

IN-YAS Technical Symposium on

"Science and Technology for Sustainable Future" (STSF - 2023)

organized by:

Indian National Young Academy of Sciences (IN-YAS)

Indian Institute of Technology (Indian School of Mines), Dhanbad &
TexMin Foundation, IIT(ISM) Dhanbad



15th-17th September 2023
Venue: IIT ISM Dhanbad



Symposium Schedule

15th September 2023, Friday

9:00 AM to 13:20 PM

Inauguration Venue: GJLT, IIT(ISM) Dhanbad

Day-1: Session Details

8:30 AM – 10:00 AM	Registration at 8:30 AM Inaugural Session Welcome of Guests Lightening of Lamp About STSF-2023 & Welcome Address: Prof. Dheeraj Kumar, Deputy Director, IIT(ISM) Dhanbad Address by Director: Prof. J.K. Pattanayak, Officiating Director, IIT(ISM) Dhanbad About INYAS: Prof. Rajendra Singh Dhaka, Chair, INYAS Chief Guest Address: Prof. A.K Mishra, Director, CSIR-CIMFR Dhanbad Vote of thanks: Prof. Ejaz Ahmad, Member, INYAS
10:00 AM – 10:20 AM	Group Photo and High Tea
SESSION - 1: 10:20-13:20 Topic: Funding for Science and Technology Chair: Prof. Madhulika Gupta, IIT(ISM) Dhanbad	
10:20 AM – 10:30 AM	Topic: Overview of the Session by Chair and Co-Chair
10:30 AM – 11:10 AM	Topic: TEXMiN Hub and Funding Opportunities for individual ad startups Keynote Speaker: Prof. Dheeraj Kumar, Deputy Director, IIT(ISM) Dhanbad
11:10 AM – 12:00 PM	Topic: Indian STI Ecosystem: Opportunities for Young Researchers Keynote Speaker: Dr. Akhilesh Mishra, Scientist E, DST
12:00 PM – 12:50 PM	Topic: SERB Funding Schemes and Opportunities Keynote Speaker: Prof. Pramod Prasad, Scientist D, SERB
12:50 PM – 13:20 PM	Title: Opportunities with American Chemical Society Keynote Speaker: Dr. Kunal Gupta, Outreach Manager , ACS India
13:20 PM – 14:20 PM	Lunch at the Venue

**Science and Technology for Sustainable Future
(STSF - 2023)**

Symposium Schedule

15th September 2023, Friday

14:30 PM to 18:00 PM

Venue: GJLT, IIT(ISM) Dhanbad

Day-1: Session Details

SESSION - 2: 14:30-16:00	
Topic: Materials for GeneratioNext Chair: Prof. Chirasree Roy Chaudhuri, IEST, Co-chair: Prof. Arnab Dutta, IIT Bombay	
14:30 PM – 14:40 PM	Topic: Overview of the Session by Chair and Co-Chair
14:40 PM – 15:00 PM	Topic: GeneratioNext Materials for Quantum Optics Invited Speaker: Prof. Sajal Dhara, IIT Kharagpur
15:00 PM – 15:20 PM	Topic: GeneratioNext Materials for Medical Technology Invited Speaker: Prof. Nishant Chakravorty, IIT Kharagpur
15:20 PM – 15:40 PM	Topic: GeneratioNext ALLOY Materials Invited Speaker: Prof. Rohit R Shahi, CUSB Gaya
15:40 PM – 16:00 PM	Topic: GeneratioNext Materials for Fashion Invited Speaker: Prof. Jayanta Maity, Diamond Harbour Women's University
16:00 PM – 16:30 PM	Tea Break
SESSION - 3: 16:30-18:00	
Topic: Nitrogen Challenges: Exploring Solutions for Sustainable Management Chair: Dr. Veda Krishnan, ICAR-IARI, New Delhi	
16:30 PM – 16:40 PM	Topic: Overview of the Session by Chair and Co-Chair
16:40 PM – 17:00 PM	Topic: Electrochemical nitrogen fixation: The route to a sustainable future Invited Speaker: Dr. Ramendra Sundar Dey, INST Mohali
17:00 PM – 17:20 PM	Topic: Short circuit pathways in nitrogen cycle: Opportunities and challenges Invited Speaker: Dr. Upendra Kumar, ICAR-National Rice Research Institute, Cuttack
17:20 PM – 17:40 PM	Topic: Reactive nitrogen loss challenges: Exploring agronomic solutions Keynote Speaker: Dr. Dibyendu Chatterjee, ICAR-National Rice Research Institute, Cuttack
17:40 PM – 18:00 PM	Topic: Nitrogen in integrated farming systems: Challenges, strategies, and best practices , Invited Speaker: Dr. Subhash Babu, ICAR-IARI, New Delhi
18:00 onwards	Campus Walk, Networking, and Dinner

Science and Technology for Sustainable Future
(STSF - 2023)

Symposium Schedule

16th September 2023, Saturday

9:30 AM to 13:00 PM

Venue: Management Studies, IIT ISM Dhanbad

Day-2: Session Details

SESSION - 4: 9:30 -11:00	
Topic: Bio-nanotechnology and Bio-materials Chair: Dr. Jiban Jyoti Panda, INST Mohali	
9:30 AM – 9:40 AM	Topic: Overview of the Session by Chair and Co-Chair
9:40 AM – 10:00 AM	Topic: Recent Development in Carbon Dots and Metal-Organic Framework for Biomedical Application , Invited Speaker: Prof. Sumanta Kumar Sahu, IIT (ISM)
10:00 AM – 10:20 AM	Topic: Development of fluorescence-based sensors for important bio-analytes Invited Speaker: Dr. Prabhat K. Singh, BARC Mumbai
10:20 AM – 10:40 AM	Topic: Nanobioengineering for Affordable Disease Diagnosis Invited Speaker: Prof. Pranjal Chandra, IIT (BHU)
10:40 AM – 11:00 AM	Topic: Upconversion Luminescent Materials for Biological Application Invited Speaker: Dr. Santosh K. Gupta, BARC Mumbai
11:00 AM – 11:30 AM	Tea Break
SESSION - 5: 11:30-13:00	
Topic: Emerging Technologies for Sustainable Future Chair: Prof. Rohit R Shahi, CUSB Gaya	
11:30 AM – 11:40 AM	Topic: Overview of the Session by Chair and Co-Chair
11:40 AM – 12:00 PM	Topic: Formulation Digital Twin Invited Speaker: Dr. Shankar Kausley, Tata Consultancy Services
12:00 PM – 12:20 PM	Topic: Wound Healing Materials for Defense Applications, *TBC Invited Speaker: Prof. Sagar Pal, IIT(ISM) Dhanbad
12:20 PM – 12:40 PM	Topic: Recent Developments in Microwave Antenna Invited Speaker: Prof. Ravi Kumar Gangwar, IIT(ISM) Dhanbad
12:40 PM – 13:00 PM	Topic: Life Cycle Assessment of Biomass Conversion Technologies Invited Speaker: Prof. Madhumita Patel, IIT(ISM) Dhanbad
13:00 PM – 14:30 PM	Lunch at the Guest House

Science and Technology for Sustainable Future
(STSF - 2023)

Symposium Schedule

16th September 2023, Saturday

14:30 PM to 18:00 PM

Venue: Management Studies, IIT(ISM) Dhanbad

Day-2: Session Details

SESSION - 6: 14:30-16:00	
Topic: Materials for a sustainable future Chair: Prof. H.S.S. Ramakrishna Matte, CeNS	
14:30 PM – 14:40 PM	Topic: Overview of the Session by Chair and Co-Chair
14:40 PM – 15:00 PM	Topic: Phase transitions and Diffusion Mechanism in Lipid Membranes Invited Speaker: Dr. Veerendra K. Sharma, BARC
15:00 PM – 15:20 PM	Topic: Peptide, Amino-based self-assembled structure for potential glioma therapy, Invited Speaker: Prof. Jiban Jyoti Panda, INST Mohali
15:20 PM – 15:40 PM	Topic: Effect of hemicellulose decorations on biomass recalcitrance Invited Speaker: Prof. Madhulika Gupta, IIT(ISM) Dhanbad
15:40 PM – 16:00 PM	Topic: Waste biomass valorization along with resource recovery Invited Speaker: Prof. Vishal Mishra, IIT (BHU)
16:00 PM – 16:30 PM	Tea Break
SESSION - 7: 16:30-18:00	
Topic: Advanced Functional Materials for Energy and Environment Chair: Dr. M. S. Santosh, CSIR –CIMFR	
16:30 PM – 16:40 PM	Topic: Overview of the Session by Chair and Co-Chair
16:40 PM – 17:00 PM	Topic: TMDs for environment-friendly Zinc-air batteries Invited Speaker: Prof. Ashish Mishra, IIT BHU
17:00 PM – 17:20 PM	Topic: Designing greener energy conversion system for a sustainable future Invited Speaker: Prof. C. N. Taramani, IIT Ropar
17:20 PM – 17:40 PM	Topic: Symmetry breaking charge separation in chromophoric dimers Invited Speaker: Prof. Mahesh Hariharan, IISER Trivandrum
17:40 PM – 18:00 PM	Topic: Recent trends in Indoor Photovoltaics Invited Speaker: Prof. Sai Santosh Ravi, IIT Hyderabad
18:00 onwards	Visit to TEXMiN Hub and Dinner

Science and Technology for Sustainable Future
(STSF - 2023)

Symposium Schedule

17th September 2023, Sunday

9:30 AM to 13:00 PM

Venue: Management Studies, IIT(ISM) Dhanbad

Day-3: Session Details

SESSION - 8: 9:30 -11:00	
Topic: Carbon Neutral Technology and renewable energy cost-effective energy storage Chair: Prof. Rajen Dhaka, IIT Delhi, Co-chair: Prof. Sanjay Singh, IIT BHU	
9:30 AM – 9:40 AM	Topic: Overview of the Session by Chair and Co-Chair
9:40 AM – 10:00 AM	Topic: Carbon Capture, Utilization, and Storage Invited Speaker: Prof. Arnab Dutta, IIT Bombay
10:00 AM – 10:20 AM	Topic: Large-Scale Manufacturing of Green Hybrid Materials from Paddy Straw Invited Speaker: Dr. Manoj Kumar Gupta, CSIR-AMPRI, Bhopal
10:20 AM – 10:40 AM	Topic: Catalysis for Generation of Hydrogen and Fuel Chemicals Invited Speaker: Prof. Akshai Kumar Alape Seetharam, IIT Guwahati
10:40 AM – 11:00 AM	Topic: Porous Materials Towards Energy Technologies Invited Speaker: Prof. Jayaramulu Kolleboyina, IIT Jammu
11:00 AM – 11:30 AM	Tea Break
INYAS Session: 11:30-13:00 (Exclusively for INYAS members)	
11:30 AM – 11:40 AM	Topic: Overview/opening remarks by INYAS Chair
11:40 AM – 12:00 PM	Topic: Presentations on INYAS activities Invited Speaker: CC Members
12:00 PM – 12:20 PM	Topic: Presentation on flagship programs Invited Speaker: Coordinators
12:20 PM – 12:50 PM	Topic: Discussion on INYAS agenda items Invited Speaker: INYAS Members
12:50 PM – 13:00 PM	Concluding Session
13:00 PM – 14:00 PM	Lunch and Departure (for Flights on Sunday)

STSF-2023 Team

Patrons:

Prof. J.K. Pattanayak, Officiating Director, IIT ISM Dhanbad

Prof. Ashutosh Sharma, President, INSA

Prof. Dheeraj Kumar, Deputy Director, IIT(ISM) Dhanbad

Prof. D.V. Khakhar, Vice President, INSA

National Advisory Committee:

Prof. Sagar Pal, Dean (R&D), IIT(ISM) Dhanbad

Prof. Rajendra S. Dhaka, Chair INYAS

Prof. Chandrashekhar Sharma, Former Chair INYAS

Prof. Mahesh Kumar, Former Chair INYAS

Prof. A. Bhadra, Former Chair INYAS

Prof. Ravi K. Gangwar, Associate Dean SRIC, IIT(ISM) Dhanbad

Prof. Arunkumar Samanta, Head, Chemical Engineering, IIT(ISM) Dhanbad

Prof. Parthasarathi Das, Head, Chemistry and Chemical Biology, IIT(ISM) Dhanbad

Prof. Amit Rai Dixit, Head, Mechanical Engineering, IIT(ISM) Dhanbad

Prof. Vineet Kumar, Chemical Engineering, IIT(ISM) Dhanbad

Prof. Soubhik Kumar Bhaumik, Chemical Engineering, IIT(ISM) Dhanbad

Prof. Aditya Kumar, Chemical Engineering, IIT(ISM) Dhanbad

Prof. Suman Dutta, Chemical Engineering, IIT(ISM) Dhanbad

Prof. Siddhartha Sengupta, Chemical Engineering, IIT(ISM) Dhanbad

Prof. Krishna Sandilya Durbha, Chemical Engineering, IIT(ISM) Dhanbad

Prof. Chandan Guriya, Petroleum Engineering, IIT(ISM) Dhanbad

Local Organizing Committee:

Prof. Suresh Kumar Yatirajula, IIT(ISM) Dhanbad

Prof. Lutukurthi D N V V Konda, IIT(ISM) Dhanbad

Prof. Paidinaidu Paluri, IIT(ISM) Dhanbad

Prof. Soumyajit Sen Gupta, IIT(ISM) Dhanbad

Prof. Priyanka D Pantula, IIT(ISM) Dhanbad

Prof. Sandip Mandal, IIT(ISM) Dhanbad

Prof. MN Nandanwar, IIT(ISM) Dhanbad

Prof. Bidhan Chandra, IIT(ISM) Dhanbad

Prof. Sourav Sengupta, IIT(ISM) Dhanbad

Prof. Aritra Santra, IIT(ISM) Dhanbad

Prof. Madhumita Patel, IIT(ISM) Dhanbad

Prof. Madhulika Gupta, IIT(ISM) Dhanbad

Mr. Suraj Prakash, TEXMiN Dhanbad

Mr. Muhammed Danish, TEXMiN Dhanbad

Dr. Sriprana Chatterjee, CSIR IMMT & INYAS

Prof. Chirashree Roy Chaudhuri, IEST & INYAS

Dr. Kutubuddin Molla, ICAR-NRRI & INYAS

Dr. Dibyendu Chatterjee, ICAR-NRRI & INYAS

Prof. Praveen Kumar, IACS & INYAS

Prof. Budhaditya Mukherjee, IIT KGP & INYAS

Prof. Nishant Chakravorty, IIT KGP & INYAS

Dr. Namisha Sharma, ILS & INYAS

Co-Conveners:

1. Dr. M.S. Santosh, Member INYAS

Senior Scientist & Head, CHESS, CSIR - CIMFR

Contact: +91- 9480793007

Email: santoshms@cimfr.nic.in

2. Prof. Madhulika Gupta

Assistant Prof., Department of Chemistry and

Chemical Biology, IIT(ISM) Dhanbad

Email: madhulikagupta@iitism.ac.in

Convener:
Prof. Ejaz Ahmad, Member INYAS
Assistant Prof. Chemical Engg., IIT(ISM) Dhanbad
Contact: +91-9891566334
Email: ejaz@iitism.ac.in