

24 January - 7 February 1977

NCCN Secretariat Operational

The second Computer Network Unit to be set up in Building R1 started work at the beginning of January. The first of these, the Network Unit of the Computer Board and Research Councils, set up to look into the short-term development of communications links between computers at universities and Research Council Establishments throughout the country, including those of the SRC, commenced operations last November, as reported in Bulletin 19/76.

The Terms of Reference of the second unit are set out below (no doubt we shall in due course get used to even more acronyms) and casts a far wider net, (ahem) looking into requirements in the 1980's. We hope to report developments on both units in future issues.

The Secretariat of the Department of Industry's National Committee on Computer Networks (NCCN) has set up home in the first floor of R1. Its Terms of Reference are:-

1. To consider the development of computer networks in the light of national economic and social factors with particular reference to:-

- the joint interests of the users, and of hardware and software suppliers
- national and international standards
- the relationship between private and public networks
- collaboration with overseas countries.

2. To provide a forum for discussion between the major parties concerned with computer networks, including Post Office and Government Departments, and to give advice to industry and Government on computer networks.

3. To undertake studies into aspects of computer networks as required either through the Industry Divisions of the Department of Industry, through the Computers,

Systems and Electronics Requirements Board (CSERB), or directly.

4. To keep the Secretary of State for Industry informed of its activities, publish an annual report and issue public statements as it considers necessary.

The Committee has seventeen members including, as Chairman, Jack Howlett, ex-director of the Atlas Computer Laboratory. The members represent computer users, hardware and software industry, the Post Office, the Department of Industry, Trade Unions, NCC, NPL and Universities.

The Secretariat will aim to identify the main problem areas and make appropriate policy recommendations to the Committee, and will provide a co-ordinating service for the Committee between CSERB, Department of Industry and other parts of Government and Industry. It will make use of the centres of expertise in the UK which are capable of offering technical advice on the many aspects of computer networks.

The Director of the permanent Secretariat is Donald Audsley, until recently Head, Technical Operations Division of the Space Documentation Service of the European Space Agency. In this post, as well as being responsible for the operation of a European wide data transmission network, he was a member of ESA teams involved with Euronet, EIN, Cyclades and the ESA/OTS experimental program including the proposed EEC funded CERN experiment.

Other members of the secretariat are Trevor Hyman, ex-RL Instrumentation Division, who amongst other things, was responsible for the design of the computer control network for the CERN SPS, and secretary Wendy Beamont. The other technical posts will be filled later this year by seconded staff from RL and the Post Office Telecommunications Division respectively.

RUTHERFORD LABORATORY LECTURE

With the increasing interest being shown in the use of neutron beams to study the structure and properties of a wide range of solids and liquids, and the possible replacement of Nimrod by a high intensity neutron source (the SNS) it is very appropriate that the 1977 Season of RL Lectures opens with a talk on 'Neutron Scattering in Retrospect and Prospect.'

The speaker, Dr B E F Fender from the Inorganic Chemistry Laboratory, Oxford, has been Chairman of the SRC's Neutron Beam Research Committee since 1974 and is a Member of the Science Board.

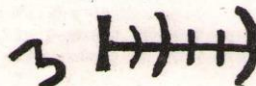
Dr Fender will give his talk at 1515 hours on Thursday 27 January in the Lecture Theatre. He has kindly supplied the following abstract.

Why are neutron beams so important in the study of solids and liquids? The major successes of neutron scattering in physics, chemistry and biology will be outlined in the light of the unique properties of the neutron. How neutrons are produced and detected will be discussed, together with the impact of the proposed Rutherford Neutron Source.

WHO CAN HELP?

The following item appears in a recent ILL bulletin. The address of the Editor is:- Editorial Office, Institut Max von Laue - Paul Langevin, BP 156 Centre de tri, 38042 Grenoble, Cedex, France.

The Venetian ship "Gagania" sank off the Dalmatian coast in 1582. Its cargo included large amounts of brass (Cu-Zn) in sheet and bar form. The source of their merchandise is still unknown as it was not possible to identify the stamp (reproduced below) found on the brass items. If you have any idea, please contact the Editor:



THOSE CHARMING QUARKS

Peak viewing time for many people at the Lab is likely to occur at 9.30 p.m. on Thursday 27 January. The programme 'The Key to the Universe' is on BBC 2; it will be repeated on the following Sunday.

INTERNAL EVENTS

NIMROD LECTURE SERIES

Monday 24 January
11.30
Lecture Theatre

Charm Spectroscopy and Quark Models

Professor R G Moorhouse/Glasgow

HEP SEMINAR

Wednesday 26 January
11.00
R61 Conference Room

Introduction to Glueball Phenomenology

D Robson/Liverpool

SEMINAR IN COMPUTING

Wednesday 26 January
11.00
Atlas Colloquium

PRIM-9 An Interactive Multidimensional Data Display and Analysis System.

J H Friedman/SLAC

Prim-9 is an interactive data display and analysis system for multidimensional data. It allows the user to view and rotate point sets in up to nine dimensions and perceive a third dimension through the parallax effect arising from the dynamic aspect of the continuous real time rotation.

PRIM-9 has a facility for searching for structure in multidimensional data (manual projection pursuit) and isolating it by masking appropriate variables.

HEP DATA HANDLING GROUP SEMINAR

Wednesday 26 January
13.30
R61 Conference Room

The Data Acquisition System on the OMEGA Experiment at CERN

D Maden/RL

RUTHERFORD LABORATORY LECTURE

Thursday 27 January
15.15
Lecture Theatre

Neutron Scattering in Retrospect and Prospect

Dr B E F Fender/Inorganic Chemistry Laboratory, Oxford

HEP SEMINAR

Friday 28 January
11.00
R61 Conference Room

Radiative Corrections in Weak Interactions and the Number of Neutrinos

M Veltman/Utrecht.

NIMROD LECTURE SERIES

Monday 31 January
11.30
Lecture Theatre

Latest Results from DORIS (e.g. on inclusive single lepton production).

W de Boer/DESY

THEORETICAL PHYSICS LECTURES

Monday 31 January
1500
R61 Conference Room

Mean-field Theory and its Limitations (Brout)

R C Arnold/Argonne & RL

The second in a series of lectures on collective phenomena and phase transitions; the next lectures will be given on 7 & 21 Feb, & 7 March.

HEP SEMINAR

Wednesday 2 February
11.00
R61 Conference Room.

The Importance of Resonance production : (a) at ISR Energies, (b) at PS Energies

N McCubbin/RL & M Coughlin/RL

STOP PRESS

Safety Exhibition, 1 - 15 February, R2 Display Corridor

EXTERNAL EVENTS

ELEMT. PART. PHYS. SEMINARS/L.TH,NP LAB.,OXFORD - 1430 hrs

- 27 Jan : Prof M Veltman/Utrecht - A second threshold in weak interactions.
3 Feb : Dr J Dovenbosch/NIKHEF, Amsterdam - A real part of the forward proton-proton scattering amplitude measured at the CERN Intersecting storage rings.

ELEMT. PART. THEORY SEMINAR/NP LAB.,OXFORD - 1430 hrs.

- 4 Feb : Prof E Squires/Durham - Hadronic states in the Bag Model.

THEORETICAL PHYS. SEMINARS/CLARENDON LAB, OXF - 1615 hrs.

- 27 Jan : Dr D Sciana - The thermodynamics of Black holes.
3 Feb : Dr N Goddard/Camb. - Strings.

HEP SEMINARS/CAVENDISH LAB, CAMBRIDGE - 1500 hrs.

- 26 Jan : Prof E H S Burhop/UCL - Recent searches for charmed particle decays in nuclear emulsion.
2 Feb : A Donnachie/Manchester - Radiative decays and photoproduction of new particles.

THEORETICAL PHYSICS SEMINARS/QMC - 1615 hrs.

- 24 Jan : Prof M F Atiyah/Oxford - Solitons
31 Jan : Dr P Goddard/Camb - Extended objects in field theory.

Dr M J Duff is giving a lecture course on "Solitons in quantum field theory" on Thursdays at 3-5 pm. The first lecture was given on 20 January

THEORY SEMINAR AT DARESBURY - 1400 hrs.

- 24 Jan : Dr J S Briggs/Harwell - Continuum X-ray emission from atom-ion collisions.

PHYSICS & GEOPHYSICS COLLOQUIA AT BRISTOL U. - 1700 hrs.

- 24 Jan : Prof M H L Pryce/UBC & Sx. - What would one observe from inside the event horizon of a black hole?
31 Jan : Dr D M Sadler/Bristol - Large scale structures from neutron scattering.
7 Feb : Dr J C Gallop/NPL - An introduction to squids and their applications.

PHYSICS DEPT. COLLOQUIA AT READING U. - 1700 hrs.

- 31 Jan : Dr B R Jennings/Brunel - Electro-optics of giant molecules
7 Feb : Dr R J Bell/NPL - Aspects of the vibrational modes in amorphous solids.

HEP SEMINARS/MANCHESTER U. - 1615 & 1415 hrs respectively

- 27 Jan : A James/Liverpool - Nucleon quasi-free scattering experiments at ~ 800 MeV at TRIUMPH
3 Feb : R G Moorhouse/Glasgow - Quark models for new mesons.

THEORETICAL PHYSICS SEMINARS/MANCHESTER U. - 1430 hrs.

- 26 Jan : Dr J Inglesfield/Daresbury - Exchange correlations at metal surfaces.
2 Jan : Dr D Sinclair/Oxf - The harmonic oscillator - an introduction to lattice gauge theories of quark confinement.

ELEMT. PART. PHYS. SEMINAR/BIRMINGHAM U. - 1615 hrs.

- 28 Jan : Dr R D Baker/RL - Analysis of $\pi^- p \rightarrow K^0 \Lambda^0$ below 2 GeV.

THEOR. & HEP SEMINARS/SOUTHAMPTON U. - 1430 hrs.

- 28 Jan : Prof E J Squires/Durham - Can we do without quarks?
4 Feb : Dr P Higgs/Edinburgh - Dynamical symmetries in a sphere.

COMPUTER DIV. SEMINAR/CITY UNIV. - 1330 hrs.

- 25 Jan : P Osman/Westfield - Yet another approach to structural programming.

BRITISH COMPUTER SOC. OXFORD BRANCH MEETING AT OXFORDSHIRE COUNTY COUNCIL STAFF RESTAURANT - 2000 hrs.

- 25 Jan : Mr J R Chew - CEEFAX - a new form of broadcasting.

NP DIV COLLOQUIUM/CONF. RM, HANGAR 8 AERE - 1530 hrs.

- 3 Feb : Dr J E Lynn/NP Div - Research trends in neutron physics.

MISSING EQUIPMENT

Would anyone with any information on the present whereabouts of the following items please contact P E Gear, Ext 6276.
Hoover Dustette. Serial No. 63245
Hoover Dustette. Serial No. 65245

CERN FELLOWSHIPS

Details of CERN Fellowships during 1977-78 are now available from Mrs R Jeans, Personnel, R20. Scientists wishing to work at CERN can apply under the following schemes:- Fellowships, Scientific Associateships, Corresponding Fellowships and Travelling Fellowships.

FILM BADGE NOTICE

Period 2 commenced Monday 24 January. Colour Strip - YELLOW for $\beta\gamma$ films and neutron packs.

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

Six monthly TLD change for people with surnames commencing E, F, G and H.

SOMETHING BORROWED?

A fur hat, the property of a university professor visiting the Laboratory, was taken from the cloakroom area adjacent to the Restaurant at lunchtime on Thursday 13 January, during the recent snowstorm. Will the borrower please return the item immediately to the General Administration Group R1, 2-49; or persons with information please contact J Marshall on Ext. 6693.

OVERSEAS VISITS

Mr D A Gray & Dr D B Thomas, to CERN 24-25 January, to attend ECFA Committee for Accelerator Studies.
Drs M Edwards & P Norton, to CERN, 25-29 January, to attend EMC meeting.
Mr K H Davis, to USA., 26 January - 5 February, to attend Critical Design Review of Nimbus 'G' S.A.M.S. at Goddard Space Flight Centre etc.
Dr S Matsuda, to Germany, 2-10 February to give seminars and exchange discussions at Wuppertal and DESY.

Winkfield's New Director

It is interesting that the man who started his working life 34 years ago with equipment concerned with tracking aircraft has returned to the tracking business, although the objects being sought are of a somewhat different size and shape and fly somewhat higher.

Frank Swales left the RL last month to take up the post of Station Director of the Winkfield Tracking Station. This station is a joint venture between the SRC and NASA (the United States National Aeronautics and Space Agency), operated under an industrial contract for the SRC's Appleton Laboratory. Fifty of the staff are supplied by Airworks Services Ltd; the Station Director, his Deputy and two administrators being Appleton Lab staff. It is one of 12 stations around the world linked to NASA which co-ordinates all the work.

Winkfield operates around the clock covering, typically, about 25 passes per 24 hour day of unmanned satellites launched by NASA and ESA. In addition to the station's normal work of data collection, position determination, control by command, etc, there is involvement with British Satellites during both design and construction stages. Such, very briefly, is the world into which Frank has

moved after 15 years at the RL.

Frank's long career in scientific work started back in 1943 as a radar mechanic and was followed by such diverse jobs as an observer with the Shirley Institute, a picture telegraph engineer with the Daily Express and an experimental officer with the Admiralty before joining the RL in 1962.

As a member of the PLA Nuclear Physics Group he was concerned with beam lines generally, the N₁ Spectrometer and finally the polarised proton source. When the PLA closed down, Frank as a member of the resident Nuclear Physics Group moved over to Nimrod for an experiment on the $\pi 10$ beam line. He finally joined Nimrod Division to take charge of the beam diagnostic instrumentation and the GEC 4080 computer on the 70 MeV Linac.

Frank says he will always be ready to welcome old colleagues from the Lab as visitors to his new station which as the Editor recalls from his one and only visit, is, well, just a little smaller than the RL. It does however have a rather unusual address - Winkfield Field Station, Pidgeon House Lane.

Best wishes Frank from all your old colleagues.

SPORT

CHESS The position at the end of six rounds is as follows:-
Peter Craske - 6 points; Peter Hemmings - 5 points and Jim Riddle - 4½. Roy Culliford after 5 games has 3½ points.

Peter Craske is now a clear point ahead and looks well set to win the event but he still has to play Peter Hemmings and Roy Calliford.

SOUTHERN REGION CIVIL SERVICE SPORTS COUNCIL COMPETITIONS

1976/77 Cribbage Pairs Competition.

1976/77 Team Chess Competition (6 per team). Both these events are being held on 27 February at the Civil Service Department Building, Basingstoke. Closing date for entries - 12 February.

1977 Fours Tenpin Bowling Competition. To be held at the Humber Bowl, Southampton on 20 February. Closing date for entries - 12 February.

Anyone wishing to take part, please contact P Craske, Ext 232 as soon as possible.

TABLE TENNIS NEWS The 1976/77 table tennis season is now over the half-way stage and a progress report on the various activities of the Rutherford Table Tennis Club shows an increase in activities over previous years. Hitting that little white ball around has become very popular.

Rutherford Evening Table Tennis Teams. The club has entered two teams this year in the Didcot and District League. RL 'A' team consisting of Bob Hopgood, Eric Thomas and Tim Pett are in Division I, having won promotion from Div II last season; we wish them good progress in the higher Division. The club second team, RL 'B', newly formed this season from the lunchtime

players Peter Horton, Harry Jarvis, Peter Tipper, John Varley and Arthur Williams are in Division IV and are enjoying the matches which are played once a week; at present they have not lost a match and therefore hope to do well this season.

The AERE Lunchtime Table Tennis League. This year the RL club has entered 4 teams in this competition which has 8 teams in each of its 2 divisions; the matches being played in either the Sports Air Hall or the Social Club.

The RL 'A' team of Peter Kent, Eric Thomas and Tim Pett compete in Division I and are strong favourites to win the lunchtime league. RL 'B' team of Dick Carter, Arthur Chilvers, Peter Horton, Harry Jarvis, George Pullinger, John Varley and Peter Tipper are also in Division I; they hope to do well. Ken Robinson, Julian Gallop and Jean Kent make up the RL 'C' team and play in Division II; so far they have done very well by winning about half their matches. Finally, the RL 'D' team of Lesley Powell, Rachel Sutton and Sue Wood (also in Division II), have had some very good matches but to date have not quite managed a win; lets wish them good luck in the second half of the season.

The Table Tennis Ladder Competition (Lunchtimes in RL15). The ladder competition has progressed steadily throughout the year with well over 30 players taking part. In the early part of the New Year there will be a 'play off' Tournament of the top 16 ladder position players to find the Winner and Runner-up of this trophy which is housed in the Recreational Society Show Case in the RL foyer. At present the top five are:-

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|----|------------------|-----|
| 1. | Tim Pett | RL |
| 2. | Peter Kent | R27 |
| 3. | Eric Thomas | R27 |
| 4. | Ken-ichi Konishi | RL |
| 5. | John Varley | R51 |

We welcome Recreational Society members to join in any of the Rutherford Table Tennis Club activities. Any further enquiries about the club please contact Eric Thomas (club Secretary), R27, Ext. 6219.