Bulletin
of the Rutherford Appleton Laboratory 14 Dec. 1981 No. 22

A Christmas Message from The Director

Each Christmas for the past three years this yuletide greeting has been written by a different hand. The Laboratory has also (as you may have noticed) changed its name a few times. But, the message remains the same and it gives me great pleasure to be able once again to wish you all a Merry Christmas and a Happy New Year.

1982 will be the first full year under our new title of the Rutherford Appleton Laboratory and I am confident that we will look back on it as the start of a new and successful era. Already links have been formed which are enabling us to utilize in combination the skills of the two former laboratories. There may well be tight financial times ahead, but our programme now covers the full spectrum of work undertaken by the SERC and hence has a stability that will overcome any changes in emphasis that may occur.

Congratulations and thanks to you all for another excellent year's work - you have achieved a great deal.

Geoff Manning

Oxford Spectrometer Ready for Research

A joint RAL/Oxford team has recently completed the building of a specially designed magnetic spectrometer for use in nuclear structure physics experiments. Installed in the Nuclear Physics Laboratory at Oxford University it will be used in conjunction with the 9 million volt folded tandem generator.

The design was developed by the team after studies of the current designs had showed limitations. It is unusual in that the main 100° analysing magnet provides a wide aperture of gradient field with the advantages of a larger dispersion for a given overall size and bending radius, and the possibility of a normal incidence focal plane without serious detriment to resolution.

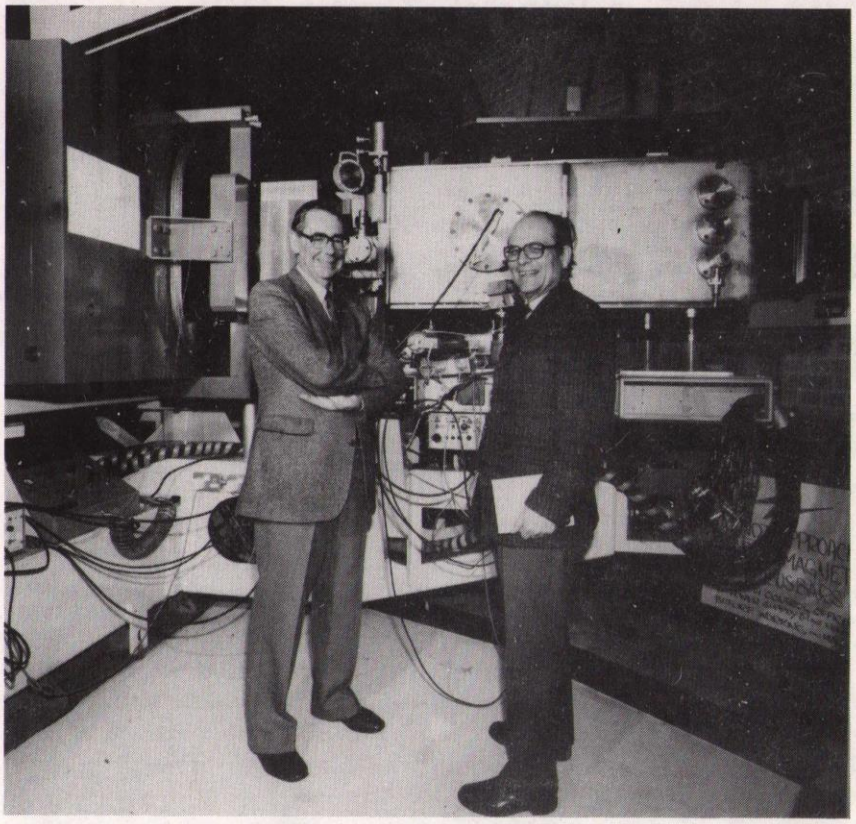
Not an Easy Task

The Spectrometer, weighing some 65 tonnes is mounted on a pneumatically supported platform which is constrained to rotate from 60°-150° about a vertical axis through the target. This presented problems for supplies, current and cooling water, which had to be brought to this axis and then down a service tower. The maximum radial dimensions for the complete assembly is 6.5 metres.

With the notable exception of the very low carbon steel magnet yoke, which came from Europe, most other components have been made by British Industry. The convex and concave shapes of the entry and exit faces of the analysing magnet, which were specified from ray tracing calculations on the computer, were generated on the detachable end-pieces to a precision of ± 0.5 millimetres by a numerically controlled milling machine. The poles of the input quadrupole were made in similar fashion. A long 'banana'-shaped fabricated aluminium alloy vacuum vessel, like the main magnet, needed a large radius machine to produce the correct profile.

Encouraging Tests

Extensive field measurements have been carried out which have established that the required field gradients and shapes have been well achieved, and first measurements with the beam are very encouraging. Tests to date indicate that the full resolving power of the instrument has not yet been exploited.

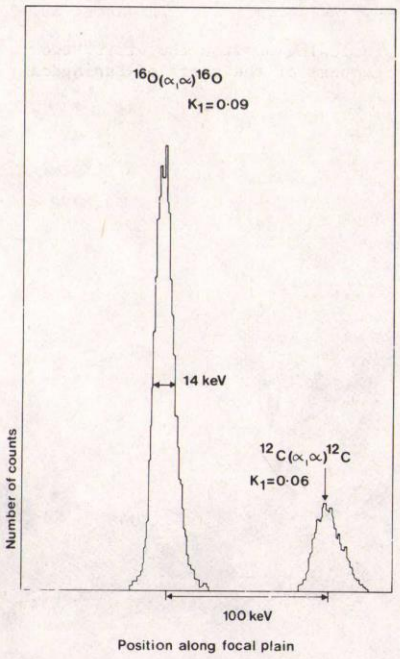


The performance of the spectrometer, obviously gives Professor K W Allen (Oxford) and Dr J Coupland (RAL) the satisfaction of 'a job well done'. 37287

Future Plans

Experiments are expected to begin in early 1982, when initially the Oxford physicists hope to use the spectrometer for high resolution studies of light nuclei involved in heavy ion transfer reactions. Later, for heavy nuclei, the spectrometer's large solid angle coupled with excellent particle identification will be particularly useful for investigating the low cross-section reactions of neutron-rich nuclei.

We thank Dr John Coupland for the information contained in this article.



Spectrum for the elastic scattering for 18MeV alpha particles from oxygen at 15° as measured by the new magnetic spectrometer.

Schoolmaster at RAL

In the early part of this year, ideas for strengthening the links between RAL and local schools, established during last year's 'Open Days', were crystallising. At the same time the Laboratory was approached by the Oxfordshire Education Department with a view to establishing the same kind of liaison. In subsequent discussion it transpired that various types of school - employer liaison had already been established elsewhere in the County and other projects were under consideration. Eventually it was decided that a senior school administrator, of the level of deputy headmaster should be invited to visit the Laboratory for an extended period.

It therefore came about that Mr Dick Speed, Deputy Headmaster of Faringdon School, was seconded to the Laboratory by the Local Education Authority for three weeks during November with a brief to acquire an understanding of RAL and to establish links of value to local schools. He commenced the secondment by attending the SERC Computer Appreciation Course run by Garry Williams at the Cosener's House - with the use of computers in school administration in mind rather than the teaching of the subject. In the ensuing period he visited a wide variety of projects in the Laboratory and had discussions with many staff at all levels, including some of his ex-pupils. It was totally impossible to do justice in the time available to all the activities of the Laboratory, but he made a good attempt, taking in, amongst other items, the work of the Laser, Neutron and HEP Divisions, SNS, IRAS, Chemical Technology, Engineering careers, Apprentice Training at Harwell and RAL, Personnel, Finance and Accounts and literally last in the programme (but not least!) a brief discussion about the Bulletin.

Following on from the visit, two members of the staff of Faringdon School responsible for mathematics and computing have already made a half-day visit to Computing Division, this time with teaching in mind. Similar visits to other areas of the Laboratory are planned and some Laboratory staff will be visiting the school to help with particular areas of work.

Since the visit, Dick Speed has written "I am very grateful to the many staff who courteously and patiently gave their time to me. The visit was an invaluable education and there are many useful links with specialist school teaching staff that will be followed up in the next few months. I sincerely hope that teacher secondments to RAL will be a regular event".

It is indeed hoped that this type of visit by a senior member of school staff will become an annual event so that over a few years similar links will be established with many more local schools.

Obituary

Kumar Buttacharyya

Friends and colleagues will be sad to hear of the untimely death on 1 December of Kumar Bhattacharyya at the age of 46.

Kumar came to England from India in 1961, and after working for British Rail, Customs and Excise and the M.O. Valve Company, joined the Radio and Space Research Station in 1967. He worked in the UK3 and UK4 satellite telemetry groups, with an 18 month tour at the Singapore outstation, until 1974, when he joined the Laser Radar group, making measurements of thermospheric winds, the structure of the mesospheric sodium layer and on the dispersion of volcanic aerosols.

He was a valued and active member of the Appleton Laboratory Sports and Social Club committee and IPCS committee and in this latter role was a member of the Working Party on the Rutherford/Appleton merger.

He became ill in December 1980 and on his retirement on ill-health grounds in May 1981 returned to his native Calcutta.

Library Notice

Would whoever has borrowed the Library copy of 'Evaluating Database Management Systems' by J M King, please return it immediately.

Missing

Dr Ron Newport is trying to trace the following items:

Monoblock Vacuum Pump, type 250
Serial no. 213679-75

Oscilloscope, type CD/1014/2
Serial no. 81428

Does anyone know where they are? If so, please contact Sue Bond Ext 6657.

Christmas Mail

The last delivery of mail to Didcot Post Office by the RAL van will leave the Main Post Room in R1 at 11 am on Thursday 24 December 1981.

ANY MAIL REACHING THE POST ROOM AFTER THIS TIME WILL NOT BE TAKEN TO THE POST OFFICE UNTIL TUESDAY 29 DECEMBER 1981.

Export Arrangements

For exports over the Christmas period and New Year up to 4 January 1982, the last consignment accepted for export:

By Rail will be noon 15 December
By Air, noon 21 December.

Lecture Change

REMOTE SOUNDING SEMINARS
R61 CONF. RM - 1530hrs

15 Dec: Dr R W Saunders/RAL previously UCL.
'Studies of Radiation Budget and Sea-surface Temperature from Space.

Note This is a change of speaker and subject.

Electrical Safety Tests

The test carried out during Oct/Nov 1981 has now been completed. The current marker is RED and marked 'do not use after March 1982.'

Portable electrical equipment marked otherwise or unmarked should be considered unsafe and must NOT be used. All such items should be returned if possible to Electrical Services R18. Alternatively ring A Hipwell, Ext. 573.

Coffee at Cosener's

Start a New Year by making new friends, perhaps even finding a new interest or people of like mind with whom to share an established one. RAL wives don't only drink coffee!
The January coffee morning will take place at the Cosener's House, Abingdon from 10.30 am to 12 noon on Thursday 14 January. Do come along - bring the children too.
For further information please contact-

Mary Rousseau Wantage 3676 or
Ann Corbett Abingdon 20434

Thanks from Jean

One of the pleasant traditions of Christmas for the *'Bulletin'* editor is the opportunity to thank all her colleagues, contributors and readers for their help, patience and interest over the past year.

Without this friendly support the task would be nigh impossible. So, yet again, my thanks to the ladies of the typing pool, our photographers and the reprographic section; to colleagues who keep me up to date with the social whirl of the Lab, and to those who provide the scientific content (usually without too much bullying from me - I hope). A special **thankyou** to contributors who actually offer copy - my surprised delight is genuine, I assure you. My final **thankyou** is to those who point out my myriad mistakes - I forgive you all!

To everyone I wish a very Happy Christmas and a Happy and Successful New Year.

Christmas

in the Restaurant

This year, traditional Christmas Lunch of Roast Turkey will be served at £1 per portion, vegetables and puddings etc extra. The lunch will be available from 21-23 December inclusive.

The full menu for these days, including the wine list, reservation procedures and other Restaurant details for the whole Christmas period, will be circulated to all Laboratory staff.

at Harwell Social Club

Thursday 24 December

Come along and spend your Christmas Eve lunchtime at the Social Club and listen to something different. Start off the Holiday by dancing to -

THE ORLANDO SOUND

Guaranteed different from other years! No admission charge - all members and guests welcome.

Thursday 31 December

New Year's Eve Dance and Cabaret, 8pm - 1.30am. Music by three-piece group

OSCAR

Disco music during breaks. Bar extension until 1am. Admission (including buffet) £3.75 in advance, £5.00 on the door. Members and guests welcome.

Crib Club News

The Summer Crib League has come to an end and at the moment there is a play-off in progress for the Top of the League. The contesting teams are R2 Electrical Workshop, R2 Electrical Drawing Office, R2 Mechanical Drawing Office and the D Kent's Misfits. Good luck to all.

I would like to thank all the players for their co-operation for the past three years that I have been running the Crib League, and would also like to wish Tony Lubbock, the new secretary, all the best in the future.

Tudor Morgan

RAL RecSoc '200 Club'

To All Members

The Rec. Soc. is hoping to start a 200 Club at the beginning of January/ February 1982. If you would like to join would you please contact Mr R Smith, R3 Reprographics or Mr T Morgan, R18. It will be 25 pence per week, with a draw every month for £50 and four draws during the year for £50 and £250.

The first 200 names in, the sooner we can get the cards and rules out. One rule that Management has stated is that all members of the '200 Club' must be members of the Rec. Soc.

Where?

A van arrived at R56, the driver of which complained bitterly of the difficulty of finding his way to the Laboratory.

When the Stores staff checked the consignment, it was found to contain 5000 copies of a brochure entitled "How to reach the Rutherford Appleton Laboratory".

Bulletin

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Deadline for insertions: