

DETAILED PROGRAMME - INAE ANNUAL CONVENTION 2023

December 9-11, 2023

in association with Siksha ‘O’Anusandhan University, Bhubaneswar, IIT Bhubaneswar,
CSIR-IMMT Bhubaneswar and INAE Bhubaneswar Chapter

DAY 1 - December 9, 2023 (Saturday)

1000–1100 hrs.	-	Registration
1100 –1300 hrs.	-	Inaugural Session <ul style="list-style-type: none">• Welcome & Lighting of Lamp by dignitaries/Invocation• Welcome Address by Prof. Damodar Acharya, FNAE and Prof. PK Nanda, Vice Chancellor, SOA University• Presidential Address by President, INAE - Prof Indranil Manna• Release of Book on “Diverse Space Applications” authored by Dr. BN Suresh, FNAE, Former President, INAE• Inaugural Lecture by the Chief Guest - Mr TV Narendran, CEO and Managing Director, Tata Steel Limited• Vote of Thanks – Offg. Executive Director, INAE – Lt Col Shobhit Rai (Retd)
1300 – 1400 hrs.	-	LUNCH
1400 – 1500 hrs.	-	First Panel Discussion on “New Tech industry” Moderator: Prof. UB Desai, FNAE, Vice-President, INAE and former Director, IIT Hyderabad. Panelists: <ol style="list-style-type: none">1. Dr. Suraj Rengarajan, CTO, Applied Materials India.2. Dr. Ramesh Hariharan, FNAE, CEO, Strand Life Sciences.3. Dr. Satyanarayanan R. Chakravarthy, Professor, IIT Madras, and Co-founder, Agnikul Cosmos, ePlane.Ai, Tutr Hyperloop and GalaxEye.4. Mr. Chandan Sawhney, Head of Advanced Engineering, Tata Motors.
1500 – 1530 hrs.	-	TEA
1530– 1730 hrs.	-	Technical Presentations by Fellows & Young Associates (parallel session) (15 minutes presentations by each speaker)
Parallel Session-1 Engineering Section I (Civil Engineering), Engineering Section III (Mechanical Engineering), Engineering Section VII (Aerospace Engineering) and Engineering Section IX (Energy Engineering)	Parallel Session-2 Engineering Section II (Computer Engineering and Information Technology), Engineering Section V (Electrical Engineering) and Engineering Section VI (Electronics & Communication Engineering)	Parallel Session-3 Engineering Section-IV(Chemical Engineering),Engineering Section VIII (Mining, Metallurgical and Materials Engineering); and Engineering Section X(Interdisciplinary Engineering & Special Engineering Fields and Leadership in Academia, R&D and Industry)

PARALLEL SESSION-1

Engineering Section I (Civil Engineering), Engineering Section III (Mechanical Engineering), Engineering Section VII (Aerospace Engineering) and Engineering Section IX (Energy Engineering)

Prof Vigor Yang-FF	-	Engineering Design Innovation in the Data Era
Prof Dilip Kumar Pratihar	-	Design and Development of Intelligent and Autonomous Systems
Dr K. Subramanian	-	A breakthrough alternative to Power Electronics
Dr. A R Harikrishnan-YA	-	Modulating the interfacial Phenomenon and Drop-Surface Interaction for Various Engineering Applications
Dr Poonam Sundriyal-YA	-	Printed Supercapacitors for Flexible and Wearable Electronics

PARALLEL SESSION-2

Engineering Section II (Computer Engineering and Information Technology), Engineering Section V (Electrical Engineering) and Engineering Section VI (Electronics & Communication Engineering)

Dr Kamla Prasan Ray	-	Indigenous Development of Advanced Technologies
Dr Tapan Sahoo	-	Future Mobility in India
Prof Sudeshna Sarkar	-	NLP for low resource languages
Mr Sreenivas Subramoney	-	Building high-performance computing systems under aggressive cost and power constraints
Prof. Udaya Kumar	-	Contribution to Lightning and Electromagnetics
Dr. Ashish Ranjan Hota-YA	-	Data-Driven Distributionally Robust Optimization and Control
Dr. Soumya Prakash Dash-YA	-	Design of Optimal QPSK Constellation for a PLC System in Nakagami-m Noise Environment

PARALLEL SESSION-3

Engineering Section IV (Chemical Engineering), Engineering Section VIII (Mining, Metallurgical and Materials Engineering); and Engineering Section X (Interdisciplinary Engineering & Special Engineering Fields and Leadership in Academia, R&D and Industry)

Prof Sunil Subhash Bhagwat	-	Exergetically optimum heat based refrigeration for milk chilling
Dr Chetan Prakash Kaushik	-	Spent Fuel Management in India – a holistic approach
Dr. T. Bhaskar	-	My Engineering Journey: A Practicing Metallurgist to providing technology leadership to the specialty steel industry
Prof Pralay Maiti	-	Renewable Energy Devices Using Polymers and Composites
Prof Sanjay M Mahajani	-	Chemical Engineering beyond Chemical Industry: a journey from Laboratory to Field
Dr Ananth Govind Rajan-YA	-	In Silico Design of Materials for Separations and Catalysis

1630 – 1830 hrs.	-	INAE Governing Council meeting (in parallel) <i>(only for members of the INAE Governing Council)</i>
1730 – 1830 hrs.	-	High Tea for Networking of Fellows/Young Associates and others along with families
1830 – 1915 hrs.	-	Special Talk by Mr. S Somanath, Chairman, Space Commission, Chairman, ISRO and Secretary, Department of Space
1930 – 2030 hrs.	-	Cultural Programme - Performance on Evolution of Odissi Dance by: 1. Dr Aruna Mohanty, Orissa Dance Academy, Bhubaneswar. 2. Dr Manmatha Satpathy, Odisha Sangeet Natak Academy, Bhubaneswar.
2030 – 2130 hrs.	-	Dinner

DAY 2 – December 10, 2023 (Sunday)		
0900–1030 hrs.	-	Brief Presentations on Technical Report by Conveners, Sectional Committees <ul style="list-style-type: none"> • SC-I – Presentation by Prof Subrata Chakraborty on “Sustainable Coastal Zone Management of River Mouths” • SC-III – Presentation by Dr M. Sathya Prasad on “Hydrogen Economy: An India Specific Approach” • SC-V – Presentation by Prof. Laxmidhar Behera on “National Strategy for Advancing Drone Technology”. • SC-VI - Presentation by Prof. Debatosh Guha on “Tri-structural Isotropic (TRISO) particle fuels: Possibility of their usage in day-to-day applications”. • SC-VII –Presentation by Dr. S Pandian on "UAV Indigenization – A Way forward”. • SC-VIII – Presentation by Dr. Harish Barshilia on Technical Report titled “Stealth Materials and Technologies for Strategic Sector”. • SC-IX – Online Presentation by Dr. Shashank Chaturvedi on “Green Technologies from Plasmas” • SC-X – Presentation by Prof. Samir Kumar Pal on “Interdisciplinary Research for One Health: Unity in Diversity for Society”.
1030 – 1115 hrs.	-	TEA
1115 hrs. – 1145 hrs.		Plenary Talk on “Green Hydrogen” by Prof. GD Yadav, FNAE, Emeritus Professor of Eminence, ICT and JC Bose National Fellow, Institute of Chemical Technology, Mumbai.
1145–1300 hrs.	-	Second Panel Discussion on “Artificial Intelligence in Industry 4.0 and Sustainability” – Moderator: Pr`of. Partha P Chakrabarti, FNAE, Former Director, IIT Kharagpur. Panelists: 1. Dr Arpan Pal, TCS Research, Kolkata. 2 Prof Amaresh Chakrabarti, IISc Bangalore. 3. Dr. Rajeev Shorey, FNAE, IIT Delhi. 4. Dr. Manish Gupta, FNAE, Google Research India, Bangalore.
1300–1400 hrs.	-	LUNCH
1400-1700 hrs.	-	Technical Presentations by Fellows and Young Associates (Parallel Sessions Contd.) <i>(15 minutes presentations by each speaker)</i>
PARALLEL SESSION-1		
Engineering Section I (Civil Engineering), Engineering Section III (Mechanical Engineering), Engineering Section VII (Aerospace Engineering) and Engineering Section IX (Energy Engineering)		
Dr Sugilal Gopalakrishnan	-	Indigenous Technologies for Electromagnetic Processing of Materials
Dr Umasankari Kannan	-	Design considerations for utilising thorium in advanced energy systems
Prof Deepankar Choudhury	-	Sustainable Foundation Solutions for Mega-Structures under Earthquake Conditions – Theory and Practice
Dr Ramesh Datla	-	Enabling Engineering Innovation for Realising Self-Reliant India (Under Jal Jeevan Mission Innovation Challenge)
Dr Nagahanumaiah	-	Engineering of Micro Nano Systems - The 4P Challenges
Dr. Jaiteerth Raghavendra Joshi	-	Innovative Technologies for High Reliability Weapon System

Dr. Pramod Madhukar Chaudhari	-	Reimagining Air Transportation with Sustainable Aviation Fuel (SAF)
Prof. Indumathi M Nambi	-	"The greatest threat to our planet is the belief that someone else will save it." - Robert Swan
Dr Arnab Banerjee-YA	-	Metamaterials Towards Resilient Infrastructures
PARALLEL SESSION-2		
Engineering Section II (Computer Engineering and Information Technology), Engineering Section V (Electrical Engineering) and Engineering Section VI (Electronics & Communication Engineering)		
Prof Utpal Garain	-	User-centric Explanations for AI-aided Medical Diagnostics Systems
Prof M. Jaleel Akhtar	-	RF Sensors, Microwave Imaging, and Nanocomposites-Based Microwave Absorbers
Prof. Alan Conrad Bovik-FF	-	Secrets of Picture Quality
Prof Kishore Chatterjee	-	Grid Connected Single Phase Transformer-less Power Electronic Interfaces for Solar Photo Voltaic Systems
Prof Madhava Krishna Krishnan	-	Riding the AI Wave in Robotics
Prof Balaraman Ravindran	-	Reinforcement Learning with Structured Actions and Policies
Dr Hirendra Nath Ghosh	-	Ultrafast Charge Carrier Dynamics at the Interface of p-n Semiconductor Heterojunctions
Dr. Sikhar Patranabis-YA	-	Designing Quantum-Safe Cryptographic Systems: From Theory to Practice
Dr Palash Dey-YA	-	Algorithms for Kidney Exchange
Dr Vedanta Pradhan-YA	-	Autonomous transmission line protection for dynamic grids with renewable resources
PARALLEL SESSION-3		
Engineering Section IV (Chemical Engineering), Engineering Section VIII (Mining, Metallurgical and Materials Engineering); and Engineering Section X (Interdisciplinary Engineering & Special Engineering Fields and Leadership in Academia, R&D and Industry)		
Dr Avanish Kumar Srivastava	-	Materials for Sustainable Technology and Circular Economy
Prof. Rekha Satishchandra Singhal	-	An amalgamation of food, chemical and bioprocess sciences for innovative products and technologies: Some case studies
Dr Chitra Rajagopal	-	Initiatives in Integrated Safety management & Hydrogen safety
Dr M Ravichandran	-	Blue Economy for National growth: Challenges and opportunities
Dr. Jhillu Singh Yadav	-	Role of Chemistry in Sustainable Development
Dr Rajkumar Prasad Singh	-	From R&D to Business at Bharat Forge Ltd., and Kalyani Group of Companies
Dr. Naga Vara Aparna Akula-YA	-	Design and development of intelligent sensing and alert systems using thermal infrared imaging and seismic sensing
Dr Sathya R-YA	-	Sustainable Circular preparation of Protein from Chrome Shaving Waste: A Path to Resource utilization
Dr Shourya Dutta Gupta-YA	-	Development and Application of Plasmonic Nano-platforms
1700–1800 hrs.	-	High Tea for Networking of Fellows and dignitaries along with families
1800–2000 hrs.	-	Break/Buffer
2000–2130 hrs.	-	DINNER

DAY 3 - December 11, 2023 (Monday)

0900–0945 hrs.	-	Audio-Visual Presentation on Culture & Heritage of Odisha by: 1. Prof Omkar Nath Mohanty, Ex Vice Chancellor, Biju Patnaik University of Technology, Bhubaneswar. 2. Dr Sunil Kumar Patnaik, Director, Odisha Institute of Maritime and East Asian Studies, Bhubaneswar.
0945–1200 hrs.	-	Annual General Meeting (AGM) of Fellows and induction of newly elected Fellows & Young Associates
1200–1230 hrs.	-	TEA
1230–1330 hrs.	-	AGM Continuation and/or Special General Meeting of Fellows
1330–1400 hrs.	-	LUNCH
1400-1630 hrs	-	Local Excursion tour for all interested INAE Fellows/Young Associates along with their spouses (optional)
1630 hrs onwards	-	DISPERSAL