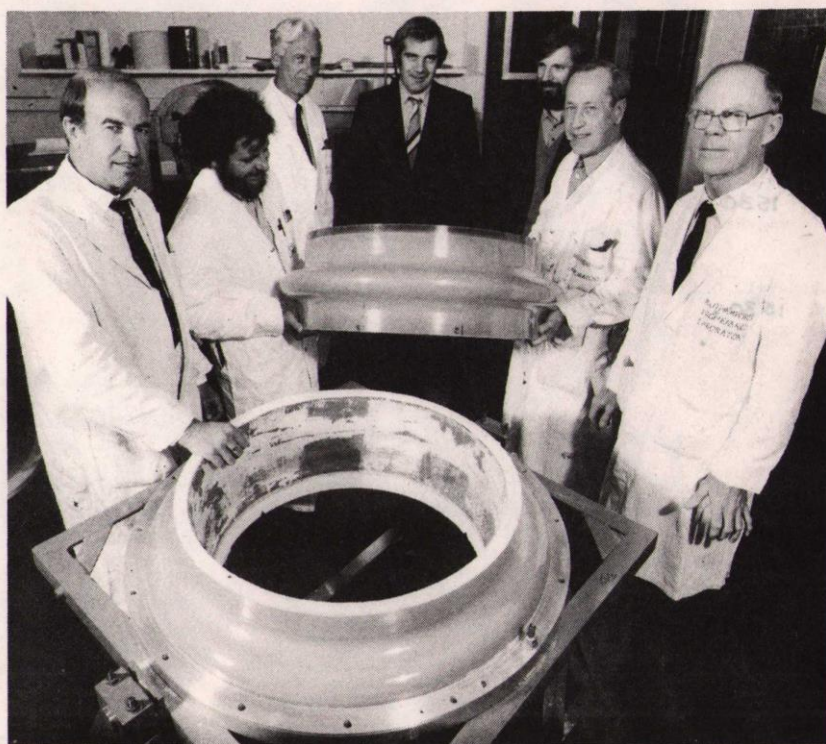


## Shaping for the Future

"I am pleased to inform you that your entry has been selected as one of the top ten mouldings of the 'Quality by Design Competition 1978'. The judges considered that your entry constituted a well presented quality design which fully met the stringent requirements laid down by the competition....."

This is an extract from a letter received from the British Plastics Federation informing the Lab's Chemical Technology Group that their entry has been selected for the final of a nationwide competition open to all plastics moulders in the U.K. The annual competition, organised by the B.P.F. and the journal 'Reinforced Plastics', is to encourage the design and manufacture of components which use the best features of reinforced plastics.



Members of the Chemical Technology Group with the RCBC Bellows

### Special Seal for RCBC

The Chemical Technology Group specialises in the manufacture of glass reinforced epoxy resin components for use in adverse environments. A recent application for this material is for a seal in the form of a circular bellows (0.83 m diameter and 0.2 m long) for the Rapid Cycling Bubble Chamber, currently being built for CERN. The bellows seals the piston to the bubble chamber and has to work in liquid hydrogen ( $20^{\circ}\text{K}$ ) and accommodate a piston stroke of  $\pm 3\text{mm}$  at 30Hz. Under these conditions it must have a service life of many millions of cycles. Because the system operates in a field of 3.0 Tesla, the design calls for a high quality glass-fabric epoxy resin composite with a high glass-to-resin ratio.

The Chemical Technology Group produced the bellows using a specially developed moulding technique. The first bellows was produced in November 1977 and had scarcely cooled after moulding when it was inspected by the Chairman of the SRC

on his first visit to the Laboratory. This bellows has since been cyclically tested in liquid nitrogen at CERN.

### Into the Top Ten

With the project's success, the group entered the moulding into the 'Quality by Design Competition 1978' and has been placed in the top ten entries, each of which will be exhibited at the Reinforced Plastics Congress 78 to be held in Brighton in November.

It is not often that those engaged in the peripheral activities of high energy physics get the chance to have their work assessed by the world at large. We congratulate the Chemical Technology Group and the RCBC design team whose combined efforts have led to this success. Best wishes for November!

(We thank David Evans for the information contained in this report).



# INTERNAL EVENTS

## HEP SEMINAR

Friday 29 September  
1100  
Lecture Theatre

Towards a Systematic Description of a Heavy Quark System in QCD.  
Dr P Senjanovic (Oxford University)

## SPECIAL LECTURES (NEUTRON RESEARCH)

Tuesday 3 October  
1530  
R61 Conference Room

Neutron Scattering Studies in Hungary Including Efforts at the IBR-2 Reactor  
Dr Norbert Kroó (Hungarian Academy of Sciences)

Wednesday 4 October  
1530  
R61 Conference Room

Lasers and Neutrons  
Dr Norbert Kroó (Hungarian Academy of Sciences)

# EXTERNAL EVENTS

## NUCL. PHYS. DIV. COLLOQUIA

Thursday 5 October  
1100 1530  
Conf. Rm. H8. AERE

Some Implications of Various Fuel Cycles  
Dr J R Askew (Winfrith)

Thursday 12 October  
1100 1530  
Conf. Rm. H8. AERE

Science and Security  
T D Sales (Electrical Research Assn).

## SPECIAL LECTURES (NEUTRON RESEARCH)

Dr Norbert Kroó (Central  
Institute of Physics of the  
Hungarian Academy of Sciences)

will be giving two lectures at the Laboratory:  
On 3 October he will discuss the latest results of neutron scatterings by incompletely ordered condensed systems as illustrated by data from experiments on nematic liquid crystals. A review of instrumentation will be given including the two dimensional correlation technique used at the Dubna pulsed reactor.

On 4 October he will discuss two aspects of the laser: Neutrons may pump gas lasers in the infrared or visible region of frequencies and in principle may serve as a pumping source of possible gamma-lasers. Some basic problems of this possibility will be discussed. On the other hand, lasers may be used to generate neutrons (D-T reaction) or accelerate them from thermal to epithermal energies with high efficiency. Some possible practical applications of this latter phenomenon will be reviewed.

## FILM BADGE NOTICE

It is Period 10. Colour Strip  
RED for beta-gamma films.

Next film change Monday 9 October when colour will be GREEN.

## WARNING GAS CYLINDERS

We are notified by AIR PRODUCTS LTD that stress corrosion has been found in a small proportion of their CARBON MONOXIDE CYLINDERS. If you have any of these cylinders in your possession, they should be returned to R24 STORES, Mr J. Talbot, for return to Air Products.

## LIFEBOAT FUND

The collection made at Rutherford  
by the Civil Service and Post Office

Lifeboat Fund amounted to £43.69.

We should like to thank all who contributed, and our particular thanks go to the Messengers who did such sterling service with the collection Boxes.

## OVERSEAS VISITS

Dr D A Garbutt to DESY from  
20-29 September to work on TASSO  
experiment. Dr N A McCubbin to CERN from 24-30 September to attend collaboration meetings.

Dr J J Thresher to CERN from 25-27 September to attend EHS Construction Committee and RCBC steering committee.

Drs S D Hoath and P Sharman to CERN from 25-29 September to attend meetings and discussions.

Dr J C Thompson to CERN from 25 September-4 October to study week and Main Collaboration Meeting.

Messrs M D Jeffs and J Hoskins to CERN from 25 September to service electronics.

Dr R J N Phillips to DESY from 24-27 September to attend conference and give lecture.

Mr J Moir to ILL from 25 September to 6 October to work on Neutron Lifetime experiment.

Dr C J Batty to CERN and ILL from 25-29 September to give proposal talk to PSSC committee at CERN, and to ILL for discussions.

Messrs M R Jane & P Blanchard to DESY 25-27 September for discussions.

Dr M Edwards to CERN from 25 September - 6 October to attend E.M.C. study week and collaboration meeting.

Mr A G D Payne to Grenoble from 25 September - 6 October. To work on spin rotation and Neutron Lifetime experiments.

Dr P Sharp to CERN from 25-28 September to work for Prop. 202.

Mr D Jones to DESY from 26-29 September to participate at ECA Annual General Assembly, to attend Conference of CAMAC, and to discuss PETRA.

Mr J Hiddleston to CERN from 27-30 September to attend collaboration meeting.

Mr H Hirst from 28 September - 6 October for discussions at CERN and to attend SEAS Annual Meeting at Stresa Italy.

Messrs C Balderson, A S Dunn, C D Osland, Dr T G Pett and Mrs A G Waters to Stresa (Italy) from 1-6 October to attend SEAS Annual Meeting.

Mr B T Payne to DESY 9-13 October, for installation of TASSO experiment.



## The Lady's not For Burning

On Friday 1 September 1978, in a brief but moving ceremony, Elizabeth Marsh (Librarian) declared the Rutherford Archives are open. It was indeed fitting that Mrs Marsh should have performed this office, since the archives owe their existence largely to her inspired ideas.

The project is still experimental and is aimed at determining the necessity and feasibility of establishing a Permanent Record. The question of necessity arises as a result of doubt regarding our legal obligation under the P. R. Act to preserve papers, and also to a feeling that, with the demise of Nimrod, efforts should be made to establish a coherent set of records, now, before they are lost. The latter need is most important in the eventuality of an official history of Nimrod.

At present there are three main groupings of documents in the archives; administrative records (e.g. Division Heads Committee papers), Nimrod records, and the personal paper of individual staff members. Further categories would include the Bubble Chamber projects, the EPIC programme and possibly the Atlas Laboratory. Administrative record holdings are still small, but quite a large amount of these exist elsewhere on microfilm. The Personal cat-

egory consists mainly of those papers which Dr Leo Hobbs generously donated to the archives at the beginning of the scheme so that experiments with regard to sorting, classification and collation time could be conducted. There are also documents formerly belonging to Dr Pickavance, yet been indexed.

The Archive Catalogue is now computerised as a result of the labour of Kate Crennell and Ann Walter of the Atlas Computing Division. A searchers guide has also been produced.

The eventual scope of the collection is yet unknown, since a survey of significant records remains to be undertaken.

In the meantime, if you have any papers which you no longer require, and which may be of historical relevance, it would be appreciated if, instead of consigning them to the nearest dustbin, you could consign them to the nearest archivist (in fact there is only one of me - Phillipa Gamse Ext. 6163). The Archives are situated in the stockroom below the Library, and anyone interested in braving them would be most welcome, and the staff would be pleased (also surprised) to see you.

### NATIONAL SAFE DRIVING AWARDS 1977.

The Royal Society for the Prevention of Accidents National Safe Driving Awards

for 1977 have been announced. It is our pleasure to congratulate the Laboratory drivers who have received the following awards:

H G Paterson - Silver Bar to 20 Year Medal  
(21 accident free years)  
E A Smith - 15 Year Medal. (15 Year)  
J Culley - 3 Year Bar to 10 Year Medal  
(13 years)  
D A Stock - 1st Year Bar to 10 Year Medal  
(11 Years)

We have great pleasure in congratulating them all on their achievements.

### TRAINING - Short Courses UNIVERSITY OF SHEFFIELD

Vibration Behaviour of Mechanical Systems.	9-20 Oct
Matrix Methods in Engineering Mechanics	30 Oct - 3 Nov
Instrumentation for Engineering Research and Testing	13-24 Nov.
Design to Avoid Failure	11-15 Dec.

### NATIONAL CENTRE OF TRIBOLOGY UKAEA RISLEY

Maintenance and Fitting of Dynamic seals	28 Nov.
Maintenance and Fitting of Rolling Element Bearings	14 Dec.

Full details may be obtained from Training Section Ext. 6285/266.

### SUGGESTIONS AWARDS

The following awards were approved at the last meeting of the Local Suggestion Awards Committee held on 22 June 1978:

J O Talbot £10, J A Robertson £25, J I Rodbourne £5 (Administration)  
D V Thorp £5 (Engineering & Building Works).  
R Croucher £250, H Webb £10 (Instrumentation)  
E Awdziejczyk. £200 and £125, P Champ £5, G Doman £10.  
R Greensmith £5. (S.N.S.)  
C A Adair £20 and £70, J Flynn £30, C Grindrod £20, B J Smith £10, (Technology)

J O Talbot was also awarded £15 by the Daresbury Awards Committee. Congratulations to all.

### SALES TO EMPLOYEES.

The sale of Scrap Metal/plastics as set out in RLN 12/75 will be made on October 6 and 20.

### LIBRARY NOTICES

Copies of the transparencies from the Tokyo High Energy Physics Conference are available in the Library for Xeroxing but NOT for loan.

All HEP Conferences are now being filed on shelves at the R1 entrance to the Library, not in their normal subject sequence. They are arranged by place. Please let the Library Staff know if this causes any difficulties.

Linguists are needed for fast and accurate translations of Scientific material.

Payment will be arranged where translations are done in private time. Contact Joan Homer. Ext. 384.

### 'CRIB' CLUB.

The Draw for the Crib Competition will take place on Tuesday 26 Sept. at 1300 in R22 Coffee Lounge. On the night of the Competition - 29 September - could you please be at R22 by 1930 sharp, so that we can start straight away. The 32 singles will be played first. An entrance fee of 20p per person will be made on the night.

### SLIMMING CLUB

It is hoped that a Lunchtime Slimming Club can be started, functioning on Wednesdays from 1230 - 1330 hrs in R61 Conference Room.

Initially 20 members would be all that the founders could cope with. - so get your bids in early! All potential sylphs, contact Pam Lloyd on Ext. 403 before 4 October, when the first meeting will be held.

### AERE EXHIBITION

A Trade exhibition of nuclear electronics, analysers etc will be held at the Education and Training Centre B.455 AERE from 25 - 29 September. The following Companies will be taking part:

Alrad Instruments Ltd.  
Canberra Instruments Ltd  
E G & G Ortec  
Intertechnique Ltd  
Le Croy Research Systems Ltd. (Mon - Wed)  
Link Systems Ltd. (Thurs - Fri).  
Nuclear Enterprises Ltd.  
Sension Ltd.



## A Votre Santé

Space was somewhat at a premium on Wednesday Sept 13th, when colleagues of Norman Wade gathered to wish him well, at his Retirement Presentation made by Dr John Thresher.

Norman joined Rutherford as a Patrolman in 1967, coming to us from the G.P.O. - coming home, in effect, to the airfield from which he had flown many sorties as a Flight Sergeant in the wartime R.A.F. He transferred to HEP Division in 1971, and rapidly became a linch-pin in its smooth running. Everyone was delighted when he received The Queens Jubilee Award.

Dr Thresher expressed the thanks of everyone for the unfailing kindness, cheerfulness and efficiency of Norman, and spoke for all, when he said, how sorely he would be missed.

Norman replied that this was a unique occasion - which had only happened to him twice! He had enjoyed his years with the Lab. and would remember them with pleasure.



27521.

The Conference Room was again full on Thursday 14 September when Anne Curran was presented with a delicate Silver Tray by Dr Valentine, on behalf of all her friends at Rutherford, who wished her every success with her new job and new life on the south coast.

Anne replied that she had enjoyed her time at the Lab, had made many friends, and thanked everyone for the beautiful gift, which she would always treasure.

Anne joined NIRNS in 1963, working for Dr Pickavance. She then moved through Wages, Travel and Claims, before coming to rest in Personnel. She will be missed by all.

### LUNCH-TIME FILMS AND MUSIC

the Lecture Theatre.

Wednesday 27 September.  
(Music)

Wednesday 4 October  
(Films)

Wednesday 11 October  
(Music)

The programme for the next month will be held, as usual, on Wednesdays at 1230 hrs in

"THE KING SINGERS"

'FOLLOW THE WIRE' - Sheffield Victoria to Manchester Piccadilly in 4 mins by rail.

"CORNISH ADVENTURE" - history and present status of the ancient tin-mining industry.

"THE BEST OF DAVE BRUBECK"

### HORTICULTURAL SOCIETY

Once again the society will be having a Cheese

and Wine 'Get-Together in the Coffee Lounge, on Thursday 12 October from 1930 - 2230 hrs. The cost is £1.75p per head for Members, £2 for non-members and joining members. The latter get their membership free!

Fifty two French cheeses will be available for tasting, supplied by the famous Streatley Cheese Shop - a flavour of the week for a whole year - and the wine will flow! Peter Corderoy will be in attendance with his D.I.Y. Beer and Wine Kits, and the 'World Wild Life' stand and 'Soft Toy' stand will make your Christmas Shopping an early pleasure.

Please contact Val Goodwin on Ext. 6658 if you wish to attend - all are very welcome.

### RUTHERFORD LABORATORY BULLETIN

Published by the Scientific Administration Group

Deadline for  
Insertions

Editor: Jean Banford

1000 hrs Tuesday 3 October

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Room 42 Building R20  
Rutherford Laboratory  
Chilton Didcot Oxon OX11 0QX  
Abingdon (0235) 21900 Ext 484