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1989

LONDON INTERNATIONAL YOUTH SCIENCE FORTNIGHT

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Founded by the late Philip S. Green, MBE in 1959, the Science Fortnight aims to give a greater insight into science and its applications for the benefit of mankind and to develop a greater understanding between young people of all nations.

Past Presidents

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10 DOWNING STREET

LONDON SW1A 2AA

THE PRIME MINISTER

The application of scientific discoveries has revolutionised the lives of many of the peoples of our world. Life expectancy, thanks to the great advances in medical science, has improved greatly in a relatively short period of time. Research in agriculture has enabled the world to support this increased population. Engineering and technological advance has created a level of wellbeing never before achieved.

However, the implications of the greater demands we are making on our planet and the increased rate at which its resources are being used up are only now being fully realised. There are clear indications that world wide action is necessary to prevent long term damage to our environment, without sacrificing the economic progress which is the hope and ambition of the newly industrialising countries. Science has to be the foundation of our common efforts to understand the problems and to deal with them. Tomorrow's scientists will have an important role to play in ensuring not simply that we do what we can to repair the damage of which we are already aware, but that care and consideration is given to the implications of applying new technologies to ensure that the environment is able to sustain life fully in the future.

The Science Fortnight seeks to give an insight into the application of science for the benefit of mankind. The programme will bring an awareness of the international nature of science. Through contact with people from other cultures and parts of the world a greater understanding of the needs of the future, and how best to plan for them can be learned.

It gives me great pleasure to welcome you to the United Kingdom and to wish you, on behalf of Her Majesty's Government, a stimulating and rewarding visit.

Margaret Thatcher

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The principal sponsor of participants from the United Kingdom is
The British Petroleum Company

The Science Fortnight gratefully acknowledges the support of those who select and support the participation of students from Britain to attend the Science Fortnight, and in addition to the above, gratefully acknowledges the continued support given to participants by The Council for International Contact Trust.

(Lists compiled on 31 March, 1989 and therefore incomplete.)

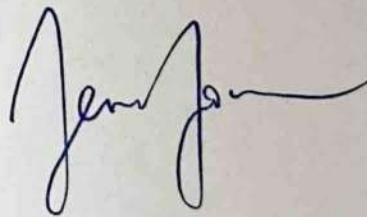
THIRTY-FIRST LONDON INTERNATIONAL YOUTH SCIENCE FORTNIGHT

Nothing is forever! Throughout history succeeding generations have found that the basis of knowledge has changed. Our present century is no exception. As science and technology seek to push back the frontiers of knowledge and to overcome the seemingly insuperable or even immutable barriers of the past we must prepare ourselves for major changes in the lifestyle of coming generations.

The need to adapt to change is not new. Resistance to change generally derives from a fear of the unknown. As our world shrinks and opportunities — such as the Science Fortnight — enable us to meet our peers from other cultures and regions of the world, it should become apparent that many of the fears and even prejudices that make us resist change are groundless.

Our planet does not have infinite resources. If we are to ensure that life will remain tenable in future centuries it is of the greatest importance that we accept that need to adapt to change, and in preparation for that, the more that we can each learn to respect other views; than our own, to see our own countries and societies in the perspective of a world community; the more readily and easily change will be made.

The Science Fortnight will provide a unique experience to share views and experiences with others from many parts of the world. On the basis of that understanding perhaps you will be more open to new ideas and attitudes in the future, and at the same time you may persuade others to see your point of view.



George McGowan
Director
London International Youth Science Fortnight

ACKNOWLEDGEMENTS

The Science Fortnight extends its gratitude to all those who have so generously assisted in the organisation of the 1989 meeting, and in particular to:

The Consultative Council for its advice and the Programme Working Group for its assistance with programme planning.

The Council and Staff of the Institution of Electrical Engineers for providing premises and facilities for lectures and meetings.

The Speakers and Lecturers whose contributions are invaluable:

British Gas plc, Research and Technology Division, Midlands Research Station, Solihull for presentation of the 'British Gas Flames Lecture'.

The commercial and industrial organisations, research establishments, university departments, museums etc which have arranged visits and lectures.

The Wardens, Bursars and Staff of the Halls of Residence which provide accommodation and meals.

The New Chef in a Box Ltd for the provision of packed meals.

University College London for the use of its premises.

All those who have provided scholarships to assist the participation of students from overseas, especially the British Council.

The Foreign & Commonwealth Office for its guarantee against loss.

British Airways plc for their generous assistance with travel arrangements for students from a number of overseas countries.

RESIDENTIAL STAFF OF THE LONDON INTERNATIONAL YOUTH SCIENCE FORTNIGHT, 1989

Deputy to the Director: Roger Mulberge
Chief of Staff: James St Ville

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Malet Street
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Deputy Host
Counsellors

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Michelle Gallagher (UK)
Peter Hunter
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Programme Assistant
(Social Events)
Counsellors

Ian Shepherd (UK)
Stefano Tonini (Italy)
Sam Mallinson (Australia)
Vassilis Bakoulas (Greece)
Mark Xuereb (Malta)

The Student Staff of the Science Fortnight is selected from former participants. Applications to serve as staff are not accepted and appointment is by invitation only.

DAILY PROGRAMME

| | | |
|-----------------------|----------------------------------|---|
| Wednesday 26 July | | Arrivals Welcome & Orientation in Halls of Residence |
| Thursday 27 July | 10.00 12.00 15.00 20.00 | *Introductions & Programme Briefing *OPENING CEREMONY *Lecture/Demonstration: <i>Colour in Fun</i> Welcome Disco at the Elizabeth Suite |
| Friday 28 July | 20.00 | Half Day Visits to Research and Industrial Establishments Student Topics at University College |
| Saturday 29 July | 10.00 14.15 16.30 | *Lecture/Demonstration: <i>Immunology and Cancer</i> Optional Half Day Sightseeing Tour of London Inter Hall Swimming Gala at University of London Union Optional Theatre and Concert Visits |
| Sunday 30 July | 09.00 20.00 | Optional Day Excursions to (a) Portsmouth (b) Stonehenge & Salisbury Feature Film at College Hall: <i>Some Like it Hot</i> |
| Monday 31 July | 10.00 14.15 20.00 | Specialist Lectures at University College, London *Lecture/Demonstration: <i>British Gas Flames Lecture</i> Student Topics at University College |
| Tuesday 1 August | 21.00 | Day Visits to Research & Industrial Establishments Topics for Tonight Informal Discussions in Halls of Residence |
| Wednesday 2 August | 10.00 20.00 | Seminars at University College, London and the Institution of Electrical Engineers *Lecture/Demonstration: <i>'Radiation: Not In My Back Yard'</i> |

| | | |
|-----------------------|-------------------------|--|
| Thursday 3 August | 08.00 21.00 | Day Visits to Oxford and Cambridge Visits to University and Other Establishments Afternoon Tour of City and Colleges Topics for Tonight Informal Discussions in Halls of Residence |
| Friday 4 August | 10.00 14.15 20.00 | Visits to Scientific Museums at South Kensington (a) Geological Museum (b) Natural History Museum (c) Science Museum *Seminars led by former participants of the Science Fortnight International Cabaret at Carisbrooke Hall |
| Saturday 5 August | 10.00 14.15 | *Lecture/Demonstration: <i>Chemistry of Light</i> Inter Hall Rounders in Regent's Park Optional Theatre and Concert Visits |
| Sunday 6 August | 09.00 20.00 | Optional Day Excursion to (a) Stratford upon Avon (b) Hampton Court & Windsor Feature Film at College Hall: <i>Blazing Saddles</i> |
| Monday 7 August | 10.00 14.15 20.00 | *Participants' Forum I *Question Time with Members of Parliament Hall of Residence Visits |
| Tuesday 8 August | 10.00 14.15 20.00 | *Participants' Forum II *CLOSING CEREMONY Farewell Disco at the Elizabeth Suite |
| Wednesday 9 August | | Departures |

*Events marked thus take place at
The Institution of Electrical Engineers, Savoy Place, London WC2R 0BL

PRINCIPAL LECTURES AND DEMONSTRATIONS

| | | |
|-----------------------|-------|---|
| Thursday 27 July | 11.00 | Opening Ceremony Principal address by The Rt Hon Kenneth Baker, MP Secretary of State for Education and Science |
| | 14.15 | <i>Colour is Fun</i> Dr Arthur Tarrant, PhD CPhys CEngA Home Economics & Domestic Engineering Research Unit University of Surrey (assisted by Mr K J George, FIST) |
| Saturday 29 July | 10.00 | <i>Immunology and Cancer</i> Dr Richard O'Kennedy BSc PhD MIBiol MIBioll DipFS National Institute for Higher Education, Dublin |
| Monday 31 July | 14.15 | <i>British Gas Flames Lecture</i> Dr R J Harris BSc PhD CEng MIEEng MInstEnergy British Gas Midlands Research Station, Solihull |
| Wednesday 2 August | 20.00 | <i>'Radiation: Not in My Back Yard?'</i> Professor J R A Lakey BSc PhD CPhys FInstP CEng FINuce FInstP Royal Naval College, Greenwich |
| Saturday 5 August | 10.00 | <i>Chemistry of Light</i> Dr Peter Douglas, BSc PhD and Dr Andrew Mills, BSc PhD GRSC Department of Chemistry, University of Swansea |
| Monday 7 August | 10.00 | Participants' Forum I Theme: <i>For What Use is Science if Mankind does Not Survive?</i> |
| | 14.15 | <i>Question Time with Members of Parliament</i> Andrew Bowden, MBE MP (Conservative) W E Garrett, MP (Labour) Lord Ross of Newport, (Social Liberal Democrat) |
| Tuesday 8 August | 10.00 | Participants' Forum II |
| | 15.00 | Closing Ceremony Closing address by George McGowan, Director, London International Youth Science Fortnight |

SPECIALIST LECTURES AND SEMINARS

| | | |
|-----------------------|-------|---|
| Monday 31 July | 10.00 | University College London Faculty of Engineering |
| | A | <i>High Energy Physics</i> Dr Richard E Ansorge, MA PhD Cavendish Laboratory, University of Cambridge |
| | B | <i>Molecular Symmetry and its Significance for Reactivity and Spectroscopy</i> Dr Alison Rodger BSc PhD(Sydney) MA(Oxon) |
| | C | <i>Fossils, Evolution and The Origin of Species</i> Dr Peter Sheldon, BSc PhD Department of Geology, University College Cardiff |
| Wednesday 2 August | 10.00 | Seminars 1-4: Institution of Electrical Engineers Seminars 5-7: University College London Faculty of Engineering |
| | 1 | <i>The Role of Nuclear Power in World Energy Requirements</i> Harry A Cole, CEng MIERE UK Atomic Energy Authority |
| | 2 | <i>Is Anything Really Safe to Eat?</i> Suzanne E Emmett, BSc Cert Ed Home Economics & Domestic Engineering Research Unit University of Surrey |
| | 3 | <i>New Approaches to Traditional Medicine</i> Dr P J Hylands, BPharm PhD CChem MRSC Xenova Ltd, Slough, Berkshire |
| | 4 | <i>Should We Try to Send People to Mars?</i> Dr Alan D Johnstone, BSc MSc PhD Mullard Space Science Laboratory, University College London |
| | 5 | <i>Two Brains in One Head — a Problem in Communication</i> Dr George E Savage, BSc PhD School of Biological Sciences, Queen Mary College, London |
| | 6 | <i>How Safe is Our Food?</i> Dr David P Richardson, BSc MSc PhD FRSM FIST The Nestle Company, Croydon |
| | 7 | <i>Breast Cancer Screening — The Evidence For & Against</i> Dr Clive A Wells, MA MB BChir MRCPath Consultant Pathologist, St Bartholomew's Hospital, London |

SEMINARS LED BY FORMER PARTICIPANTS

| | | |
|--------------------|-------|--|
| Friday 4 August | 14.15 | Institution of Electrical Engineers The speaker's first year of participation in the Science Fortnight is indicated in parenthesis after his/her name |
| | I | Acquired Immunodeficiency Syndrome (AIDS) Dr Miguel A M G S Forte (1976) LicMed(Lisbon) DTM&H(London) Hospital Santa Maria (Lisbon, Portugal) Currently undertaking research at East Birmingham Hospital on a grant from the Calouste Gulbenkian Foundation |
| | II | Learning to Play the System Stephen Jackson (1985) BA (Mod) (Maths & Science) GJW Government Relations Ltd, London |
| | III | More Than Anatomy Dr Deborah Kirklin (1980) MD Barnet General Hospital, London |
| | IV | What Hat Does a Scientist Wear? Nigel Lee (1984) MEng (Hons) acgi Andersen Consulting, London |
| | V | Science and the Law Charles Muller (1982), LL.M Arthur Andersen & Co, Luxembourg |
| | VI | Composite Materials — A Revolution In Our Lives? Benoit Templier (1982), Ingenieur des Arts et Manufactures Renault Motor Company, France |

TOPICS FOR TONIGHT

Informal discussions led by members of the student staff of the Science Fortnight

| | | |
|---------------------|-------|--|
| Tuesday 1 August | 21.00 | College Hall Genetic Engineering — Should We Play God? introduced by Roger Pepin |
| | | Ifor Evans Hall Attitudes to Animals introduced by Judith Purdy |
| | | International Hall Is the United Nations the Key to World Peace? introduced by Ian Shepherd |

Informal discussions led by participants of the Science Fortnight on subjects of their own choice (details to be published during the Science Fortnight).

| | | |
|----------------------|-------|------------------------|
| Thursday 4 August | 21.00 | All Halls of Residence |
|----------------------|-------|------------------------|

HALF DAY VISITS TO INDUSTRIAL & RESEARCH ESTABLISHMENTS & TO UNIVERSITY DEPARTMENTS

| | |
|------------------------------------|---|
| Friday, 28 July | King's College London |
| British Broadcasting Corporation | Department of Biophysics |
| BBC Television Centre | Royal Naval College, Greenwich |
| British Gas plc | Dept of Nuclear Engineering |
| South Eastern Gas, Croydon | St Bartholomew's Hospital |
| Brunel University, Computer Centre | Dept of Respiratory Medicine |
| City University | University College London |
| Department of Aeronautics | Department of Electronic & Electrical Engineering |
| GEC Research Ltd | Wellcome Institute of the History of Medicine |
| Hirst Research Centre | Zoological Society of London |
| Imperial College | Dept of Veterinary Science |
| Dept of Chemical Engineering | |
| Institute of Cancer Research | |
| Chester Beatty Research Institute | |
| King's College London | |
| Chelsea Department of Pharmacy | |

DAY VISITS TO INDUSTRIAL & RESEARCH ESTABLISHMENTS

| | |
|--------------------------------------|------------------------------------|
| Tuesday, 1 August | National Inst for Medical Research |
| Atomic Energy Research Establishment | Mill Hill |
| Harwell | Royal Botanic Gardens, Kew |
| British Petroleum Company plc | Royal Navy |
| BP Research Centre | Institute of Naval Medicine |
| Sunbury on Thames | Alverstoke, Hampshire |
| Central Electricity Generating Board | Royal Marsden Hospital, Sutton |
| Dungeness Power Stations | Shell Research Ltd |
| Esso Petroleum Co Ltd | Sittingbourne Research Centre |
| Exxon Chemical Ltd | SIRA Ltd, Chislehurst |
| Fawley Refinery | University College London |
| Freemans plc | Mullard Space Science Laboratory |
| Peterborough Distribution Centre | |
| Joint European Torus, Abingdon | |

VISITS TO OXFORD & CAMBRIDGE

| | |
|-----------------------------|------------------------------------|
| Thursday, 3 August | Oxford |
| Cambridge | University of Oxford |
| University of Cambridge | Department of Engineering Sciences |
| Department of Chemistry | Oxford Scientific Films Ltd |
| Department of Engineering | |
| Department of Physics | |
| Anglian Water | |
| British Antarctic Survey | |
| NAPP Laboratories Ltd | |
| St John's Innovation Centre | |

STUDENT TOPICS

Participants who wish to give a paper based on a project or investigation they have undertaken will be allocated a period during one of the sessions listed below. Papers will be grouped by category and a schedule published at the beginning of the Science Fortnight.

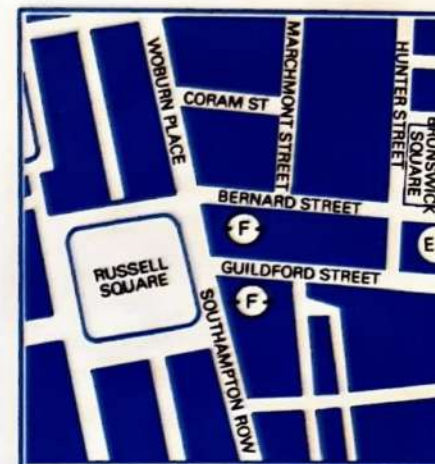
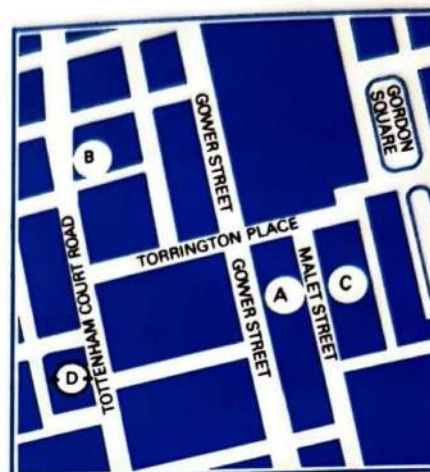
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|-------------------|-------|---|
| Friday 28 July | 20.00 | University College London, Faculty of Engineering Lecture Theatres : G6, 421, 422, 508 |
| Monday 31 July | 20.00 | University College London, Faculty of Engineering Lecture Theatres : G6, 421, 422, 508 |

MUSEUM VISITS

| | | |
|--------------------|-------|--|
| Friday 4 August | 10.00 | Geological Museum Exhibition Road, South Kensington, London SW7 Natural History Museum Cromwell Road, South Kensington, London SW7 Science Museum Exhibition Road, South Kensington, London SW7 |
|--------------------|-------|--|

SOCIAL PROGRAMME

| | | |
|----------------------|-------|--|
| Thursday 27 July | 20.00 | Welcome Disco Elizabeth Suite, Gresham Street, London EC2 |
| Saturday 29 July | 16.30 | Inter Hall Swimming Gala University of London Union, Malet Street, London WC1 |
| Sunday 30 July | 20.00 | Feature Film: <i>Some Like it Hot</i> College Hall, Malet Street, London WC1 |
| Friday 4 August | 20.00 | International Cabaret Carisbrooke Hall, Seymour Street, London W2 |
| Saturday 4 August | 14.15 | Inter Hall Rounders Competition Regent's Park, London NW1 |
| Sunday 5 August | 20.00 | Feature Film: <i>Blazing Saddles</i> College Hall, Malet Street, London WC1 |
| Tuesday 8 August | 20.00 | Farewell Disco The Elizabeth Suite, Gresham Street, London EC2 |



KEY TO MAPS

- A College Hall
- B Empire Rooms
- C University of London Union
- D Goodge Street Station
- E International Hall
- F Russell Square Station
- G Institution of Electrical Engineers
- H Embankment Station
- I Ifor Evans Hall, 109 Camden Road
- J Camden Town Underground
- K Camden Road Station
- L Elizabeth Suite

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32nd LONDON
INTERNATIONAL
YOUTH SCIENCE FORTNIGHT
25 July to 8 August 1990