



CPFS

Centre for
Philosophy
and
Foundations
of Science

CENTRE FOR PHILOSOPHY & FOUNDATIONS OF SCIENCE

WORLD THE FOR THE ADVANCED STUDY

The World Institute for Advanced Study will serve as a facility to realize the vision of the Centre for Philosophy and Foundations of Science (CPFS) which was established at the initiative of a group of scientists and philosophers working on the foundations of quantum theory.

IN A NUTSHELL INTEGRATING IDEAS, CONNECT- ING CULTURES

• **Centre of Excellence:** The World Institute for Advanced Study is an initiative of CPFS, which has had outstanding success in the promotion of interactions between the host community of scientists and scholars and the crème de la crème of international science, in anticipation of the challenges and opportunities thrown up by globalization. Several scientists of international renown, among them 14 Nobel Laureates (**Claude Cohen-Tannoudji, Ahmed Zewail, Rolf Zinkernagel, Robert Huber, Gerardus 't Hooft, Charles Townes, Tjosten Wiesel, Yuan-Tsich Lee, Alan MacDiarmid, Alan Heeger, Douglas Osheroff, Zhores Alferov, Anthony Leggett, Peter Agre**), 1 Fields Medalist (**Michael Atiyah**), 2 Wolf Prize winners (Roger Penrose and Stephen Hawking), first TWAS Physics Prize winner (**E.C.G. Sudarshan**) and 2003 Reith Lecturer (**V.S. Ramachandran**) have been honoured guests.

• **Rationale:** The rise of India and Asia as economic powerhouses places an onus on these countries to deploy their rich human resource endowment to contribute in fuller measure to the advancement of knowledge and well-being worldwide, which in turn requires the strengthening of research infrastructure and global linkages. The World Institute for Advanced Study, developed as an international consortium with partners in different countries (India, UK, US and Europe) will serve as a flagship institution in the vanguard of scientific research and also help bridge the divide between the two cultures by promoting public understanding as well as foster dialogue between world civilizations in the interests of perpetual peace.

• **Strengths:** CPFS, registered as a not-for-profit public trust on August 7, 1998, is fortunate to have as resource persons, scientists of the highest calibre dedicated to the pursuit of knowledge. The Centre receives grants from the Department of Science and Technology, Government of India and leading corporate houses with philanthropic traditions. The World Institute for Advanced Study project was conceptualized and adopted in 2001 under relevant clauses of the Trust Deed of the Centre. The formal beginnings were made with four distinguished visiting professors: Nobel Laureates

Zhores Alferov, Anthony Leggett, Wolf Prize winner Roger Penrose and the first TWAS Physics Prize winner E.C.G. Sudarshan.

• **Uniqueness:** Blending multidisciplinary with multiculturalism of both ideological and geographic varieties, the institute is well-positioned to shape a global knowledge economy that is fundamentally inclusive in nature and significantly impact the sustenance and well-being of millions.

• **Future vision:** As a model 21st century institution, the Institute will focus on the generation of knowledge and technique and will be expected to catalyze major scientific advances within a decade, by focusing effort on carefully chosen frontier problems.

• **Past record:** Exceptionally for institutions of this kind, a stellar record of activities precedes major fund mobilization.

• **International importance:** As a global facility, the institute will impart specialized skills as well as incubate appropriate technologies, working with multilateral institutions.

AIMS

A centre of excellence of world standard built around exceptionally creative, accomplished and dedicated scholars which will

- promote multidisciplinary research on key foundational problems of contemporary science and philosophy,
- develop concepts, tools and methods required for emerging areas that transcend disciplinary boundaries and categories,
- nurture new technological spin-offs resulting from fundamental enquiry,
- draw on the resources of the philosophical traditions of both East and West in exploring questions at the boundaries of knowledge,
- improve the quality of education in relevant areas through the application of innovative techniques, and
- encourage public understanding and appreciation of science and philosophy.

SCHOOLS

- Mathematics and Computer Science
- Natural Sciences
- Philosophy
- Social Sciences

FRONTIER AREAS RESEARCH EXCELLENCE PROGRAMMES

- Cosmology and Astroparticle Physics (CAP)
- Cognitive and Logical Aspects of Interdisciplinary Methodologies (CLAIM)

• Genomics Revolution & Emerging Advances in Therapeutics (GREAT)

• Neuroscientific Investigations of Conscious Experience (NICE)

• Plenty of Room: Advances in Nanoscience (PRAN)

• Quantum Uncertainty, Information, Communication & Knowledge (QUICK)

• Sustaining Humanity: Opportunities, Risks & Threats (SHORI)

• Unifying Natural Law: Advances & New Approaches (UNLANA)

A cluster of problems under each of the above topics will be chosen by working groups drawn from different schools.

INSTRUCTIONAL PROGRAMMES

- Research: An M. Phil. level programme resulting in a postgraduate diploma, a Certificate of Advanced Study will involve two trimesters of courses taught by the Institute Faculty, at the end of which there will be written examinations followed by one trimester of research on a chosen topic, culminating in a dissertation.
- Extramural studies: The 'India of Ideas', an initial offering of 12 lectures. Applications can be made online by logging on to the URL <http://www.cpfis.info/>

REGULAR ACTIVITIES

- **Distinguished Lectures**
Four lectures honouring Jagadis Chandra Bose, Rabindranath Tagore, Albert Einstein and Erwin Schrödinger.
- **Publications**
Imprints Scientia, Principia and Prama and a series published by Oxford University Press entitled 'Foundations of Philosophy in India'. Titles for which CPFS has international rights may be ordered online through <http://www.cpfis.info/>
- **Research Colloquia**
• **Congress of Philosophy and Foundations of Science**
A premier international forum that has regularly served as a nodal point for discussions in the frontiers, foundations and philosophy of the sciences, this Congress is unique in conception and has been held without break for 12 years.

World Science Festival

Initiated biennially the World Science Festival extends over a two year period, with the third in 2007-8 on the theme 'Smaller than small, larger than large' cuts across a wide swathe, covering the realms of physics, chemistry, biology and psychology. As with the two previous editions, WSF III is built

around anniversaries of world-historical importance. A twin-track approach, with international symposia for specialist audiences, coupled with public lectures and events, it is held in Delhi, Mumbai, Chennai and Kolkata with satellite telecasts wherever possible. URL: <http://www.worldsciencefestival.org/>

PEOPLE

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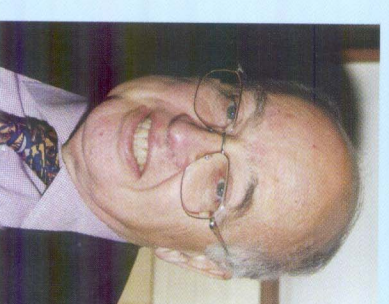
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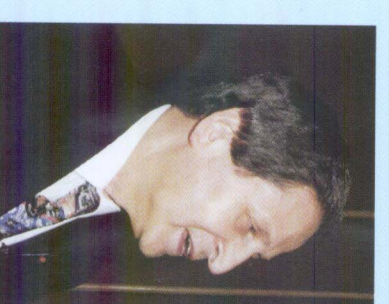
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Zhores I. Alferov



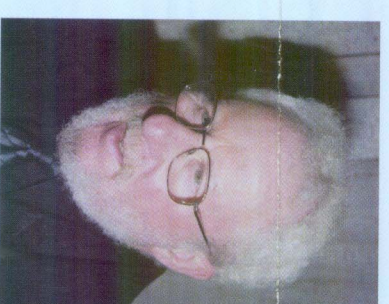
Michael Atiyah



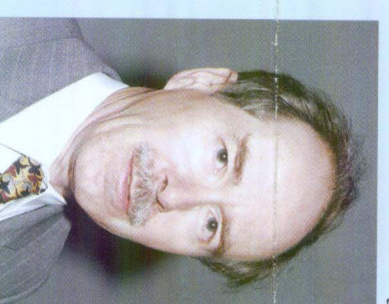
Claude Cohen-Tannoudji



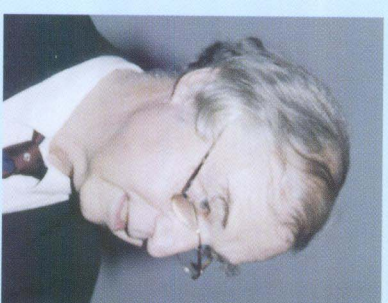
Stephen Hawking



Alan Heeger



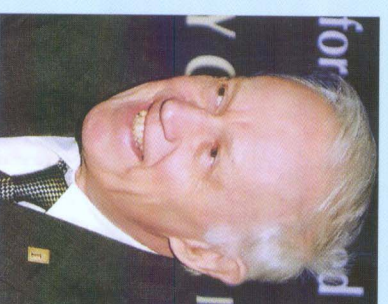
Gerardus 't Hooft



Robert Huber



Yuan T. Lee



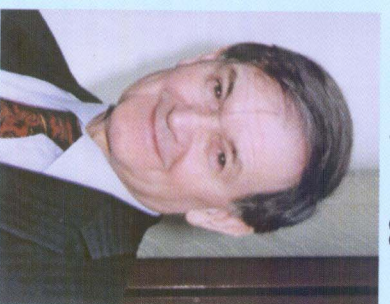
Anthony J. Leggett



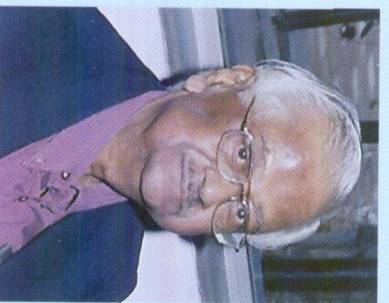
Alan G. MacDiarmid



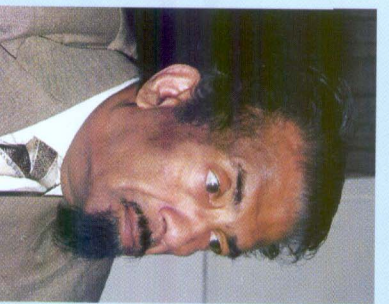
Douglas D. Osheroff



Roger Penrose



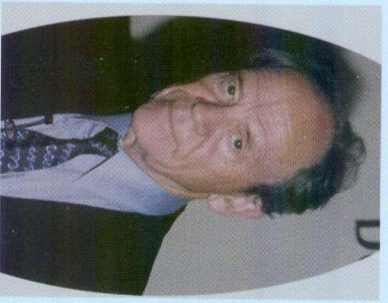
Raja Ramanna



E.C.G. Sudarshan



Charles H. Townes



Tjosten Weisel



Ahmed Zewail



Rolf Zinkernagel