

Institute of Physics
Merseyside Branch Committee Meeting
Thursday 1 February 2001

Oliver Lodge Laboratory, Department of Physics, University of Liverpool

Present: N Marks (Chairman), S D Barrett (Secretary and Treasurer), E Boyse, E Gabathuler, A Marks, R A P Smith

Apologies: D Banks, M F Bode, A G Buckley, G R Court, A Fesmer, M Joyce, P J Nolan

1. Minutes of the last meeting

The minutes of the meeting of 19 October 2000 were accepted after minor corrections.

2. Matters arising

(i) Young Professionals' Forum: Neither DB nor RAPS were able to attend.

3. (i) Recent Meetings of Current Programme

Soft Nanotechnology by Tony Ryan (Nov) Attendance ~ 40. Well received by all. Few takers for the optional tour of the SRS after the talk.

Searching for Planets Like the Earth... by Alan Penny (Nov) Attendance ~60. A very good attendance by a mixed audience.

Visit to Cain's Brewery (Dec) The attendance of ~15 was the lower limit expected. It was not clear why the visit did not attract a larger number of members.

Modern Hot Air Ballooning by Donald Cameron (Jan) Attendance ~ 40. A very entertaining talk giving insights into the design of hot air balloons.

Forthcoming Meetings of Current Programme

X-rays, Synchrotrons and DIAMOND by Vic Suller (Feb) Members have been sent a reminder by email.

The Physics of Entrepreneurship by Peter Williams (Mar) Arrangements are in hand for an Industrial Forum to follow the talk, in which the role of the IoP supporting industrialists will be discussed.

Rethinking the History of British Physics... by Jeff Hughes (Apr) – no action required at this time.

Visit to Clatterbridge Centre for Oncology (May) – no action required at this time.

(ii) Financial Report

SDB reported that the financial statement for 2000 has been submitted to IoP HQ. Income totalled £2500 from HQ plus £750 from other charities; expenditure totalled £3050 (including estimates for outstanding invoices); end of year balance ~ £200.

The budgets for other branches are up to five times higher (per member) than that of the Merseyside Branch. NM will write to Peter Cooper pointing out the degree of subsidy that the UoL and DL provide to the Branch. – **Action NM**

(iii) Education Report

AM reported on a number of items:

- (a) AM has written to the Armourers and Brasiers' Gauntlet Trust and Holmes Hines Memorial Fund re the CERN visit in September – the sponsors were pleased with the outcome.
- (b) The One-Day Conference on Particle Physics at DL in December 2000 was a great success, with ~25 teachers attending.
- (c) Enthusiasm for the Northwest Science Festival ("2001 A Science Oddity") has been dampened by individuals from institutions outside the original circle of UoL, JMU, UoM, DL, Jodrell Bank. Can it be resurrected?
- (d) AM commented that attendance at Branch meetings by schools is slowly increasing.

Future events:

- (e) Paperclip Physics: Regional final for Merseyside and Manchester Branches will be at DL on 2 March 2001. Judges will be Helen Southworth MP, Prof Erwin Gabathuler (UoL) and Heather Rix (a teacher from Manchester). Seven teams have entered, two of which are from Merseyside.
- (f) The Schools and Colleges Lecture in Liverpool on 7 March 2001 has not yet been confirmed – IoP HQ are leaving it very late to inform schools.
- (g) The Physics Teachers' Conference will be held on 5 July 2001. A meeting took place earlier today between AM, SDB and Dominic Dickson to produce a provisional programme. In due course, SATRO will be informed of our plans.
- (h) Future visits to CERN? IoP HQ expects us to find sponsorship for future trips, or teachers will have to fund themselves. With the shutdown of LEP in preparation for the LHC, is there still enough to see? SDB will contact MJ to enquire about visits to the SPS. Are visits to the ESRF a possibility? NM will contact Tony Davis to enquire. – **Action SDB and NM**

(iv) Industry Report

At a meeting held on 13 December 2000 (NM, SDB, AGB, AM, MM) initiatives were discussed that related to industrialists with the aim of getting them more involved in branch activities. It was decided to append a forum to Peter Williams' talk at DL on 29 March to discuss the role of the IoP in supporting industrialists. It will take the form of a 30-minute 'round table' session, with invited industrialists (Dewi Lewis? PJN contacts at BNFL?). – **Action SDB**

4. Preparation for AGM

- (i) At the AGM on 26 April there will be a report by the Chair, a financial report and a Director from IoP HQ will be present to give a presentation on IoP policy.
- (ii) Acceptance of the new Branch Constitution will require a 2/3 majority vote.

- (iii) Agreement will be required on the election of officers to the posts of Chair, Vice–Chair, Secretary and Treasurer. Note that the latter three posts can be occupied by two people if desired.
- (iv) Papers will need to be circulated: Notice of the AGM and agenda; Chair’s and Secretary’s reports; new Branch Constitution. This will require a mailshot. The constitution will also be posted on the web page. – **Action NM/MJ**

5. Preparation of Programme for 2001/2

A list of ‘Fantastic Physics Talks’ (appended to minutes) supplied by IoP HQ will provide some very good speakers for next year’s programme. The possibility was mentioned of getting a speaker from NASA to talk on the Hubble Space Telescope.

6. Any Other Business

- (i) IoP HQ are proposing an ‘Award for Distinguished Service to Branches’ that may be given to branch members who have made exceptional contributions to the activity of their branch to enhance their work in promoting physics.
- (ii) IoP HQ have provided a statement to be included in the next newsletter drawing members’ attention to the IoP Benevolent Fund, which provides support for physicists and their close dependents during times of hardship.

7. Date of Next Meeting

Provisionally set for Thursday 22 March 2001.

S D Barrett Honorary Secretary
Merseyside Branch
Institute of Physics
12 February 2001

Copies to:

NM, SDB, DB, MFB, EB, AGB, GRC,
AF, EG, MJ, AM, MM, PJN, RAPS and
Leah Goldson (IoP HQ)

Fantastic Physics Talks

Supersonic Car

- 1 Thrust SCC – The Design, Build and Operation of the Supersonic Car
Mr Glynne Bowsher, Chief Designer, Thrust SSC
- 2 The Engineering of a Formula 1 Grand Prix Motor Car
Mr Brian O'Rourke, Williams Grand Prix Engineering Ltd.
- 3 Going Supersonic – From Aeroplanes to Cars
Dr Nigel Weatherhill, Dept of Civil Eng, University of Wales at Swansea

Astronomy, Particle Physics, Relativity

- 1 Particles and the Universe
Professor Peter Kalmus, Queen Mary Westfield
- 2 Relativity and the Twin Paradox; Recent Discoveries in Particle Physics
Dr Vincent Smith Physics, Department University of Bristol
- 3 The Origin and Evolution of the Galaxies – Recent Developments
Professor Malcolm Longair, Cavendish Laboratory, University of Cambridge
- 4 Anti-matter – From Imagination to Application
Michael Charlton, Dept of Physics and Astronomy University College. 16+
- 5 Particle Physics
Adrian McKemey, c/o Brunel University (IoP Member)
- 6 Planets and Life Beyond the Solar System
Dr Barry Jones, Open University
- 7 The Anthropic Principle
Dr Bernard Carr, Queen Mary and Westfield College, London
- 8 Exploring the Galaxies Using Very large telescopes
Prof. Mike Edmunds, Dept of Physics and Astronomy, Cardiff
- 9 Dark Matter and the Fate of the Universe
Prof. Michael Merrifield, Nottingham
- 10 The Missing Mass – Dark Matter and the Search for Wimps in the UK
Dr Nigel Smith, RAL
- 11 Giant Accelerators for the 21st Century
Dr Ted Wilson, CERN Accelerator School

Materials

- 1 The Subtle Science of Soft Slimy Stuff
Professor Tom Mcleish, Dept of Physics, University of Leeds
(can be tailored for audiences from children, to public to professional)
- 2 Materials That Get Fatter When Stretched
Prof Kenneth Evans, Dept of Engineering, University of Exeter
- 3 The Physics of Materials for the Next Millennium
Prof. Colin Humphries, University of Cambridge

Technology

- 1 Quantum Cryptography - how to keep communications secret
Dr Simon Phoenix, British Telecoms research, Martlesham
- 2 The physics of the compact disk player
John Walker, Dept of Electrical Engineering, University of Nottingham
(target audience: sixth form upwards and public lecture)
- 3 Seeing in the Dark – Recent Developments in Infra-red Imaging
Peter Dennis, DERA Malvern. 16+ and general public
- 4 Ultrafast Lasers and Molecular Choreography; From Physics to the Arts
Dr Geraldine Kenny-Wallace, British Aerospace
- 5 Applications of High Temperature Superconductors
Prof. Colin Gough, University of Birmingham
- 6 Modelling Reality with Supercomputers
Prof. Richard Catlow, Royal Institution

General Topics

- 1 Physics in the Kitchen (variations on this theme)
Dr Peter Barham, Bristol University
- 2 Michael Faraday and the Liquid Nitrogen Show
Dr Peter Ford, Physics Department, University of Bath
- 3 Seven Wonders of Physics
Sir Michael Berry, Bristol University
- 4 Clockwork Radio
Trevor Bayliss
- 5 Physics of Ice Cream
Kathy Sykes, c/o Bristol2000 project
- 6 Juggling – Theory and Practice
Dr C Wright, Birmingham
- 7 The Science of Discworld and the Magic Roundabout
Prof. Ian Stewart, Warwick
- 8 Physics-Related Pub Names
Howard Watson
- 9 A variety of lectures such as on electrons
Dr Bryson Gore Freelance, formerly of the Royal Institution.
- 10 Title not known
Dr Charles Markham
- 11 Seeing is Believing
Dr Zbig Sobiesierski, Cardiff University
- 12 Musical Squares – Adventures in Sound
Mike and Wendy Gluyas

Medical Physics

- 1 Electricity and the Heart
Prof. Richard Vincent, Trafford Centre, University of Sussex (general public)
- 2 Physics and the Senses; Polar Explorations – of Light
Prof. David Pye, Emeritus Professor of Zoology, Queen Mary and Westfield College (for 12+ and general public)
- 3 Magnetic Field and Mobile Phone Transmissions – An Effect or in the Head?
Dr Alan Preece, Medical Research Council, University of Bristol
- 4 Health and Safety at Nuclear Power Stations
Mr Andy Curry, Projects Manager, BNFL, Berkley
- 5 Sunshine of Your Life (about the effects of Sun on skin cancer, suncream etc.)
Prof. Brian Duffey, Head of North East Regional Medical Physics Unit, Royal Victoria Infirmary, Newcastle-upon-Tyne
- 6 Improvements in Breast Cancer Diagnosis
Dr Rob Lewis, CLRC, Daresbury Laboratory
- 7 A Physicist's Look Inside the Body
Bill Vennart, Pfizer Ltd.

Environment

- 1 Is the Climate Changing?
Prof. Alan O'Neill, NERC Centre for Global Atmospheric Modelling, University of Reading

History of Science

- 1 Kelvin Degrees: Understanding the Life and Work of William Thomson, Lord Kelvin
Dr Crosbie Smith, History of Science Unit, University of Kent at Canterbury
- 2 The Impact of Eclipses on the History of Science
Dr Percy Seymour, University of Plymouth
- 3 The Dynamics of Dinosaurs and Other Extinct Giants
Prof. McNeill Alexander, Biomedical Research Group, Biology Department, Leeds University
- 4 Pioneers of Science and Other Local Heroes
Adam Hart-Davis