

Bulletin

of the Rutherford Appleton Laboratory

6 Dec 1982 No.19

The World Data Centre at RAL



The World Data Centre hides its light in the depths of R3 and many of us at RAL are only vaguely aware of its role.

Richard Smith and Catherine Doidge of the Centre, here offer us enlightenment.

The importance of international data collection and distribution was clearly recognised when proposals for the International Geophysical Year (IGY) were being discussed in the early and mid-fifties. As a consequence, a system of World Data Centres was established, each handling particular disciplines within the solar-geophysics field. For the benefit of users, and to guard against catastrophic loss, separate data centres were set up in USA (WDC-A), USSR (WDC-B) and Western Europe and Japan (WDC-C). Each centre was, and still is, operated at

the expense of the host country and the entire network overseen by a committee of the International Council of Scientific Unions (ICSU) of which Sir Granville Beynon is Chairman, and Dr Henry Rishbeth of RAL is the representative of the 'C' centres.

A Successful Start

As a result of a proposal from the Royal Society, a World Data Centre for the Ionosphere and for Rockets and Satellites was established at the then Radio Research Station, Ditton Park, Slough, later to become the Appleton Laboratory. By July 1957 when the IGY started, this centre was ready to receive ionospheric data from a world-wide network of observatories. The centre's part in collecting data and distributing it on request to scientists at home and abroad, contributed

significantly to the success of the IGY, IQSY (International Quiet Sun Year) and subsequent international events. After almost 25 years at Slough, the centre moved to RAL early this year into R3, where it occupies a large room at the far end of the ground floor and two rooms in the basement below, mainly for archive material.

At Present

There are now two, three or four active WDC's in all disciplines in earth, ocean, atmosphere, solar-terrestrial and space sciences. Our Ionosphere Section holds data from about 200 observatories of which about 100 continue to send data regularly. We also receive important ancillary data such as solar and magnetic observations,

INTERNAL Events

NIMROD LECTURES R61 CONF.ROOM - 1400hrs

- 20 Dec M G Albrow/RAL
'High p_T Physics with the
Axial Field Spectrometer at
the ISR

CONDENSED MATTER SCIENCE SEMINARS R3 CONF.ROOM - 0930hrs

- 14 Dec M Hart/KCL
'Bragg Reflection X-ray Optics
for Synchrotron Radiation
Sources'

RAL Carol Service

LECTURE THEATRE

GEOPHYSICS SEMINARS R61 CONF.ROOM - 1400hrs

- 14 Dec Dr D A Bryant/RAL
'The AMPTE Magnetospheric
Satellite Mission'

HEP TECHNIQUES SEMINARS R61 CONF RM - 1400hrs

- 9 Dec M D Rousseau/RAL
'Report on Princeton BGO
Workshop and Other Topics'

MONDAY 20 DECEMBER
12.30

All are welcome.

EXTERNAL Events

THEO.PHYS.SEMINARS QMC - LONDON - 1615hrs

- 6 Dec Dr D M Brink/Oxford
'Barrier Penetration'
13 Dec Prof A Houghton/Brown
'Towards a Theory of Disordered
2-dimensional electronic systems'

PHYSICS COLLOQUIA H H WILLS LAB - BRISTOL - 1630hrs

- 9 Dec Drs W N Cottingham &
J W Alcock/Bristol
'Confinement of Magnetic
Monopoles, Quarks, etc'
13 Dec Prof B V Jayawant/Sussex
'Electromagnetic Suspension
and Levitation'

NPD COLLOQUIUM CONF.RM 8 - HARWELL - 1530hrs

- 14 Dec Dr A J Illingworth/UMIST
'Thunderstorm Electricity'

THEO.PHYS.DIV.SEMINARS TPD - HARWELL - 1400hrs

- 8 Dec Prof J R Cann/Newcastle
'Black Smokers Fuelled by
Freezing Magma'
14 Dec Dr H M Rosenberg/Oxford
'Fractals, Fractons and
Phonons - a New Look at the
Thermal Properties of
Amorphous Materials'

PART.PHYS.DISC.GP MEETINGS BIRMINGHAM - 1615hrs

- 10 Dec Dr M Houlden/Liverpool
'Status of Jets and Hard
Scattering Processes'
17 Dec Dr J N Carney/Birmingham
'K p Interactions at 18 GeV/c
in the Omega Spectrometer
(WA60)'

THEORY GROUP SEMINARS DARESBUURY - 1400hrs

- 13 Dec Dr R C Johnson/Surrey
'Theory of Nuclear Reactions
with Polarised Lithium Beams'

SHEP SEMINARS SOUTHAMPTON - 1430hrs

- 10 Dec S D Ellis/DAMTP
'Strings and Correlations in
e⁺e⁻ Physics'

Christmas Theory Meeting

Lecture Theatre

WEDNESDAY,

15 DECEMBER	14.00	J G Halliday	Lattice Gauge Theories
	16.00	R Marshall	e ⁺ e ⁻ experiments

THURSDAY,

16 DECEMBER	09.50	J S Bell	New applications of topology to gauge theories
	11.45	E Witten	Inexplicability of quantum correlations
	14.05	T F Walsh	Magnetic monopoles
	16.00	G G Ross	Supersymmetry

FRIDAY,

17 DECEMBER	09.50	P J Steinhardt	The new inflationary Universe
	11.45	G Baym	Quark matter
	14.05	F Halzen	Collider physics

Prize Apprentices



reports, etc. The data are indexed, filed, catalogued, and made available to the scientific community. Facilities exist in the Centre for scientists to work with the data and receive help from WDC staff.

The Rockets and Satellites Section receives news of satellite launches, rocket firings, and until recently, satellite sightings, which are now handled by ESRU (Earth Satellite Research Unit) at Aston University. Our most important data collection in this field is the library of about 1500 IUE (International Ultraviolet Explorer) satellite tapes from which files of spectral images are copied on request from astronomers, mostly from UK universities.

Looking Ahead

Although the future policy of our centre is at present being reviewed by a joint Royal Society/SERC panel, plans are in hand for modernisation by applying computer techniques to the storage and retrieval of data. Already a pilot study is under way in which frequently requested data are stored in a database using the G-EXEC system on the mainframe computers at RAL. Access to this information is available to those scientists who have computer contact with RAL. There is also the likelihood of an eventual computer link-up with the other WDC's and already close liaison on this topic has been established with WDC-A in Boulder, USA. Our new title will be the WDC for Solar-Terrestrial Physics and we are confident that the centre will continue to meet the needs of scientists working in this field.

Geophysics Link

The Laboratory recently concluded an agreement with the University of Southampton to second Dr Henry Rishbeth from RAL to the University to take up a post of Senior Research Fellow. In addition, the agreement covered the secondment of Dr David Ramsden from the University to RAL to take up the role of Upper Atmosphere Group Leader in the Geophysics and Radio Division. Henry will continue to spend some 40% of his time on RAL-linked activities. His principal task will be the development of the University/RAL research programme using EISCAT (the European Incoherent Scatter Radar System in Northern Scandinavia). Of the twenty UK EISCAT programmes currently on the books, six directly involve RAL and/or Southampton scientists - including such topics as the polar atmosphere and its links to the magnetosphere and interplanetary magnetic field, auroral arcs, sporadic E, and 'plasma line' emissions. In this work, RAL also collaborates with Imperial College, University College of Wales, Ulster College and Sheffield. Data acquisition for most of these studies has begun.

David Ramsden will continue to spend some 20% of his time at Southampton University involved with the Gamma and X-ray physics programmes where activities on instrumentation development and imaging techniques will continue to engage his attention. David has been playing a lead role in the UK/SERC and international balloon programmes for a number of years. He has been involved in both scientific research and development of instrumentation and new technology areas involving cryogenics and telemetry relay facilities.

Obituary

Anton Walter

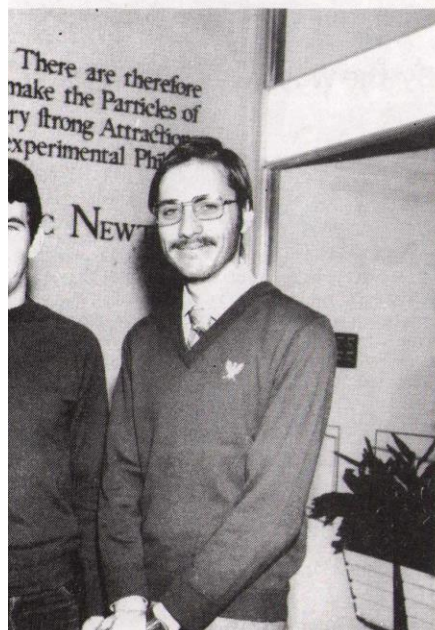
We record with very great regret the death of Anton Walter on 22 November 1982. The Computing Division mourns his loss, for he joined us at the Laboratory in July 1967.

He quickly established himself in the esteem of his colleagues for his humour, enthusiasm, and his quite remarkable gifts for rapid reading and assimilation of technical information. We shall miss him for the wide range of his interest and knowledge in the computing field.

Anton's contribution to the Council's work was considerable. On the Atlas computer he worked on the ASCOP statistical package with Brian Cooper. On the ICL 1906A computer, he largely designed and developed the successful initial processing system for the experimental data received from the ARIEL 4 space satellite. Later, he designed and implemented a package for handling data obtained in various forms of survey. He worked on the Interactive Computing Facility in its formative years, and more recently was involved in data communications work for the SERC-wide area network. He then joined the Starlink project at its formation, where his systems programming expertise was essential. This short summary gives a glimpse of the career of a mathematician with statistical training who became, through his work, practice, and background reading, a highly regarded computer scientist.

Anton was frequently to be seen at lunchtime relaxing with colleagues over the CHESS or GO Board.

In extending our sympathy to his wife, Ann, who is a former member of the Division, and to his small son, John, we too share in this untimely loss.



Three RAL apprentices were amongst those presented with awards at the Apprentice Prize-giving Ceremony held at Harwell on Tuesday 16 November. Peter Dorrington and Trevor Whelan received Merit Awards and Anthony Kershaw won the Director's Cup.

Merit Awards are given to 'the best apprentices of their year for practical and academic application' and are accompanied by a cash prize. Peter was adjudged the best 4th Year Electrical apprentice. He is now employed in the SNS Electrical Design Office, and plans to continue his studies towards a TEC Higher Diploma in Microelectronics. Trevor (a 2nd Year Mechanical apprentice) is at present employed in a small development workshop of Amersham International at Harwell where he is a valued member of the team.

Anthony, the recipient of the Director's Cup - 'awarded to an apprentice for outstanding application and achievement in his technical studies' - is also a 4th Year Electrical apprentice. He won the award, despite an accident, which has resulted in his apprenticeship being extended to finish in a few weeks time. He will be found in R18 Electrical Workshops and is also studying for a TEC Higher Diploma in Microelectronics.

Brian Fender-Director ILL

Old friends and colleagues of Brian Fender will be interested to hear that from 1 October 1982 he has been appointed Director of the Institut Laue-Langevin, Grenoble. RAL staff will remember his part in the planning of the SNS. He has extensive experience of ILL being a member of the Steering Committee from 1974-77 and a member of the Scientific Council from 1977.

We offer our congratulations.

Pictured outside R1 (from left to right) Trevor, Anthony and Peter.

All the Best Ray!



Ray Tucker, the man who, for the last year of its life, watched over the demise of Appleton Laboratory at Ditton Park and then arrived at Chilton to witness its re-incarnation as part of RAL, decided it could now thrive alone and retired at the end of November.

Ray joined the Lab first when it bore the title 'Radio Research Station' in 1956. In 1965 he transferred to London Office and proceeded to oscillate between the two until 1974. He experienced the formation of CERN and the SRC whilst with the DSIR and was greatly involved with the setting-up of Winkfield. When the tracking station at Fort Stanley, Falklands, was expanded to track ESRO satellites, and the staffing complement raised from 4 to 45 it was Ray who had to buy and ship-out all the furnishings for the bungalows which were sent out to house them. Mergers and collaborations seem to have been his speciality.

Dr Jim Valentine, making the retirement presentation on behalf of Ray's many friends and colleagues thanked him for all his efforts on behalf of SERC and wished him every success and happiness in his retirement.

Having been on the presenting end of such ceremonies many times in his career, Ray came equipped for parcel-opening, and a little deft work with a knife revealed a socket-screwdriver set, for which he thanked everyone. He thanked all for coming to say farewell and expressed his delight at the extraordinary help he had received throughout his career which had gone such a long way in making life happy. He had, he said, had a very interesting and enjoyable association with DSIR/SERC, due in great part to the kindness and humour of his colleagues, which he would always remember with pleasure.

Coffee at Cosener's

The final meeting of 1982 of the Rutherford Appleton Wives' Group will take place on Tuesday 14 December at Cosener's House from 10.30 until 12 noon. So, if you are free on that morning, why not come along and join us. It doesn't happen every time, but on 14 December we'll be getting into the Christmas spirit with sherry and mince pies.

See you there!

Joy McWhirter
Abingdon 20232

Crib

After seven matches the 'Aceholes' (15 points) are leading the league, closely followed by the high flying 'Concords', and the 'Misfits' (14 points).

The 'Setters' (12 points) are bounding along in fourth place and hard on their heels are the 'Wild Bunch', the 'Cubics', the 'Klones' and the 'Jokers' all on 11 points. Last year's champions, '15 Watts' (9 points) have decided to give youth a chance and appear to have blown a fuse. The 'Allsorts' (9 points) are out of sorts and the 'Kastos' (5 points) are finding it tough going in their first year. Holding up the league are the 'Unnamed' (4 points), who shall remain nameless.

Sales to Employees

The sale of scrap metal and plastics will take place, subject to the usual conditions, on 10 and 24 December at the R40 Scrap Compound from 12.00-12.30 hrs.

Film Badge Notice

It is Period 13 Colour strip BLUE. Please ensure that all old films are returned.

Trade Exhibition

Photo Fabrication Services Ltd are exhibiting Chemical Milling and Graphic Services on Thursday 9 December from 10.00 to 16.00 hrs outside R20.

Missing

A calculator belonging to Ken Paul has disappeared from his office G9 in R25.

It is a LC8M Citizen Liquid Crystal calculator and he would be pleased if the borrower would return it.

By the Way

Congratulations to Peter Cox on catching his first trout!

In response to popular demand the magnificent photograph of the HTIS operator, appearing in last week's *Bulletin* has been reprinted in some quantity. Those who have not yet obtained their copy, autographed personally by PCJW, are invited to collect one while stocks last (R65, opposite G17) G.P., S.C.

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