part studio tracks.

## National Savings

Weekly cycle No 23 certificates are available for collection from the Cash Office R20 from 30 May.

## Film Badge Notice

Period 6 commences on Monday 21 May. Colour strip RED for beta-gamma films. Please change your films promptly and return previous ones.

NOTE The Film Service has now moved to R12 (within the precincts of Safety Section). The 'phone number is still Ext 430



RUTHERFORD LABORATORY

# BULLETIN

Deadline for Insertions

1000 hrs Tuesday 29 May

Editor: Jean Banford

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