



# Light Energy for a Brighter Future:

Monday 6 July 2009

Imperial College London

## Programme – Day 1

09.00-09.20 Registration

09.20-09.30 Welcome by Rector of Imperial College

### FIRST SESSION

Chair: James Barber FRS  
*Imperial College*

09.30-10.00 David Cahen  
*Weizmann Institute*

What are our options for a sustainable energy future? Where is solar energy?

10.10-10.40 James Barber FRS  
*Imperial College*

If the leaf can do it we can do it but even better.

10.50-11.15 Coffee

### SECOND SESSION

Chair: George Britovsek  
*Imperial College*

11.15-11.45 Ronny Neumann  
*Weizmann Institute*

New concepts for the catalytic conversion of carbon dioxide.

11.55-12.25 Robin Perutz  
*University of York*  
Towards carbon dioxide reduction with inorganic photochemistry.

12.35-13.35 Lunch

### THIRD SESSION

Chair: Klaus Hellgardt  
*Imperial College*

13.35-14.05 Igor Lubomirsky  
*Weizmann Institute*  
Electrochemical conversion of atmospheric CO<sub>2</sub> to CO for energy storage.

14.15-14.45 Christine Raines  
*University of Essex*  
Improving the 'dark side': identifying limitations to biomass yield imposed by photosynthetic carbon assimilation.

14.55-15.15 Tea

### FOURTH SESSION

Chair: David Cahen  
*Weizmann Institute*

15.15-15.45 Sir Richard Friend FRS  
*University of Cambridge*  
Organic semiconductor solar cells.

15.55-16.25 Gary Hodes  
*Weizmann Institute*  
Extremely thin absorber (ETA) photovoltaic cells.

16.35-17.05 James Durrant  
*Imperial College*  
Nanostructures for solar energy conversion: charge photogeneration at donor/acceptor interfaces.

18.15-22.00 Reception and Dinner for speakers and guests with Rector of Imperial College



# Light Energy for a Brighter Future:

Tuesday 7 July 2009

## Royal Geographical Society

## Programme – Day 2

### FIFTH SESSION

**Chair: David Klug**  
*Imperial College*

**09.00-09.30 Bruce Hamilton**  
*University of Manchester*  
Tuning electronic materials for solar energy conversion.

**09.40-10.10 Laurie Peter**  
*University of Bath*  
Taking a leaf out of photosynthesis. A progress report on dye-sensitized solar cells.

**10.20-10.45 Coffee**

### SIXTH SESSION

**Chair: Peter Nixon**  
*Imperial College*

**10.45-11.15 Mordechai Sheves**  
*Weizmann Institute*  
Mechanism of light induced activation of retinal proteins.

**11.25-11.55 Avihai Danon**  
*Weizmann Institute*  
A genetic approach to green energy.

**12.05-13.15 Lunch**

### SEVENTH SESSION

**Chair: Jeremy Woods**  
*Imperial College*

**13.15-13.45 Fraser Armstrong FRS**  
*University of Oxford*  
Photosynthetic hydrogen production – mechanistic studies to help understand and solve the O<sub>2</sub> problem.

**13.55-14.25 Ed Bayer**  
*Weizmann Institute*  
Cellulases, cellulosomes and biofuels.

**14.35-15.00 Tea**

### EIGHTH SESSION

**Chair: Alison Telfer**  
*Imperial College*

**15.00-15.30 Neil Hunter FRS**  
*University of Sheffield*  
Surface fabrication of new membrane protein architectures for excitation energy transfer.

**15.40-16.10 Avigdor Scherz**  
*Weizmann Institute*  
Engineering of robust mesophilic strains for biomass and hydrogen generation under global warming.

**16.20 -17.00 Summing up**  
David Cahen & James Barber

**17.00-18.00 Poster Session in Hall**

**19.00-20.30 Keynote Address: Professor Vernon Gibson**  
*Chief Chemist BP*

**Followed by Panel Discussion/Q&A**

Chaired by:  
**Jonathan Leake**  
*Science Editor*  
*The Sunday Times*

The Panel:  
**Sir John Beddington**  
*UK Government*  
*Scientific Advisor*

**Lord Hunt** *Minister of State for Development & Energy Innovation*

**David Cahen**  
*Weizmann Institute*

**James Barber FRS**  
*Imperial College*