RUTHERFORD Bulletin 21
14-28 November 1977

New Chairman to visit RL

Professor Geoffrey Allen, FRS, the new Chairman of the Science Research Council, will visit the Rutherford Laboratory on Friday, 18 November. Professor Allen will address members of Staff in the Lecture Theatre at 10 am. A tape recording of the proceedings will be made and replayed at a later date. During the day the Chairman will tour parts of the Laboratory.

Professor Doug Allen retires from the Lab.

Photo: Doug and Genevieve Allen with the Director, Dr Stafford, enjoying the occasion

The Aussie who was born in Mussooree, India, Professor W D Allen, retired from the Rutherford Laboratory at the end of September. Since 1966 Doug Allen has held a joint appointment at Reading University and the RL and it is the latter position he has left; however, before his joint appointment, he had headed the Oxford project.

It was therefore not too surprising that many old colleagues and friends from both Oxford and Reading Universities joined with those from AERE and the Lab in the Lecture Theatre on Thursday 20 October to add their wishes for a long and happy retirement to those of the Director.

The Formative Years

Most of Doug's early life was spent in India, the Allen family returning to Australia to stay when he was 12½; those early years were to influence his views on India and he still retains a great affection for the country.

After completing his schooling, Doug entered the University of Adelaide and although the country is famous for cricket, Doug's sport was hockey and he was selected to play for Australia.

With little government and no industrial physics the lack of opportunities in Australia in the mid-thirties, left little alternative but to go overseas. The only realistic option was a Rhodes Scholarship and on his third attempt at the end of 1936 Doug was appointed Rhodes Scholar for Adelaide for 1937 and came to England to enter New College, Oxford, his first choice and one he has never regretted.

After two years he obtained his D Phil and the same year(1939) his fiancée came to England and they were married and Doug needed a job.

A Time of Work & Travel

Hearing that the Air Ministry Research Establishment(AMRE) was short of staff he applied and was offered the post of a Junior Scientific Officer; later AMRE was to become widely known as TRE. He joined the unit at Barry, which then moved to Swanage, a rather vulnerable spot, so a further move took place to Malvern.

Doug recalls that it was a very young establishment; he was in the middle age bracket - at 26, the people at the top being quite old - all of 40. It was an exciting place to work, in his case on waveguides, then a new field and he worked on S, X and finally K band radar.

Back in Australia, Radio Physics, which had grown up at Sidney were interested in radar and Doug was invited to come back to start K band work in Australia; however he was informed at TRE that an invitation had come to go to Berkeley and as his boss said, if you have an alternative to go to Radio Physics in Sydney on the one hand, or to Lawrence's Lab in Berkeley on the other, there's no alternative - you go to Berkeley. So off to the USA went Doug for 15 months to work on the electro magnetic separation of uranium.

This work came to an end in October 1945 and he returned to Australia and spent one year at Radio Physics Sydney and built,virtually single handed, an 880 kV linac which performed very successfully.

Return to the UK

An invitation from the newly formed Atomic Energy Research Establishment (AERE) in the UK was accepted and Doug joined Harwell on October 1946. The next 20 years was an intense period of machine building and commissioning; the small EM separator - 1946-50, the large EM '50-'51; the Van der Graaff -'51-'55 followed

cont. on bottom of p.2

INTERNAL EVENTS

NIMROD LECTURE SERIES Monday 14 November 1130 Lecture Theatre	What's New in Polarised Electroproduction F Close/RL
HEP SEMINAR Wednesday 16 November 1100 R61 Conference Room	How to Generalize the Quark-Parton Model and Live with Large R and k_T R Hwa/Oregon and RL
STAFF MEETING Friday 18 November 1100 Lecture Theatre	The Chairman of the Science Research Council, Professor Geoffrey Allen, FRS will address the meeting Attendance by invitation, made by Divisions. Closed circuit TV will be used in the R22 Coffee Lounge
NIMROD LECTURE SERIES Monday 21 November 1130 Lecture Theatre	High Energy Antiproton - Proton Collisions in the SPS C Rubbia/CERN
HEP SEMINAR Tuesday 22 November 1130 R61 Conference Room	Model of Multiparticle Productions A Kotanski/Jagellonian University, Cracow
HEP SEMINAR Wednesday 23 November 1100 R61 Conference Room	A Review of the Two-Dimensional Quantum Chromodynamics J Paton/Oxford University
SAFETY FILM SHOWS Wednesday 23 November 1230 and 1315 Lecture Theatre	"Toxic Hazards in Industry" - this film, the second in the current series of Safety Films, highlights the risks of absorption through the mouth, skin and lungs, of dusts and gases, and illustrates the precautions that should be taken
RUTHERFORD LABORATORY LECTURE Thursday 24 November 1515 Lecture Theatre	Two Storage Modes for Solar Energy Professor John B Goodenough/Inorganic Chemistry Laboratory, Oxford, (see 'News' for details and abstract)

cont. from p.1

by the Vertical Tandem Generator, 1956-60.

Doug, now a member of NIRNS became Head of the 'Oxford Project' or more correctly, the National Institute for Research in Nuclear Science Electrostatic Generator Group in 1960 being responsible for this design and construction of the vertical electrostatic generator and the commissioning of the system as a whole.

The machine was handed over to the Department of Nuclear Structure, Oxford, on 31 March 1966 and he returned to the RL to take over the Proton Linear Accelerator Division. The same year a request came from Reading University to tighten the bonds between the University and the RL, and following discussions, Dr W D Allen accepted the offer of a joint appointment and became Professor W D Allen at the Department of Engineering at Reading University.

The following year (1967) he accepted an invitation to visit both East and West Pakistan and in 1968 he was off again, this time to Japan to advise on problems with their Van der Graaff machine, taking the opportunity to break his journey and visit Calcutta and his beloved India.

During his early time at the University, Doug became extremely interested in gravitational waves and the experiments of Joseph Weber in the States. Work started in Reading in 1970 and at the RL in 1972 detectors being set up at Sonning near Reading, and at the Lab. As he says, it was hard work but a neat and yet difficult experiment; he was satisfied with the results even it they were inconclusive and the project ended in 1975. (see RL Bulletin 2/74 for a report)

Leisure Activities

There is another side of Doug's life not so far mentioned and that is his great love of music. Perhaps not so many people know that when he arrived in Oxford in 1957 he was an accomplished pianist and an Associate of Music at Adelaide University (AMAU) - he also liked singing. A university acquaintance informed him that whereas pianists were in plentiful supply, tenors were not and suggested that Doug joined a choir. He did and is now in his 40th year with the Oxford Bach Choir.

He became a member of the Abingdon and District Musical Society's (ADMS) choir in 1949 and since then has sung in various groups and choirs all over the place. The first 20 years he was a tenor; since then he has worked his way down until the last 2 years he has become a bass.

The pleasure Doug has obtained in singing is only equalled by what he has given back to music in this area, examples being committee work for the ADMS; Chairman for several years - Abingdon School Subscription Concerts; Chairman, North Berks Musical Festival for 8 years and President of the Festival for many years.

The Presentation

Dr Stafford, in an amusing speech, recalled his long association with Doug Allen and of his first meeting in 1949 in Hangar 7 AERE when he was working there with Gerry Pickavance. He had heard of some 'whizz kid', a man called Doug Allen, an Australian, who at that time was building the electro magnetic separator there.

Before presenting the gifts, Dr Stafford described the cartoon on the cover of the presentation card which depicted many aspects of Doug's life. He then presented a gorgeous bouquet of flowers to Doug's wife Genevieve and on behalf of all his friends and colleagues, a cassette deck to Doug.

In reply Doug thanked everyone for the gift; he thought that luck had played a large part in his life and in particular he felt he was lucky to have been in the UK when the last war started. The luck continued with the offer to work at Lawrence's Lab in the States and latterly with his association with Rutherford Laboratory.

Those of us who have known Doug for many years will no doubt suggest that it's his ability, drive and enthusiasm that is responsible for a career that has given him and those closely associated with him so much pleasure and satisfaction. Although now retired from the Lab, his wealth of experience is still being used to good effect at Reading University.

To conclude one is sure that old friends and colleagues will echo the words of Dr Stafford - 'Doug its been a great pleasure having you at the Lab'.

EXTERNAL EVENTS

MANY BODY SOLID STATE PHYS SEMINAR/CLARENDON - 1430 hrs
17 Nov: Prof H C Bolton/Monash & Oxford - Studies on critical phenomena using self-consistent boundary conditions.

THEORETICAL PHYSICS SEMINARS/CLARENDON, OXF - 1615 hrs
17 Nov: Prof H A Weidenmuller/Heidelberg & Oxford - Statistical theory of deeply inelastic heavy ion collisions.
24 Nov: Dr C Isham/Imp Coll - Quantum field theory in a carved spare time.

NUCLEAR STRUCTURE SEMINAR/NP DEPT OXF - 1430 hrs
21 Nov: Dr N A Jelley/NP Lab - Lamb shift-measurements in helium-like oxygen.

ELEMT PART PHYSICS SEMINARS/NP DEPT OXF - 1430 hrs
17 Nov: Dr Hong-Mo Chan/RL - Baryonium in multiquark spectroscopy.
24 Nov: Dr C H Llewllyn-Smith - Predictions from quantum chromodynamics for large PT production in strong, weak and electromagnetic processes.

THEOR ELEMT PART PHYSICS SEMINAR/NP DEPT OXF - 1430 hrs
25 Nov: Dr N Parsons - Mechanisms for quark confinement in gauge theories.

THEORY GROUP SEMINARS/DARESBURY LAB - 1400 hrs
21 Nov: Dr B McMaster/Liverpool - An embedding approach to chemisorption.

PART PHYS DISCUSSION GROUP/BIRMINGHAM UNIV - 1615 hrs
18 Nov: Dr P Dornan/Imp Coll - Preliminary results on Y* production with a triggered bubble chamber.
25 Nov: Prof Moorhouse/Glasgow - Charm spectroscopy.

PHYSICS & GEOPHYSICS COLLOQUIUM/BRISTOL UNIV - 1700 hrs
21 Nov: Prof T Evans/Reading - Heat treatment of natural diamonds.

HEP SEMINARS/ROOM A, DAMPT, CAMBRIDGE - 1500 hrs
17 Nov: J Charap/QMC - Yang Mills instantons in non-trivial space-times.
24 Nov: R Phillips/RL - Neutrino phenomenology.

HEP SEMINARS/ROOM B, CAVENDISH LAB, CAMBRIDGE - 1500 hrs
16 Nov: Dr T O White - Experimental aspects of the ISR solenoid experiment.
23 Nov: Dr R J Barlow/Oxf - Three particle partial wave analysis and its applications.

HEP SEMINARS/4th FLOOR SEMINAR RM, MANCHESTER U - 1415 hrs
15 Nov: J Randa - Introduction to 2-dimensional quantum chromo-dynamics.
22 Nov: J K Storrow - High energy photoproduction: do we understand it?

THEORETICAL PHYSICS SEMINARS/MANCHESTER UNIV - 1430 hrs
16 Nov: Dr R R Whitehead/Glasgow - The present status of the spectroscopy of the S-D shell.
23 Nov: Dr J M Irvine/Manchester - Neutron stars.

THEORECTICAL PHYSICS SEMINAR/QMC - 1615 hrs
21 Nov: Prof J E Endorby/Bristol - Recent progress in the structure of liquids.

NUCLEAR PHYSICS SEMINARS/SURREY UNIV - 1415 hrs
16 Nov: J Richert/Strasbourg, Oxford - Deep inelastic heavy-ion reaction cross-section using the linear response theory.
23 Nov: To be arranged.

ELEMT PART PHYSICS SEMINARS/WESTFIELD COLLEGE - 1400 hrs
16 Nov: Dr G A Ringland/RL - Recent developments in high p_T phenomena.
23 Nov: Prof E Leader - Spin dependent phenomena in electromagnetic-jadronic interference.

ARD SEMINAR/F5 CONF RM, CULHAM LAB - 1400 hrs
29 Nov: Dr John Jelley/AERE - Automatic guiders for ground based telescopes.

NUCL PHYS DIV COLLOQUIUM/CONF RM, H8, AERE - 1530 hrs
17 Nov: Dr N Shackleton/Camb - Climates of the last million years.

THEOR PHYS SEMINAR/CONF RM, BLDG 8.9, AERE - 1400 hrs
22 Nov: Dr F P Larkins/TPD & Monash U - A large unit cell approach to some problems in solid state physics.

RUTHERFORD LABORATORY LECTURE

John B Goodenough, Professor of Inorganic Chemistry, University of Oxford since 1976 is our next speaker in this popular series. He graduated *summa cum laude* from Yale University (AB in mathematics) 1943, and after the war, obtained MS and Ph D at the University of Chicago (1951 and 52) where he worked with Clarence Zener on the physics of metal. From 1942-48 he served in the USAAF as a meteorologist. After one year at the Westinghouse Corporation he went to the Lincoln Laboratory, MIT in 1952 as a research physicist and Leader of the Digital Components Group working on the development of ferrite-core stores, films for high density, high speed storage, and fundamental studies of transition-metal oxides etc. He moved to the Solid State Physics Division in 1969 as Leader of the Electronic Materials Group.

In 1967 Dr Goodenough received a *Docteur Honoris Causa* from the University of Bordeaux. He has served on a number of international committees; Trustee and Fellow of the Neuroscience Society; Fellow of the Japanese and American Physical Societies and an Associate Editor of two journals. In addition he has contributed numerous papers in learned journals and is the author of two books and a number of book chapters.

Professor Goodenough will be speaking on "Two Storage Modes for Solar Energy" in the Lecture Theatre on Thursday 24 November at 1515 hours. He has kindly supplied the following abstract:

"Solar energy is "inexhaustible", abundant, distributed, and directly covertible to heat, fuel, electricity, or mechanical energy. However, two properties have inhibited its industrial use: its variability in time introduces the need for storage and its low flux density imposes a limit of £20/m^2 for the capital cost of a solar collection/conversion/storage system. The ability to create cold with low-temperature heat would put domestic solar-energy use in phase with the seasons, and possible schemes to do this will be discussed. The most versatile long-term storage is as chemical energy, either in a secondary battery or in a fuel. The photoelectrolysis of water to produce hydrogen is energetically feasible. Some problems and strategies for the achievement of this goal will be presented."

MISSING EQUIPMENT

The following item of equipment has been reported missing from Lab 4A; Building R1:

⅜" Wolf Sapphire Electric Drill, Ser No 1136, AERE No 16328.

Anyone with information on the present whereabouts of this item is asked to contact Mr M J Hotchkiss Ext 6238 or Dr A R Gillman Ext 521.

On Thursday, 22 October a Burgess Bench Bandsaw, Type BBS 20, SRC No 14/6338, Inventory label No RO6071, was temporarily placed near the entrance to R25 while other items were collected. On return a few minutes later, it had disappeared.
The side access cover is damaged and does not lock into position.
IT IS DANGEROUS TO USE THIS MACHINE
This machine must be returned to the Magnet Section and anyone with information on its present whereabouts is asked to contact R Stovold, Room 1.28, Building R35 Ext 6215 as soon as possible.

REC SOC DANCE

Friday 2 December in the Restaurant. Dancing from 9 till 1 to Billie Collins and her band. Tickets - £1.50 from Kay Knight - R1, David Evans - R34, Peter Craske - R2. Book early. Tickets limited.

BUILDING WORKS

Contracts have been let for the construction of a new office building R63 which is to be built on the site of the present terrapin building R37 between R35 and R36. The new building, 'T' shaped in plan, will be two storeys high with a low pitched tiled roof and facing brickwork walls. It will accommodate approx 50 staff.

The present terrapin R37 will be removed in early November and the construction works will start immediately after its removal. The new building will also replace the corridor which at present links the R35, R36 and R12 complex. This corridor will be closed on 31st October and no access through this area, with the exception of emergency exits from R35 and R36 will be available until the construction works are complete in late September, 1978.

The whole area which is to be occupied by the contractor will be fenced off and SRC employees are reminded that they may not enter the area without specific authority. It is appreciated that this will cause inconvenience, in particular to occupants of R35, R36 and R12. This is regretted and it is hoped to keep this inconvenience to a minimum and to complete the works in as short a time as possible.

Work has also started on the diversion of underground services to enable the construction of improved toilet facilities etc for the R22 Restaurant/Lecture Theatre to commence in early November. This work, situated on the north side of the lounge, should have little effect on the majority of Rutherford Laboratory staff. It is hoped to have this extension functioning by early April next year.

TRADE EXHIBITION AT AERE

An exhibition of instrumentation and measuring techniques by Automatic Systems Laboratories is being presented in the AERE Cockcroft Hall Conference Room between 10.00 and 16.00 hours on Tuesday 29 November. The latest precision equipment in the fields of temperature and displacement measurement will be on display including - high precision linear displacement transducers; 750°C capacitance strain gauge; automatic creep-strain incasement using SLVC's; high precision resistance thermometry etc.

WELL HOOKED

For the first time the Rutherford entered a team in the Southern Area Civil Service Angling Championships, fished on the River Stour at Christchurch on Sunday, 6 November.

Fifteen teams of four took part and fishing an unfamiliar river the Rutherford team of P Craske, E Russell, C Halliday and D Taylor finished runners-up to the winning Reading 'A' team. This Reading team was drawn from all the establishments in the Reading area.

We had some individual success; Darryl Taylor finished overall runner-up and Ernie Russell won his section. This was some reward for Ernie as he and Charles Halliday had to walk along a water-logged bank for 2½ miles before reaching their peg number. Walk is perhaps the wrong word as at times they were struggling through eight inches of mud topped with up to four inches of water with the result that they were 30 minutes late in reaching their peg number. The river was in flood and only eels were caught; at the end of the day they had to fight their way back through the mud and water - another 2½ miles.

Next year the team will be that much wiser and hope to improve on the runner-up position. Modest chaps these fishermen - what they really mean is that they hope to win the event.

At the end of the day, no doubt the 60 anglers exchanged a few yarns about the ones that got away!

Congratulations seem in order to the Rutherford anglers who on their first attempt, came second against strong opposition by a very narrow margin.

OVERSEAS VISITS

Dr C J S Damerell, to CERN, 14-17 Nov to work on WA3 etc.
Mr B J Day, to CERN, 14-18 Nov, to install and test printers on GEC 2050 workstation.
Dr G Manning, to CERN, 15-16 Nov, to attend Restricted and Plenary ECFA meetings.
Dr M G Albrow, to CERN, 15-17 Nov, to give talk on physics potential of SC19R at Plenary ECFA meeting.
Mr E Holton, to CERN, 16-26 Nov, to design emulsion stock in conjunction with Gargamelle engineers.
Dr J B Forsyth, to ILL, 21-30 Nov, to carry out two approved experiments.
Mr H O Normington, Mr W Russett, Mr R Matson and Mr J Wells, to CERN, 21Nov-9Dec to work on Muon experiment.
Dr L O Ford, to Copenhagen, 23-25 Nov, to attend the European PRIME Users Association AGM.

MESSAGES OF THANKS

Following the sad death of Eileen Smith, her husband Derek, has sent the following message:

"Heartfelt thanks for the generous contributions to the financial tribute since received which has resulted in a cheque for £30 being sent to the Research Institute Fund at the Churchill Hospital.

Also received, a letter from Dr George Wiernik of the Research Institute, The Churchill Hospital, expressing thanks for the cheque. He continues - "There is a great effort being made here at the Research Institute, by both clinicians and scientists working together to try and help our cancer patients, and your money will be used to help this research". The letter concludes - "I would be most grateful if you would be kind enough to thank on my behalf as many people as is possible who contributed to this generous gift".

SAFETY CROSSING

The Harwell Joint Committee on Transport and the Environmental Committee have recently had discussions on general aspects of safety in the bus park. Arising from these discussions, a form of pedestrian crossing for staff walking to the SRC and NRPB areas from the bus park has been laid and warning notices placed on the shelters in the bus park. It has, however, been noticed that staff from buses which have stopped in the turning area still walk alongside the hedge or cross the park at many points. Similarly at night, staff cross the east side of the park instead of walking down the central pavement - both dangerous practices.

Passengers en route to 'feeder' buses to NRPB/SRC at inmuster are asked to walk on the pavement and then cross if necessary by the pedestrian crossing, and conversely at outmuster. Similarly, passengers waiting for northbound buses should stay on the pavement until their buses are in position and stopped.

CHRISTIAN FELLOWSHIP

18 November: All are welcome to a meeting led by the Rev N Russell, Vicar of Harwell who was inducted earlier this year. On 16 December, Norman Russell will also be leading the Laboratory's annual Carol Service in the Lecture Theatre.

25 November: Group therapy will be something new for the fellowship when we discuss and share problems together. You are invited to join with us for this informal lunch time meeting.

Until further notice, all meetings will be held in the R2 Conference Room (top floor) at the usual time of 12.35 pm.

RUTHERFORD LABORATORY BULLETIN *Published by the Scientific Administration Group*

Deadline for Insertions: 1000 hours Tuesday 22 November

Editor: H F NORRIS
Room 42 Building R20
Rutherford Laboratory
Chilton Didcot Oxon OX11 0QX
Abingdon (0235) 21900 Ext 484