Enabling AI Innovation: Addressing Challenges and Opportunities at the Interface of Science, Technology and Society

Indo-U.S. Science and Technology Forum

www.iusstf.org
The Indo-U.S. Science and Technology Forum (IUSSTF) established in 2000 under an agreement between the Governments of India and the United States.

IUSSTF: WHO WE ARE

Operates through two bilateral agreements:
- Indo-U.S. Science and Technology Forum (2000)
- United States-India Science and Technology Endowment Fund (2009)

"Catalyzing Science, Technology and Innovation Collaborations for 20 Years"
WHAT WE DO

- Identify “leading edge areas” that are high-priority for both nations
- Bring together key stakeholders to help create synergies
- Support workshops/networking opportunities to initiate new collaborations
- Act as a catalyst to promote long-term scientific collaborations - individual and institutional.

IUSSTF PROGRAM PORTFOLIO

**Scientific Networks**
- Bilateral Workshops/Training Programs
- Indo-U.S. Virtual Network Centers

**Research & Development**
- Indo-U.S. Joint Clean Energy Research and Development Centre (JCERDC)
- Indo-U.S. PACESetter Fund
- Real Time River Water and Air Quality Monitoring (WAQM) Program

**Innovation & Entrepreneurship**
- U.S.-India Science and Technology Endowment Fund (USISTEF)
- India Innovation Growth Program (IIGP)

**Visitation & Fellowships**
- Several Visitation Programs at Undergrad, Post grad, Doctoral and Post-doctoral levels

**IUSSTF PROJECTS**
- Bilateral Workshops 404
- Virtual Network Centers 100
- Research & Development Projects 28
- USISTEF Projects 43 (10 Calls)
- Interns & Fellows 1638
Projects: A Glimpse

- Affordable Digital Braille Accessibility
- Trans-Proteomic Pipeline (TPP) workshop, IIT Bombay
- Air Quality Monitoring
- GROWTH: Global Relay of Observatories Watching Transients Happen
- Indo-U.S. Frontiers of Engineering Symposium
- Solar Energy Research Institute for India and the United States
- Commercializing a Scalable and Low-Cost Arsenic Remediation Technology for Societal Impact
- Clean Energy and Power Source for Rural Households in India
- Affordable and User-Centric Knee Joints to Remobilize Above-Knee Amputees
- Moving Beyond the Pavement: Affordable Mobility for Users
- U.S. – India Center for Building Energy Research & Development (CBERD)
Partners

India

Federal Agencies

Industry and Industry Associations

Ecosystem Partners

United States

Federal Agencies

Industry and Industry Associations

Professional Bodies

University Partners
IUSSTF U.S. INDIA ARTIFICIAL INTELLIGENCE (USIAI) INITIATIVE
Rapid advances in computing infrastructure, development of new technologies coupled with the low cost of data acquisition and storage have led to the generation and collection of vast amounts of data:

- Public health and economic data from governments and agencies
- Transactional data from companies
- Clinical and biomedical data from hospitals
- Social media data
- Streaming data from the Internet-of-Things

The data revolution is driving AI innovation. AI tools and technologies are:

- Enabling breakthroughs in many fields of science and engineering;
- Leveraging these scientific breakthroughs to enable progress on pressing societal challenges, and
- Fundamentally transforming several sectors of the economy.
Why U.S. – INDIA AI

• Provides a unique opportunity for the world’s two largest democracies to strengthen their strategic partnership by focusing on AI cooperation in critical areas that are priorities for both countries.
• Aligns with the shared values of openness, transparency, and reciprocity and encourages innovation that will benefit both countries.
• Builds on a strong foundation of S&T cooperation.
• Leverages the complementary strengths of the S&T communities.
• Engages the large Indian diaspora in the United States and leverages investments by leading U.S. Tech companies in India.
USIAI : THE PLAN

GOALS

Strengthen the U.S.-India strategic partnership by focusing on AI cooperation in critical areas that are priorities for both countries.

Build on key priorities, recommendations, and common challenges articulated in the Strategic Plans.

Provide a platform for key Stakeholders to:
- Identify opportunities for bilateral AI R&D collaboration
- Recommend modes and mechanisms for catalyzing partnerships

STEPS

1. Call To Action
2. Roundtables / Panels / Symposia
3. Thematic Workshops
4. Deliverables
I. USIAI: LAUNCH

The IUSSTF U.S.-India AI Initiative will begin with a formal “Call to Action”.
II. ROUNDTABLES

Roundtables/
Panels/Symposia

Topics: AI+X (X= Healthcare, Agriculture, Smart Cities); Explainable AI, AGI, Emerging Trends

Provide an opportunity for individuals / stakeholder groups to:

- Share experiences;
- Identify new R&D areas/opportunities that would benefit from synergistic activities;
- Discuss the emerging AI landscape; and
- Address the challenges of developing an AI Workforce.

Roundtables will primarily serve as an information gathering/scoping exercise.
III(i): THEMATIC WORKSHOPS

WORKSHOP I
Ethics and Values in AI, including AI for Social Good

WORKSHOP II
Data and Computing Infrastructure

Translational AI (AI+X)
X=Health Care, Agriculture, Smart Cities, Education, Energy, Manufacturing, Science & Engineering Domains
III(ii): AI WORKFORCE SUMMIT

Leading Academic Institutions with Industry & Government Representatives to develop a comprehensive roadmap addressing:

1. Knowledge and Skills needed for different AI careers
2. Emerging Research Areas
3. Infrastructure and Resource needs
4. Program and Curriculum Development at different levels
IV. DELIVERABLES

1. REPORTS

Series of white papers and reports, identifying emerging AI research and development areas for collaboration, opportunities for education and training of the AI workforce, collaborations to develop shared research and data infrastructure, and recommendations for potential mechanisms/models to facilitate these partnerships.

2. RESOURCE HUB

An online resource portal for AI-related educational materials, reports, data resources, software and tools. The portal will also serve as a hub to facilitate collaborations among academia, government, and industry.
“AI: Endless possibilities…”