



.....as I said to my friend, it's a very select neighbourhood with only the best people passing through.....

The friendly blackbird who is nesting in the east entrance to Building RI. There is no truth in the rumour that her 'work' station is linked to the central computer. I'm sure we all wish for a successful completion of her programme - with a high production rate.

A SECOND NEUTRON SCATTERING INSTRUMENT FOR ILL

This week sees the dispatch to ILL of some major components of the second neutron scattering instrument which the RL has constructed under contract to ILL. This is a substantial modification to an existing instrument, known as DII, the new components being known as DIIIB. DII is a small angle scattering instrument. In this technique a finely collimated beam of neutrons passes through the specimen and the distribution of neutrons scattered into small angles is measured to obtain information on structures with large lattice spacings (10 to 10,000 Å), for example, ordered biological systems such as muscle fibre. The distribution of scattered neutrons is measured with a position sensitive detector coupled to an on-line computer.

DIIIB provides initially a bank of 32 individual He^3 counters to measure diffuse scattering at large angles (up to a 2θ of 143°). Large angle diffuse scattering gives information on, for example, the distribution and size of defect clusters in irradiated or heat treated alloys. DIIIB will extend the range of incident wavelength available for diffuse scattering work to 20 Å and enable measurement at both high and low scattering angles to be measured simultaneously on the same specimen.

The RL contract involved the supply of a new vacuum chamber to contain the specimen and the new bank of counters, a remotely controlled beam stop and a manually operated "iris" to control the beam size, the latter being contained in a separate small vacuum box. The iris operates on the same principle as the "four jaw boxes" used on Nimrod in having four blades which can be individually positioned to define a rectangular beam cross-section. The main vacuum chamber was designed in light alloy (to avoid magnetic materials) with very thick top and bottom plates to minimise deflections under vacuum and ensure accurate location of

INTERNAL EVENTS

NIMROD LECTURE SERIES

Monday 14 April
11.30
Lecture Theatre

The Pomeron, Regge Cuts, and Scaling

Dr P D B Collins/Durham

HEP SEMINAR

Wednesday 16 April
11.00
Lecture Theatre

$\bar{p}p$ Scattering between 0.69 and 2.43 GeV/c

R Gibson/Q.M.C.

NIMROD LECTURE SERIES

Monday 21 April
11.30
Lecture Theatre

First Results of the New CERN (G-2) Experiment

Dr F J M Farley, FRS/Royal Military College of Science, Shrivenham

HEP SEMINAR

Wednesday 23 April
11.00
Lecture Theatre

Charmed Particle Production

Dr R Phillips/RL

SEMINAR IN COMPUTING

Friday 25 April
11.00
Conference Room, Bldg R12

"STAIRS"

A R Mayhook/RL

STAIRS is an on-line document retrieval system produced by IBM and currently being tested on retrieving information from the SLAC HEP preprint data base. A brief summary of the facilities available in STAIRS will be given and the Rutherford Laboratory Implementation of it discussed.

NIMROD LECTURE SERIES

Monday 28 April
11.00
Lecture Theatre

Dual String (Twistable String)

Dr H P Nielsen/Niels Bohr Institute, Denmark

RUTHERFORD LABORATORY BULLETIN

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for
Insertions

GENERAL & SOCIAL NEWS
Tuesday 1600

INTERNAL & EXTERNAL EVENTS
Wednesday 1200

Room 42 Building R20
Rutherford Laboratory
Chilton Didcot Oxon
Abingdon 1900 Ext 484

EXTERNAL EVENTS

UNIVERSITY OF CAMBRIDGE

HEP SEMINARS/DEPT OF APPLIED MATHS & THEORETICAL PHYSICS - 15.00 hours
17 Apr: Models in 1 + 1 Dimensions - Dr P Weisz/Southampton.
24 Apr: Threshold Pion Production by Weak Neutral Currents - Dr E W Colglazier/RL.

DARESBUURY LABORATORY

THEORETICAL PHYSICS SEMINARS/OLD CONFERENCE ROOM - 14.00 hours
14 Apr: Reggeon Field Theory on a Lattice or High Energy Scattering as a Critical Phenomenon - R Savit/NAL.
28 Apr: Neutral Pseudoscalar Meson Photoproduction - L Vanryckeghem/Liverpool.

EVENTS AT AERE

NUCLEAR PHYSICS DIVISION COLLOQUIA/CONF RM, HANGAR 8 - 15.30 hours
17 Apr: Integrated Optics - Dr C Pitt/UCL.
24 Apr: Neutron Capture Cross-Sections in the Mass - 100 Region - Dr T J Haste/NP Div.

HARWELL FILM SOCIETY - A SUCCESS STORY

It is a pleasure to send our congratulations to the Harwell (previously called the AERE) Film Society on collecting two of the British Federation of Film Societies (BFFS) annual awards. (About 700 film societies are members of the BFFS). Harwell came second, with a special commendation, in the 'Film Society of the Year' award and first in the 'Programming' award, thus winning the Society six free programmes which they estimate could be worth around £200 - £300. First place in the 'Film Society of the Year' award went to the Holborn Society and the most promising new Society award went to a comprehensive school in Scotland.

The awards were presented by Lord Goodman on Saturday 5 April at the National Film Theatre during the Spring viewing sessions. The Society was represented by the Secretary - David Goodall from Culham, Angela Logsdail, David Arkell & Ted Finnecy from Harwell.

At the award ceremony a special mention was made of the method used by the Harwell Film Society in which the whole of the committee is involved in the selection of programmes; this evidently was most unusual.

CHRISTIAN FELLOWSHIP

Friday 18th April - "Young girls of 13 sold to men for £3; Boys of 13 working in excess of 70 hours a week for 4/6d; Parentless children sleeping on roofs and in gutters; The aged, handicapped and unemployed fending for themselves by begging or stealing".

This was the scene in London and other major cities a 100 years ago when Christians, inspired by evangelical zeal, commenced opening missions, orphanages for the homeless and visitation of the neglected poor and the prisoner.

What was the overall good done by these and other charitable organisations and how much did they change the living standards and the moral and spiritual climate of the country?

Frank Smith of Building R20 will be leading the first of 2 talks on the 'Social Benefits of Evangelical Outreach in the 19th Century' at 12.30 pm in the R12 Conf Room. All are welcome to attend.

Friday 25th April - Jimmy Darius of Building R12 will be leading a 'HYMN-SING' in the "Music Room" of the Recreational Hut (Bldg R15) at 12.30 pm. All are welcome and the only requirement is a hearty voice.

FOOTBALL

The second half of the league programme has now started. Smallbones have resigned and those fixtures have been taken over by Bldg 459, AERE. Tables to date are as follows:

	DIV 1	
	P	PTS
Admin	7	13
C & A	6	9
353	6	8
Rovers	7	6
Taylor's	7	5
Atlas	6	3
R25	7	2

Fixtures w/c 14.4.75

Mon	Nomads	V	RHG
Wed	353	V	Atlas
Thurs	459	V	RRD
Fri	Trans	V	Toxic

	DIV 2	
	P	PTS
RRD	6	12
Transit	7	8
App	6	6
459	7	6
Nomads	5	5
Toxic	6	4
RHG	7	3

Results

Toxic	1	RHG
Taylor's	1	Rovers
Trans	5	App
Toxic	0	RRD
R25	1	Admin
459	V	App Cancelled

(App concede 2 Pts & 2 Goals under default of Rule 5)

the specimens. The whole of the interior of the chamber is lined with boron loaded resin sheets covered with thin cadmium sheet for shielding purposes. To couple the new chamber to the existing system, a large flexible bellows has been made to mate with a 600 mm aperture gate valve which was delivered to ILL in 1974. Up to five specimens 30 mm long will be accommodated in a cryostat capable of operating between 4.2K and 300K. To position the samples, a mechanism has been constructed in which the whole cryostat can be rotated through 360° and also adjusted in height. The various drive systems are interfaced for computer control. A fault monitor unit giving remote indication of various fault conditions is also being supplied. The remainder of the electronics and all the computing work is being undertaken at ILL. The NBRU and DES are responsible for the scientific and engineering aspects of the instrument.

DII has been one of the most successful instruments at ILL and is heavily committed for experiments. The installation of DIIB beam line components would interfere with its operation unless scheduled for a reactor shut-down. To keep the installation schedule as flexible as possible the mechanical components which make up the new beam line are being dispatched before the cryostat, specimen changer and electronic equipment.

As a postscript, readers will be interested to know that the polarised neutron diffractometer, D3, which was our first neutron scattering instrument contract (and was delivered to ILL last July) is now in routine operation for experiments and is proving very successful.

FILM BADGE NOTICE

It is Period 4. Colour Strip - BLUE for 8y films. Please check that you are wearing the correct films and that all old ones are returned.

OVERSEAS VISITS

Dr G Manning, to Copenhagen, 18 - 20 April, to deliver a lecture at the Niels Bohr Institute.

SOCIAL NEWS

RUTHERFORD AND ATLAS CHESS TOURNAMENT 1974/75

Twenty contestants, a new winner and, for the first time since the annual tournaments commenced, the winner won every match - he had to! Unfortunately Bill Turner was unable to find the time to play this year but even he could have been hard pressed to stop Jim Riddle, this years' champion. Jim's record is very impressive; played 8, won 8, points total 8. Peter Craske came second with 7 points having lost his fourth round match. The second half of the tournament certainly put the pressure on Jim Riddle as one slip meant Peter levelling the points. Congratulations to Jim on winning and setting this new record and commiserations to Peter. Back in 1973 they shared the winning position with Bill Turner, the only occasion of a triple tie.

MORE CHESS NEWS

The Rutherford/Atlas chess team have been challenged to a match by the combined Harwell/Culham chess team later this month - cheeky! There are rumours that the Harwell/Culham team may include a V.I.P.!!

SPRING FEVER?

Nothing much surprises the Rutherford Laboratory's Librarian but on Thursday morning this week (not even April Fool's Day), Elizabeth Marsh was somewhat astonished to find on the report display rack, a copy of 'Dandy' complete with waiting list for most of Theory Division. It even has a number, RUL-R-3741. Further request should be addressed to the Library, R61, who are considering a full-time subscription.

RECREATIONAL SOCIETY DANCE

The next dance will be held in the Restaurant on Friday, 25 April. Dancing to the 'SOLAR PLEXUS', 8 till 1. Tickets at 80p each, will be on sale as from Monday 14 April from any of the following:-

Val Goodwin - R1	G Pullinger - R50
P Craske - R2	D Evans - R34
J Rice - R55	F Cooke - R9

Don't forget, if you want tickets, get there early!

HORTICULTURAL SOCIETY OUTINGS

The Society has arranged an outing to Richmond Park and Hampton Court on Friday 9 May, leaving AERE Main Gate at 09.00 hours. This trip should be of interest to Horticulturists and non-Horticulturists alike so if you are interested please contact Valerie Goodwin, R1, Ext 6256.