

27 September - 11 October 1976

Head of Laser Division Appointed

In 1976 Professor A F Gibson says goodbye to The Department of Physics, University of Essex, and on the 1st January 1977 takes up a newly-created DCSO post as Head of the Laser Division at the Rutherford Laboratory. will be responsible to the Director of the Rutherford Laboratory for the management of the SRC's Laser Centre which is being equipped with an 800 gigawatt neodymium glass laser for use by university scientists. This laser will make possible research into the creation and properties of very dense plasmas and the non-linear interactions between high intensity electromagnetic radiation and matter. The first experiments are planned to start by the end of 1976. Work at the Centre will also include laser development programme.

Professor Gibson was educated at Rydal School, Colwyn Bay, and Birmingham University. He joined R.S.R.E. (Malvern), then T.R.E., in 1944 and worked on Radar

displays, infra-red detectors, transistors and other aspects of solid state physics particularly concerned with the optical properties of solids. When he left R.S.R.E. in 1963 to become the first Professor of Physics at the University of Essex he held the rank of D.C.S.O. by individual merit.

At Essex Professor Gibson built up a laser research group with interests in both laser-plasma and lasersolid interactions. Amongst other achievements was the discovery of the photon drag effect, now the basis of commercially available high speed laser light detectors, and the first demonstration of passive mode locking of

CO₂ lasers.

Equipment is now being installed in the National Laser Centre in Building R1 and we will be reporting on these developments very soon.

RUTHERFORD LABORATORY

The 1976-77 season of RL Lectures opens with a talk by Professor E C Zeeman.

Director of the Mathematic Research Centre at the University of Warwick since 1964. For the nine years previous to this appointment he had been visiting professor at various institutes including I.A.S., Princeton; IHES, Paris; IMPA, Rio; also universities of California, Florida, Pisa and Hon. Dr. at Strasbourg. He has also published numerous papers on topology, dynamical systems, and applications to biology and social sciences.

The title of Prof Zeeman's talk is 'Applications of Catestrophe Theory to Physics'.

Many articles and papers have been produced since the invention of the Catastrophe theory by René Thom of the Institut des Hautes Etudes Scientifique at Bures-sur-

Yvette, France in 1972.
Suggested reading: - 'Catastrophe Theory' - Prof Zeeman, Scientific American, April 1976 and, 'The seven elementary catastrophies' - Dr Ian Stewart (lecturer in Mathematics, Warwick U.) - New Scientist, 20 November

Prof Seeman has kindly supplied the following summary:-

'Catastrophe theory is a new method, invented by René Thom, of modelling discontinuities. It is particularly applicable where gradually changing forces produce sudden effects. It is based on recent deep theorems classifying singularities of maps.

Many classical examples in physics can now be seen to fit into the general theory, such as light caustics, buckling, shock waves, non-linear oscillations, Landau singularities in phase transition, metacentres etc. The higher dimensional singularities are suggesting a new experimental approach in physics. The method can also be used in biology and the social sciences.

The talk will give an elementary introduction.

The talk is at 15.15 on Thursday, 30 September in the Lecture Theatre.

BULLETIN NOTICE Copy for issue No. 17 should be sent as usual to Room 42, R20, but telephone messages, enquiries, etc should be made to Gordon Fraser Ext. 6607 as the Editor will be on leave.

GFUN IN THE STATES

In Bulletin 7, we reported on the highly successful 'COMPUMAG

76' conference organised by the RL and held at Oxford at the beginning of April. One of the highlights was the specially set up magnet design workstation enabling delegates to use the Laboratory's GFUN magnet design software.

As a result, Bill Trowbridge and John Simkin are in the USA for three weeks implementing the magnet design program, GFUN on the CDC computers at Berkeley and Livermore, and on the IBM computer at Oak Ridge. These laboratories invited Bill and John and will be paying for their expertise.

OVERSEAS VISITS K Konishi, to Yugoslavia, 26 Sept -8 Oct., to lecture at Basko Polje

R W Newport and W Turner, to CERN, 27-28 Sept., to attend meeting of European Hybrid Spectrometer and for discussions on RLBC.

K Green & A G D Payne, to ILL Grenoble, 27 Sept - 1 Oct. for preparatory work on installation of neutron lifetime experiment.

W Venus, to CERN, 27-29 Sept., to attend meetings. S F J Read, to Heidelberg, 26 Sept - 2 Oct., to attend XIX Congress Ampere.

H O Normington, R Matson, J Wells & H A James, to CERN. 27 Sept., - 8 Oct., for installation work on WA2 and

K H Davies, to the USA., 29 Sept - 8 Oct., to visit various establishments for discussions.

J E Hailstone & G W Robinson, to Stresa, Italy, 3-7 Oct., to attend 2nd International Workshop on Modelling and Performance Evaluation of Computer Systems. F E Close, to Nordita, Copenhagen, 10-14 Oct., to lecture at Scandinavian HEP Meeting.

R W Witty, to the USA, 11-23 Oct., to attend 2nd International Conference on Software Engineering at San Francisco & to visit various laboratories.

SALES TO EMPLOYEES Sales of scrap metal/plastics as set out in RLN 12/73 will be made on 8th and 22nd October.

INTERNAL EVENTS

NIMROD LECTURE SERIES Monday 27 September 11.30 Lecture Theatre

TRADE EXHIBITION
Tuesday 28 September
0900 - 1300
R20 Lay-by.

HEP SEMINAR
Wednesday 29 September
1100
Lecture Theatre

RUTHERFORD LABORATORY LECTURE Thursday 30 September 1515 Lecture Theatre

NIMROD LECTURE SERIES

HEP SEMINAR Wednesday 6 October 1100 Lecture Theatre

USERS MEETING Monday II October IIOO - I630 approx. Lecture Theatre J/W Production in Hadron Collisions

Professor A Donnachie/Manchester

G A Platon Ltd will be visiting the Laboratory with their Mobile Demonstration. Unit. On display will be their range of Flow Control equipment comprising Gapmeters; variable area flowmeters; flow alarm, monitors and Flostat; automatic flow control valves and their latest instrument - the Floscan flow controller. This is a morning visit only but for those unable to attend, the Unit will move over to Harwell for the afternoon - outside Social Club.

Looking for Long Lived Charm

J Albright/Florida State University

Applications of Catastrophe Theory to Physics

Professor E C Zeeman/University of Warwick

There is no lecture on Monday 4 October

Constraints on Meson Radiative Decays from Duality

R L Thews/RL and Arizona

There will be two talks in the morning to be given by Mr W Walkinshaw/RL and Dr F Foster/Lancaster University. The talks in the afternoon will be given by Dr G H Stafford/Director, RL and Professor L van Hove/Research Director General, CERN. Further details in next Bulletin.

EXTERNAL EVENTS

THEOR. & HEP SEMINAR
Friday 8 October
1430
University of Southampton

COMPUTER SCIENCE SYSTEM SEMINAR Thursday 7 October 1000 Conf. Rm., Bldg. 7.12, AERE Review of Tiblisi Conference

Dr D J Wallace/Southampton

The facilities and Use of ADABAS - R L Jenkinson & K Jackson/Adbas Ltd

ADABAS is a partially inverted data base management system originally developed by Software AG and now marketed in the UK. The system stores data relationships based upon declared keys separately from the data and thus permits certain types of information to be retrieved quickly and economically. It supports a high level language, a report generator and user macro facilities.

ADULT COURSES The Department of External Studies,
University of Oxford provides courses
for adult students who are not reading for a degree or
diploma at the University. Copies of the 1976-77
Prospectus and Programme of Courses in Oxford neighbourhood (Counties of Oxfordshire, Berkshire and Buckinghamshire, and in the City of Oxford) are available from
RL Libraries and Training Section, in R20.

MISSING EQUIPMENT The following item of equipment has been reported missing from C & A Admin Office -

Canon Palmtronic LE83 Calculator, Serial No. 606330. Will anyone with information on the present whereabouts of this item please contact the Inventory Section R20, Ext 570.

SITE EMERGENCY KLAXON TEST

The Klaxons will be sounded for a reliability test at 1430 hours on Tuesday 5 October. Notice boards day 4 October outside the RL main

will be posted on Monday 4 October outside the RL main gate and at Atlas entrances. Defective Klaxons should be reported to B Totham, Ext. 270.

Retirements

A Somerset girl, born in Wells, who lived next to the hedral in Vicars Close for most of her early life, left the Labroatory on Friday 17 September on premature retirement.

Mrs Phyllis Preuveneers (better known as 'Preu') at the age of 19 started training as a hospital nurse at Bristol Royal Infirmary returning later to Wells College Hospital to complete 10 years in the profession. The following 13 years she worked as a Dental Receptionist still living in Wells before moving to Berkshire in 1960.

Preu joined the Lab in October that year working in Personnel on recruitment and travel. In October 1962 she was attracted to Contracts where she stayed for 5 years. Her final move was to Finance where she has worked for the past 9 years.

Before departing Preu gave a farewell party in the R22 Coffee Lounge for friends and colleagues. Being Preu she most generously provided a feast of food and drink and of course, lots of laughs. The party did however provide an opportunity for John Sissons to present her with a parting gift from her large circle of friends and colleagues. The gift a pair of victorian silver sauce and gravy boats produced a typical Preuism - 'the sauce for me and the gravy for him'. Preu has a great love and interest in antiques which she shares with Charles her husband. Another life long interest is music and in her youth Preu studied the piano to an advanced level and sang in many choirs including the Wells Cathedral choir.

The future, in her own words - "to enjoy life counting the bees and birds, doing voluntary work and above all being just a housewife and not doing two jobs". She sends her thanks for "my beautiful present from which I shall get lots of memories and these will introduce for me lots of laughs".

At her party she referred to herself as "the noisy handed CA with the heavy feet". Perhaps after all, we should have had a title for this story - Senior Principle CA retires from Council!

Best wishes Preu and many thanks for all the laughs.

* * * * *

Gordon Howard slipped away quietly at the end of August having accepted premature retirement. He came to the Lab in 1963 having worked at AWRE Aldermaston since 1954 as a craftsman. Gordon joined the instrument repair shop as an instrument mechanic rising eventually through promotion to the position of technician in charge of the Instrument Repair Shop dealing with all instruments other than electronics types.

Apart from his official duties, his efforts at SRC Sports Days and his management of the lunch time football league gave a lot of pleasure to others. His contributions to Recreational Society activities was recognised by the presentation, at a nearby hostelry, of a football signed by all his friends, colleagues and lunch time footballers who contributed to his retirement presents which included book tokens.

Gordon a very shy man and an ex bomber pilot in the last war (he flew B25's and Lancs) has gone to live in his converted cottage in South Wales. A colleague has kindly supplied the following description which is too good to miss.

"Here in the shadow of the Black Mountains and within sight of the powerful ruins of Carreg Cennen, once a Lancastrian Castle and later a haunt of robbers, Gordon Howard bought himself a 20' x 18' one up and one down stone wall cottage with a grate anyones grandmother would love to black lead.

Over the years he has worked on the cottage, demolishing a lean-to and largely building himself a two-storey extension with kitchen, bedroom and bathroom. He intended to use various tradesmen to build the extension but became disillusioned with a nostalgic bricklayer (but that's another story) and did the work himself".

From reports received Gordon is enjoying the fruits of his labours together with a goat and some chickens. His interest in wild life conservation is obviously not all theory and we wish him well in his new life away from it all.

Gordon has phoned to say "Thanks for the thirteen years of happiness and genuine friendships at the Lab. I wish to be remembered to all those I could not see before leaving. Good luck to the footballers."

* * * * *

One wonders how many people are aware of the official duties of a lab messenger - even more so, the services provided which are not listed on the job evaluation sheet.

Happily a large number of staff do appreciate the help they receive and this was shown in a positive way last week when Mrs L Andrews retired. Lilian joined the Lab in May 1961 at the same time as Helen Ramsey and these two were the first lady messengers to be recruited. Helen after a while went to the Post Room where she still reigns.

Lilian has served the communities of R20, R2 and for the last six years, the R12 complex as well as relief messenger in most of the other buildings including the Post Room.

On Friday morning, 17 September, a large mass of people invaded the Director's Conference room and indeed overflowed into the surrounding areas to wish Lilian a long and happy retirement. Jack Marshall on behalf of most of the Laboratory it would seem, presented her with a nest of tables, a bouquet of flowers, a scroll, a cameo necklace and cards and presents from individual friends.

He expressed thanks for all her help over the years and wished her every happiness in the future.

It would appear that Lilian is not the sort of person to sit back and do nothing as the has many interests including gardening, antiques, old pictures, old coins and a rather unusual one - the collection of old street maps.

It was quite a birthday Lil, one you will remember for a long time. An occasion which demonstrated how much your efforts have been appreciated over the years. Lilian has written to say:-

"May I through your media, say my thank you, to all my many friends who gave me such wonderful gifts on my retirement from the Laboratory, also cheerio and best wishes to all those I didn't manage to see".

* * * *

Thirty one years ago a young Vic Zahra started a 5 year apprenticeship as a ship fitter in the Naval dockyard in Malta. He moved to the UK in 1948, completed his training at Portsmouth and continued working there as a draughtsman for several years. Later he moved to the Admiralty at Bath leaving there in June 1960 to join Harwell. A year later he transferred to the RL where he has worked on a number of projects, ranging from plunging mechanisms to latterly, the 70 MeV injector. During this time Vic acquired quite a reputation as a designer of mechanisms in particular very fast shut-off valves. He has now taken premature retirement and will shortly enter a teacher training college in Oxford.

Many of his associates met in the R2 Design Office to bid him farewell. Ron Russell wished Vic every success in his new venture and thanked him for his contribution to the work of the Laboratory over the past 15 years. On behalf of his friends and colleagues Ron presented him with a cheque which will be used to purchase some of the technical books he will need on his course.

Vic thanked everyone for the gift and said he was fortunate in having had such interesting work, he had enjoyed his time at the Lab and had made a lot of friends.

Through the Bulletin Vic says cheerio to all he was

unable to see before leaving.

FILM BADGE NOTICE It is Period 10. Colour Strip - RED for $\beta\gamma$ films. The next film change is Monday 4 October when the Colour Strip will be GREEN for both badges, and six monthly TLD change for people with surnames commencing 0, P, Q and R.

LIBRARY NOTICE A book - Mathematics of Finite
Elements and Applications, by
J R Whiteman, has been found in the R61 Library. Owner
please collect from Library desk.



Due to the number of retirements in recent months it has not been possible to publish photographs of presentations. It is hoped that the photograph printed above, taken at the recently held retirement course will compensate to some extent these omissions.

Back row

Middle row :

R J Prowse, E G Higgins, H Jones, P S Rogers, B Coneley
 D Bennett, R W Wakeling, G N Venn, H Richardson, M Moore, J Pinchin
 Mrs P Preuveneers, Mrs R Wakeling, A Mellanby, F Uridge, D R Jones, A G Ashburn

This is also an opportunity to mention the existence of the Research Group Retirement Fellowship. Since it was formed at Harwell in 1971 it has grown rapidly and there are now over 350 members spread all over the UK. The Retirement Fellowship holds monthly meetings, publishes a monthly News Sheet and arranges an attractive programme of events. Further information can be obtained from the RL Personnel Section in R20 or from the Welfare Office at Harwell.

SOCIAL NEWS

FILM SOC 2 Film Soc 2 is back in the Rutherford Laboratory Lecture Theatre for the 1976-The season opens on 19 October with a lecture, details will be given in the next Bulletin, to be followed by films in November, December, February and March. For further information please contact Joan Homer, Ext. 6226/6163. Programmes commence at 1945 hrs on Tuesday. Membership is £1.50 and the topic - wait for it - is Eroticism and Censorship.

TABLE TENNIS Will anyone who wishes to play in the AERE lunchtime league, please contact Eric Thomas, Ext. 6219, or John Varley, Ext. 6681, as soon as possible so that teams can be arranged.

RUTHERFORD ANGLING To be fished on the River Thames CHAMPIONSHIP at Clifton Hampden on Saturday 6 November.

Names, as soon as possible, to P Craske, Ext, 232., M Greenwood, Ext. 584 and Charles Halliday Ext., 374/483.

CHESS TOURNAMENT The annual tournament now in its 1976-77 tenth year is due to start on Monday 4 October. As before it will take the form of a SWISS tournament and matches will be played during lunch times. Entries should be sent to Peter Craske, R2, Ext. 232 - the deadline being 30th September.

CHRISTIAN FELLOWSHIP Friday 1 October - Prayer Meeting led by Ken Potter. Friday 8 October - Bible reading from the Epistle to the All are welcome to these meetings which are Hebrews. held at 12.30 in the R12 Conference Room.

SUPPER DANCE The season starts with a supper dance on Friday 8 October. Dancing 8-1 to the Chordets., in the R22 Restaurant. Tickets at £1.20 from Val Goodwin R1, Ext. 6256, Dave Evans, R34, Ext. 297 and Peter Craske, R2, Ext. 232.

RUTHERFORD LABORATORY BULLETIN Published by the Scientific Administration Group

Room 42 Building R20 Rutherford Laboratory Chilton Didcot Oxon Abingdon 21900 Ext 484

H F NORRIS

Deadline for Insertions

1000 hours Tuesday 5 October