



# ***INDO-US Science & Technology Forum***

***Catalyzing Indo-US S&T Cooperation over the years ...***

***Dr. Rajiv Sharma,  
Executive Director, IUSSTF  
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# The Journey Begins....

Agreement signed by Indian and US Governments in March 2000 to establish Indo-US Science & Technology Forum (IUSSTF)

IUSSTF Established as an Autonomous Bilateral Non-Government Not for Profit Society in India

## **Funding Resources**

- Annual Interest on US Endowment
- Matching grant from DST, GoI
- Program based grants from government and private sources

# Objectives

**CATALYST to *facilitate, seed and promote* bilateral collaboration in science, technology, engineering and biomedical research through engagement with government, academia and industry**

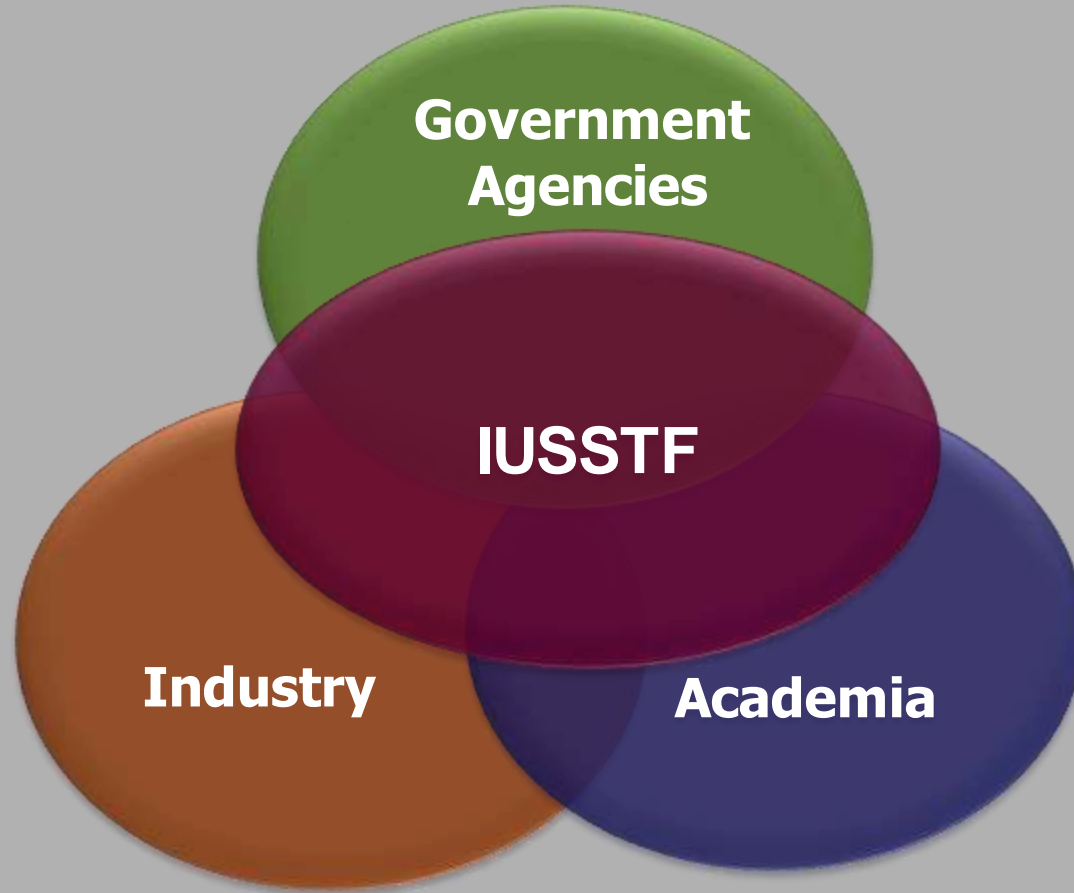
**Disseminate information and create awareness of scientific potentials**

**Build on scientific and technological synergy to create long term relationships**

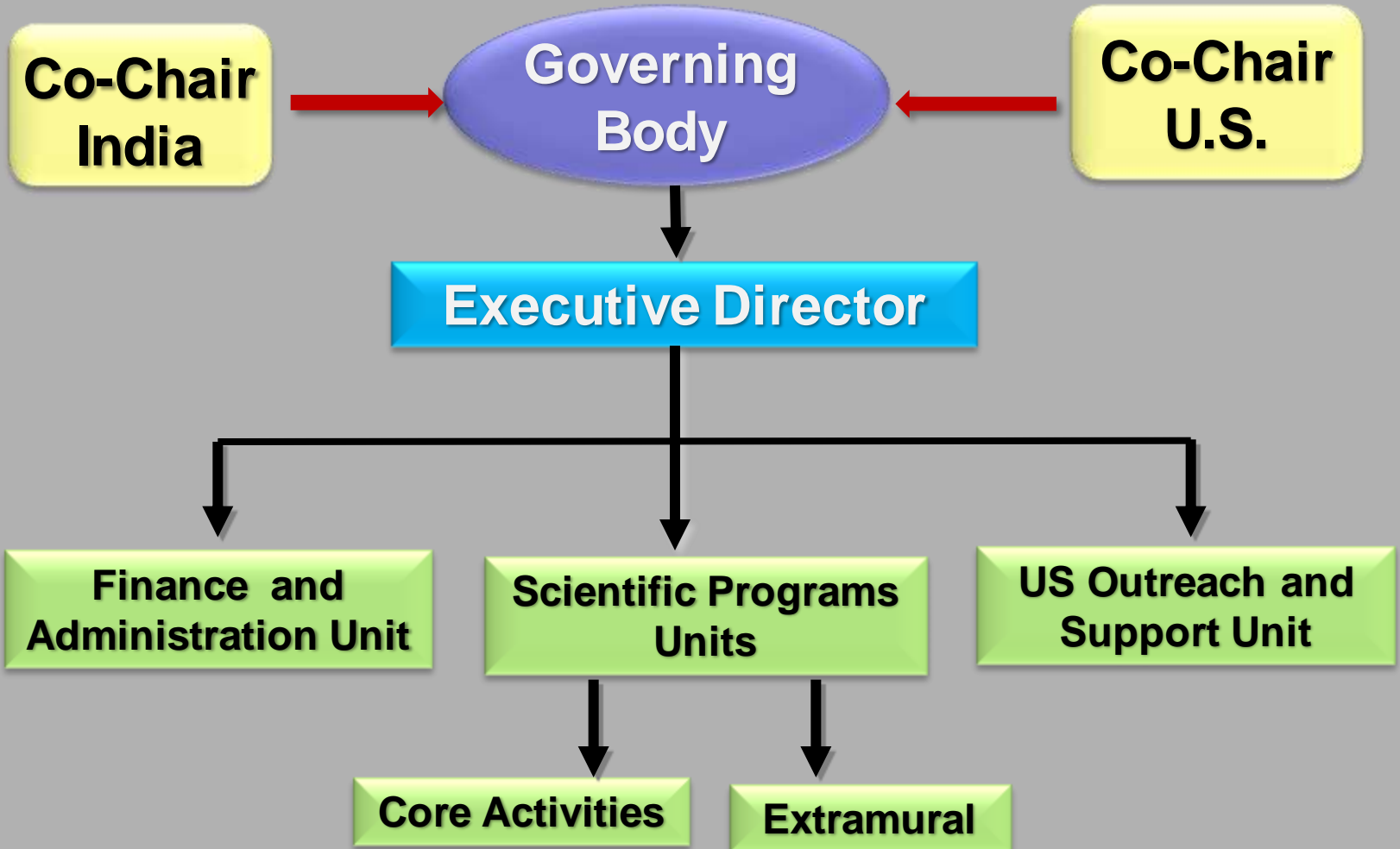
**Promote and strengthen strategic inter-governmental partnerships**

**Forge public-private partnership to foster innovation and enterprise through academia-industry connect programs**

**Explore new frontiers by nurturing contacts between young and mid career scientists and researchers including students**



# Organizational Structure





# Governing Body

**T Ramasami, Secretary,  
Department of Science &  
Technology**

**M K Bhan, Secretary,  
Department. of Bio-Technology**

**S K Brahmchari, Director General,  
Council of Scientific & Industrial  
Research**

**Sanjay G Dhande, Director,  
Indian Institute of Technology  
Kanpur**

**Murali Sastry, Chief Scientist, Tata  
Chemicals**

**R Seshasayee, Managing Director,  
Ashok Leyland India**

**Vandana Srivastava, Financial  
Advisor, DST**

**Norman P. Neureiter, Senior  
Advisor, American Association for  
Advancement of Science**

**Michael Clegg, Foreign Secretary,  
National Academy of Science**

**Subra Suresh, Director, National  
Science Foundation**

**Roderic Pettigrew, Director,  
National Institute of Biological  
Imagaing and Engineering**

**Phyllis G. Yoshida, Dy Asst  
Secretary, Dpartment of Energy**

**Ray O. Johnson, Sr. V.P. and  
C.T.O., Lockheed Martin Corporation**

**Venkatesh Narayanamurthy,  
Foreign Secretary, N.A.E.**

# Program Portfolio

Indo-US Science & Technology Forum



# Programmatic Activities

**Bilateral Workshop/ Symposia / Conferences**

**Training / Advanced Schools**

**Knowledge R & D Networked Centres**

**Public - Private Networked Centres**

**Centers for Research Excellence in Science & Engineering**

**Visitation Programmes**

**Innovation Programmes**



# R & D Knowledge Networked Center



- R & D labs and academia partnership ( at least 2 each from India and US)
- Network focal areas of thematic research
- Provide opportunities for integrating research and education
- Leverage existing infrastructure and funding
- All partners to have stake

## **IUSSTF Funding (Period - 2 years)**

- Exchange travel support and hospitality for faculty and students
- Database development and dissemination/ publication

# Public-Private Networked Center

- Foster academia - R & D lab - industry partnership (at least 2 each from India and US)
- Promote pre-commercial R & D with application potential
- Frontier areas and bottom of the pyramid technologies
- Leverage existing infrastructure and funding
- All partners to have stake

## **IUSSTF Funding (Period - 2 years)**

- Exchange travel support and hospitality for faculty and students
- Industry to bear their own costs
- Product development and dissemination/  
publication

# Visitation programmes

- Indo-US Research Fellowships with DST
- Research Internship in Science and Engineering
- Khorana Program with DBT
- Viterbi - India Program
- APS- IUSSTF Visiting Professorship & Student Visitation
- ASM - IUSSTF Professorships in Microbiology
- IBM - IUSSTF Visiting Fellowships in Nanotechnology
- Cornell -India Student Exchange Program

# Indo-US Research Fellowships

**Partners: SERC (DST) - IUSSTF**

**Objective:**

**Enable young Indian researchers to carry out research in frontier areas of S & T at premier institution in USA**

**Fellowship includes**

- **Monthly stipend**
- **Return airfare**
- **Preparatory allowances**
- **Conference allowances**

**Fellowship period : 3 months to 12 months**

**Submission Deadline: 31 December 2011**

# Research Internship in Science and Engineering



## Eligibility:

- **Indian/ American Citizen**
- **Master and Ph.D. students enrolled in recognized institution**

**Duration: 3-6 months**

## Placements:

**Laboratories, universities and industries**

**Submission Deadline:  
31 March 2012**



# Flagship Programmes

**Frontiers of Engineering Symposium**  
with  
National Academy of Engineering

**Frontiers of Science Symposium**  
with  
National Academy of Sciences

**Frontiers Awards**  
For  
Young Scientists/Engineers

About 60 outstanding scientists under the age of 45 met at Agra for an intensive 2-1/2 day symposium to discuss cutting-edge developments in selected areas

## **AREAS**

- Algorithms & Big Data Sets/ Topological Order & Quantum Computation
- Biometric Materials
- Creative Brain
- Extinction- Causes & Consequences
- Hydrological Cycles of Glaciers
- Organic Synthesis & Drug Discovery
- Genetic Basis of Disease

About 60 outstanding engineers under the age of 45 will meet at Bethesda for an intensive 2-1/2 day symposium to discuss cutting-edge developments in selected areas

## **AREAS**

- Intelligent Transportation Systems,
- Engineering at the Interface of Science,
- Technology Enablers for Advances in Aerospace Materials, and
- Engineering Large Infrastructure for Disaster/Hazards.



# Frontiers Awards for Scientists/ Engineers

**Two awards are given every year to encourage continued interactions between Indian and US Scientists/ Engineers participating in IFOE/ IFOS.**

**Scientists/ Engineers participating in an IFOE/ IFOS symposium are invited to develop a joint proposal involving one Indian and one US scientist.**

**Award covers mobility support for exchange visits of concerned scientists for two years.**

# Programs in Partnership with Industry

***DST- Lockheed Martin - FICCI - Univ of Texas,  
Austin- IUSSTF***

**India Innovation Growth Program**

**Lockheed Martin – IUSSTF**

**Academia Connect Program**

**IBM - IUSSTF Visiting Fellowship in  
Nanotechnology**

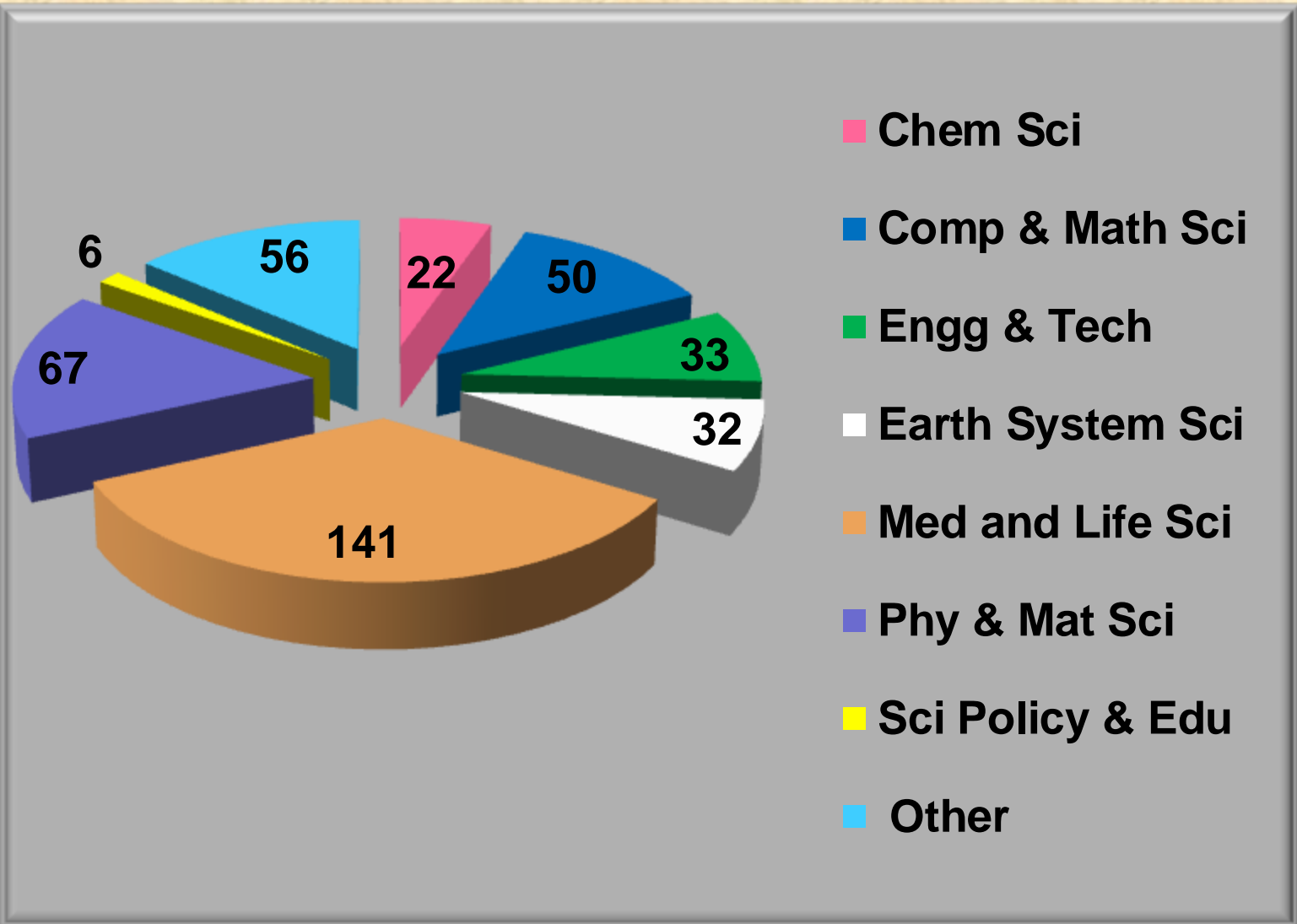
- **spintronics**
- **nanoelctronics**
- **nanophotonics**
- **materials and devices for energy conversion**
  - **materials for memory devices**

# Snapshot of Activities Over the Years

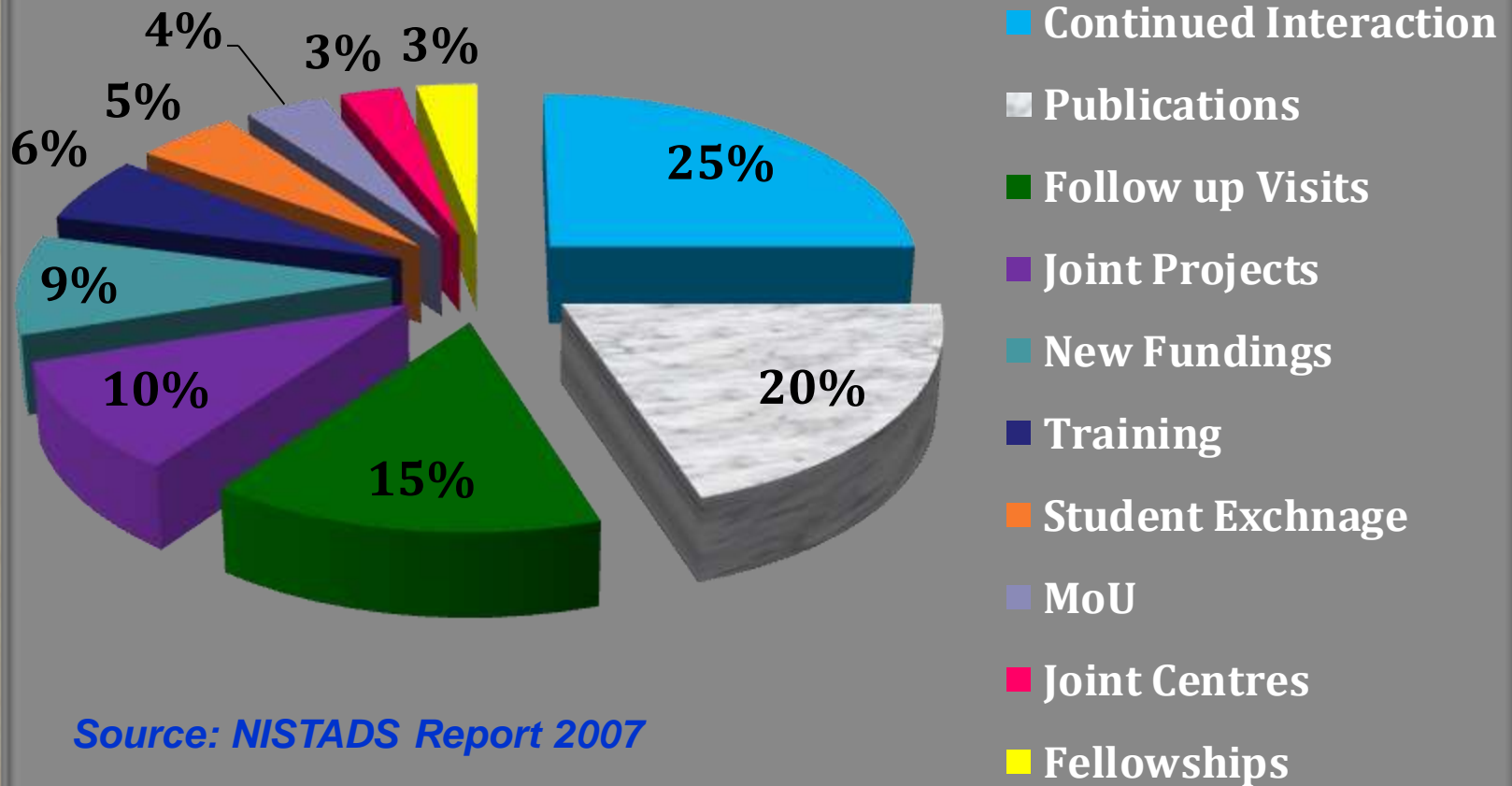
<b>Programmatic Activities</b>	<b>2000- 2010</b>	<b>2011</b>
<b>Workshops / Roundtables</b>	<b>276</b>	<b>31</b>
<b>Training Schools</b>	<b>30</b>	<b>4</b>
<b>Flagship and Special Initiatives</b>	<b>22</b>	<b>3</b>
<b>Joint Centres</b>	<b>23</b>	<b>6</b>
<b>Innovation Programs</b>	<b>10</b>	<b>2</b>
<b>Total</b>	<b>407</b>	<b>46</b>

*Events have led to interaction of about 11,000 US and Indian scientists*

# Cutting across disciplines



# Outcome of Workshop/ Symposia



**65 % events have resulted into various outcomes**

# Recognized at Highest Level

✦ **U.S.-India Joint Statement on  
Higher Education Cooperation** ✦

*Washington, DC, October 13, 2011*

*“The two leaders also expressed their support for the Indo-U.S. Science and Technology Forum, which provides fresh impetus to academic collaboration in the cutting-edge areas of scientific research and technology development.”*

**India’s Human Resource Development Minister Kapil Sibal  
and U.S. Secretary of State Hillary Rodham Clinton**

# Recognized at Highest Level

U.S.-India Strategic  
Dialogue Joint Statement  
*New Delhi, July 19, 2011*

*“The U.S.-India Science & Technology Forum, now in its tenth year, has convened activities that have led to the interaction of nearly 10,000 Indian and U.S. scientists and technologists.”*

U.S. Secretary of State Hillary Rodham Clinton  
and India’s Minister of External Affairs S.M. Krishna

# Strategic Programs

## **Joint Clean Energy Research & Development Center**

*(To facilitate joint R & D aimed towards deployment for clean energy technologies)*

## **US-India S&T Endowment Board**

**(To facilitate joint R & D aimed towards innovation, entrepreneurship and commercialization activities in S&T)**



# Indo-US Clean Energy R & D Center (JCERDC)

**Partners :** Indian Ministry of Science & Technology and US Department of Energy.

*Program administered in India through IUSSTF.*

**Objective :** To facilitate joint R & D aimed towards deployment for clean energy technologies.

**Funding :** US \$ 5 million each year for 5 years from GOI and DoE with matching funding from participating industries.

**Request for Proposals :** RFP issued with submission deadline of 16 August 2011. 21 proposals received. 3 may be funded after reviewing.

## **Priority Areas**

- Solar Energy
- Second generation biofuels
- Energy efficiency of buildings

<http://www.indousstf.org/JCERDC.html>

# US-India Endowment Fund

**Partners :** Government of US and Government of India through Department of Science & Technology.

*Program administered through IUSSTF.*

**Objective :** To facilitate joint R & D aimed towards innovation, entrepreneurship and commercialization activities in S&T

**Funding :** Annual Interest from US Endowment Fund with matching contribution from DST (Total Rs. 135 Mn/ \$ 2.7 Mn in 2011-12)

**First Request for Proposals :** First RFP Issued with submission deadline of 31 May 2011. Over 380 LoI received. After reviews, 32 were shortlisted for submission of detailed proposals. 3 have been shortlitsed for funding.

## **Priority Areas for First RFP**

- Healthy Individual
- Empowered Citizen

<http://www.indousstf.org/US-India-Endowment-Board.html>

# IUSSTF Regular Requests for Proposals

**Bilateral Indo-US Workshop/ Symposia**

**Indo-US Training / Advanced Schools**

**Indo-US Knowledge R & D Networked Centres**

**Indo-US Public – Private Networked Centres**

**Submission Deadlines**

**Award Announcements**

**15 February**

**30 May**

**15 June**

**30 September**

**15 October**

**30 January**



## **INDO-US SCIENCE AND TECHNOLOGY FORUM**

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Thank You