

About the Speaker



Graham Fleming currently serves as UC Berkeley's Vice Chancellor for Research, a position which he assumed in April 2009. Fleming served as the Deputy Director of Lawrence Berkeley National Laboratory from 2005 through 2007. Through joint appointments as Melvin Calvin Distinguished Professor of Chemistry at UC Berkeley, and Founding Director of both the Berkeley Lab's Physical Biosciences Division and UC

Berkeley's California Institute for Quantitative Biosciences (QB3), he has re-shaped the intersection of physical and biological sciences, while maintaining his own investigations into ultrafast chemical and biological processes, in particular, the primary steps of photosynthesis. Throughout his administrative career, Fleming has remained a highly active scientific researcher. He has authored or co-authored more than 400 publications, and is widely considered to be one of the world's foremost authorities on ultrafast processes. In addition to his many other activities, Fleming has given numerous talks around the world on the inter-relation and inter-complexity of energy, climate and photosynthesis. In 2007, Fleming led the effort (with co-chair Mark Ratner) to define Grand Challenges in Basic Energy Science for DOE/BES, resulting in "Directing Matter and Energy: Five Challenges for Science and the Imagination."

S N BOSE MEMORIAL LECTURE

The Satyendra Nath Bose National Centre for Basic Sciences, Kolkata organizes the S N Bose Memorial Lectures as a tribute to the Late National Professor Satyendra Nath Bose.

Past Speakers

Leon Van Hove	(1988)	B M Udgaonkar	(1990)
H E Stanley	(1991)	C H Llwellyn Smith	(1992)
E C G Sudarshan	(1994)	V Singh	(1995)
B V Sreekantan	(1996)	Sir Sam F Edwards	(1996)
Kazuo Fujikawa	(1996)	C N R Rao	(1999)
R A Mashelkar	(2000)	Albert Libchaber	(2001)
Jayant V. Narlikar	(2002)	Martin Blume	(2003)
S. R. S. Varadhan	(2004)	Abhay Ashtekar	(2005)
Rashid A Sunyaev	(2007)	Ashoke Sen	(2008)
Wolfgang Ketterle	(2009)	Masashi Hayakawa	(2010)
Dr. U K Sivaraman & Dr T Ramasami	(2010)		

22nd S. N. Bose Memorial Lecture

on

Grand Challenges in Energy : Supply, Demand and Consequences

by

Graham R. Fleming, FRS, FAAAS, NAS

Professor of Chemistry,
Director, Institute for Quantitative Biosciences, and
Vice Chancellor for Research,
University of California, Berkeley, USA

on

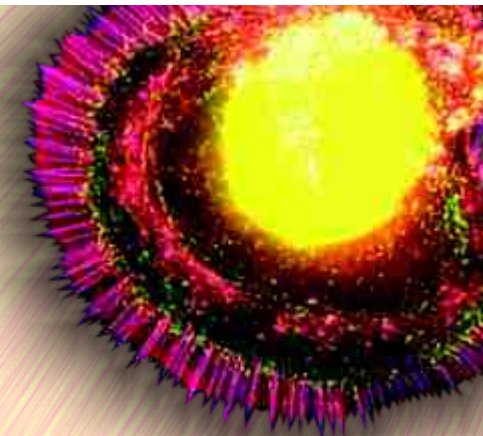
**5th December 2011
at 3.30 pm**

Venue

**Science City Mini Auditorium
Kolkata**



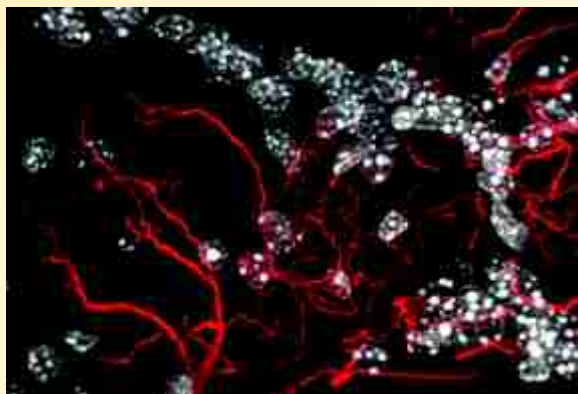
**S N Bose National Centre for Basic Sciences
Kolkata**



A b s t r a c t



Grand Challenges in Energy: Supply, Demand and Consequences



The provision of sustainable energy is the defining problem of the 21st century. The energy “problem” is a set of inter-related technological, scientific, economic, environmental and sociological challenges. In this talk, I will discuss these challenges and illustrate some potential solutions by means of examples of specific programs at UC Berkeley and Lawrence Berkeley National Laboratory.

S N Bose National Centre for Basic Sciences

Block JD, Sector III, Salt Lake
Kolkata 700 098



On behalf of the
Bose Centre
I have great pleasure in inviting you
to the

22nd
S N Bose Memorial Lecture

at
3.30 pm on Monday,
5th December, 2011

at the
Science City Mini Auditorium
Kolkata

Arup K Raychaudhuri
Director