

27 June – 11 July 1977

JUBILATION DAY

Laboratory's future assured

"I'm sure our visitors today will understand the significance of the Secretary of State's announcement because when one is running a laboratory of this kind with huge projects, a continuity of these projects is essential to the efficiency with which it carries out its science and the well being of its staff". Words spoken by Sir Sam Edwards, the Chairman of the Science Research Council, after Government approval for the £11M SNS project had been announced at the Laser Inauguration lunch on Monday 20 June.

The day had started with last minute preparations; Sir Sam, who was to inaugurate the Central Laser Facility, arrived early and towards the appointed time, members of the Primary Party began to assemble.

Fortunately, a train derailment which had delayed some guests, did not unduly upset the timetable and with the arrival of Mr W O Ulrich, Deputy Secretary responsible for Science at the Department of Science and Education, the morning's events got under way.

After coffee and introductions in the Director's Conference Room, the Primary Party moved down to the Laser Laboratory for a short tour of the 'clean room'.

Having discarded their protective clothing the Primary Party joined members of the Laser Division in the Control Room.

Shortly after noon, Sir Sam pressed the button (photo on page 2), the warning tone came on and everyone waited for the 2 minute charging time to end.

At 12.06, the laser fired and by sheer coincidence, it was the 50th shot.

The popping of champagne corks heralded the start of

celebrations and all had gone well. The Central Laser Facility had been inaugurated by Sir Sam, the 50th shot had been a success and the 'pin-hole' camera had produced a photograph of the X-ray emission which was immediately held up for everyone to see.

Later everyone walked over to the Restaurant to meet the main group of guests, who had been arriving during the morning, for the Inauguration lunch and speeches. After proposing the 'loyal toast', the Director, Dr G H Stafford welcomed everyone present continuing - "As you all know, we had hoped that the Secretary of State, Mrs Shirley Williams would have been here to join us in our celebrations, but as you can all see, this is not so. We are very sad that affairs of state have unavoidably made it impossible for her to attend.

Fortunately, Mr Ulrich (Deputy Secretary) from the Department of Education and Science is here and will read the speech she planned to deliver".

Turning to him, Dr Stafford said - "I trust Mr Ulrich, when you return to the DES, you will convey our sadness to Mrs Williams that she was unable to attend but we

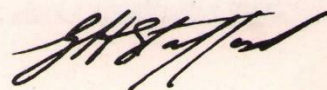
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Silver Jubilee Medals

I am very pleased to announce that the following members of Rutherford Laboratory staff have received Silver Jubilee Medals.

Mr J H Swain
Mr A G D Payne
Mr A J Brown
Mr G E K Fry
Mr I H Payne
Mr L J C Appleby
Mr L Phillips
Mr A Shackleford
Mr H F Norris
Mr R F Childs

Mr S H Spanner
Mr J Marshall
Mr J H Aram
Mr W G Black
Mr A Hickman
Mr V C Pepper
Mr N Wade
Mr L H Townsend
Mr L V Lawler
Mr H O Normington



Director

recognise that there are very severe demands made on her time".

Addressing the guests, Dr Stafford pointed out that with few exceptions, everyone present had played a role in the creation of the Central Laser Facility mentioning in particular, Dr G Brett, Head of Quantel SA, France and Dr L Reed, Vice-President ILC Technology Inc, USA who were present, representing the firms who had supplied the major components for the Facility.

"When I tell you that approval for the project was obtained in October 1975 and the first experiments were done in December 1976, you will recognise what a fine job that not only the manufacturers have done, but everybody who has been concerned with the project".

The Director concluded his speech by saying, "May I add public words of thanks to my own staff for the fine job they have done in the last one or two years" and turning to Mr Ulrich, he asked him to accept a small gift, on behalf of the Rutherford Laboratory, to be given to Mrs Williams on his return to London. The gift, made in the Laser Centre, consisted of a small base on which was mounted a plastic sphere containing a piece of broken neodymium rod out of which emerge rays of light.

Inauguration Speech

Before delivering the Secretary of State's speech, Mr Ulrich conveyed Mrs Williams's regrets on being unable to attend and to inaugurate the Central Laser Facility. He said that urgent cabinet business of a kind she could not possibly have foreseen had prevented her from coming to the Laboratory but she had asked him to convey her good wishes for the future, both for the Laser Facility and the Rutherford Laboratory. He was sure she would be delighted with the really charming present which the Laboratory had given her.

Mr Ulrich then read out the Secretary of State's speech which is given below in full.

"The traditional role of the Rutherford Laboratory is to provide central facilities for university scientists to conduct fundamental research when the equipment is beyond the scope of individual institutions.

Rutherford was established as a research centre for nuclear science and its name has been particularly associated for many years with high energy physics.

Owing to the country's economic situation, the science budget has had to be sharply reduced. In order to make the best use of limited funds, Britain's research effort in this field now has to be concentrated on CERN and the SRC is having to discontinue the high energy physics programme at the Daresbury Laboratory and to close down the Nimrod accelerator here on which so much distinguished work has been done since it was opened in 1963.

But Rutherford will still have an important part to play in assisting high energy physics research in this country and at CERN, where the commissioning of the great new SPS machine has opened up new possibilities in this field, which is advancing rapidly.

Rutherford also expects to participate in the exploitation of PETRA, the new electron - positron storage facility, at the DESY Laboratory in Hamburg.

"With the run down in high-energy physics, Rutherford is diversifying its activities on a much greater scale than hitherto. For example, an Energy Support Unit was established in 1976 to provide technical support for university research workers, and in the engineering field, an interactive computer unit with terminals in universities has been installed and there are plans to extend it.

"Today we celebrate a further achievement in diversification. Lasers are an important and rapidly developing field for scientific research. At Rutherford, workers in universities now have a major facility for investigating the interactions of very intense optical and infrared radiation with matter, and for studying very dense plasmas produced by laser compression of matter. The new facility will also serve to develop more efficient high power lasers for future experiments in these and other fields.

"Lasers are already finding growing industrial application and naturally one hopes that sometime there

will also be an economic return. It is by now almost a cliché that lasers are going to transform our lives in the 1980s and 1990s as, for example, computers have done in the 1960s and 1970s. The creation of the Central Laser Facility will stimulate research which must surely result in further technological advances which can be exploited to the country's advantage.

"However it would be a mistake to think only of the practical applications and the industrial pay-off. We are here concerned with an intellectual activity involving the creative imagination buttressed by high technical skill and intense concentration, a combination which in another context would readily be proclaimed as an artistic activity requiring no further justification. Scientific enquiry is as much a cultural activity as the performing arts and the readiness to support the extension of knowledge and learning is a mark of our civilised society.

"But the Central Laser Facility, important and exciting though it is, and costing as it has about £1.5m., is not the end of the story. For some time now the Science Research Council has been working out plans for the provision at Rutherford of a Spallation Neutron Source - the SNS - involving the conversion of the NIMROD Accelerator and the provision of a target station and experimental facilities.

"I am very glad to announce today that the Government have decided to approve the construction of the SNS. This must be one of the largest projects to be undertaken in this country for a long time and it promises to take the UK to the forefront of research involving the use of neutrons.

"Because the project relies on the conversion of NIMROD, it is an extremely good bargain. Even so it will cost something like £10m. This is no small sum in these difficult days. It will be possible to start work in the present financial year. I am sure you will all agree with me that this is good news for Rutherford, for the SRC and for British science."

At the conclusion, the Director rose to thank Mr Ulrich for the very good news and invited the Chairman of the SRC, Sir Sam Edwards to say a few words.

A Significant Announcement

"Well Mr Ulrich, Director, ladies and gentlemen, a few words indeed because it's very difficult to follow a statement of that kind. But I'm sure our visitors today, will understand the significance of the Secretary of State's announcement because when one is running a laboratory of this kind, with huge projects, a continuity of these projects is essential to the efficiency with which it carries out its science and the well being of its staff.

So I think, if I may not sound too pompous, that today is a kind of culmination of my term as Chairman of the Council, because the major problem in the future of the staff, and the activities of the Council, is essentially resolved by this step."

After speaking of the science situation in the SRC, Sir Sam concluded his few words by mentioning that "the only thing we don't have - I'm looking hard at Mr Ulrich - is money, but one knows that in the world of politics, and it's rather like the world of thermodynamics, you've got both energy and entropy.

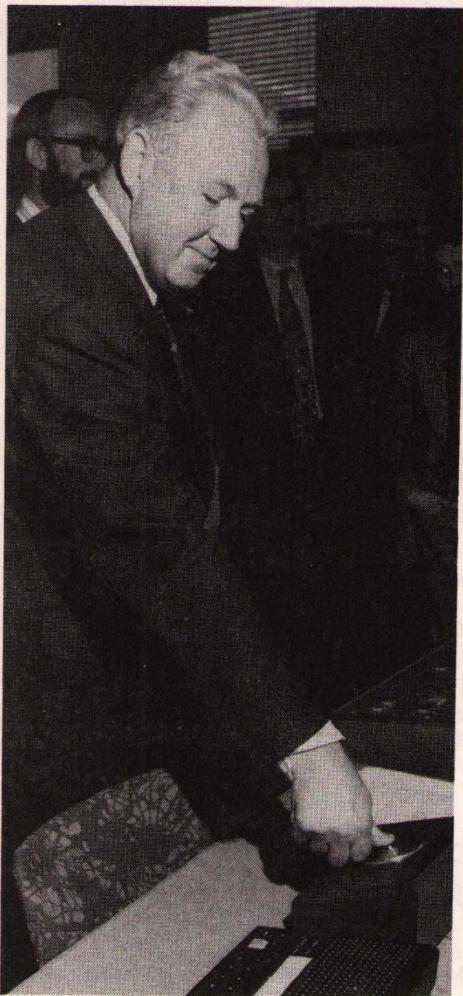
We might not have quite enough energy but at least today, we've killed off entropy."

Finally, the Director called upon Dr Alan Gibson to give details of the arrangements for visitors touring the Central Laser Facility.

Dr Gibson concluded his briefing by turning to the inauguration ceremony when Sir Sam fired the laser.

"It was a full working shot of the normal variety, with all the plasma diagnostics working - and they did work, I'm happy to say. It was our 50th Compression shot, which was a happy coincidence, and compression can be demonstrated, amongst other ways, by a photograph of the X-ray emission, using a pin-hole camera. The system has produced quickly, the pin-hole camera picture of the shot Sir Sam fired and although we cannot give him a ball - perhaps we can give him a photograph."

Laser Day



Top left: Sir Sam presses the button to inaugurate the Central Laser Facility.



Top right: Celebration time: Dr Alan Gibson, Sir Sam Edwards and Dr Godfrey Stafford raise their glasses.

Bottom left: A memento of inauguration day for Mrs Williams, handed over to Mr Ulrich by the Director.

Bottom right: Dr Alan presents Sir Sam with the photograph of the shot he had fired at the inauguration ceremony.



RUTHERFORD LABORATORY LECTURE

Professor J T Houghton, FRS will be the speaker at the last RL Lecture in this

series until the Autumn. Professor Houghton is the first occupant of the recently created Chair of Atmospheric Physics at the Clarendon Laboratory, University of Oxford. The Department, although quite small, is rapidly expanding and has received a large number of SRC grants.

John Houghton was educated at Rhyl Grammar School and Jesus College, Oxford where he obtained his BA honours. Physics, 1951 and MA, D.Phil 1955. After three years, 1954-57, as a Research Fellow, RAE Farnborough, he returned to Oxford to take up the post of Lecturer in Atmospheric Physics (1958-62) and Reader in 1962 until his appointment to the Chair of Atmospheric Physics in October 1976.

He was awarded the Royal Meteorological Society's Buchan Prize in 1966 and elected as a Fellow of the Royal Society in 1972. His appointments include - Chairman, Meteorological Research Committee, Met Office, 1975; Member, Joint Organising Committee, Global Atmospheric Research Programme, 1976 and President, Royal Meteorological Society, 1976.

The talk will be given in the RL Lecture Theatre at 15.15 on Thursday, 30 June and Professor Houghton has kindly supplied the following summary:

THE ATMOSPHERE FROM SPACE *Observations of the earth's atmosphere from satellites have enabled continuous global observation of the ever changing atmosphere to be made. Measurements in every part of the electromagnetic spectrum from the ultra-violet to the microwave region provide detailed information about atmospheric structure over the whole atmosphere for the first time. Particular mention will be made of the remote sounding observations of atmospheric temperature made from Nimbus satellites by the Oxford University Department of Atmospheric Physics, to which the Rutherford Laboratory have given considerable assistance.*

INTERNAL EVENTS Thursday 30 June, 15.15 Lecture Theatre, RL Lecture.

Prof J T Houghton will speak on 'The Atmosphere from Space'. News item gives details.

NIMROD LECTURE, Monday 4 July, 11.30 Lecture Theatre, Results from the CERN-Dortmund-Heidelberg-Saclay counter neutrino experiment by H Wahl/CERN.

ERSU SEMINAR, Tuesday 5 July, 1400 Lecture Theatre, Dr Peter Musgrave/Reading, on 'Off-shore Wind Energy Systems - Their role in meeting UK Energy Needs.'

FILM, Thursday 7 July, 12.30 Lecture Theatre. Repeat of film shown on 30 June. 'Screening for Breast Cancer' a 30 minute film first shown in January 1974 and repeated at request of the Environment and Medical Sciences Division, AERE. It is hoped to have a Sister from the Division to introduce both showings and to answer questions.

MAIL ADRIFT An envelope containing technical leaflets and a letter has been received from Malden Electronics Ltd. This has been sent in answer to an enquiry, passed to the firm through a Reader Service System, from a Mr J H Foster who can collect envelope and contents from the Editor, Room 42, R20.

PLEASE NOTE: Members of staff and visitors requesting information from firms are asked to include their room and building number in their address. This will save the Post Room, Messengers and, ultimately the Editor a lot of time. One last point - print your FULL address in capitals - this will save the firm time.

MISSING EQUIPMENT

The following item of equipment has been reported missing from

R25 coil winding area: MOULINEX PETIVAC (Vacuum Cleaner). Anyone with information on the present whereabouts of this item is asked to contact R Wastle, Bldg R50, Ext 236.

Lost from the ground floor of Bldg R8: 1 large stainless steel bucket.

Would the borrower please return same to D Baker, Room G5, Bldg R8.

The following item of equipment was last seen in Lab 4, Bldg R1: Blue plastic, 10 mm ($\frac{3}{8}$ ") portable electric drill, type AEG 3B/2330, SRC No 14/5935.

Anyone with information on the present whereabouts of this item is asked to contact G Arnison, Bldg R1, Ext 6238.

(Anyone seen drilling a $\frac{3}{8}$ " hole in a stainless steel bucket and cleaning up the mess with a Moulinex vacuum cleaner will need to do some fast talking - Ed.)

Would the person who borrowed the BOC welding torch from Bldg R7 (South Side), please return it to J S Cooper, R25 Portakabin, Ext 351.

NATIONAL SAVINGS

Weekly paid staff: Certificates for the cycle ending 18.6.77 may

be collected from the Cash Office, Bldg R20 on Monday, 27 June.

Monthly paid staff: Certificates for the cycle ending 30.6.77 can be collected from the Cash Office on Friday, 1 July.

New members wishing to join the scheme or those who would like to change the amount of their deductions should do so as soon as possible. Forms can be obtained from the Cash Office.

SALES TO EMPLOYEES

Sales of scrap metal/plastics as set out in RLN 12/73 will be made

on 8 and 22 July.

OVERSEAS VISITS

Dr N A McCubbin, to CERN, 30 June-5 July to attend Design Study

meeting for new ISR experiment.

Drs R J N Phillips, C M Fisher, D Morgan, R D Baker, G Karl and R M Brown, to Hungary, 3-10 July, to attend Budapest Conference on Particle Physics.

Mr C J E McDonald, to CERN, 3-14 July, for discussions. A I Kilvington to Grenoble, 4-15 July, to work on experiment.

A R Mortimer, to DESY, Hamburg, 5-7 July, to attend collaboration meetings.

Dr R G Roberts, to the USA, 10 July-1 August, to attend conference and hold discussions at Berkeley & Cal Tech.

RL ANNUAL REPORT

Copies are now available from the Library, R61.

FILM BADGE NOTICE

It is Period 7. Colour Strip - GREEN for $\beta\gamma$ films and neutron

packs. Please check that you are wearing the correct dosimeter and that all old ones are returned.

Next film issue - Monday 11 July.

EDITOR'S NOTE

Various items including retirement stories are being held over until the next issue through lack of space.

RUTHERFORD LABORATORY BULLETIN

Published by the Scientific Administration Group

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Chilton Didcot Oxon OX11 0QX

Abingdon (0235) 21900 Ext 484

Deadline for
Insertions

1000 hours Tuesday 5 July