IUSSTF

Indo-U.S. Science and Technology Forum

ANNUAL REPORT

2024-2025

Catalyzing Indo-U.S. Science and Technology Cooperation

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Technology Cooperation

IUSSTF
Indo-U.S. Science and Technology Forum

INDO-U.S. SCIENCE AND TECHNOLOGY FORUM
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www.iusstf.org

Contents

Message from the Executive Director

It is with immense pleasure and profound gratitude that I present the Indo-U.S. Science and Technology Forum's (IUSSTF) Annual Report for the fiscal year 2024-25. This past year has been a testament to the enduring spirit of collaboration and innovation that defines the partnership between India and the United States in the realm of science and technology.

The year 2024-25 marked significant strides across our diverse portfolio of programs, reinforcing our commitment to fostering cutting-edge research, nurturing talent, and addressing global challenges through joint endeavors. A highlight of the year was the successful awarding of 17 groundbreaking projects under the "Critical and Emerging Technology" call, with a strong emphasis on Quantum Technologies and Artificial Intelligence. These projects, involving over 51 groups from leading institutions and commercial entities in both countries, are poised to bridge the critical gap between research and market implementation, bringing transformative solutions to life.

This year, we proudly launched a new call for proposals: **"Transforming Technology Solutions through Advanced Materials and Critical Minerals."** This initiative underscores our shared commitment to leveraging combined strengths in these crucial technological domains to drive innovation, enhance supply chain resilience, and address global challenges. The overwhelming response to this call, with applications pouring in from across both nations, is a clear indicator of the vibrant research ecosystem we are collectively building. It aligns with the India-U.S. **TRUST (Transforming the Relationship Utilizing Strategic Technology) Initiative** announced in February 2025 by both countries.

Our flagship programs continued to thrive, offering invaluable opportunities for students and young researchers. The Khorana Program for Scholars received an impressive 1107 applications, with 75 top applicants selected for research exposure at leading U.S. universities. Similarly, the Water Advanced Research and Innovation (WARI) Fellowship Program received 239 applications, resulting in the selection of 10 promising candidates for internships and fellowships. The IUSSTF-Viterbi Program also continued its success, providing 15 Indian students with research internships at the Viterbi School of Engineering, University of Southern California.

A notable new development this year was the launch of the **Space Experiential Learning Center (SELC)**, a partnership with Genex Space, fully funded by the U.S. Department of State's Public Diplomacy Section. Established at the American Center in New Delhi, the SELC aims to inspire the next generation of space scientists through initiatives like the Space and Astronomy Club and interactive workshops such as "Beyond Earth: An Indo-U.S. Human Space Exploration Workshop." This program is a testament to our dedication to cultivating interest and skills in critical domains for future generations.

Beyond these programmatic achievements, IUSSTF actively engaged in extensive outreach and networking activities, strengthening existing partnerships and forging new ones. Our team participated in key discussions with academic institutions, government bodies, and industry leaders, exploring new avenues for collaboration in areas ranging from agriculture and climate resilience to biotechnology and cybersecurity. We also continued our commitment to fostering a safe and inclusive workplace through initiatives like our annual POSH training.

None of these accomplishments would have been possible without the unwavering support of the Department of Science & Technology (DST), Government of India, and the U.S. Department of State, along with our esteemed partners, collaborators, and the dedicated IUSSTF team. Your commitment and vision are the bedrock of our success.

As we look ahead, IUSSTF remains steadfast in its mission to be a catalyst for scientific discovery, technological advancement, and enduring friendship between India and the United States. We are excited about the prospects that lie before us and are confident that our collective efforts will continue to yield transformative outcomes for the benefit of both nations and the world.

Dr. Nisha Mendiratta
Executive Director
Indo-U.S. Science and Technology Forum

INTRODUCTION TO IUSSTF

IUSSTF: THE GENESIS

The **Indo-U.S. Science and Technology Forum (IUSSTF)** is a bi-national organization jointly created by India and the United States of America, through a formal agreement signed by the two Governments on March 21, 2000. IUSSTF acquired legal status a few months later, when it was registered as a Society under the "Societies Registration Act" in India in June 2000, with its office at New Delhi.

IUSSTF is also the secretariat for the **U.S. - India Science and Technology Endowment Fund,** which was jointly set up later by the two Governments, through a separate agreement in the year 2009.

The Department of Science and Technology (DST) of the Ministry of Science and Technology, Govt. of India, and the U.S. Department of State, are the arms of the two Governments that overview the functioning of IUSSTF through a Governing Body, having equal representation from both sides.

IUSSTF: VISION, MISSION, AND OBJECTIVES

Vision

Excellence in Science, Technology, and Innovation space through collaborative initiatives between India and the United States of America.

Mission

- Act as a catalyst to promote long-term scientific collaborations between India and the U.S. through partnership amongst individual scientists, scientific institutions and the scientific community at large.
- Establish platforms and mechanisms to connect the S&T eco-systems of both the countries to act as a fertile ground to foster individual and institutional partnerships in a natural and sustainable manner.

Objectives

- Create awareness through exchange dissemination of Information and Opportunities in S&T cooperation.
- Capitalize and build on the scientific and technological synergy leading to long term partnership on shared values.
- Support exciting program portfolio that leads to sustainable interactions and strengthens strategic partnerships.
- Nurture contacts between young and mid-career scientists to develop mutual trust, foster excellence and explore new frontiers.
- Encourage public-private partnership to foster elements of Innovation, Application and Enterprise.

IUSSTF PROGRAM PORTFOLIO

Classified by Verticals

1

Strategic Initiatives

- Solar Decathlon Initiative (SDI)
- Space Experiential Learning Center (SELC)

2

Innovation and Entrepreneurship

- U.S.-India Science and Technology Endowment Fund (USISTEF)
  - Transforming Technology Solutions through Advanced Materials and Critical Minerals
  - Critical and Emerging Technology: Quantum Technologies and Artificial Intelligence for Transforming Lives
  - Technology-based Energy Solutions: Innovations for Net Zero

3

Research and Development

- Indo-U.S. Joint Clean Energy Research and Development Center (JCERDC)
- PACEsetter Fund

4

Visitations and Fellowships

- IUSSTF-Viterbi Program
- Khorana Program for Scholars
- Water Advanced Research and Innovation fellowship (WARI)

IUSSTF PROGRAM PORTFOLIO

(Classified by Nature of Support)

1

IUSSTF Core

- IUSSTF-Viterbi Program
- Strategic Initiatives
  a. Solar Decathlon Initiative (SDI)

2

U.S.-India Science and Technology Endowment Fund (USISTEF)

- U.S.-India Science and Technology Endowment Fund (USISTEF) Calls
  - Transforming Technology Solutions through Advanced Materials and Critical Minerals
  - Critical and Emerging Technology: Quantum Technologies and Artificial Intelligence for Transforming Lives
  - Technology-based Energy Solutions: Innovations for Net Zero

3

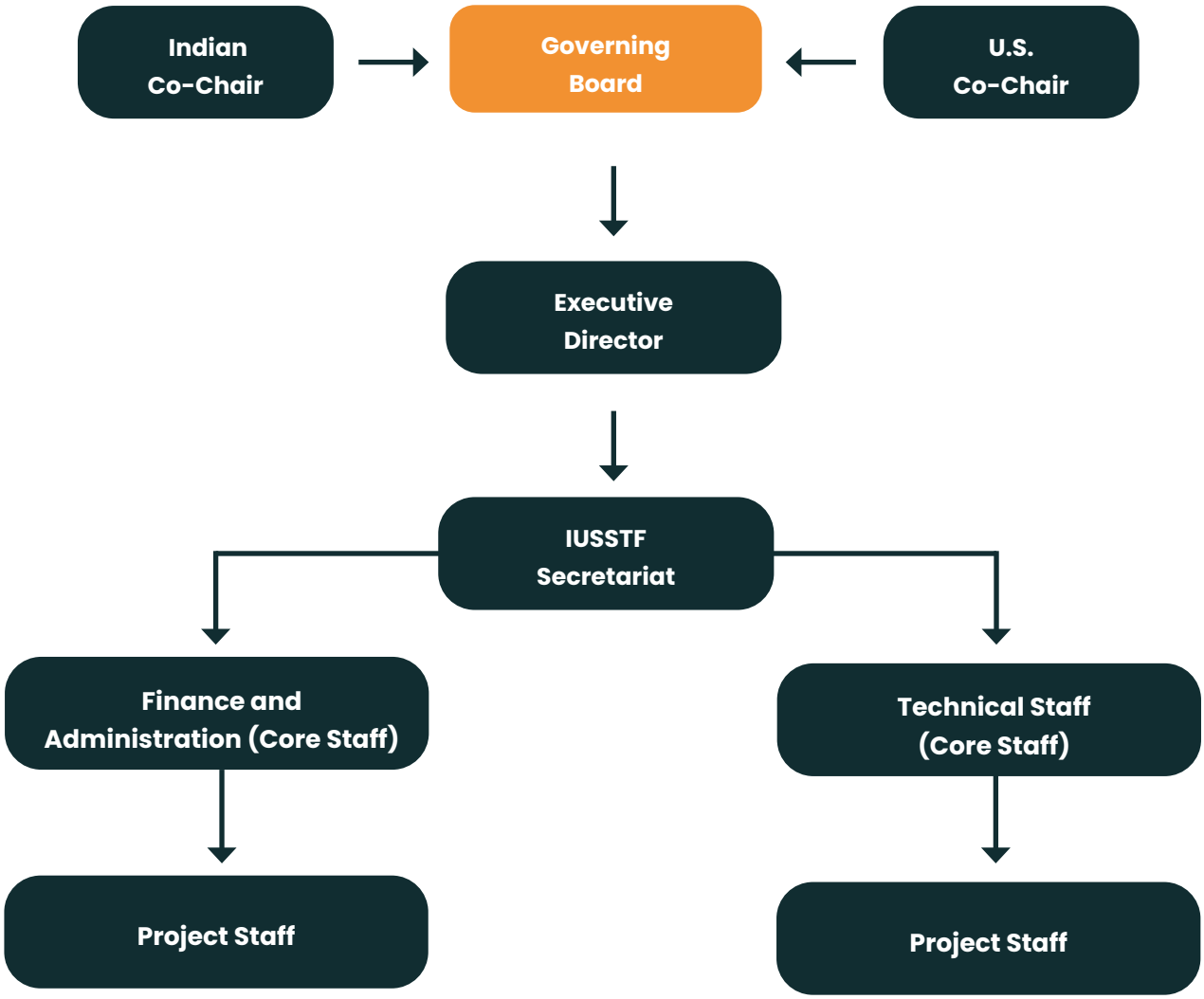
Extra Mural Programs- EMPs

(Supported by External Agencies/ Industry)

- Indo U.S. Joint Clean Energy Research and Development Centre (JCERDC)
- PACEsetter Fund
- Khorana Program for Scholars
- Water Advanced Research and Innovation (WARI) Fellowship
- Space Experiential Learning Center (SELC)

GOVERNANCE STRUCTURE

IUSSTF ORGANIZATIONAL CHART



Administrative Mechanism

- Autonomous
- Bilateral
- Non-Governmental
- Not for Profit Society

Funding Source

- Annual Interest from U.S. Endowment Fund with matching contribution from DST, Govt. of India
- Freedom to Secure Private and Other Funding

IUSSTF GOVERNING BOARD

Abhay Karandikar
Indian Co-Chair
Department of Science and Technology, Government of India

Vishvajit Sahay
Department of Science & Technology, Government of India

Alka Sharma
Department of Biotechnology, Government of India

Chintan Vaishnav
Atal Innovation Mission, NITI Aayog, Government of India

Subhasis Chaudhari
Indian Institute of Technology Bombay

Ramanuj Narayan
CSIR-Indian Institute of Chemical Technology

Mayank Singhal
PI Industries Limited

Jason Donovan
U.S. Co-Chair
U.S. Department of State

Elizabeth Urbanas
U.S. Department of Energy

Kumud Srinivasan
Intel® Corporation

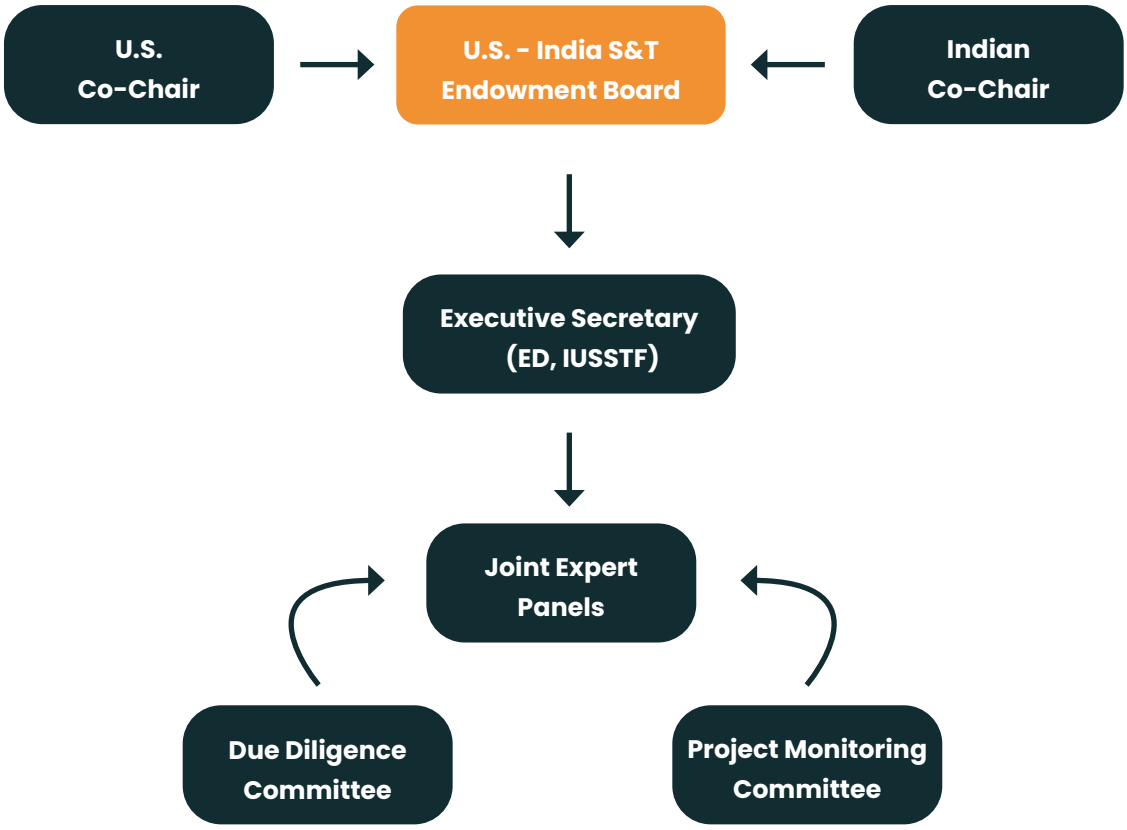
Aseem Ansari
St. Jude Children's Research Hospital

Amita Gupta
Johns Hopkins University

Vacant

Vacant

FUNCTIONAL STRUCTURE FOR USISTEF



USISTEF BOARD

Praveenkumar Somasundaram
Co-Chair
Department of Science & Technology, Government of India

Praveen Roy
Department of Science & Technology, Government of India

Shatrughna Sinha
Ministry of External Affairs, Government of India

V. Premnath
National Chemical Laboratory, Pune

Shirshendu Mukherjee
Programme Management Unit (PMU) Supported by DBT-BIRAC- BMGF-Wellcome Trust, New Delhi

Anantapadmanabhan Anantaram Sarma
SIDBI Venture Capital Ltd., Mumbai

Mini Shaji Thomas
Jamia Millia Islamia, New Delhi

Vacant

Vacant

Amy Schedlbauer
Co-Chair
U.S. Embassy, New Delhi

Shyam Sunder
National Institute of Standards and Technology Gaithersburg

Representative/ Jason Donovan
U.S. Department of State

Ranjan Gupta
National Institutes of Health, Bethesda

Peter T. Dabrowski
Tano Capital/Tano Ventures, Palo Alto

Tania Fernandez
DreamCatcher Ventures

Somshubhro (Som) Pal Choudhury
Bharat Innovation Fund Bengaluru

Bryan Byrne
USAID, American Embassy, New Delhi

Abhiroop Gandhi
EnlitenAI, Inc, San Francisco

IUSSTF STAFF MEMBERS

Nisha Mendiratta
Executive Director

Core Staff

Nishritha Bopana
Principal Science Officer

Chaitali Bhattacharya
Principal Science Officer

Shiv Nandan Shukla
Head Finance and Administration

Monika Madan
Senior Personal Secretary

Manoj Prasad
Assistant Admin Officer

Anita Vishwakarma
Accounts Officer

Program Staff

Babulal Chaudhary
Senior Program Officer

Priya Thomas
Program Officer

Subhashree Basu
Program Officer

Rakesh Kumar Singh
Senior Accounts Associate II

Section I :

INNOVATION AND ENTREPRENEURSHIP

INNOVATION AND ENTREPRENEURSHIP

Innovation is the cornerstone that translates the outcome of scientific research into tangible deliverables of utilitarian value and enterprise is the vehicle to take them to the end user. In the absence of innovation and enterprise, the real fruits of scientific discoveries will hardly reach a majority of the mass population. Hence, innovation and enterprise are the vital links that connect science to the general public and fully justify the investment in R&D, a large portion of which is funded by public money. IUSSTF supports a rich portfolio of schemes to promote innovation and entrepreneurial initiatives that have the potential to impart direct societal impact and better quality of life for people delivered at affordable cost, in addition to generating employment and creating overall economic value for society.

IUSSTF provides grant-in-aid funding support to startup companies under the **United States India Science and Technology Endowment Fund (USISTEF)**, which is our flagship program in the space of innovation and enterprise. This support is aimed at enabling bilateral teams from India and the United States to translate S&T-driven innovations into distinct market opportunities.

UNITED STATES–INDIA SCIENCE & TECHNOLOGY ENDOWMENT FUND (USISTEF)

The governments of the United States of America (through the Department of State) and India (through the Department of Science & Technology) established the **U.S. - India Science and Technology Endowment Fund (USISTEF)** for the promotion of joint activities that would lead to innovation and entrepreneurship through the application of science and technology. USISTEF activities are implemented and administered through the bi-national Indo-U.S. Science and Technology Forum (IUSSTF).

Through a highly competitive process, USISTEF selects and supports financially promising joint U.S.-India entrepreneurial initiatives on co-developing products or technologies beyond the ideation stage, high on societal impact and significant potential to commercialize within 2-3 years. USISTEF has thus far supported 43 joint U.S.-India entrepreneurial projects through 10 regular calls under two broad categories, namely “Empowering Citizens (EC)” and “Healthy Individuals (HI)”.

The Program also supported 11 projects in 2020 under a special call that addressed **COVID-19-related challenges** (including monitoring, diagnosis, health and safety, public outreach, information, and communications). In 2022 the fund extended support to 10 projects under the special call **Technology-Based Energy Solutions: Innovations for Net Zero** that are ongoing and announced a special call inviting proposals under the **Critical and Emerging Technologies: Artificial Intelligence and Quantum Technologies**.

CRITICAL AND EMERGING TECHNOLOGIES: QUANTUM TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE FOR TRANSFORMING LIVES

In a major step towards strengthening the Indo-U.S. strategic partnership, the Indo-U.S. Science and Technology Forum (IUSSTF), in its capacity as the secretariat for the U.S.-India Science and Technology Endowment Fund (USISTEF), announced a call for proposals on **"Critical and Emerging Technology: Quantum Technologies and Artificial Intelligence for Transforming Lives"**. This initiative, which includes a grant program of up to **$2 million**, was welcomed by Hon'ble Prime Minister Shri Narendra Modi and President Joseph R. Biden, Jr., in their joint statement on June 22, 2023.

The call, with a submission deadline of September 20, 2023, received an overwhelming response of **196 applications**, underscoring the keen interest in bilateral collaboration in these critical fields. A total of 153 applications were submitted under Artificial Intelligence (AI), and 44 under Quantum Technologies.

Rigorous Multi-Stage Review Process

The submitted proposals were subjected to a rigorous multi-stage review process to identify the most promising projects.

- The IUSSTF secretariat completed the initial preliminary screening by the end of October 2023.
- In January 2024, the applications were forwarded to a Binational Joint Technical Expert Panel for in-depth evaluation and recommendations.
- Based on these recommendations, 35 AI projects and 14 Quantum projects were shortlisted for a second round of review. The teams presented their proposals to the respective **Joint Expert Panels (JEPs)** across a series of sessions in **April and May 2024**.
- Following the presentations, the JEPs recommended 11 projects under AI and 6 under Quantum for Financial Due Diligence. These 17 projects were reviewed by a Due Diligence Committee on June 3, 2024, to assess their financial, legal, and operational viability.

Project Approval and Award

The 25th USISTEF Board Meeting was convened on **July 8, 2024**, in New Delhi to review and approve the shortlisted projects. The meeting was co-chaired by Dr. Praveen Kumar Somasundaram (India DST) and Mr. Phil Cummings (U.S. Embassy in India), and attended by board members and officials from both nations. The Board approved all 17 projects, recognizing their potential for significant societal and technological impact.

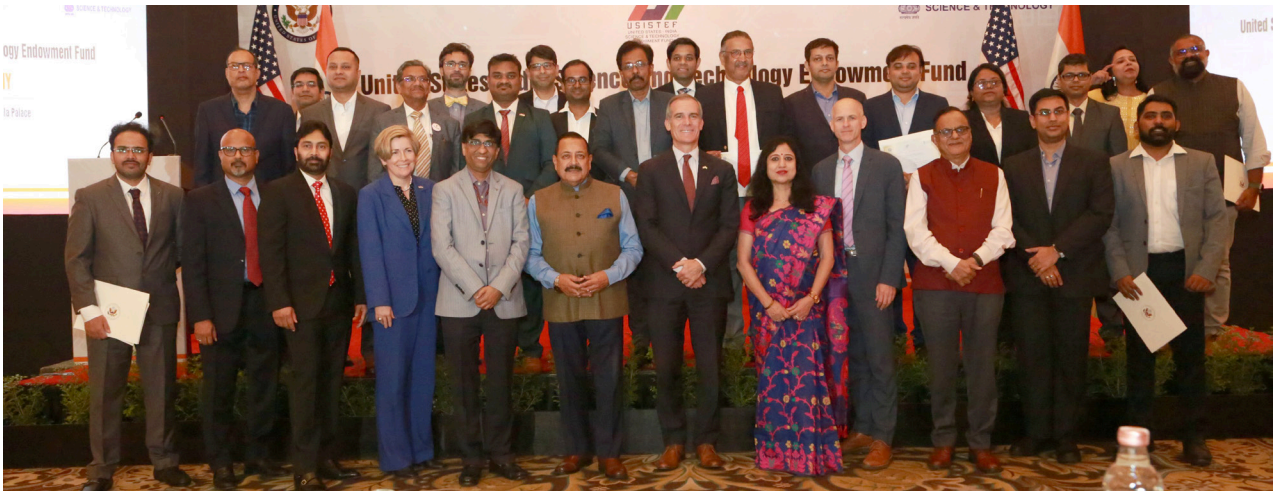
The culmination of this process was the **Awards Ceremony**, held on **October 10, 2024**, at The Leela Palace in New Delhi. The event celebrated the achievements of the 17 awarded projects, which exemplify the remarkable strength of Indo-U.S. collaboration in driving innovation.

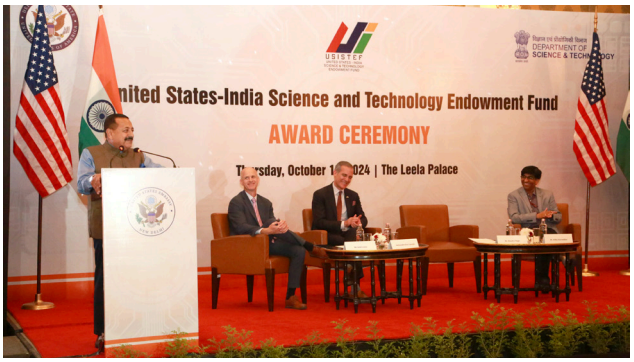
Esteemed dignitaries graced the occasion, including:

- **Dr. Jitendra Singh**, Minister of State for Science and Technology
- **Dr. Abhay Karandikar**, Secretary of the Department of Science and Technology (India)
- **Mr. Eric Garcetti**, U.S. Ambassador to India
- **Dr. Seth Center**, Acting Special Envoy for Critical and Emerging Technology
- **Prof. Ajay Kumar Sood**, Principal Scientific Advisor to the Government of India

The ceremony featured inspiring addresses, networking opportunities, and a film showcasing the groundbreaking advancements of each project. This event underscored the paramount importance of strong bilateral partnerships in fostering sustainable growth and addressing global challenges through scientific collaboration.

The list of awarded projects is detailed in **Annexure I**.





NEW CALL FOR PROPOSALS: TRANSFORMING TECHNOLOGY SOLUTIONS THROUGH ADVANCED MATERIALS AND CRITICAL MINERALS

The Indo-U.S. Science and Technology Forum (IUSSTF) announced a new call for proposals focused on **Advanced Materials and Critical Minerals**. This initiative, under the **United States - India Science and Technology Endowment Fund (USISTEF)**, aims to stimulate collaborative efforts by supporting joint projects in these strategically important areas. The call seeks to foster innovation, strengthen partnerships, and address challenges related to supply chain resilience.

The Call for Proposals was announced on 25 January 2025, with an application submission deadline of 25 March 2025, later extended to April 25, 2025.

This call aligns with the **U.S.-India TRUST ("Transforming the Relationship Utilizing Strategic Technology")** initiative, launched in 2025, which identifies advanced materials and critical minerals as crucial areas for collaboration. By combining the strengths of both nations, the program aims to facilitate the development of groundbreaking products with transformative potential across various industries, addressing critical global challenges. Advanced materials and critical minerals are considered essential for future technological advancements.

The call will fund the joint development and commercialization of Advanced Materials and Critical Minerals, supporting the requirements of at least one of the following fields:

- Quantum computing and communication
- Cybersecurity / secured communication
- Semiconductor fabrication/design/assembly/testing
- AI systems (GPUs)
- Biomanufacturing (biomaterials)
- New energy security solutions

The program will support teams in deploying and commercializing laboratory-validated prototypes that demonstrate innovation and societal impact. Grant-in-aid support of up to INR 1,00,000,00/- (INR 10 Million or approximately USD $115,600) is available for projects with a duration of up to 24 months.

IUSSTF opened the Online Joint Application Submission Portal to streamline proposal submissions, supported by a targeted outreach strategy that includes brochures, emails to relevant organisations, website publications, newsletter features, and social media engagement.

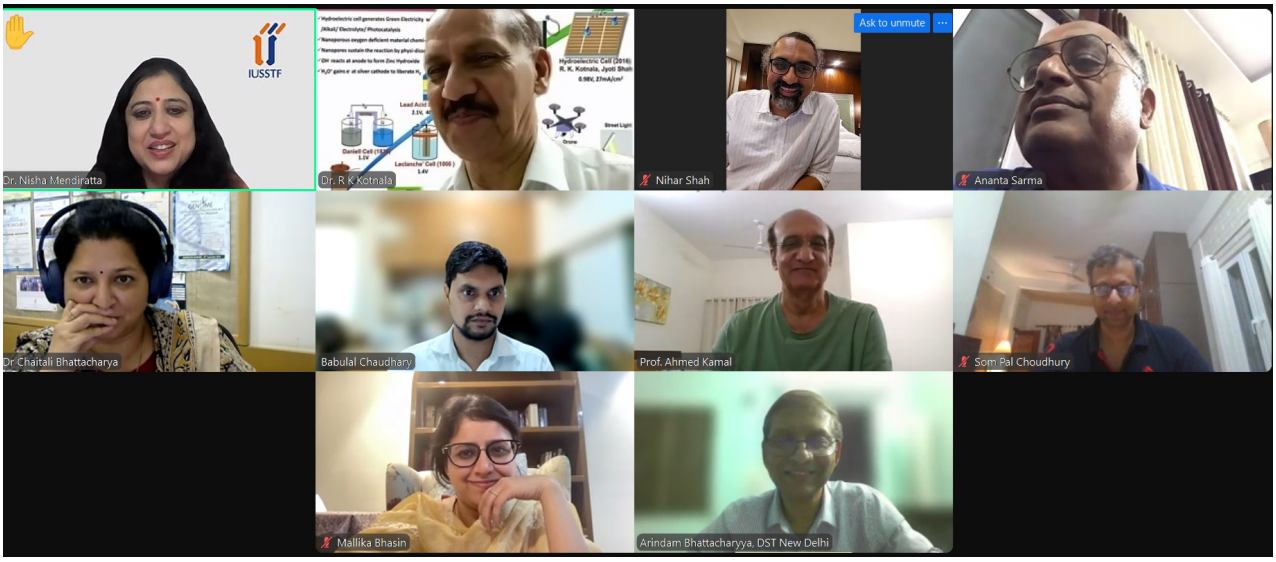
IGNITION GRANTS: TECH-BASED ENERGY SOLUTIONS FOR NET ZERO

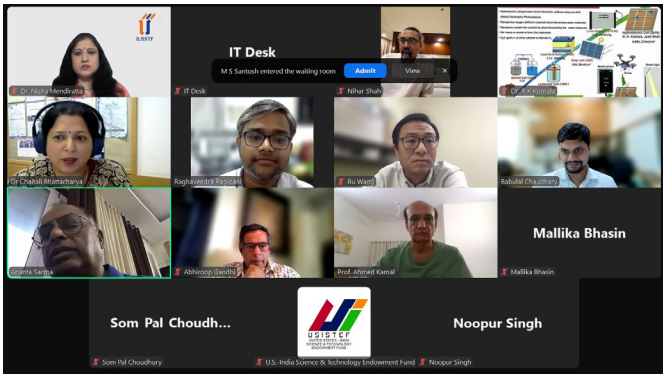
India and the United States are committed to strengthening bilateral collaboration in the areas of climate and clean energy. Addressing these critical challenges will require innovative, interdisciplinary, and disruptive approaches that accelerate the development and adoption of new technologies for societal impact.

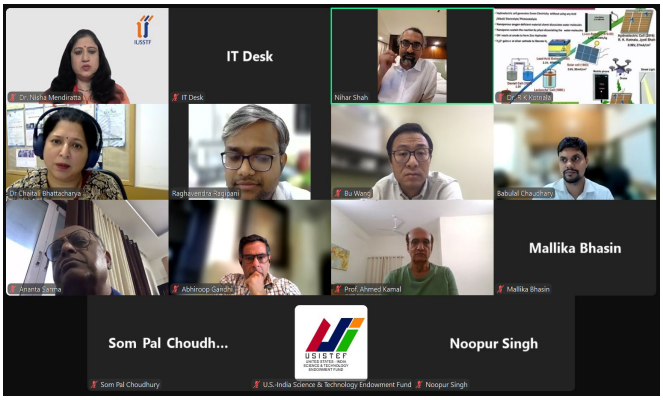
The **U.S.-India Science and Technology Endowment Fund**, in partnership with **Social Alpha**, announced a Call for Ignition Grants titled "**Technology-based Energy Solutions: Innovations for Net Zero**". The program aligns with the goals of the **U.S.-India Strategic Clean Energy Partnership** and will be administered by the binational **Indo-U.S. Science and Technology Forum (IUSSTF)**.

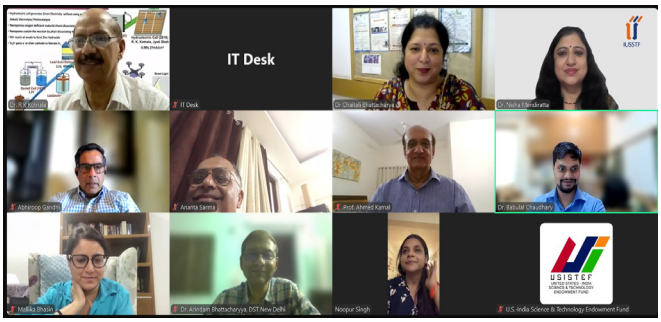
On August 8-9, 2024 the program titled "Ignition Grants: Tech-based Energy Solutions for Net Zero." under the United States–India Science and Technology Endowment Fund (USISTEF) was evaluated by the binational Expert Panel. Focus areas under the program include clean energy, energy storage, and carbon sequestration.

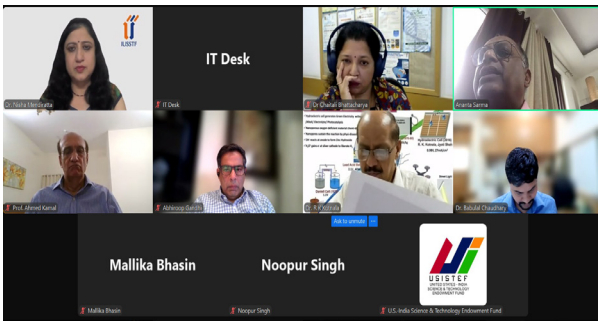
The Binational Expert Panel critically assessed the ongoing projects, concentrating on their potential to deliver impactful solutions in clean energy and climate technology. This collaboration aims to accelerate innovation and achieve sustainable outcomes. The 30 diverse groups, representing 10 joint bilateral teams awarded under the program, presented their progress and underscored the collaborative nature of the U.S.-India partnership.











Section II :

STRATEGIC INITIATIVES

SPACE EXPERIENTIAL LEARNING CENTER (SELC)

The Space Experiential Learning Center (SELC) is a unique initiative spearheaded by the **Indo-U.S. Science and Technology Forum (IUSSTF)** in partnership with **Genex Space**. This program is fully supported by the U.S. Department of State's Public Diplomacy Section in New Delhi, and its goals are closely aligned with the **US-India Initiative on Critical and Emerging Technologies (iCET)**. SELC's core mission is to bridge the gap between traditional theoretical education and practical, real-world applications in space science, offering Indian high school students immersive, hands-on experiences across key domains like space exploration, astronomy, satellite technology, and the broader STEM disciplines. Through this comprehensive effort, IUSSTF seeks to actively cultivate the next generation of space scientists by fostering their interest and developing essential skills for future careers in this critical domain.

Activities under the SELC:

The SELC program is structured around three main components that allow its reach to extend across India.

- First, the **Space Experiential Learning Centre** will serve as the physical hub based at the **American Center, New Delhi (ACND)**, featuring educational resources and interactive exhibits designed to engage visitors of all ages and backgrounds; the physical center is scheduled to commence operations in **April 2025**.
- Second, the **Astronomy and Space Club** offers a structured program targeting students from **classes 8th to 11th**, providing them with invaluable opportunities to explore space exploration, astronomy, and satellite technology.
- Finally, SELC's reach is broadened through **Space Workshops and Skill Training Programs** conducted in various U.S. consulate regions, ensuring that students from across India have equitable access to specialized space science education and opportunities.

Astronomy and Space Club

- The **Astronomy and Space Club selection process** commenced with a call for applications on **December 18, 2024**, targeting students in grades 8–11 who met an academic criterion of a minimum of **80% in Mathematics and Science**. The application window closed on J**anuary 31, 2025**, successfully receiving **411 applications**, of which **395 were deemed eligible**. A critical component of the selection process was the **Space Science and Technology (SST) Test**, which was administered online on **February 2, 2025**, with **207 eligible students** participating. The SST Test was meticulously evaluated by an expert committee comprising external jury members ensuring a thorough and objective assessment. The Jury were as follows:
  - ◊ Dr. Brindaa (Former Outstanding Scientist & Director, ISRO)
  - ◊ Prof. Satish Dhawan Scientist, ISRO HQ; Mentor & Motivational Speaker),
  - ◊ Mr. Arun RadhaKrishnan (Space Technologist | ISAM Advocate | Founder | Space Outreach Enthusiast),
  - ◊ Mr. Chaitanya Giri (Fellow, ORF Centre for Security, Strategy & Technology), and
  - ◊ Ms. Rashika SN (Provost Doctoral Fellow | Space Systems Engineering | Education and Outreach)

Beyond Earth: An Indo-U.S. Human Space Exploration Workshop

- The **"Beyond Earth: An Indo-U.S. Human Space Exploration Workshop,"** the first in a series of planned outreach workshops, was successfully conducted on **March 4, 2025**, at the **Raman Research Institute (RRI)** in **Bengaluru**. This collaborative event, organized by IUSSTF, the American Center in New Delhi, and Genex Space, in partnership with RRI, engaged **38 enthusiastic high school students** from the **U.S. Chennai Consulate region**. The workshop featured an inaugural session with addresses from Dr. Nisha Mendiratta (IUSSTF), Prof. Tarun Souradeep (RRI), and Dr. Umamaheshwaran R (Former Director, HSFC-ISRO), with a Vote of Thanks by Mr. Vikas Sood (American Center, New Delhi).
- Session II of the program included an interactive session on the Significance and Challenges of Human Space Exploration, a hands-on activity focused on designing the re-entry phase of a human space mission, and a performance analysis of this phase, all facilitated by the Genex Space team.
- The afternoon comprised a visit to the RRI Museum led by the RRI Outreach Team and a Space Art Competition, with the formal closing, including a final Vote of Thanks by Mr. Vikas Sood, followed by networking and refreshments; an evening session on astronomy and night sky observation was also conducted.
- The Beyond Earth Workshop effectively connected students with the space sector, successfully inspiring career exploration in astronautics and space sciences through hands-on simulations, historical insights from the RRI Museum, and collaborative interactive sessions.

Setting up of the SELC at the American Center in New Delhi (ACND)

- The establishment of the Science and Engineering Learning Center (SELC) at the American Center in New Delhi (ACND) is progressing successfully. This initiative entails the foundational work needed to create a state-of-the-art learning environment, which includes finalizing the infrastructure plans, designing interactive learning modules, and beginning the procurement process for essential equipment.
- Key activities undertaken thus far involve defining and revising the list of required equipment, developing a virtual lab design to effectively visualize the center's layout and functionality, and initiating the physical setup of the SELC space within ACND. The Center is scheduled to be inaugurated on April 15, 2025.

SOLAR DECATHLON INDIA (SDI)

Solar Decathlon India is a U.S.-India collaboration under an MOU between the **Indo-U.S. Science and Technology Forum** (IUSSTF) and the **US Department of Energy** and is conducted by the **Alliance for an Energy Efficient Economy** (AEEE) and the **Indian Institute for Human Settlements** (IIHS). Solar Decathlon India is supported by the Department of Science and Technology (DST).

Solar Decathlon India is a Net-Zero Building Challenge for postgraduate and undergraduate students from Indian institutions. They learn and design net-zero-energy-water, affordable, and resilient buildings to combat climate change through the buildings sector. Student teams partner with real estate developers and develop affordable and industry-ready solutions for real building projects. It is a hands-on, practical, innovation-based challenge that moves the construction and real estate industry towards implementing net-zero solutions developed by students.

In the 9-month-long challenge, students and their faculty mentors learn building science with the help of online Self-Learning Modules and expert mentorship and test their ideas using building simulation software. These final designs have to be innovative, affordable, practical, and market-ready.

The story so far:

- Since 2020, Solar Decathlon India has built capacity and enabled collaborations between 6000+ students and 400+ faculty members of 300+ academic institutions, and 400+ partners in the building industry. This ecosystem spans 25 states and 70 cities in India.
- Student teams have collectively worked on 78 million square feet of new buildings to make them net-zero-energy-water, showing how 33 million tonnes of CO_2 emissions can be abated over the life of these buildings.

Key updates in 2024-25:

- SDI Finals for the 2024 cycle (4th edition) were held at the Infosys Mysore campus from 17th to 19th May 2024. The 37 finalists (teams) presented their solutions with passive and active strategies to meet the cooling demand and proposed interesting innovations to achieve efficiency. were exhibited at the finals to an audience of about 800 people.
- During the finals, Climate Smart Innovation Exhibition & Award (CSI) 2024 was also held. SDI's Climate Smart Innovation Award is for businesses developing products and services to address climate change. They exhibit their innovations at the SDI Finals and pitch their products to an expert jury. The 2024 edition of the exhibition and pitch presentations were attended by potential investors, real estate developers, asset managers, and industry professionals.
- The jury for the award included Aruna Newton, VP- Global Head- Diversity, Equity & Inclusion, ESG Governance and Reporting at Infosys; Guruprakash Sastry, AVP Head, Climate Action at Infosys; and Dr Chaitali Bhattacharya, Principal Science Officer at IUSSTF. Of the 44 applications received by SDI, 25 were shortlisted for the exhibition and 8 innovators pitched to the jury. VayuJal Technologies Pvt. Ltd. and Hexpressions Megatech Pvt. Ltd. were declared joint winners of the SDI Climate Smart Innovation Award 2024.

Section III :

RESEARCH AND DEVELOPMENT

RESEARCH AND DEVELOPMENT

IUSSTF has supported a broad portfolio of R&D programs in key strategic areas that are of mutual interest to both countries. The current portfolio includes flagship programs like the **Joint Clean Energy Research and Development Centre (JCERDC) on Smart Grid and Energy Storage.**

JOINT CLEAN ENERGY RESEARCH AND DEVELOPMENT CENTER (JCERDC)

As a priority initiative under the PACE umbrella, the U.S. Department of Energy (DOE) and the Government of India signed an agreement to establish the Joint Clean Energy Research and Development Centre (JCERDC) on November 4, 2010. The **Indo-U.S. Joint Clean Energy R&D Centre (JCERDC)** is a joint initiative of the Ministry of Science and Technology, Govt. of India and the U.S. Department of Energy. The program aims to facilitate joint research and development on clean energy technologies that may be deployed rapidly with the greatest impact. The JCERDC is based on a public-private partnership model of funding and is a first-of-its-kind initiative. Phase I of the program began in the year 2012 with IUSSTF as the implementing agency. It brought together more than 100 Indian and U.S. academic and industrial partners to work jointly in the space of clean energy research. Based on the success of Phase I, the partnership was expanded to two new research areas Smart Grids and Energy Storage under Phase II.

UI-ASSIST: U.S.-India Collaborative for Smart Distribution System with Storage

The ***"UI-ASSIST: U.S.-India collAborative for smart diStribution System with Storage"*** consortium was awarded under Phase II of the program was selected and awarded in September 2017. led in India by Suresh C. Srivastava from the Indian Institute of Technology (IIT) Kanpur, and in the United States by Noel Schulz from Washington State University, Pullman. The Washington State University and the Indian Institute of Technology Kanpur are leading 30 collaborating entities representing the strongest universities, national laboratories, electrical utilities, and vendors in the field of clean energy.

The project's overall objective was to **evolve the future distribution grid** to allow for the increased penetration of **Distributed Energy Resources (DER)** toward a carbon-free electricity system, improving its reliability, resiliency, flexibility, and sustainability.

UIASSIST: Institutional Engagement

India	USA
• **Indian Institute of Technology, Kanpur** • Indian Institute of Technology, Delhi • Indian Institute of Technology, Roorkee • Indian Institute of Technology, Madras • Indian Institute of Technology, Bhubaneswar • The Energy and Resources Institute, New Delhi • NTPC Energy Technology Research Alliance, Greater NOIDA • Power Grid Corporation of India Limited, Gurgaon • UP Power Corporation Limited, Lucknow • BSES Rajdhani Power Ltd., New Delhi • Synergy, Faridabad • Customized Energy Solution, Pune • Panasonic India Pvt. Ltd., Gurgaon • GE Global R & D, Bengaluru	• **Washington State University, Pullman** • Massachusetts Institute of Technology, Cambridge, • Texas A&M University, College Station • Hawaii Natural Energy Institute, Honolulu • National Renewable Energy Laboratory • Pacific Northwest National Laboratory • Lawrence Berkeley National Lab, Berkeley • Snohomish County Public Utility District No 1., Everett • Burns and McDonnell, Kansas City • ETAP, Operation technology, Inc., Irvine • National Rural Electric Cooperative Association, Arlington • AVISTA Utilities, Spokane • Venkata Consulting Solutions Inc. • Clean Energy Solutions • GE

Key Achievements and Deliverables

Technical Innovations and R&D

- Grid Modernization Models: Developed a fully conceptualized smart distribution grid model that optimally utilizes energy storage and distributed generation.
- System Integration Tools: Created operational and control algorithms and analysis tools to integrate DER control with Advanced Distribution Management System (ADMS) and Microgrid Management System (MEMS).
- Cyber-Physical Security: Developed Cyber-Physical Analysis tools and Cyber Security Measures for smart operations with high DER penetration.
- Open-Source Test Feeders: Produced open-source test feeders for urban, semi-urban, and rural distribution systems in both India and the U.S..
- Storage Models: Developed storage models with advanced analytical techniques for optimal operation.
- Indigenous Development (India): Included the indigenous development of an ADMS platform demonstrated at IIT Kanpur, aligning with the "Make in India" goal.
- New Microgrid Model: Developed a new networked microgrid model for reliable power sharing between villages in rural areas.

Demonstration and Validation

- Field Pilot Demonstrations: The developed solutions were validated at 10 different field demonstration pilot sites, with five in the U.S. and five in India, covering rural, semi-urban, and urban settings.
- Lab Testing: Solutions were validated on eleven different unique lab test beds, six in India and five in the U.S..
- Real-World Impact (Rural India): A compelling demonstration was the creation of a microgrid in the remote village of Harnoo in rural India, which previously lacked electricity infrastructure. This microgrid, powered by biomass, solar energy, and battery storage, now provides 24x7 power, supports agricultural irrigation, and led to improved education and a higher standard of living.
- Carbon Reduction: The field pilots helped reduce the carbon footprint, with the IIT Kanpur pilots alone projected to reduce approximately 400 tons of carbon emission per year.

Policy and Workforce Development

- Policy Recommendations: Provided policy and regulatory recommendations to address socio-political issues and facilitate the larger adoption of these smart grid technologies. This included the evolution of the Distribution System Operator (DSO) model in the Indian context.
- Workforce Development: Contributed to manpower training in the Smart Grid area, essential for developing the next-generation power engineers in both countries.
- Publications and Patents: The 31-partner consortium had significant research output, including 185 articles in international journals, 244 conference proceedings, and secured 4 patents.

Key Activities

The activities under the program in the year 2024-25 are listed below:

- A no-cost extension was approved for the Indian Partners for 3 months from 29th March 2024 up until 28 June 2024.
- A Subcommittee meeting was held on 16th May 2024 with the experts to discuss the documentation upon completion of the project.
- The final Project Monitoring Committee Meeting was held in April 2025 . The experts acknowledged the project's demonstrable **carbon footprint reduction** through the utilization of green energy resources and the alignment of the **indigenous ADMS platform development** with the "Make in India" initiative. The development of a pioneering **networked microgrid model in India**, enabling energy sharing between two distinct microgrids, was also highlighted. Finally, the extensive **capacity building programs** conducted and the formulation of **policy and regulatory recommendations** for wider adoption of smart distribution systems were discussed.


BSES
Battery Energy
Storage System (BESS)

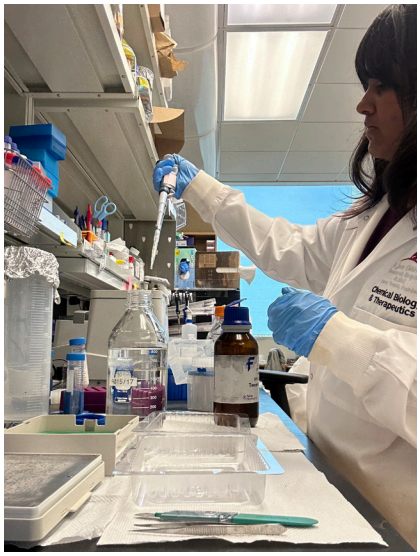
Section IV :

VISITATIONS AND FELLOWSHIPS

VISITATIONS AND FELLOWSHIPS

It has been unambiguously demonstrated that providing students and young scientists an exposure to cutting-edge scientific research experiences at a formative stage not only broadens their intellectual horizons but also leads to increased engagements in scientific and technological research careers.

IUSSTF collaborates with several Federal agencies, Industry, Professional Bodies and Not-for-profit Organizations to administer many Visitation Programs, across various domains and stakeholder levels. The details of the calls announced in the year are as given below.



IUSSTF- Viterbi Program

The Indo-US Science and Technology Forum (IUSSTF) and The Viterbi School of Engineering, University of Southern California (USC) have partnered to support the **IUSSTF-Viterbi Program.**

The IUSSTF - Viterbi Program is a dynamic student internship program that creates long-term, sustainable, and vibrant linkages between the two nations. The program provides an opportunity for Indian students pursuing a bachelor's or master's degree in electrical engineering, Computer Engineering and Computational Sciences at a recognized institution of higher education and learning in India to undertake 8 week summer internship at the Viterbi School of Engineering.

Call for 2024

- Against the call for applications for 2024, 15 Interns were selected to pursue internships at USC for 8 weeks. the students pursued their internships at USC in April to June 2024. The list of 15 interns who pursued their internships in 2024 is given as **Annexure II.**

Call for 2025

- The Call for 2025 was announced on 15 October 2024 with a deadline of 3 December 2024. IUSSTF received 430 applications under the Call. After an initial screening of applications by IUSSTF based

on the eligibility criteria, the University of Southern California (USC), shortlisted 115 applications for further review. IUSSTF constituted a Selection Committee comprising of eminent subject experts to review the shortlisted applications. The Committee members provided their evaluations online and convened virtually on February 10, 2025, to select the final awardees. The committee's deliberations focused on research interests, proposed project ideas, career goals, publications/ presentations (if applicable) and relevant experience. A total of 15 students were chosen for the award and have identified potential mentors at USC. The students will avail their internships during May – July 2025. The list of the selected students is available as **Annexure III.**

Khorana Program for Scholars

The Department of Biotechnology (DBT), Govt. of India, Indo-U.S. Science and Technology Forum (IUSSTF) and WINStep Forward are partnering to support the prestigious **Khorana Program for Scholars** named in honor of Dr. Har Gobind Khorana, who won the Nobel Prize in 1968 for his work at the interface of Chemistry and Biology while a member of the University of Wisconsin-Madison faculty. The Khorana Program for Scholars is a prestigious internship program for Indian students currently enrolled in graduate and post graduate programs in Biotechnology, Life Sciences and allied areas to undertake a summer research internship at U.S. Universities Funded by the Department of Biotechnology, the program is implemented by IUSSTF in partnership with WINStep Forward.

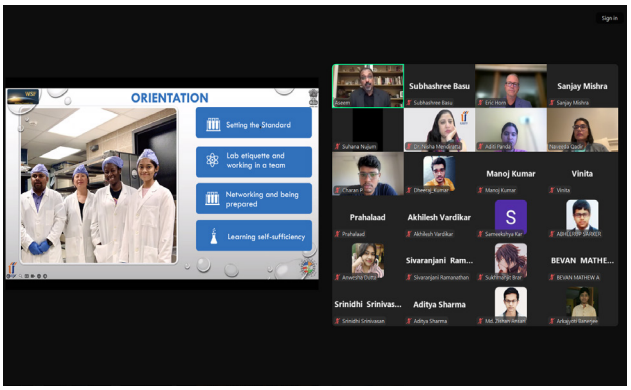
Call for 2024

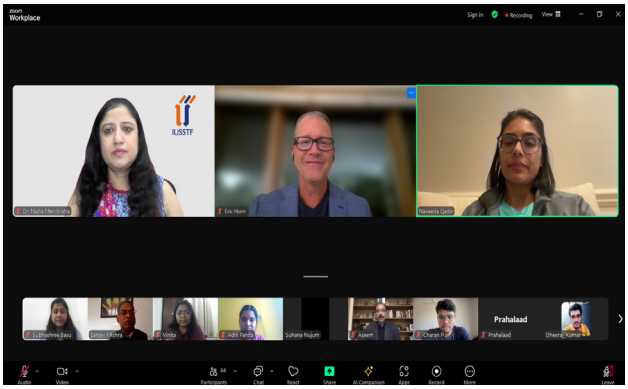
- 74 scholars awarded under the 2024 call for applications availed their internships from May 2024 onwards. The list of scholars is given in **Annexure IV.**
- The Indo-U.S. Science and Technology Forum & Department of Biotechnology brought together the 2023 batch of scholars under the Khorana Program along with experts and representatives from the Department of Biotechnology at two feedback events held at the National Institute of Plant Genome Research - NIPGR New Delhi on May 31st, 2024 and National Centre for Biological Sciences (NCBS) Bangalore on June 7th, 2024. During the events, the scholars shared their incredible experiences with the experts, DBT, and IUSSTF officials. The event marked a key moment as dignitaries presented certificates to the scholars. They shared their project accomplishments, professional and personal growth, best practices, plans, and challenges faced.
- During the Feedback Event held at the National Institute of Plant Genome Research - NIPGR New Delhi on May 31st, 2024. Dr. Nisha Mendiratta, ED, Indo U.S. Science and Technology Forum, welcomed the attendees & provided an insightful overview of the Khorana Program. She mentioned it as one of the popular programs with collaboration with the Department of Biotechnology & WINStep Forward. Dr. Mendiratta thanked Dr. Subhra Chakraborty, Director, National Institute of Plant Genome Research, New Delhi for hosting the event & extended special thanks to Chairperson, Dr. Chandrabhas Narayana, Director, RGCB - Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram & the committee members for their enormous efforts in selecting & supporting the Khorana scholars.
- During the Feedback Event held at the National Centre for Biological Sciences (NCBS) Bangalore on June 7th, 2024. Dr. Mendiratta joined virtually and highlighted how shared insights from scholars & experts will help refine the program. She extended her gratitude to Department of Biotechnology & WINStep Forward for their continuous support! Dr. Mendiratta thanked Dr. L Shashidhara, Director, National Centre for Biological Sciences (NCBS) for hosting the event and the committee members for supporting the Khorana scholars.
- The orientation for the batch of 2024 was hosted virtually by WINStep Forward in partnership with Indo U.S. Science and Technology Forum and Department of Biotechnology on 29 September 2024. Professor Assem Ansari, Founder Director of Winstep Forward and IUSSTF GB member, discussed the genesis of the program, its significance, and its impact. He also encouraged the students by citing the example of Dr. Har Gobind Khorana, highlighting his passion and resilience in pursuing research in biotechnology. Dr. Nisha Mendiratta, ED Indo U.S. Science and Technology Forum, emphasized the importance of cross-border collaboration and encouraged scholars to embrace challenges, foster innovation, and serve as brand ambassadors. More than 65 participants attended the virtual event.

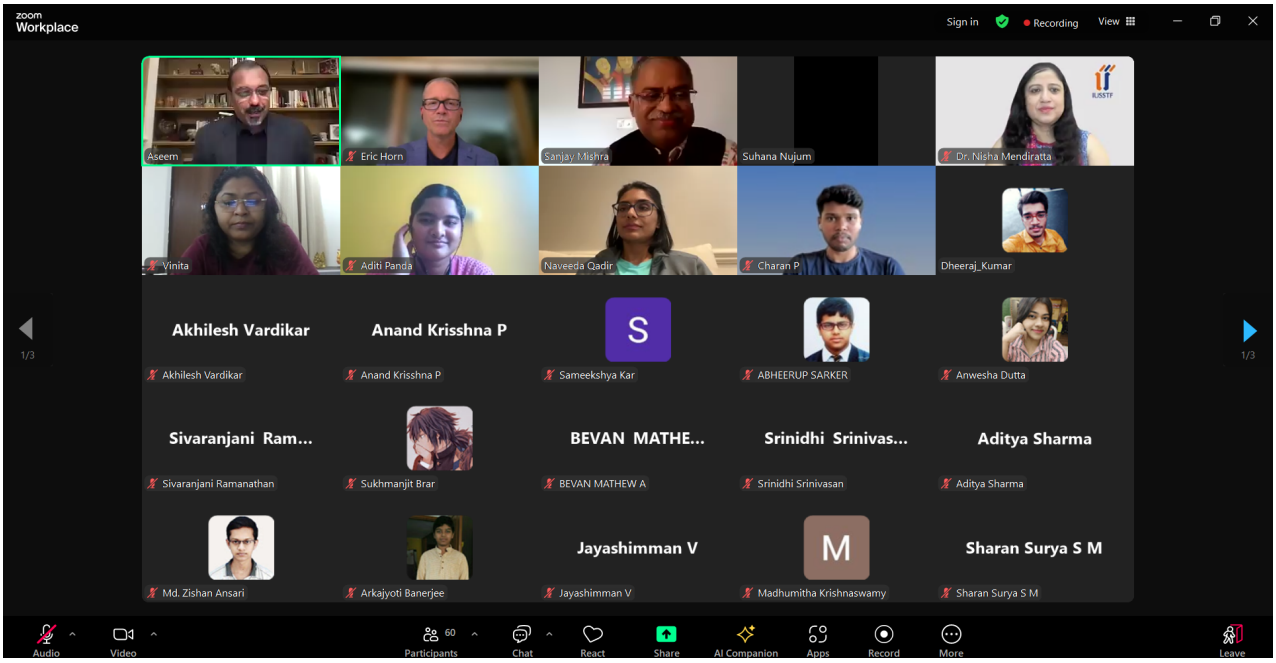
Call for 2025

- For the 2025 call for applications, the call was announced on 6th September 2024 with a submission deadline of 7th October 2024. A Khorana Program 2025 Call Webinar was hosted by Department of Biotechnology & Indo U.S. Science and Technology Forum on 3rd October 2024! Student's enthusiasm and insightful questions made the session a huge success. More than 150 participants attended the webinar. The webinar provided valuable insights into the program, the application process, and how the Khorana Program can help support scholars research journey in U.S.

- IUSSTF received a total of 1107 applications, out of which 995 met the eligibility criteria. A three tiered screening process is followed to select meritorious students. During Stage I, 995 applications were found to meet the eligibility requirements by IUSSTF. Following which applications were reviewed by around 50 domain experts during stage II of the process. Each application was reviewed by three experts and graded as A - Highly Recommended, B - Maybe considered, or C - Not recommended. Finally at stage III, all applications and grades were shared with the selection committee for final grading. During the meeting held on **9th January 2025**, 265 applications with high and medium grades were taken up for evaluation. The committee deliberated at length on all the 265 applications to select the top 75 applicants. **The selected students have been contacted and are currently undergoing placements.**







Water Advanced Research and Innovation (WARI) Fellowship Program

The **Water Advanced Research and Innovation (WARI) Fellowship Program** is a dynamic, transformative joint initiative designed to cultivate long-term Indo-American science and technology partnerships in the critical area of water science and engineering. This program is established through a partnership between the **Department of Science and Technology (DST),** Government of India, the **University of Nebraska-Lincoln (UNL),** the Daugherty Water for Food Global Institute at the University of Nebraska (DWFI), and the **Indo-U.S. Science and Technology Forum (IUSSTF).**

The program was temporarily suspended during the COVID-19 pandemic but was successfully r**einitiated by IUSSTF and DST in September 2023.** Marking the beginning of renewed activities, IUSSTF received the **sanction order for Phase II of the program** from the DST on **February 29, 2024.**

For 2024–2025 Call

- The Department of Science and Technology (DST), Govt. of India, the University of Nebraska-Lincoln (UNL), the Daugherty Water for Food Global Institute at the University of Nebraska (DWFI) and the Indo-U.S. Science and Technology Forum (IUSSTF) partnered to develop the Water Advanced Research and Innovation (WARI) Fellowship Program - a dynamic and transformative program to foster long-term Indo-American science and technology partnerships. The program came on hold during COVID. After multiple discussions and effort, the program was reinitiated by IUSSTF with the support of DST in September 2023. The program has become wider because of partnership from more US Institution this year. The partnering institutes include - University of Nebraska-Lincoln, Daugherty Water for Food Global Institute, Purdue University, Texas Tech University, Oklahoma State University, University of Idaho and University of Texas at Austin.
- For the 2024-25 call, advertised on August 1, 2024, with an extended deadline of September 13, IUSSTF received 239 applications. Following a three-tiered screening process, the selection committee finalized 10 awardees (5 interns and 5 fellows) and 10 waitlisted candidates on November 19, 2024. The selected students have been notified and are currently in the process of arranging their VISA.
- Simultaneously, a reverse exchange module (U.S. to India) is underway, encouraging U.S. citizens or permanent residents who are either enrolled in a master's or graduate program or serving as faculty in U.S. institutions within water-related disciplines such as agronomy, hydrology, engineering, or natural resources to visit the reverse fellowship. Selected candidates participate in a 3–6-month internship or fellowship. For the current cycle, the call was announced on December 1, 2024, with a submission deadline of February 14, 2025. Currently the review process is underway. **List of WARI selections- Annexure V**

Section V :

FINANCIAL MATTERS

FINANCIAL MATTERS

IUSSTF's funding is derived from three primary sources

- Direct support from the U.S. Government.
- Direct support from the Indian Government.
- Extra Mural Programs (EMPs).

U.S. Government support is provided through annual interest accrued from two established endowments, the IUSSTF and USISTEF endowments. The Indian Government provides matching grants on a semi-annual basis, complementing these endowments.

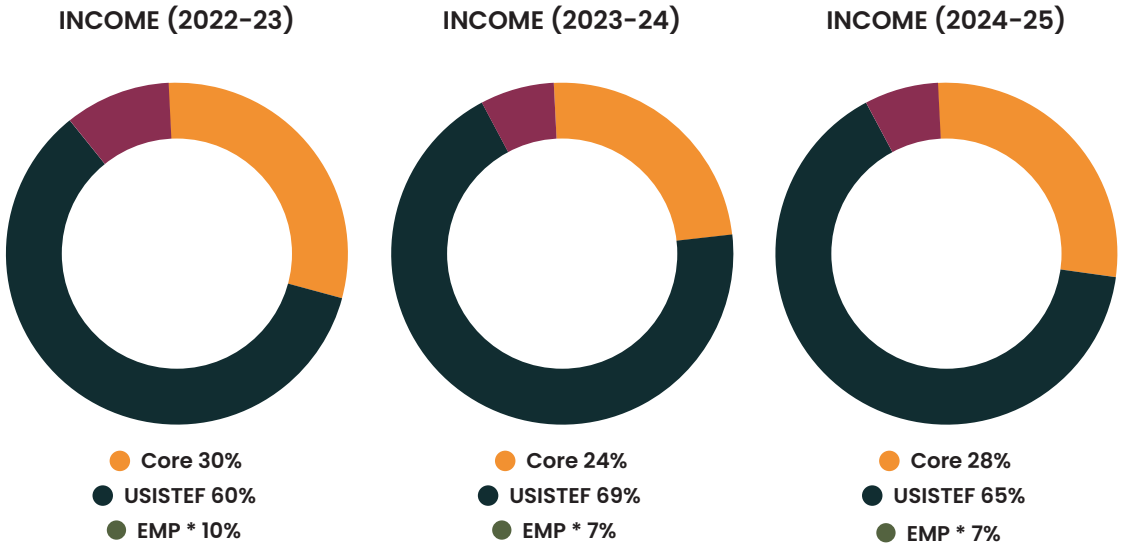
Funding for Extra Mural Programs (EMPs) is secured through project-specific grants from various federal agencies, including DST, DBT, MNRE, and industry partners. These grants support the implementation of designated programs, with IUSSTF receiving a nominal management fee.

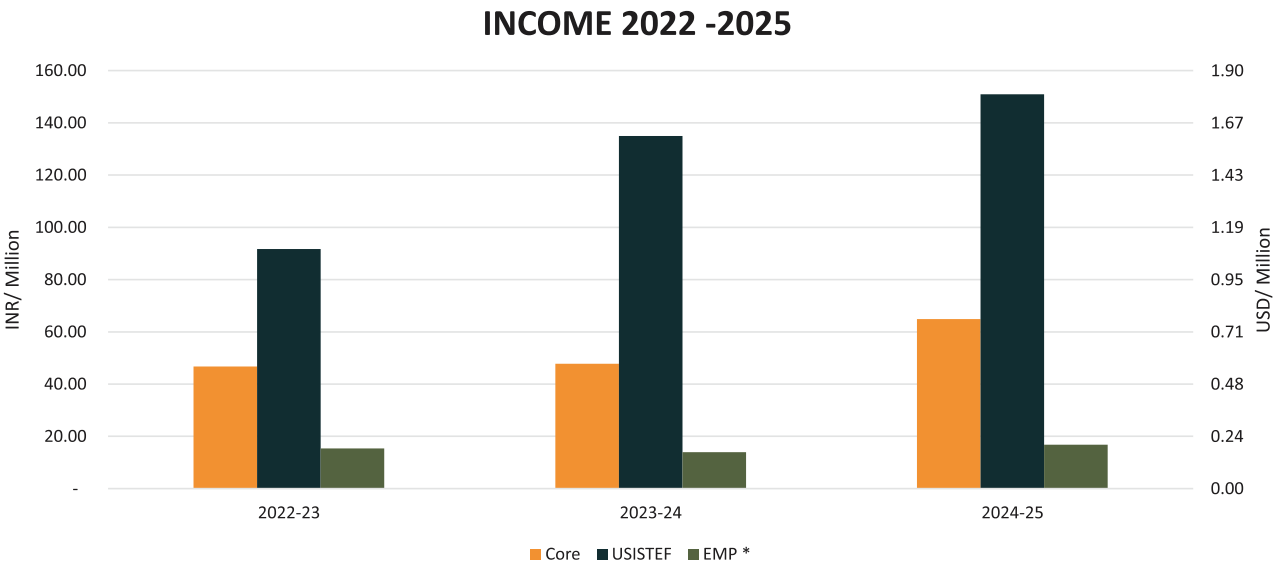
(A) Overall Income (2022-2025)							
S.No	Head	2022-23		2023-24		2024-25	
		(INR/ Million)	(USD/ Million)	(INR/ Million)	(USD/ Million)	(INR/ Million)	(USD/ Million)
1.	Core	46.78	0.58	47.81	0.58	64.85	0.77
2.	USISTEF	91.69	1.15	134.92	1.63	150.95	1.80
3.	EMP *	15.34	0.19	13.95	0.17	16.81	0.20
	TOTAL	**153.82**	**1.92**	**196.68**	**2.37**	**232.62**	**2.77**

All the figures are as per audited fianancial statements of the respective years

** EMP income excludes targeted funds received from the funding agencies*

1USD= 84 INR (2024-25); 83 INR (2023-24); 80 INR (2022-23)





(B) Overall Expenditure (2022-2025)							
S. No	Head	2022-23		2023-24		2024-25	
		(INR/ Million)	(USD/ Million)	(INR/ Million)	(USD/ Million)	(INR/ Million)	(USD/ Million)
1.	Core	70.50	0.88	23.28	0.28	9.66	0.11
2.	USISTEF	90.56	1.13	70.92	0.85	40.67	0.48
3.	EMP *	4.44	0.06	1.97	0.02	2.31	0.03
4.	Facility and Administrative Costs	48.64	0.61	40.07	0.48	52.03	0.03
	TOTAL	**214.14**	**2.68**	**136.25**	**1.64**	**104.67**	**1.25**

All the figures are as per audited fianancial statements of the respective years and excludes grants given in advance to grantees

**EMP expenditure includes direct expenditure on management of targeted grants received from the funding agencies*

1USD= 84 INR (2024-25); 83 INR (2023-24); 80 INR (2022-23)

EXPENDITURE (2022-23)

Core 33%
EMP * 2%
Facility and Administrative Costs 23%
USISTEF 42%

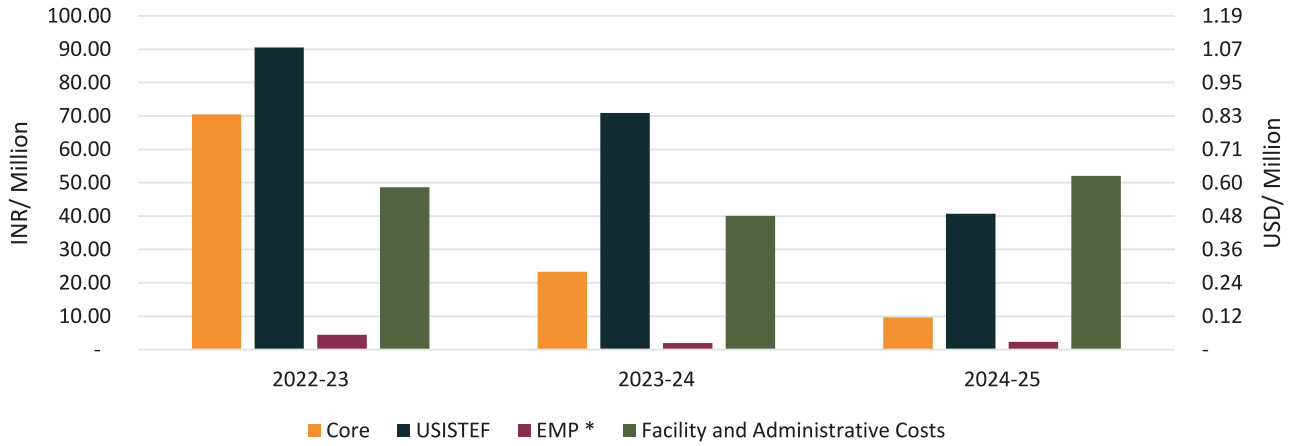
EXPENDITURE (2023-24)

Core 17%
EMP * 2%
Facility and Administrative Costs 29%
USISTEF 52%

EXPENDITURE (2024-25)

Core 9%
EMP * 2%
Facility and Administrative Costs 50%
USISTEF 39%

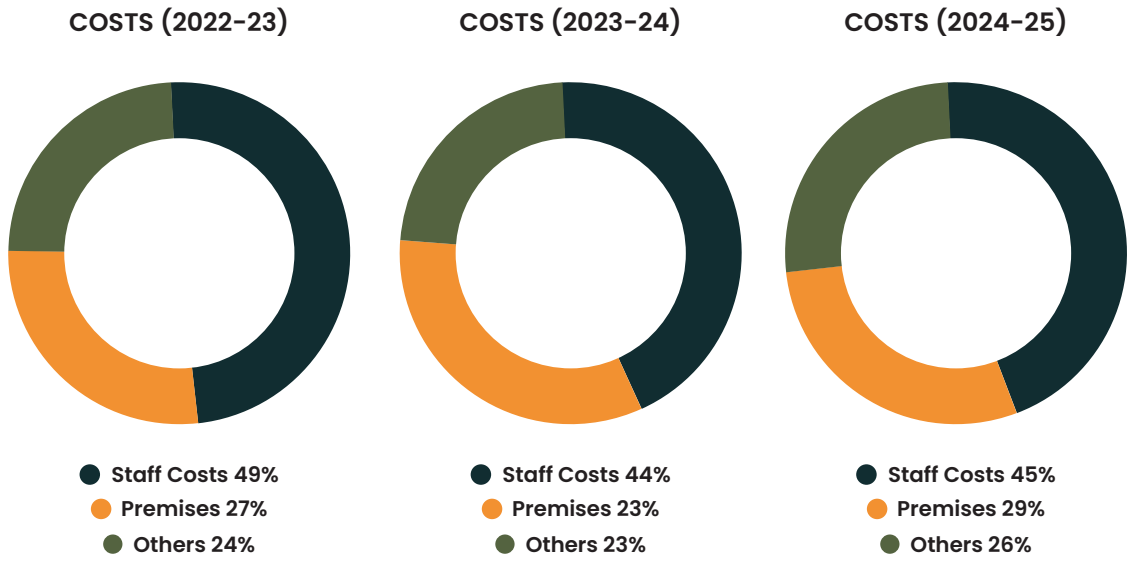
EXPENDITURE 2022-2025

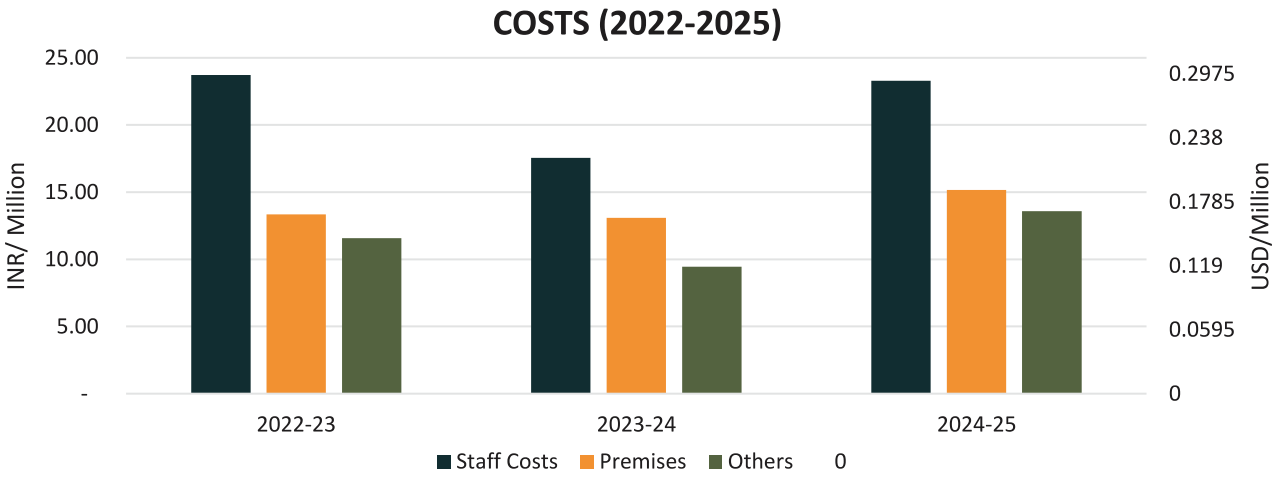


(C) Facility and Administrative Costs (2022-2025)							
S. No	Head	2022-23		2023-24		2024-25	
		(INR/ Million)	(USD/ Million)	(INR/ Million)	(USD/ Million)	(INR/ Million)	(USD/ Million)
1.	Staff Costs	23.71	0.30	17.54	0.21	23.28	0.28
2.	Premises	13.35	0.17	13.09	0.16	15.15	0.18
3.	Others	11.58	0.14	9.44	0.11	13.59	0.16
	TOTAL	**48.64**	**0.61**	**40.07**	**0.48**	**52.03**	**0.62**

All the figures are as per audited fianancial statements of the respective years

1USD= 84 INR (2024-25); 83 INR (2023-24); 80 INR (2022-23)



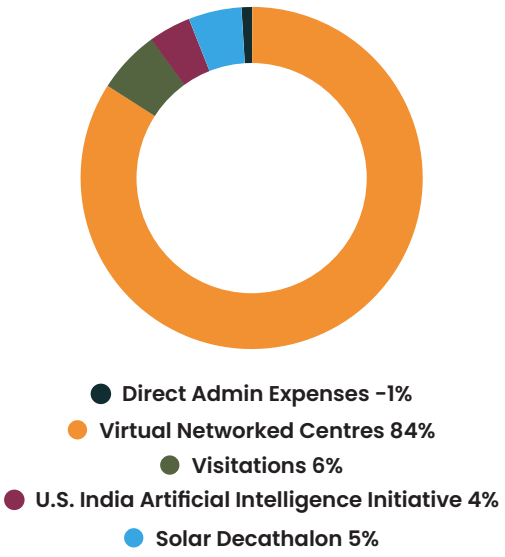


(D) Expenditures - IUSSTF Core Programs (2022-2025)							
S. No	Head	2022-23		2023-24		2024-25	
		(INR/ Million)	(USD/ Million)	(INR/ Million)	(USD/ Million)	(INR/ Million)	(USD/ Million)
1.	Virtual Networked Centres	59.16	0.74	16.64	0.20	-	-
2.	Visitations	4.24	0.05	4.56	0.05	5.41	0.06
3.	US India Artificial Intelligence Initiative	3.17	0.04	0.21	0.00	0.12	0.00
4.	Solar Decathalon	3.36	0.04	0.10	0.00	2.67	0.03
5.	Direct Admin Expenses	0.56	0.01	1.76	0.02	1.46	0.02
	TOTAL	**70.50**	**0.88**	**23.28**	**0.28**	**9.66**	**0.11**

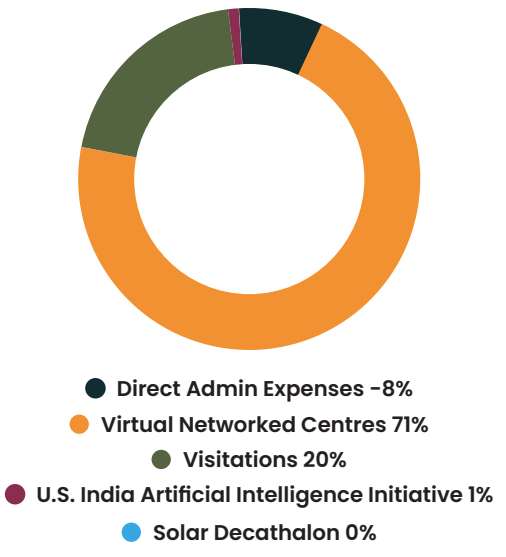
All the figures are as per audited fianancial statements of the respective years and excludes grants given in advance to grantees

1USD= 84 INR (2024-25); 83 INR (2023-24); 80 INR (2022-23)

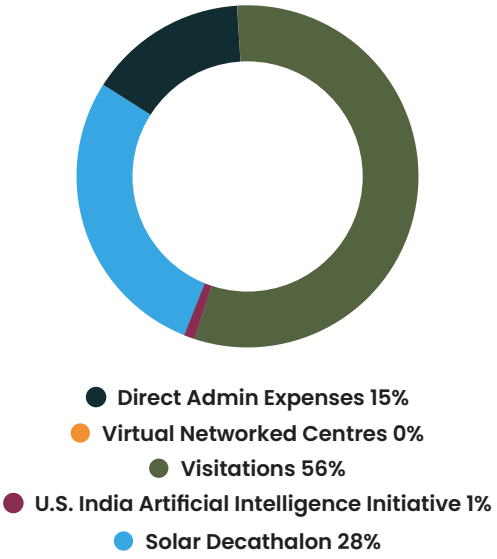
EXPENDITURES (2022-23)



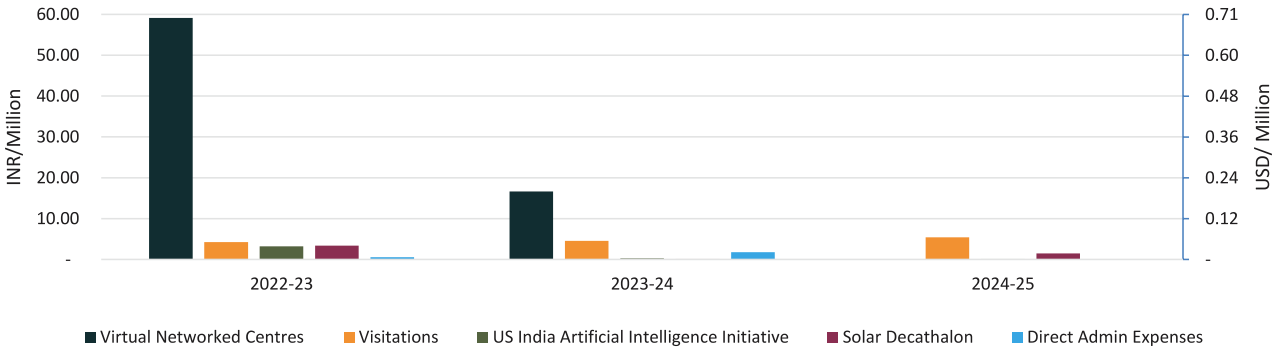
EXPENDITURES (2023-24)



EXPENDITURES (2024-25)



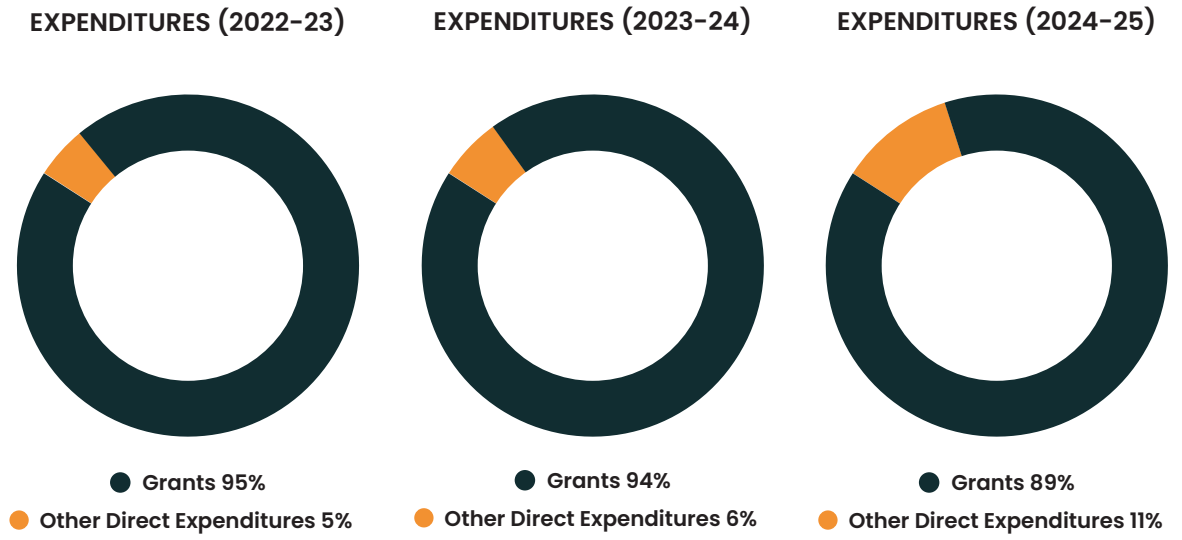
IUSSTF CORE PROGRAM EXPENDITURE (2022-2025)

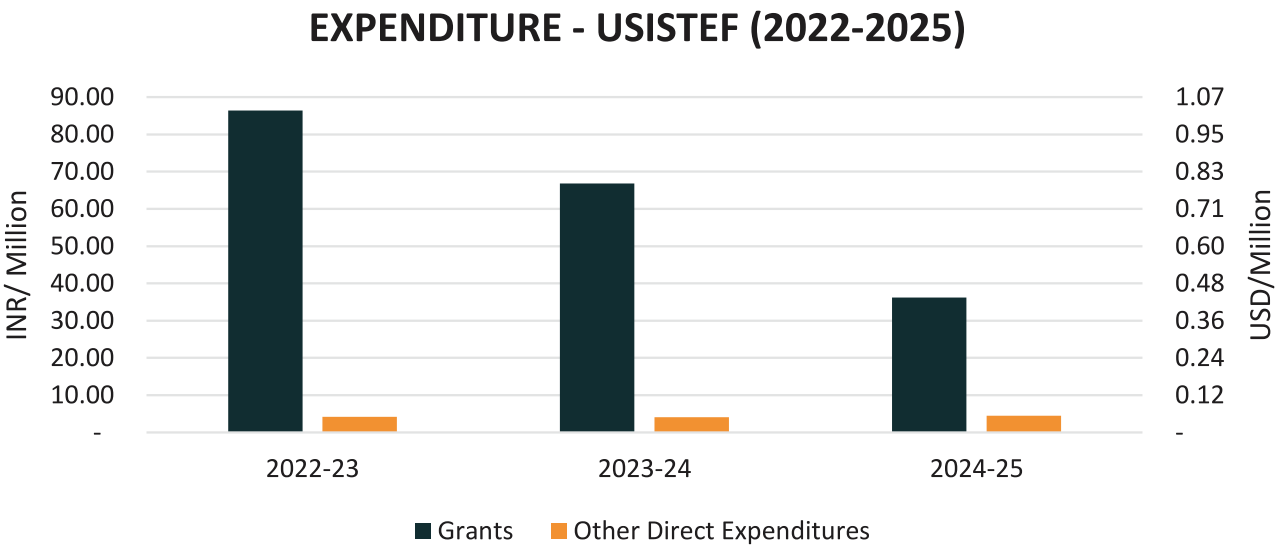


(E) Expenditures - USISTEF (2022-2025)							
S. No	Head	2022-23		2023-24		2024-25	
		(INR/ Million)	(USD/ Million)	(INR/ Million)	(USD/ Million)	(INR/ Million)	(USD/ Million)
1.	Grants	86.40	1.08	66.87	0.81	36.17	0.43
2.	Other Direct Expenditures	4.17	0.05	4.05	0.05	4.50	0.05
	TOTAL	**90.56**	**1.13**	**70.92**	**0.85**	**40.67**	**0.48**

All the figures are as per audited fianancial statements of the respective years and excludes grants given in advance to grantees

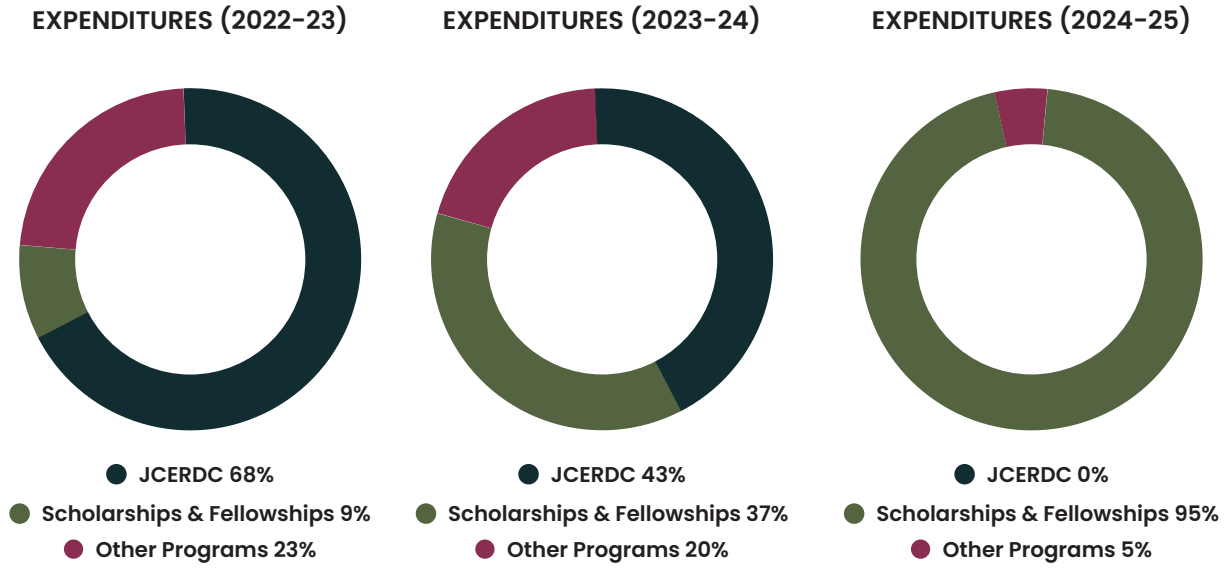
1USD= 84 INR (2024-25); 83 INR (2023-24); 80 INR (2022-23)

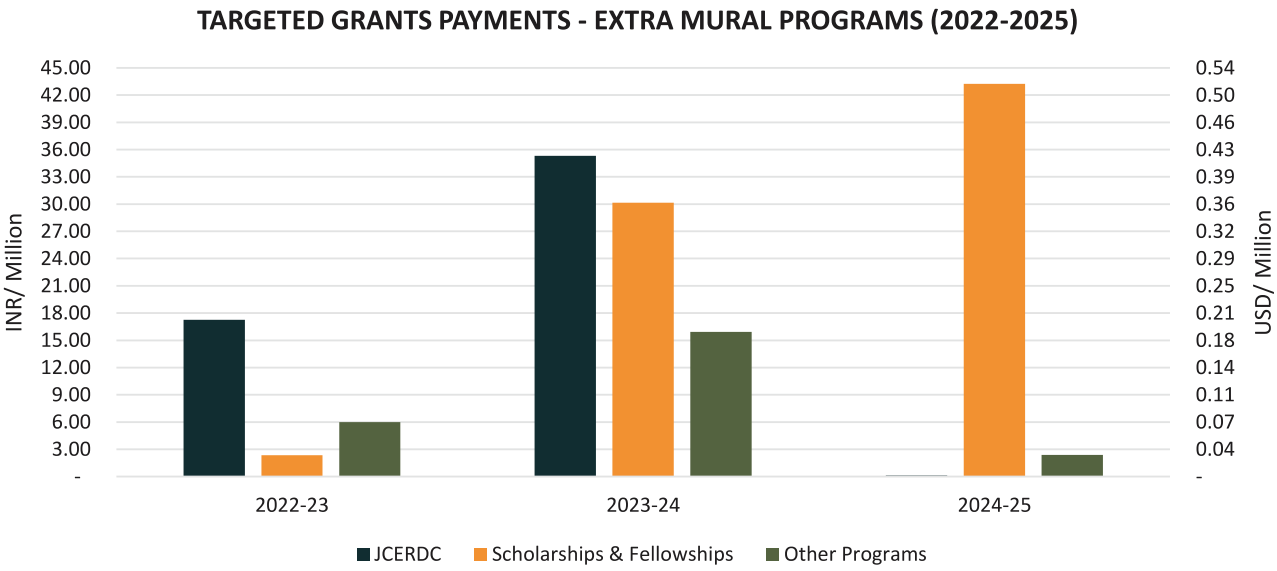




(F) Targeted Grants Payments - Extra Mural Programs (2022-25)							
S. No	Head	2022-23		2023-24		2024-25	
		(INR/ Million)	(USD/ Million)	(INR/ Million)	(USD/ Million)	(INR/ Million)	(USD/ Million)
1.	JCERDC	17.27	0.22	35.33	0.43	0.11	0.00
3.	Scholarships & Fellowships	2.35	0.03	30.15	0.36	43.26	0.52
4.	Other Programs	5.97	0.07	15.94	0.19	2.38	0.03
	TOTAL	**25.60**	**0.32**	**81.41**	**0.98**	**45.75**	**0.54**

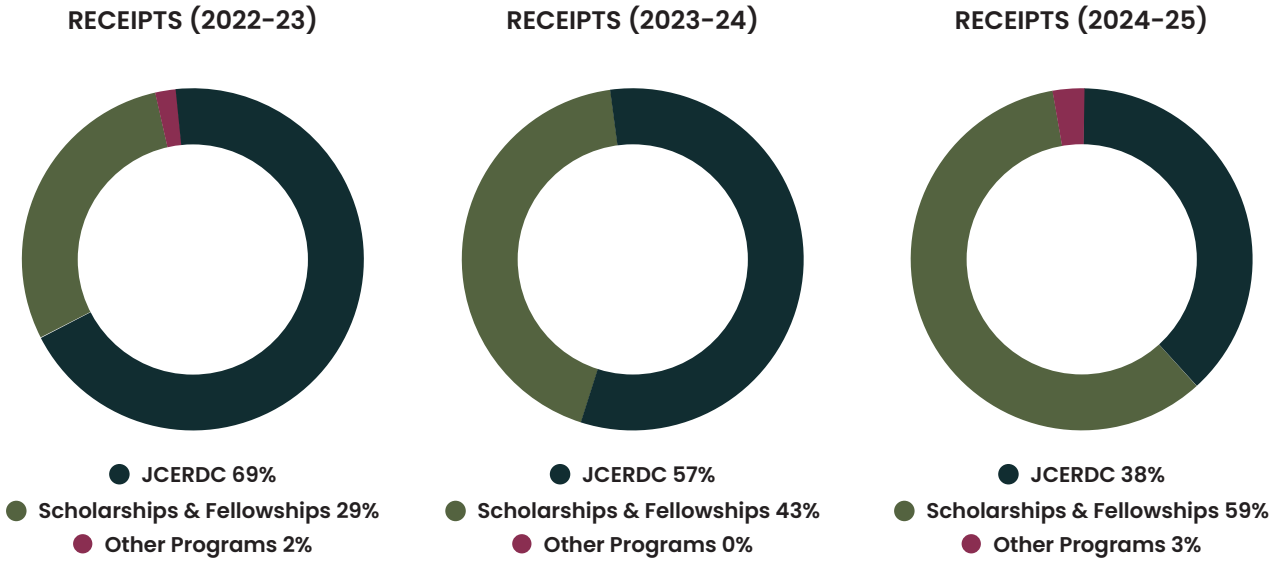
1USD= 84 INR (2024-25); 83 INR (2023-24); 80 INR (2022-23)

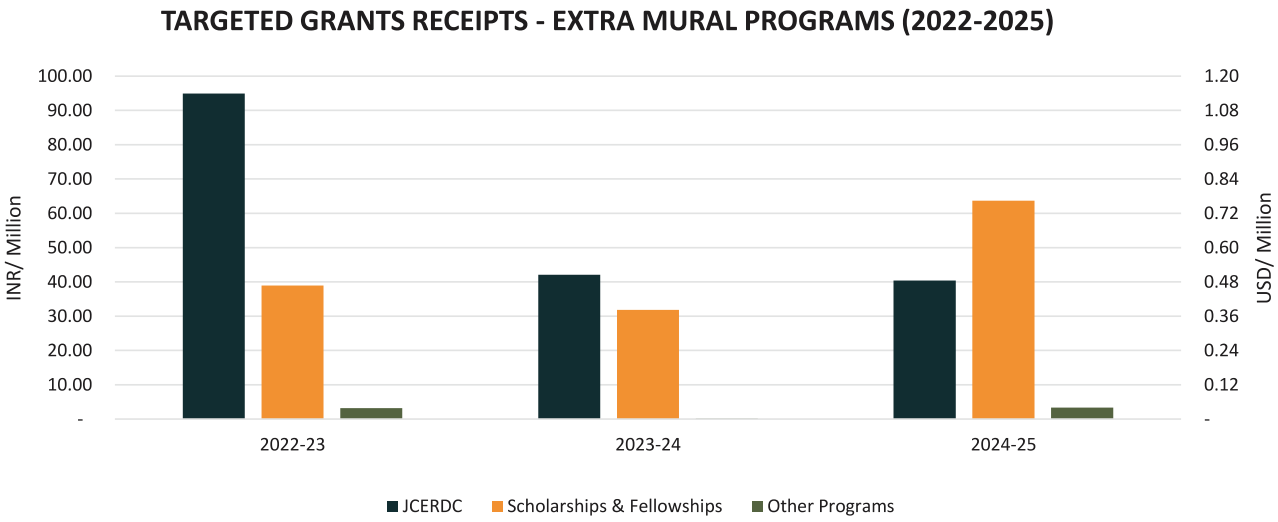




(G) Targeted Grants Receipts - Extra Mural Programs (2022-25)							
S. No	Head	2022-23		2023-24		2024-25	
		(INR/ Million)	(USD/ Million)	(INR/ Million)	(USD/ Million)	(INR/ Million)	(USD/ Million)
1.	JCERDC	94.94	1.19	42.06	0.51	40.41	0.48
3.	Scholarships & Fellowships	38.97	0.49	31.83	0.38	63.70	0.76
4.	Other Programs	3.23	0.04	0.16	0.00	3.35	0.04
	TOTAL	**137.13**	**1.71**	**74.04**	**0.89**	**107.47**	**1.28**

1USD= 84 INR (2024-25); 83 INR (2023-24); 80 INR (2022-23)





Section VI :

OUTREACH AND STRATEGIC DISCUSSIONS

OUTREACH AND STRATEGIC DISCUSSIONS

The Indo-U.S. Science and Technology Forum (IUSSTF) maintained an active profile during the reporting period, engaging in dialogues and interactions to identify and explore future avenues for bilateral cooperation across critical and emerging technologies (CET). These activities focused on initiating contacts with key stakeholders from government, academia, and industry in both nations to inform future program development.

Government and High-Level Consultations

1. IUSSTF actively participated in high-level consultations and hosted official delegations to discuss areas of mutual interest under the Initiative on Critical and Emerging Technology (iCET). The Forum was delighted to welcome **Ms. Jennifer R. Littlejohn**, Acting Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs (OES), along with officials from the U.S. Department of State, on August 26, 2024. Discussions provided an overview of IUSSTF's existing activities, the **United States–India Science and Technology Endowment Fund (USISTEF)**, and initial considerations for collaboration under iCET.

- The Forum also conducted a meeting with **Dr. Anita Gupta**, Head of the Climate, Energy, and Sustainable Technology (CEST) division at the India Department of Science and Technology (DST). The discussion centered on the strategic development of the Indo-US Human Resource Capacity Building Fellowship Programme on Water, Carbon Capture, Utilization and Storage (CCUS) as part of the Energy sector and Building Energy Efficiency. This signified a proactive step towards fostering sustainable solutions and nurturing a collective commitment to addressing pressing global challenges.

2. During their visit to India, ED, IUSSTF met with U.S. government science agencies, including **Dr. Kathleen Stevens** from the U.S. Department of State and **Dr. Cate Flanley** from the National Science Foundation (NSF). The conversation explored potential partnership models for creating different networking structures to connect the Indian and U.S. scientific communities and discussed ways for IUSSTF to participate in organizing future initiatives in priority areas.

3. Additionally, preliminary bilateral biotech cooperation opportunities were explored during discussions with **Ms. Rita Guenther** (NASEM, US) and **Dr. Jennifer Nguyen** (U.S. Department of State) during their visit for an **iCET workshop** on September 10, 2024.

4. The IUSSTF team led by Dr. Nisha Mendiratta met Mr. Ajay Yadav, Joint Secretary, Ministry of New and Renewable Energy (MNRE), Govt. of India to discuss the status of the program and the way forward on 27th June 2024.
5. Dr. Nisha Mendiratta met with Shri S. Krishnan, Secretary of MEITY, GOI on June 15, 2024. He provided insightful ideas on various ongoing activities related to critical and emerging technologies. With IUSSTF prioritizing iCET & MEITY focusing on next-gen communication, they identified common interests in semiconductors, telecom, cybersecurity, sustainability, intelligent transportation & AI that are in line with thrust areas identified under Indo-US bilateral cooperation.

Academic and Research Dialogues

Dialogues with leading U.S. academic institutions were undertaken to explore potential program expansion and future research collaborations.

1. **University of Florida (UF) Interaction:** IUSSTF and its Science Team had an engaging discussion with an esteemed delegation from the University of Florida (UF). The interaction, which included experts in Global Food Systems, Climate, Energy, and AI & Remote Sensing, focused on exploring avenues for collaboration in **agriculture, climate resilience, AI, biotechnology, and sustainability,** particularly concerning faculty/student exchanges and joint innovation programs.

2. **Purdue University Visit:** The Forum conducted a meeting with the team from Purdue University on April 2, 2024, to explore avenues for potential future partnerships, referencing past successful collaborative activities. Deliberations focused on potential collaborations involving programs for undergraduate students, **Semiconductors for AI**, **Chip & AI**, and workshop models for **AI in Agriculture.**

3. **Water Advanced Research and Innovation (WARI) Program:** IUSSTF hosted **Prof. Chittaranjan Ray,** Director of the Nebraska Water Center, as part of the operational support for the WARI Program. The Forum acknowledged Prof. Ray's instrumental role in assisting program operations from the U.S. side.

Industry and Domain-Specific Engagements

IUSSTF participated in industry-focused events and met with innovators to gather insights for bridging scientific collaboration with commercial and societal needs.

1. **Space & Geospatial Summit Participation:** IUSSTF was represented at the **4th India-USA Space & Geospatial Business Summit** in Hyderabad. While speaking at a panel on Science, Technology, Research & Education, IUSSTF emphasized the importance of India-US bilateral collaboration involving scientific communities, institutions, and industries to implement programs in **space and geospatial technologies**, noting that robust programs in both nations could unlock immense potential through shared progress.

2. **FICCI Meeting:** ED, IUSSTF met with officials from the F**ederation of Indian Chambers of Commerce & Industry (FICCI)** to understand industry needs. Brainstorming discussions explored potential areas for collaboration in emerging sectors, such as **semiconductors, quantum technologies, and biotechnology**, to utilize industry insights for broader program planning.

3. **AIMLocate Interaction:** The Forum interacted with **Team AIMLocate, USA**, discussing research activities and how their technology can impact people's lives. AIMLocate's focus on creating location-based addresses by analyzing complex data was noted as an innovative approach relevant to **iCET** joint initiatives.

Internal Governance and Staff Well-being

1. Internally, IUSSTF ensured operational and compliance standards were met. In line with the Sexual Harassment of Women at Workplace Act, an **Internal Complaints Committee (IC/ICC) meeting** was held on June 25, 2024, to review procedures for handling sexual harassment complaints, with the attendance of external and internal committee members.

2. Additionally, IUSSTF prioritized staff well-being by conducting a special **Yoga session** for staff members on June 21st for International Yoga Day, under the theme "Yoga for Self and Society,"
3. A pivotal team-building exercise was held on 4th April 2024, blending engaging and motivational activities to boost teamwork in line with IUSSTF's goals. Reflecting on this journey, we've fortified bonds and sparked creativity, reaffirming our collective strength.

Section VII :

ANNEXURES

ANNEXURE I

Projects awarded under the Critical and Emerging Technology: Quantum Technologies and Artificial Intelligence for Transforming Lives Program

Artificial Intelligence

S. No	Project Title	Lead Indian & U.S. Partner	Deliverable
1.	Develop AI-enabled technology for oral cancer	Pawan Gupta and Jonathan Celli	Diagnostic tool & Device for diagnosing and treating oral cancer
2.	Hyper Local Air Quality	A Vaidyanathan and Ram P Rustagi	Web and mobile app with hyperlocal data
3.	Artificial intelligence aided detection of plausible seizure events using a portable smartphone	Raja Aditya Kadambi and Elakkat Dharmaraj Gireesh	Developed a an AI-assisted smartphone-based EEG device & diagnostics tool addressing the challenge of a limited number of qualified neurologists.
4.	AI-enabled Integrated screening for Lung Health	Shibu Vijayan and Vikas Gulani	Enhacment of qXR technology and Patient Management Tool
5.	Sensing powered autofluorescence lifetime imaging device for rapid pathogen detection and classification	Jagdish A Krishnaswamy and Weijian Yang	Devices for bio-burden assessment and pathogen load assessment
6.	AI-enabled Decision Support System for identifying and predicting mosquito breeding sites	Aditya Sharma and Satish Cherukumalli	Precision management of mosquito breeding site contro
7.	TimBre - A noninvasive screening and monitoring solution for Lung Ailments using Acoustics & AI	Rahul Pathri and Delian Coroama	Cinical-grade mobile and web applications for TB and pneumonia
8.	Non-Invasive Medical Diagnostic Device Based on Sound Analysis	Rajesh Palani and Sahana Sharan	Market-ready product ready for clinical trials and FDA submission

S. No	Project Title	Lead Indian & U.S. Partner	Deliverable
9.	Beyond the Black Box: Unveiling Image Data Decisions in Neuro Oncology through GPT-Powered Explainable AI	Swarnambiga Ayyachamy and Girish Srinivasan	AI-assisted platform for image-based assessments in neuro-oncology diagnostics, advancing explainable insights from MRI data
10.	Multispectral SWIR imaging for surgical Augmentation of Non-palpable Breast Cancer Lesions	Subhamoy Mandal and May Dongmei Wang	Developed advanced hardware and AI-based software to enhance surgical guidance and tumour localization in real-time
11.	NEEL VAHAN Live Fish Transportation System	Suvo Sarkar and Pramod Sajja	Commercially viable product includes the Bluesense IoT Box, "NEEL VAHAN" Architecture, Live Fish Supply Chain Trace System& Movement Tracking.

Quantum Technologies

S. No	Project Title	Lead Indian & U.S. Partner	Deliverable
12.	Development of Superconducting Single Photon Detector (SNSPD) for Quantum Communication	Manjunath R Venkatesh and Robin Cantor	Integrating Nanowire-based single-photon detectors into a quantum communication testbed for commercializing
13.	CCORQS: cryo-CMOS Coupled Oscillators enabling Robust Quantum Sensors	Debashis Mandal and Subhanshu Gupta	Designing and fabricating a CryoCMOS integrated circuit to improve precision and reliability of Rydberg sensors
14.	Optical Parametric Oscillator on a Photonic Chip	Anil Prabhakar and Shayan Mookherjea	Quantum source on a photonic integrated circuit, with applications in QKD (quantum key distribution) transmitters and continuous-variable photonic quantum computing
15.	CV-QKD-Seeded Quantum-Noise Stream Cipher Encryption: Codesign using Advanced Modulations	Sandeep Kumar Singh and Prem Kumar	Develop a secure communication system using Continuous Variable Quantum Key Distribution (CV-QKD) and Quantum Noise Stream Cipher (QNSC) encryption to bridges the digital divide in quantum technology
16.	Quantum Gate Characterization Using Pulse Sequences	Ankur Raina and Mark Elo	'Software Engine' to enables quantum physicists to implement gate sequences, simplifying the complex interaction of Quantum Algorithms and Hardware Gate Control.
17.	Quantum Sensors for Gravimetry: Innovating Subsurface Density Profiling	Debayan Gupta and Aishwarya Das Praveen	Develop quantum gravimeters for drone deployment, ensuring precise gravity measurements, and create a machine learning toolbox to convert this gravity data into detailed subsurface density maps

ANNEXURE II

IUSSTF – Viterbi Program

The following 15 students undertook their internships at Viterbi School of Engineering, University of Southern California in 2024

S. No	Name	Institution	Mentor at USC
1.	Abhishek Bhardwaj	University of Delhi	Cyrus Shahabi
2.	Adityaya Dhande	Indian Institute of Information Technology (IIT) Mumbai	Somil Bansal
3.	Aishwaryakopika R U	VIT University Chennai	Viktor Prasanna
4.	Arnav Goel	Indraprastha Institute of Information Technology (IIIT) Delhi	Xiang Ren
5.	Asmit Ganguly	National Institute of Technology (IIT) Patna	Danny J Wang
6.	Chirayata Bhattacharya	Indian Institute of Science (IISc) Bangalore	Peter Beerel
7.	Gayathri Rajesh	National Institute of Technology (NIT) Tiruchirapalli	Daniel Seita
8.	Mihir Agarwal	Indian Institute of Technology (IIT) Gandhi Nagar	Andrei Irimia
9.	Mihir Agarwal	Indian Institute of Technology (IIT) Gandhi Nagar	Andrei Irimia
10.	Pradyut Ganesh	Birla Institute of Technology and Science, Hyderabad	Viktor Prasanna
11.	Poornash Anandan Sangeetha	Indian Institute of Technology (IIT) Patna	Meisam Razaviyan
12.	Shreya S Ramanujam	Indian Institute of Technology (IIT)	Scalable Fair and Robust Optimization
13.	Swarandip Saha	Indian Institute of Science (IISc) Bangalore	Feifei Qian
14.	Vamsi Krishna Chilakamarri	Indian Institute of Technology (IIT) Chennai	Somil Bansal
15.	Vedika Agrawal	Plaksha University	Kallirroi Georgila

ANNEXURE III

IUSSTF – Viterbi Program

The following 15 students have been selected to receive awards and complete internships at the Viterbi School of Engineering, University of Southern California in 2025.

S. No	Name	Institute	Hosts
1.	Abhiram Radhakrishnan	Indian Institute of Technology (IIT) Chennai	**Ishwar Puri**
2.	Amritha Anujan	Indian Institute of Information Technology (IIIT) Kottayam	**Peter Beerel**
3.	Anshuman Dash	Birla Institute of Technology and Science (BITS), Pilani	**Andrei Irimia**
4.	Arpita Tomar	Birla Institute of Technology and Science (BITS), Pilani	**Erdem Biyik**
5.	Ashwajit Singh	Indian Institute of Technology (IIT) Mumbai	**Viktor Prasanna**
6.	Ayushi Tandon	Indian Institute of Science (IISc) Bengaluru	**Andreas Molisch**
7.	Divya Mehul Rajparia	Indian Institute of Technology (IIT) Hyderabad	R**uishan Liu**
8.	Medha Aggarwal	Indian Institute of Technology (IIT) Patna	**Kallirroi Georgila**
9.	Michael Zachariah	National Institute of Technology (NIT), Calicut	**Mike Shou-Wei Chen**
10.	Mohammad Irshad Ahmed	Aligarh Muslim University (AMU), Aligarh	**Meisam Razaviyayn**
11.	Palash Kohli	Birla Institute of Technology and Science (BITS), Pilani	**Viktor Prasanna**
12.	Satish Panda	Indian Institute of Technology (IIT), Kanpur	**Evi Micha**
13.	Shweta Patel	Delhi Technological University (DTU), Delhi	**Yan Liu**
14.	Tarunika P	National Institute of Technology (NIT), Tiruchirapalli	**Feifei Qian**
15.	Vishwajeet Prashant Jadhav	Indian Institute of Technology (IIT), Roorkee	**Constantine Sideris**

ANNEXURE IV

Khorana Program for Scholars

Awardees who pursued their internships during 2024-25

KHORANA PROGRAM: 2024 (15th Batch)				
S. No	**Name**	**Parent Institute**	**U.S. Host University**	**Gender**
1.	**A Adheena Lakshmi**	Indian Institute of Science Education and Research (IISER), Thiruvananthapuram	University of Buffalo, Buffalo	Female
2.	**Abheerup Sarker**	National Institute of Technology Durgapur, West Bengal	Colorado State University	Male
3.	**Aditi Arun**	Indian Institute of Science (IISc) Bangalore	Harvard Medical School	Female
4.	**Aditi Panda**	National Institute of Science Education and Research (NISER) Bhubaneswar	The Arnold Arboretum of Harvard University	Female
5.	**Aditya Sharma**	Indian Institute of Science Education and Research (IISER), Mohali	Purdue University	Male
6.	**Aditya Sushil Maslekar**	Institute of Bioinformatics and Biotechnology (IBB), Savitribai Phule Pune University, Pune	Massachusetts General Hospital (MGH) Cancer Center, Harvard Medical School	Male
7.	**Akhilesh Ashutosh Vardikar**	Bharati Vidyapeeth, Pune	The University of Tennessee Health Science Centre	Male
8.	**Alpana Mohapatra**	Shiv Nadar University (Institute of Eminance deemed to be University) Delhi NCR	University of Texas at Austin	Female
9.	**Anagha Muralidharan**	Indian Institute of Science Education and Research (IISER), Thiruvananthapuram	Stony Brook University	Female
10.	**Anam Upadhyay**	National Institute of Technology Warangal	Purdue University	Female
11.	**Anamitra Goswami**	St. Xavier's College (Autonomous), Mumbai	Lerner Research Institute, The Cleveland Clinic Foundation	Male

S. No	Name	Parent Institute	U.S. Host University	Gender
12.	**Anika Roy**	International Institute of Information Technology (IIIT), Hyderabad	Massachusetts Institute of Technology (MIT)	Female
13.	**Anirudh Rao**	Indian Institute of Technology (IIT) Chennai	Stanford University School of Medicine	Male
14.	**Anwesha Dutta**	Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram	Yale University, West Haven	Female
15.	**Archit Goel**	All India Institute of Medical Sciences (AIIMS), Bathinda	Johns Hopkins University	Male
16.	**Arkajyoti Banerjee**	Indian Association for the Cultivation of Science (IACS), Kolkata	University of Illinois at Urbana-Champaign	Male
17.	**Bavishya Suresh Manju Bashini**	Indian Institute of Technology (IIT) Chennai	St. Jude Children's Research Hospital, Memphis	Female
18.	**Bevan Mathew A**	Indian Institute of Science Education and Research (IISER), Berhampur	Purdue University	Male
19.	**Charan P S V V**	Amrita Vishwa Vidyapeetham, Amritapuri	Icahn School of Medicine at Mount Sinai, Cardiovascular Research Institute, New York	Male
20.	**Chethana Ravi Nair**	Indian Institute of Science (IISc) Bangalore	The University of Texas at Austin	Female
21.	**Devansh Amit Lalwani**	Seth G. S. Medical College and KEM Hospital, Mumbai	Johns Hopkins University	Male
22.	**Devansh Jatin Shah**	Indian Institute of Technology (IIT) Rajasthan	St. Jude Children's Research Hospital, Memphis	Male
23.	**Dheeraj Kumar**	Indian Institute of Technology (IIT) Kharagpur	Purdue University	Male
24.	**Durga Shree Nagabushanam**	VIT University, Vellore Campus	Dana Farber Cancer Institute, Harvard University	Female
25.	**Gauranga Kumar Baishya**	Chennai Mathematical Institute, Siruseri, Tamil Nadu	Harvard Medical School	Male

S. No	Name	Parent Institute	U.S. Host University	Gender
26.	**Guniyal Raina**	Amity University, Noida	North Carolina State University, Raleigh North Carolina,	Female
27.	**Ishaan Misra**	Indian Institute of Technology (IIT) Banaras Hindu University	St. Jude Children's Research Hospital, Memphis	Male
28.	**Jacob Gigi Kurian**	Indian Institute of Science Education and Research (IISER), Thiruvananthapuram	St. Jude Children's Research Hospital, Memphis	Male
29.	**Jaiprakash Suresh Gurav**	Armed Forces Medical College, Pune	Huntarian Lab at Johns Hopkins University	Male
30.	**Jasmine**	Indian Institute of Technology (IIT) Roorkee	Harvard's Wyss Institute (Ingber Lab)	Female
31.	**Jayashimman V**	All India Institute of Medical Sciences (AIIMS), Delhi	Yale School of Medicine	Male
32.	**Jyotipriya Sarkar**	Indian Institute of Technology (IIT) Mumbai	St. Jude Children's Research Hospital, Memphis	Male
33.	**Karishma Behera**	Indian Institute of Science (IISc) Bangalore	Massachusetts Institute of Technology (MIT)	Female
34.	**Khushi Singh**	Indian Institute of Technology (IIT) Delhi	Johns Hopkins University	Female
35.	**Kishor Kumar Babu**	Madras Medical College	Ragon Institute of Mass General, MIT and Harvard	Male
36.	**Krishnakripa K**	Amrita Vishwa Vidyapeetham, Amritapuri	Oklahoma State University, Stillwater	Female
37.	**Linus Jerusha**	Indian Institute of Science Education and Research (IISER), Thiruvananthapuram	Stanford School of Medicine	Female
38.	**Madhumitha Krishnaswamy**	Indian Institute of Science Education and Research (IISER), Tirupati	Georgia Institute of Technologyc	Female
39.	**Mainak Sarkar**	Indian Institute of Science Education and Research (IISER), Kolkata	St. Jude Children's Research Hospital, Memphis	Male
40.	**Mansimar Kaur**	Indian Institute of Science Education and Research (IISER), Mohali	Temple University	Female

S. No	Name	Parent Institute	U.S. Host University	Gender
41.	**Md. Zishan Ansari**	Guru Ghasidas University Chhattisgarh	Alabama State University	Male
42.	**Mehek Garg**	Birla Institute of Technology and Science (BITS), Pilani, Rajasthan	Brigham & Women's Hospital and Harvard Medical School	Female
43.	**Mukund Sharma**	Tata Institute of Fundamental Research (TIFR), Mumbai	Yale School of Medicine	Male
44.	**Nabanita Paul**	Indian Institute of Technology (IIT) Mumbai	Rutgers School of Engineering in Rutgers,The State University of New York	Female
45.	**Nandini Sharma**	Indian Institute of Science (IISc) Bangalore	Indiana University School of Medicine, Indianapolis	Female
46.	**Oindrila Sarkar**	Indian Institute of Science Education and Research (IISER), Kolkata	Massachusetts Institute of Technology (MIT)	Female
47.	**Prachi Choudhary**	Indian Institute of Science (IISc) Bangalore	Cold Spring Harbor Laboratory, New York	Female
48.	**Prahalaad Vijay Varahaswami**	Indian Institute of Technology (IIT) Chennai	Stanford University, California	Male
49.	**Pranathi Ravikumar**	Indian Institute of Technology (IIT) Chennai	Harvard Medical School	Female
50.	**Prasanna Seenivasan**	Tamil Nadu Agricultural University (TNAU), Coimbatore	Donald Danforth Plant Science Centre, St. Louis	Male
51.	**Priyanka Sankar**	Indian Institute of Science (IISc) Bangalore	Duke University School of Medicine	Female
52.	**Sachin Ganesh Iyer**	Indian Institute of Science Education and Research (IISER), Mohali	Texas A&M University	Male
53.	**Sakshi Arvind Tembhurne**	Atria University, Bangalore	University of Massachusetts Chan Medical School, Worcester	Female
54.	**Sambit Kumar Pradhan**	National Institute of Technology Rourkela, Orissa	Johns Hopkins University	Male
55.	**Sameekshya Kar**	National Institute of Science Education and Research (NISER) Bhubaneswar	St. Jude Children's Research Hospital, Memphis	Female

S. No	Name	Parent Institute	U.S. Host University	Gender
56.	**Saumya Mathur**	Indian Institute of Technology (IIT) Banaras Hindu University	Harvard Medical School, Boston, Massachusetts	Female
57.	**Sayan Patra**	Indian Institute of Technology (IIT) Mumbai	University of Illinois at Urbana-Champaign	Male
58.	**Sharan Surya S M**	Indian Institute of Science Education and Research (IISER), Bhopal	Washington University in St. Louis	Male
59.	**Shivanjali Arora**	Birla Institute of Technology and Science (BITS), Hyderabad	University of Michigan	Female
60.	**Shreya Sen**	National Institute of Technology Rourkela, Orissa	University of Colorado	Female
61.	**Shrimanti Chakraborty**	Birla Institute of Technology (BIT), Mesra, Ranchi Jharkhand	Purdue University	Female
62.	**Siddhant Uday Govekar**	All India Institute of Medical Sciences (AIIMS), Rishikesh	Harvard Medical School	Male
63.	**Sivaranjani R**	Tamil Nadu Veterinary and Animal Sciences University	North Dakota State University	Female
64.	**Spandan Basu**	Indian Institute of Science (IISc) Bangalore	St. Jude Children's Research Hospital, Memphis	Male
65.	**Srinidhi Srinivasan**	St. Xavier's College (Autonomous), Mumbai	Northwestern University	Female
66.	**Subha Lakshmi M.h**	Tamil Nadu Agricultural University (TNAU), Coimbatore	Texas Tech University	Female
67.	**Suhana Nujum G**	Indian Institute of Science Education and Research (IISER), Thiruvananthapuram	University of Pittsburgh	Female
68.	**Suhani Sharma**	Savitribai Phule Pune University	St. Jude Children's Research Hospital, Memphis	Female
69.	**Suhasini Sharma**	Guru Gobind Singh Indraprastha University, Dwarka	Howard Hughes Medical Institute, Harvard Medical School, Boston	Female
70.	**Sukhmanjit Singh Brar**	All India Institute of Medical Sciences (AIIMS), Bhopal	University of California, San Francisco	Male

S. No	Name	Parent Institute	U.S. Host University	Gender
71.	**Vani Nikunj**	Shiv Nadar University (Institute of Eminance deemed to be University) Delhi NCR	St. Jude Children's Research Hospital, Memphis	Female
72.	**Varsha Satish**	All India Institute of Medical Sciences (AIIMS), Bhubaneswar	Stanford University	Female
73.	**Varun Ajit Nair**	Indian Institute of Science Education and Research (IISER), Bhopal	University of Pittsburgh	Male
74.	**Vidhi Vashishtha**	Indian Institute of Technology (IIT) Mumbai	St. Jude Children's Research Hospital, Memphis	Female

ANNEXURE V

List of WARI Interns and Fellows selected to pursue their internship and fellowship in 2024-25

Table I: Internship (for Students) program module:

S. No	Name of Applicant	Affiliation	Duration (months)	Mentor and Host University in the U.S.
1.	**Burra Karthik**	Indian Institute of Science (IISc) Bangalore	6	**Sahila Beegum** University of Nebraska-Lincoln
2.	**Deepak Verma**	Indian Institute of Technology (IIT) Roorkee	6	**Francisco Muñoz-Arriola** University of Nebraska-Lincoln
3.	**Mithun K**	SRM University, Kanchipuram	6	**Daniel Snow** University of Nebraska-Lincoln
4.	**Priyam Deka**	Indian Institute of Technology (IIT) Delhi	6	**Dev Niyogi** University of Texas at Austin
5.	**Shailza Sharma**	Dr. B.R. Ambedkar National Institute of Technology Jallandhar	6	**Meetpal Kukal** University of Idaho

Table II: Fellowship (for Scientists) program module:

S. No	Name of Applicant	Affiliation	Duration (months)	Mentor and Host University in the U.S.
1.	**Hanamant M Halli**	National Institute of Abiotic Stress Management, Pune	12	**Arindam Malkar** and **Santosh Pitla** University of Nebraska-Lincoln
2.	**Nikhil Deep Gupta**	Visvesvaraya National Institute of Technology (VNIT) Nagpur	7	**Suranjan Panigrahi** Purdue University
3.	**Devideen Yadav**	Indian Institute of Soil and Water Conservation, Dehradun	12	**Bijesh Maharjan** University of Nebraska–Lincoln
4.	**Hardikkumar Bhupendra Kothadia**	Indian Institute of Technology (IIT) Jodhpur, Rajasthan	6	**W. Shane Walker** Texas Tech University
5.	**Jew Das**	National Institute of Technology (NIT) Warangal	6	T**irthankar Roy** University of Nebraska–Lincoln

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