



Twenty-Second
London International Youth Science Fortnight
1980

London International Youth Science Fortnight

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The aim of the Science Fortnight is to give a deeper insight into science and its applications for the benefit of mankind, and to develop a greater understanding between young people of all nations. The Fortnight is part of the programme of the Council for International Contact.

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10 DOWNING STREET

THE PRIME MINISTER

It gives me great pleasure, as Patron of the Council for International Contact, to welcome so many people from so many countries to London for the International Youth Science Fortnight.

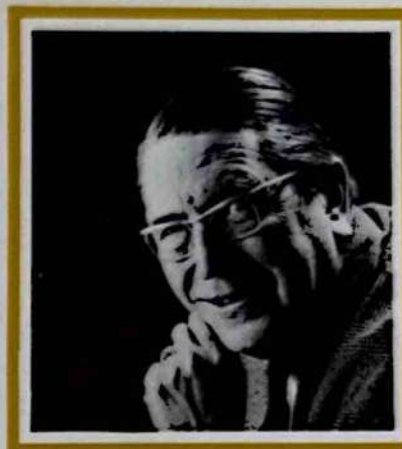
Having trained as a chemist, I understand very well the excitement in seeking to discover the unknown.

I hope that this fortnight will be an exciting and illuminating voyage of discovery, friendship and understanding for everyone taking part.

And I hope that, when you return home, the essentially international nature of science and the world of ideas, which know no boundaries, will remain with you.

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- *Members of the working group which
plans the Science Fortnight programme.



I remember the beginnings, twenty-two years ago, of an experiment which has now become a vigorous institution — the London International Youth Science Fortnight. As a science-writer, whose job was to promote the common understanding of science, as a long-time member of the Council of the British Association for the Advancement of Science and as one actively involved with Unesco, I had an avuncular interest. I also had mixed feelings — high hopes and trepidation. It was an ambitious undertaking, to bring together so many young people of different nationalities, different languages and different cultural backgrounds. Was it viable? Was it durable? Was it going to be another abracadabra occasion for tame magicians to do their conjuring tricks? Or would it be an opportunity for young people to find out that not only was science something that they themselves could do but about which they could do something?

A sense of "doing something about it" was very important. Twenty-two years ago, the young people of many countries were marching against The Bomb and singing laments about a future which they despaired of seeing. Sputnik was still bleeping from its orbit, no longer symbolising the greatest exercise in international scientific co-operation the world had ever known — The International Geophysical Year — but serving as a pretext for the Space Race, with all its military overtones of intercontinental ballistic missiles. The computer was no longer an electronic abacus doing ingenious sums; it was assuming the logical and analytical faculties of the human brain; it excelled human memory and, extending the human senses through automation and cybernation, it was changing conventional industry and job opportunities. The excitement about the discovery, in the molecular structure of DNA, of the "secret of life" gave way to misgivings about genetic manipulation.

Yes, twenty-two years ago there was plenty, in science, to make people feel rather helpless. There still is, but to ensure the proper use of science it is necessary to understand it. Year after year, the London International Youth Science Fortnight has served, and enhanced, that purpose by enabling young people to meet, and discuss with, eminently well-informed and responsible scientists.

As one who has had the privilege of participating as a speaker, I know what a challenging and exhilarating experience it is. It is an opportunity to re-charge one's batteries. In the same way, the "Fortnight", of which I am now honoured to be president, has derived its strength from the vitality of the youth it has served.

Ritchie - Calder

The Rt Hon The Lord Ritchie-Calder
President
London International Youth Science Fortnight

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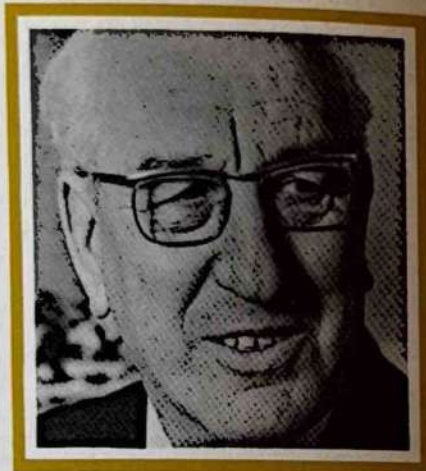
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The Council for International Contact is a non-profit seeking organisation which is now in its fourth decade of promoting international understanding by bringing together people, especially young people, of all nations.

The Science Fortnight is part of the work of the Council's Contact Division, which is also responsible for two annual major international youth music festivals at Harrogate and Shrewsbury. Musical visits and exchanges form an important part of the Division's work but, additionally, study tours are arranged for groups with a variety of special interests, ranging from education and science to sport. Apart from Europe, countries involved include the U.S.A., Brazil, Argentina, Australia and Japan.

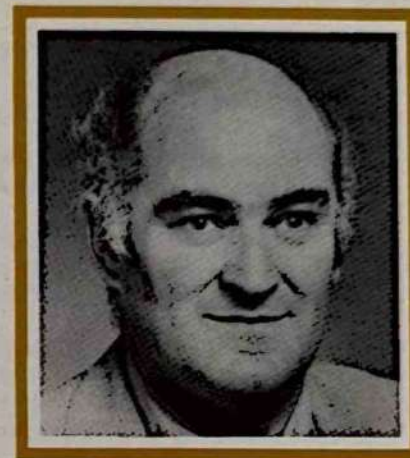
The Teaching Division is responsible for Holiday Language Courses for students from Europe (both East and West), South America and Asia, based mainly on accommodation with families at centres throughout Britain. It also organises specialist English courses for overseas doctors and teachers of English and, in Germany, arranges courses for English students of German.

The Council's programmes involve some 16,000 people from about 40 different countries in every continent of the world.

Science and the pursuit of knowledge know no frontiers and I am sure that in the next two weeks you will realise that the problems of your country are not so very different from those facing the other participants in their home countries. However, as you will hear, there may be many differing solutions and I hope that you will contribute your own thoughts and beliefs to the discussions as well as keeping your mind open and receptive to new approaches and ideas.

I am sure that you will find the Fortnight to be a stimulating and exciting experience and that you will leave London with many happy memories and will feel that your horizons have been broadened and your future influenced as a result of your visit.

E. Ernest Potter
Chairman
The Council for International Contact



"Science knows no frontiers." And so it would seem from the wide range of nationalities who gather each year in London for the International Youth Science Fortnight. For the majority, the visit to London involves crossing many national frontiers—for many, it involves trying to adapt to a different culture; and for the British participants it brings an exposure to a wider range of attitudes and views than they have previously experienced.

However, scientific frontiers and national boundaries are not the only differences you will encounter during the Fortnight. Above all, you will meet people whose attitudes and ideas differ from your own. To a great extent this may be a result of ideologies unknown to you or to the differing pressing and urgent priorities their life style demands. The Fortnight will provide you with an opportunity to hear other attitudes and can influence you to rethink your own. I believe this will be the most striking and lasting impression the next two weeks will make on you. I hope that you will take the opportunity not only to tell others what you think, but also to listen to what they feel and believe.

The programme on which you are about to embark is a full and complex one, but it is not an all-embracing one. There are many opportunities for you to participate in the programme and to make your own contribution. I hope that you will do so. By so doing you will gain much from your visit and help to ensure that the Fortnight is as stimulating for others as it will be for you.

George McGowan
Director
London International Youth Science Fortnight

DAILY PROGRAMME

Wednesday 30 July		Arrivals Orientation in Halls of Residence
Thursday 31 July	09 00 14 30 20 00	Tour of London *Opening Ceremony Welcome Dance at the Empire Rooms
Friday 1 August	10 00 14 00 20 00	University Lectures *Lecture: <i>Explosives</i> Students' Topics in the Mary Ward Centre and College Hall
Saturday 2 August	10 00 19 30	*Discussion: <i>The Poor Man's Wisdom: Technology and the Very Poor</i> Feature Film in College Hall: <i>One Flew Over the Cuckoo's Nest</i> Optional theatre visits
Sunday 3 August	20 00	Optional excursions: Stonehenge and Salisbury Greenwich Scientific Films in College Hall Students' Topics in the Mary Ward Centre
Monday 4 August	10 00 10 30 14 30 14 15 20 00	Group 1: Visit to Shell Centre *Group 2: Question Time with Two Members of Parliament *Group 1: Question Time with Two Members of Parliament Group 2: Visit to Shell Centre Topics for Tonight in the Mary Ward Centre and College Hall
Tuesday 5 August		Full-day visits to research and industrial establishments
Wednesday 6 August	10 00 14 15 20 00	Seminars *Lecture: <i>Heat Flow, Technology and You</i> Students' Topics in the Mary Ward Centre and College Hall

Thursday 7 August	20 00	Full-day visits to Science Museums *Lecture: <i>Science and the Sounds of Music</i>
Friday 8 August	a.m. 20 00	Half-day visits to industrial and research establishments and to university departments International Evening at the Empire Rooms
Saturday 9 August	10 00 19 15	*Lecture: <i>The Sweet Smell of Success</i> Feature Films in College Hall: <i>Blazing Saddles</i> and <i>Silent Movie</i> Optional theatre visits
Sunday 10 August	20 00	Optional excursions: Stratford-on-Avon Kew Scientific Films in College Hall Students' Topics in the Mary Ward Centre
Monday 11 August	10 00 14 15 20 00	*Discussion: <i>Microelectronics — Impact on our Future</i> *Lecture: <i>The Biomedical Challenge of Cancer</i> Feedback: a discussion of the Science Fortnight with the comments of staff and participants
Tuesday 12 August	10 00 15 00 20 00	*Participants' Forum *Closing Address Farewell Ball at the Empire Rooms
Wednesday 13 August		Departures

*These events take place at the Institution of Electrical Engineers, Savoy Place, WC2

With the exception of the lecture on 7 August, events timed after 18 00 are optional

Speakers at the Institution of Electrical Engineers

Thursday 31 July	14 30	Opening Ceremony Mr Neil Macfarlane, MP Under Secretary of State, Department of Education and Science The Rt Hon Lord Briggs, MA, BSc(Econ) Provost, Worcester College, Oxford
Friday 1 August	14 00	Lecture/Demonstration: <i>Explosives</i> Dr B. D. Shaw, MM, TD, BSc, PhD, Hon DSc Former Senior Lecturer in Chemistry, University of Nottingham
Saturday 2 August	10 00	Discussion: <i>The Poor Man's Wisdom: Technology and the Very Poor</i> Adrian Moyes, BA Dave Bull, BA, MSc Dianna Melrose, MA Public Affairs Unit, OXFAM
Wednesday 6 August	14 15	Lecture: <i>Heat Flow, Technology and You</i> Professor J. Crank, MSc, DSc, FInstP, FIMA Head of School of Mathematical Studies, Brunel University
Thursday 7 August	20 00	Lecture/Demonstration: <i>Science and the Sounds of Music</i> Professor C. A. Taylor, DSc, FInstP Head of the Department of Physics, University College, Cardiff
Saturday 9 August	10 00	Lecture: <i>The Sweet Smell of Success</i> Dr. D. M. X. Donnelly, PhD, DSc, MRSA Lecturer in Organic Chemistry, University College, Dublin
Monday 11 August	10 00	Discussion: <i>Microelectronics — Impact on our Future</i> Chairman: Sir Ieuan Maddock, CB, OBE, FRS Secretary, The British Association for the Advancement of Science <i>Microelectronics — A Long-Standing Promise of Golden Opportunities</i> C. S. den Brinker, MSc, CEng, FIERE, SenMIEEE Technical Director, Redifon Telecommunications Ltd. <i>The Social Implications of the Microelectronics Revolution</i> B. Sherman, BDS, BSc(Econ) Director of Research, Association of Scientific, Technical and Managerial Staffs
	14 15	Lecture: <i>The Biomedical Challenge of Cancer</i> Professor Sir Thomas Symington, MD, FRIC, FRCPath, FRSE Former Director, Institute of Cancer Research, London

University Lectures

Friday 1 August	10 00	*Group 1 <i>The Biology of Memory</i> Dr G. E. Savage, BSc, PhD Department of Zoology and Comparative Physiology, Queen Mary College, London
		Group 2 <i>New Mode of Description in Physics</i> Professor D. Bohm, BSc, PhD Department of Physics, Birkbeck College, London
		*Group 3 <i>Measuring Molecules with Microwaves</i> Professor D. J. Millen, PhD, DSc, FRIC Department of Chemistry, University College London
		*Group 4 <i>Recent Developments in Digital Communications and their Impact on Communication Systems</i> Dr L. F. Turner, BSc, PhD Department of Electrical Engineering, Imperial College of Science and Technology, London
		*At University College London

Seminars

Participants are selected to join seminars in accordance with their expressed scientific interests. A summary of each seminar subject and details of meeting places are supplied individually.

Wednesday 6 August	10 00	Seminar A <i>Intraterrestrial Intelligence: The Computers are Coming</i> Dr R. Giblin, BSc(Eng), PhD, CEng, MIEE
		Seminar B <i>Numerical Mathematics</i> Dr. J. C. Newby, BA, PhD, FIMA
		Seminar C <i>Nuclear Energy: Today's Power for Tomorrow's Generation</i> H. A. Cole, CEng, MIERE
		Seminar D <i>Biological Energy Resources</i> Dr C. Lewis, BSc, PhD, MIBiol
		Seminar E <i>Nutrition and Health — or What's Good to Eat?</i> Dr D. P. Richardson, BSc, MSc, PhD
		Seminar F <i>Paediatrics and the Environment</i> Dr L. Rees, MB, ChB, MRCP
		Seminar G <i>Plants as a Source of Drugs</i> Dr P. J. Houghton, BPharm, PhD, MPS
		Seminar H <i>Science and Sport</i> Dr V. Thomas, TC, DLC, MSc, PhD, DMS, FPEA

Full-day Visits to Industrial and Research Establishments

Tuesday, 5 August

Atomic Energy Research Establishment, Harwell	I.B.M. United Kingdom Ltd., Sudbury
British Petroleum Co. Ltd., B.P. Research Centre, Sunbury-on-Thames	The London Hospital Medical College, Department of Forensic Medicine
Central Electricity Generating Board, Marchwood Engineering Laboratories, Southampton	Meteorological Office, Bracknell
Clinical Research Centre, Division of Bioengineering, Northwick Park	National Institute for Medical Research, Mill Hill
Computer Aided Design Centre, Cambridge	Pye Telecommunications Ltd., Cambridge
Esso Petroleum Co. Ltd., Fawley Refinery	Roche Products Ltd., Welwyn Garden City
European Centre for Medium Range Weather Forecasts, Shinfield Park	Royal Botanic Gardens, Kew
Independent Broadcasting Authority, Crawley Court	Royal Marsden Hospital, Sutton
Institute of Naval Medicine, Alverstoke	Shell Research Ltd., Sittingbourne Research Centre
	Standard Telecommunication Laboratories Ltd., Harlow
	Taylor Instrument Ltd., Stevenage

Half-day Visits to Industrial and Research Establishments and to University Departments

Friday, 8 August

Chelsea Physic Garden	Mullard Ltd., Electronics Centre
The City University, Department of Aeronautical Engineering	Queen Mary College, London, Department of Physics
General Electric Co. Ltd., Hirst Research Centre, Wembley	The Royal Free Hospital
Arthur Guinness Son & Co. (Park Royal) Ltd.	J. Sainsbury Ltd., Laboratories
Imperial College of Science and Technology, Department of Mineral Resources Engineering	St. Thomas' Hospital, Department of Chemical Pathology and Metabolic Diseases
Institute of Cancer Research, Chester Beatty Research Institute	University College London, Department of Electronic and Electrical Engineering
International Computers Ltd., Putney	Wellcome Museum of Medical Science
King's College, London, Department of Biophysics	Yarsley Technical Centre Ltd., Redhill
	The Zoological Society of London

Topics for Tonight

These are informal discussions and participants may attend any group that interests them. The speaker introduces the topic which is then discussed.

Monday 4 August	20 00	College Hall <i>Science — Yesterday's Dream, Tomorrow's Nightmare?</i> Introduced by Dr Richard O'Kennedy, BSc, PhD, MIBiol
	20 00	Mary Ward Centre, Tavistock Place, WC1 <i>"Starvation in the Midst of Plenty" — A Problem of Politics not Production</i> Introduced by Anne Blonstein, BA
	20 00	Mary Ward Centre, Tavistock Place, WC1 <i>Can Society Cope with Science?</i> Introduced by Norma McArthur, BDS

Social Programme

Thursday 31 July	20 00	Welcome Dance Empire Rooms, Tottenham Court Road, W1
Friday 8 August	20 00	International Evening Empire Rooms, Tottenham Court Road, W1
Tuesday 12 August	20 00	Farewell Ball Empire Rooms, Tottenham Court Road, W1

Tickets will be available for Promenade Concerts and selected theatres for both Saturday evenings.

Details of optional excursions on Sundays will be circulated separately during the Science Fortnight.

Residential Staff of the London International Youth Science Fortnight

	College Hall Malet Street London, WC1	Hughes Parry Hall Cartwright Gardens London, WC1	International Hall Brunswick Square London, WC1
Chief of Staff		Alan Ferguson	
Host	Richard O'Kennedy	Paul Broadbent	Caroline Bullock
Deputy Host	Alison Blake	Miguel Forte	Jim Grape
Special Duties		Colin Hardwick (Entertainments & Sales)	Ricardo Costa
Counsellors	Steven Blonstein Bridget Doubleday Aisam Ead Pieter Terpstra	Debra Hallam Dinesh Sharma	Carole Collins Audrey Mallinson

The residential staff of the Science Fortnight is selected from past participants of the Fortnight and from others associated with projects of the Council for International Contact.

Applications for staff positions from ex-participants are considered before Christmas in the year preceding any Fortnight and should reach the Fortnight office by the beginning of October.

Acknowledgments

The Council for International Contact expresses grateful thanks to all who have given help in the organisation of the 1980 Science Fortnight and especially to:

The Consultative Council for its advice and members of the working group for help in planning the programme.

The speakers, lecturers, chairmen, and discussion group leaders, whose contribution of time and expertise is invaluable.

The many industrial companies, research establishments, university departments and museums who welcome participants for visits and lectures.

The council and staff of the Institution of Electrical Engineers for providing premises for lectures and meetings of the Science Fortnight.

The wardens, bursars and staff of the Halls of Residence, who provide accommodation for participants and for social events; the University of London Union for providing premises for social events; and the Mary Ward Centre for providing premises for discussion groups.

The British Association for the Advancement of Science, for advice on programme planning, through Miss Joan Dring, and for the selection of film programmes, through Mr Alec Hughes.

The United Kingdom local education authorities and schools who have met the whole or part of the fees of students from the United Kingdom.

The sponsors who grant scholarships to make possible the participation of students from abroad, including the British Council, the United Kingdom National Commission for Unesco, Barclays Bank International Ltd. and many others.

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Special thanks are due to the following who have helped to make possible the attendance of students from the United Kingdom:

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KEY TO MAP

- A College Hall
- B International Hall
- C Hughes Parry Hall
- D University of London Union
- E Mary Ward Centre
- F Empire Rooms
- G Bloomsbury Centre Hotel
- H St. Pancras Station
- I Euston Station
- J Euston Square Station
- K Warren Street Station
- L Goudge Street Station
- M Tottenham Ct Road Station
- N Russell Square Station



The Twenty-Third London International Youth Science Fortnight
will take place from 29 July to 12 August 1981



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London International Youth Science Fortnight

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