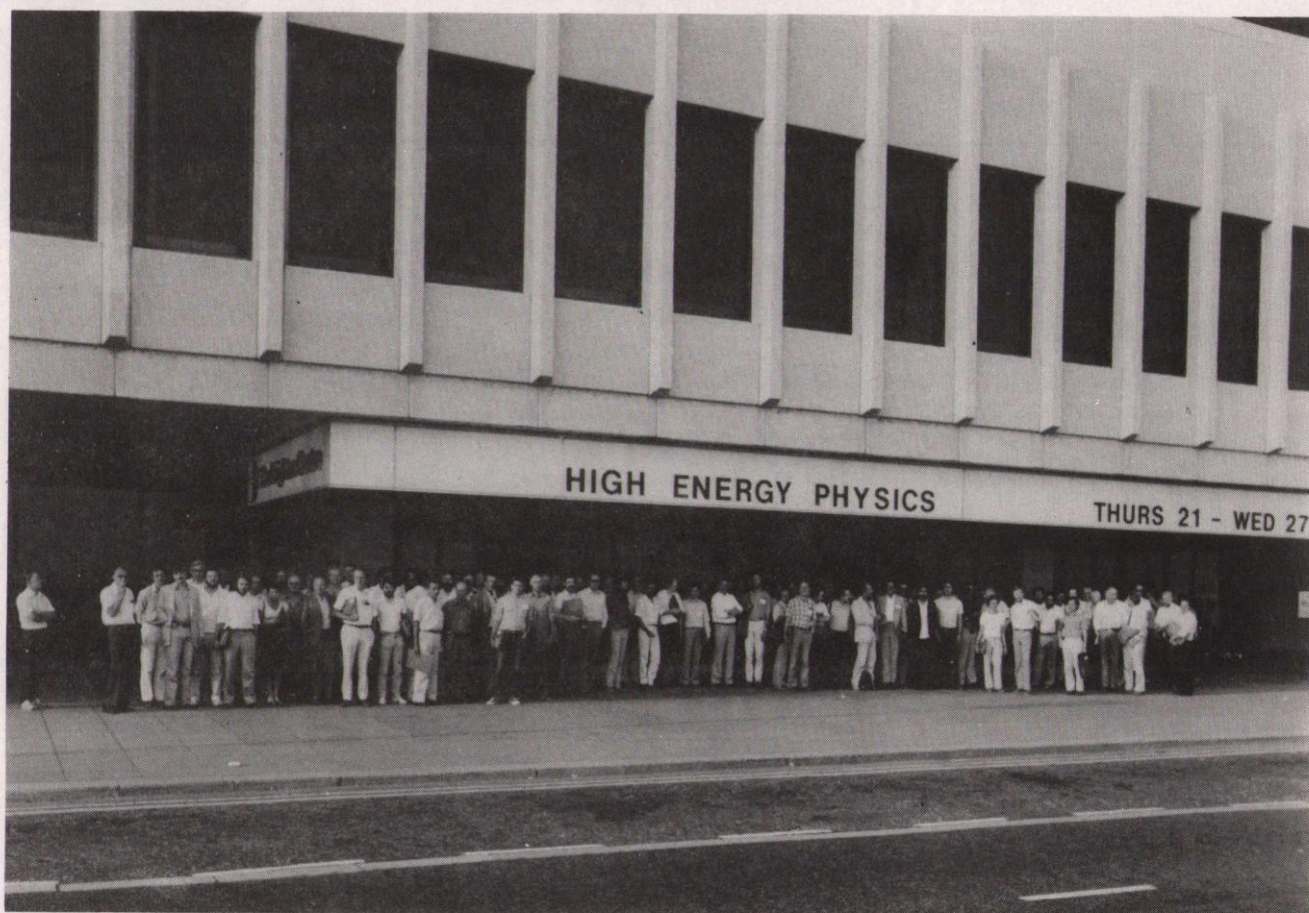


Bulletin

of the Rutherford Appleton Laboratory

12 Sept 1983 No. 14

Physics at Brighton



(83 RC 3886)

The queue beginning to form for this year's major success of the Brighton season.

Just before many people's summer holiday, the International Europhysics Conference on High Energy Physics was held at Brighton from 20 - 27 July. The Conference used the Brighton Centre (better known perhaps for gatherings of a more political nature).

Over 600 leading physicists from all over the world attended, for six days of talks, discussions and evaluation of recent major discoveries in this field, in particular, the discovery of W^\pm and Z^0 particles earlier this year at the UA1 and UA2 experiments at CERN, (see Bulletins 2 & 10) that have made 1983 of singular importance

in the development of our understanding of nature's laws. Since then many more of these particles, predicted by the unifying theory which links electromagnetic effects and radioactivity, have been identified. Such a grand unification has not been achieved since Maxwell related electrical and magnetic effects in the last century.

The delegates included Abdus Salam from Imperial College and Trieste, who together with Glashow and Weinberg were responsible for many of the theoretical foundations of the now standard theory which predicted the W^\pm and Z^0 . Carlo Rubbia and members

of the experimental teams from the anti-proton proton collider at CERN presented their latest results on these particles. Also present were several members of the RAL, Birmingham and Queen Mary College teams who participated in these experiments, so it was particularly pleasing for their results to be reported on home ground.

A Success

The smooth running of the conference - since commented on favourably in many

(cont'd on p3)

INTERNAL Events

NIMROD LECTURES

R61 CONF ROOM - 1400 hrs

- 19 Sept H Pirner/Heidelberg
"Inelastic Lepton Scattering
and Quarks in the Nucleus:
from Low Energies to the
EMC Effect"
- 26 Sept R M Brown/RAL
"Status of Hyperon Semi-
leptonic Decays"

Note: This lecture will take place
in the Lecture Theatre R22.

HEP SEMINARS

R61 CONF ROOM - 1100 hrs

- 21 Sept Dr S Chadha/RAL
"Use of Chiral Lagrangians
for Proton Decay"
- 28 Sept Dr Ian Aitchison/Oxford
"Gauge Invariance and the
Effective Potential"

RAL LECTURE

LECTURE THEATRE -1500hrs

- 60ct Mrs Margaret Rule,CBE,FSA
will speak on
The Mary Rose.



The RAL Lectures are a series of talks on a wide range of scientific topics, given by speakers eminent in their field. They are designed to be of interest to all Laboratory staff and are normally held on Thursdays, once each month in the R22 Lecture Theatre at 3.15 pm.

The 1983-84 series starts on Thursday 6 October when Margaret Rule, of The Mary Rose Trust will speak on the technical problems of raising this famous Tudor Flagship and of the methods used to preserve its timbers and priceless contents.

OTHER DATES FOR YOUR DIARY

Thursday 3 November 1983
Dr P E Clegg, QMC
'Far Infrared Astronomy'

Thursday 1 December 1983
Professor G Hunt,
Astronomy Dept, Imperial College
(title to be announced)

Thursday 19 January 1984
Dr Magnus Pyke, OBE
'Nutritional Science, the New
Paradigm'

Thursday 16 February 1984
Professor R Penrose,
The Mathematical Institute, Oxford
(title to be announced)

Thursday 15 March 1984
Sir George Porter, FRS
The Royal Institution
(title to be announced)

UK HEP Forum

22-23 October

The subject of the next UK HEP forum is to be: "Proton-Antiproton Physics at Collider Energies". Topics to be discussed include the discovery of the W and Z particles, the prospects of finding the top-quark and the observation of hadron jets in the UA1 and UA2 experiments. In addition, there will be talks concerning the theoretical implication of these results. Those interested in attending should contact Dr Edwin Hancock at RAL, Ext. 5647.

Film Badge Notice

Period 10, Colour Strip BROWN commences on Monday 12 September. Please change your films promptly and return all old ones.

Library Notice

Would the person who has the Library's copy of 'Advances in Cryogenic Engineering' Vol 27, please return it, as soon as possible. Thank you.

Dr John Harries

Secretary to IRC

Dr John E Harries was elected Secretary of the International Radiation Commission for a four-year term, during the General Assembly of the International Union of Geodesy and Geophysics (IUGG) held in Hamburg, August 1983.

The IRC is a commission of the International Association for Meteorology and Atmospheric Physics (IAMAP), itself an association of the IUGG. The IRC has responsibilities for promoting research into radiative processes in the earth-atmosphere system and in planetary atmospheres.

Missing

The following Loan pool item has been removed from lab G7, R2.

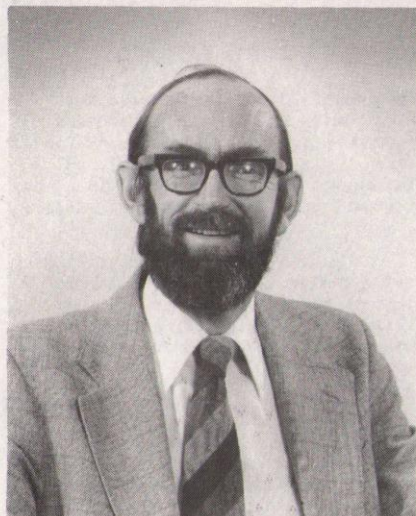
MARCONI TP 2700 Universal Bridge
Serial No. 52800/034.

Would the person who borrowed it please contact Chris. Bonfield
Ext. 5219/5568.

Also mislaid is Loan Pool item Hewlett-Packard Frequency counter timer, Serial No. L8N 1784 A&B. Information on this item to A C Roberts, R25, Ext. 6532, please.

Dr Paul R Williams

Deputy Director RAL



(33212)

To most RAL staff, Dr Paul Williams, our new Deputy Director, needs no introduction. Joining the Rutherford Laboratory, then the National Institute for Research in Nuclear Science, (NIRNS) in 1960, Dr Williams was a founder member of the British National Bubble Chamber Team, and, apart from a 4½ year period of banishment to Central Office, has been with us ever since.

Born in 1934 on the Lancashire Fylde coast at Thornton-Cleveleys (about 5 miles north of Blackpool), Paul graduated from London University in 1954 and gained his PhD, from Liverpool University in 1958 for his work in Particle Physics using the newly invented bubble chamber technique.

His arrival at NIRNS was followed by a period at CERN with the 1.5m Bubble Chamber which he re-installed on Nimrod on his return to Chilton in 1965.

Then followed eight years during which he became PSO head of Nimrod Experimental Facilities Group, until in 1973 he joined Leo Hobbs to start planning the High-Power Laser project. He was appointed Deputy Division Head, Laser Division, SPSO in 1976.

In 1979 he left RAL to become Head of ASR Division, DCSO, in Central Office and in 1981 Head of Engineering Division, DCSO, Central Office.

Now he returns to the RAL fold as Deputy Director from 1 October and Associate Director, Engineering.

Paul lives in Abingdon with his wife Marion and his two grown children; John, a geologist working on North Sea exploration rigs and Judith, a final year student nurse in Gloucester. His interests include, Sailing - he was recently Commodore of the Abbey Sailing Club, Abingdon, and motoring - the red MCB tourer will become a common sight at RAL. He is an active member of All Saints Methodist Church, Abingdon and also in the Town's music circles, as a choral singer and expert listener.

Welcome Home!

Physics at Brighton

(cont'd from p1)

letters subsequently received at RAL - belied the large organisational effort which went into the preparation and day-to-day running of the event. Setting up the administrative and technical support began the day before the first delegates appeared, with a busload of RAL staff arriving on the doorstep of the Brighton Centre. Their work was much appreciated by the physicists, and thanks are due to everyone who helped to make the conference such an outstanding success.

As well as being the first conference to discuss the conclusive experimental evidence for the predicted W^\pm and Z^0 , it also covered many other aspects of our understanding of high energy physics, and many interesting experimental results were described.

The fundamental particles and the laws that govern the behaviour of these basic building blocks of the Universe are the key to our understanding of the 'Big Bang' and the origins of everything. The Theorists are asking more and more basic questions and aiming at Grand Unification, which would link nuclear force with electroweak. However, so far no experiment has seen any conclusive examples of the proton decays predicted by such 'Grand' ideas. Better limits were reported from a large American experiment and several experiments in Europe and the USA will continue to search. I. Lubimov from ITHEP near Moscow, gave interesting new evidence for the elusive electron neutrino to have a mass; but so far these measurements are unconfirmed.

Many new results from CERN, DESY and the USA give a deeper understanding of particle production and decay. There were a few surprises, in particular a different mass for the charmed strange F meson which appears to make previous sightings fallacious and some evidence for F's proton-like counterpart, a charmed strange baryon. There is a long lifetime for mesons with beauty and a massive object that decays to give two K-mesons which seems unexpectedly narrow. There was something for everyone - and some warm sea and a beach for those who had had enough.

(We thank John Guy and Robert Sekulin for this interesting report on the conference).

Trade Exhibition

There will be an exhibition of microcomputers by Cifer on Monday 26 September in R12 Conference Room from 10.00 - 16.00 hrs.

An exhibition by Hakuto International (UK) Ltd of the latest streak cameras, photomultiplier tubes, silicon devices and random access cameras, will be held, also in the R12 Conference Room from 10.00 hrs - 16.00 hrs, on Thursday 6 October.

Obituary

John Fox

It is with deep regret that we announce the death of John Fox on Friday 26 August at the Sue Ryder Home, Nettlebed.

John retired from the Laboratory in December 1978 to live in France, after a distinguished career with what has now become SERC. It was his expertise in specialised aspects of Power Supplies which first brought him into contact with Nimrod. Having commissioned the Nimrod Power Plant he then designed the equivalent plant for a newer, different accelerator at Daresbury. After that he went on secondment to CERN, Geneva, during which time he became recognised as an international authority on Power Supply Systems. He published many papers and twice won prizes for articles of outstanding merit.

Those of his colleagues at Rutherford, Daresbury and CERN who knew him down the years would endorse the most popular description of him - "stimulating". He had an enthusiasm for everything, such as is apparent in very few. He is talked of as an irrepressible personality, forthright, determined, outspoken; a great humourist who delighted in making others laugh. He was also recognised as a man who appreciated beauty in many artistic forms and perhaps music best of all. Adding these qualities to those he displayed professionally it is not difficult to understand why most of those who had the privilege of serving with him realise that a very special character has left them behind.

We offer our sincere condolences to all his family.

In Memory

In accordance with John's last wish we ask that all donations to his memory should be given to the 'Sue Ryder Home', Nettlebed. Donations may be made through Mr J Wyatt, R20 Ext. 5500.

Barn Dance

The RAL Barn Dance Club are having a Barn Dance. It will be held in the Drayton Village Hall at 8 pm on Friday 16th September. Dancing to the Cuckoo's Nest, caller Mike Courthold. Tickets are £2.50 including Buffet, and are available from:

Mike Courthold R12
Derek Cragg R65
Daphne Barrand R1

Thank You

Zhen-Song Wang is leaving RAL. He would like to thank his colleagues at RAL for their hospitality. He enjoyed working in Dr D Bryant's group. He appreciated the stimulating discussions and collaboration. He thanks everyone for the nice present - a British made Umbrella. It will bring back a lot of memories for him whenever it is raining, not only of the weather, but also of the friendship from the people at RAL. He also thanks the librarians and staff in the Post Room, for all the trouble they have taken. He sends his best wishes to all. God bless you all.

Art & Crafts

Exhibition

A DATE FOR YOUR DIARY.

The 1983 Art & Craft Exhibition is to be held on 15, 16, 17 November, from 12 noon - 2 pm each day. It will also be open on 16 November from 5.15 pm - 8 pm.

It is hoped that previous exhibitors and also many new ones, will be willing to show their work on these days.

Entry forms are available from:

Myra Gilbert Ext: 6143
Jenny Coates Ext: 5430

The more participants there are, the better the exhibition. Please help to make it really interesting.

War in R18

On Wednesday 24th August, a "friendly" football match was played between R18 Electrical Workshop and R18 Electronics Workshop. This was a return match after the Electricians close 3-2 victory on the previous Friday.

John Elgar opened the account for Electronics and Alan Saxby added a second while Electronics player Tony Kershaw was off the pitch injured. The two goal lead was masterminded by Jim Denly, who organised the midfield superbly.

In the second half, the Electricians had three good chances with Martin Bennett and Trevor Fisher, but Electronics' goalkeeper Andy Napper and rightback Dave Rippington kept the ball out.

In the end Electronics romped home with four more goals (Jackie Allen and three more for Alan Saxby). Ian "Willie" Williamson tried desperately to stop the assault but was not supported in defence by his team mates. So the final score was Electricians 0 Electronics 6. A good time was had by all and the deciding match will be played in the second week of September.

Alan Saxby

Bulletin

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Deadline for insertions: