



Anusandhan National Research Foundation
Indian National Academy of Engineering
National Institute of Technology Warangal



jointly organise the

18th National Frontiers of Engineering (NatFoE) Symposium

&

Innovations in Manufacturing Process (IMP)

*under the aegis of "ANRF (SERB)-INAE Conclaves on Atmanirbhar Technologies -
Engineering Secured Future"*



16th and 17th November 2024

Get Started



natfoe2024@nitw.ac.in



www.nitw.ac.in/natfoe2024



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NatFoE

The Symposium on National Frontiers of Engineering (NatFoE) is a flagship event of the Indian National Academy of Engineering (INAE) since 2006. It brings together emerging engineering leaders from academia, industry, and R&D labs. NatFoE serves as an enabling platform for sharing cutting-edge research, technical innovations, and emerging trends across a wide spectrum of engineering fields.

The 18th National Frontiers of Engineering (NatFoE) Symposium is scheduled to be held during 16th-17th, November 2024, jointly organised by INAE and NIT Warangal. This prestigious two-day event will provide ample opportunities to participate with eminent speakers known for their exceptional research and innovation. Alongside plenary and invited delegate speaker sessions, the symposium will feature poster presentations, offering an additional platform for sharing innovative ideas and fostering in-depth discussions on the cutting-edge engineering topics.

Themes

This year's symposium will focus on key themes addressing critical advancements and challenges in engineering. These topics will foster interdisciplinary dialogue and collaboration, bringing together thought leaders from academia, industry, and research to explore the future of engineering and technology.

- **Additive Manufacturing and Automation**
- **Smart Grid: Power Electronic Converters, control and Protection**
- **Green Hydrogen and Storage Technologies**
- **Quantum Computing, Artificial Intelligence and Machine Learning**

IMP

NatFoE will be co-located with the Innovation in Manufacturing Processes (IMP), a national project competition open to engineering students and practitioners. The competition welcomes participation from undergraduates, postgraduates, and PhD students in Engineering and Technology and incubators, providing a platform to showcase innovative solutions in manufacturing processes. IMP aims to foster creativity and technical excellence, offering participants an opportunity to present their projects to a distinguished audience of industry experts, researchers, and academics

Important Dates

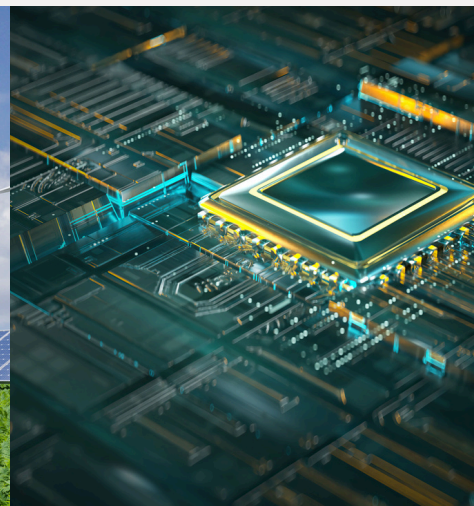
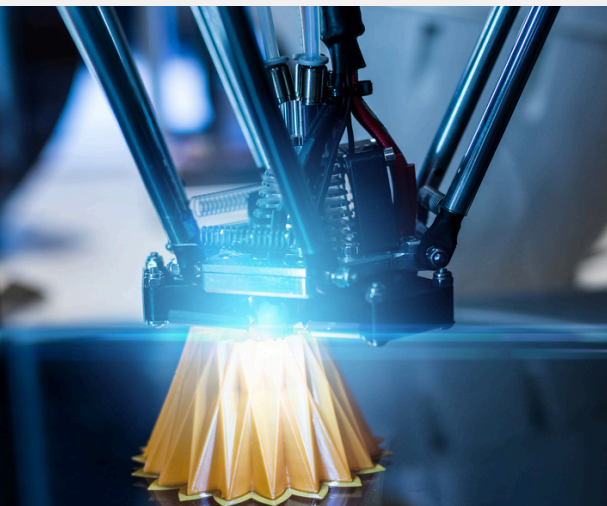
Last date to submit Posters: 7th November 2024

Last date to submit abstract for IMP: 7th November 2024

Symposium on 16th - 17th November 2024



National Institute of Technology Warangal



Anusandhan National Research Foundation (ANRF)

The Anusandhan National Research Foundation (ANRF) has been established with Anusandhan National Research Foundation (ANRF) 2023 Act. The ANRF aims to seed, grow and promote research and development (R&D) and foster a culture of research and innovation throughout India's universities, colleges, research institutions, and R&D laboratories. ANRF will act as an apex body to provide high-level strategic direction of scientific research in the country as per recommendations of the National Education Policy (NEP). With the establishment of ANRF, the Science and Engineering Research Board (SERB) established by an act of Parliament in 2008 has been subsumed into ANRF. ANRF will forge collaborations among the industry, academia, and government departments and research institutions, and create an interface mechanism for participation and contribution of industries and State governments in addition to the scientific and line ministries. [For more details, please click here](#)

Indian National Academy of Engineering (INAE)

The Indian National Academy of Engineering (INAE), founded in 1987 comprises India's most distinguished engineers, scientists and technologists covering the entire spectrum of engineering disciplines. INAE functions as an apex body and promotes the practice of engineering and technology and the related sciences for their application to solving problems of national importance. The Academy also provides a forum for futuristic planning for the country's development requiring engineering and technological inputs.

[For more details, please click here.](#)

National Institute of Technology Warangal (NIT Warangal)

National Institute of Technology Warangal is an institute of national importance which was established in 1959. This is the first NIT of the country whose foundation stone was laid by the Pandit Jawaharlal Nehru. It is a fully residential lush green campus spread across 250 acres. The Institute has received a significant recognition from different stake holders for its excellence in teaching and research. It has been facilitated with competent faculty staff and excellent infrastructure.

The institute offers 11 BTech, 26 MTech, 5 MSc, MBA, MCA, Integrated MSc, BSc, BEd, and PhD in engineering, sciences, humanities and management. The Institute currently has thirteen academic departments and advanced research centers in various disciplines of engineering, sciences and management, with nearly 100 laboratories for teaching and R&D.

[For more details, please click here.](#)

Team

Patron

Prof. Indranil Manna, FNAE, President, INAE

Coordinators

Prof. Bidyadhar Subudhi, FNAE, Director, NIT Warangal

Prof. Sivaji Chakravorti, FNAE, Vice President, INAE

Core Team

Prof. Shirish H Sonawane, Dean (Research & Development) - **Convenor**

Prof. P Ratish Kumar, Prof. Kartik Balasubramanian, Prof.S Shankar, Prof. Bharat Bandi,

Prof. Ram Krishan, Prof. V Sreedevi, and Prof. Sreehari Rao Patri

Theme Conveners

Additive Manufacturing & Automation: Prof. Adepu Kumar, Prof .Y Ravi Kumar and Prof. Shivraman

Smart Grid: Power Electronic Converters, control and Protection: Prof. V T Somasekhar and

Prof. Ram krishan

Green Hydrogen and Storage Technologies: Prof. P V Suresh and Prof. K Manohar

Quantum Computing , Artificial Intelligence and Machine Learning: Prof. P Radhakrishna,

Prof. U Venkanna and Prof. Manish K Bajpai

IMP Start-ups /Exhibits / Posters

Prof. Y Ravi Kumar, Prof. Ravi Kumar J, Prof. L Anjaneyulu, Prof. Sreehari Rao Patri, Prof. P Subhas

Chandra Bose, Prof. P Vamsi Krishna

Organising Team

Prof. Rashmi Ranjan Rout, Prof. T Phanirama Tezeswi, Prof. G. Uday Bhaskar, Prof. K S Raj Mohan,

Prof. P Sampath Kumar, Prof.Sanjit Biswas, Prof. Sanjaya K Panda, Prof. Jew Das, Prof. T Rahul,

Shri Gajanan Devkate and Shri Adesh Srivastava



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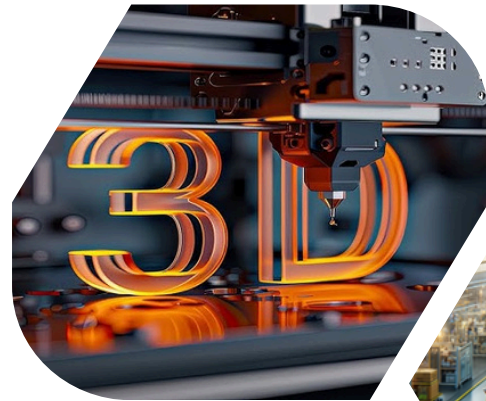
INNOVATION IN MANUFACTURING PRACTICES

IMP 2024

UNDER THE AEGIS OF "ANRF (SERB) - INAE CONCLAVES ON ATMANIRBHAR TECHNOLOGIES - ENGINEERING SECURED FUTURE"



National Level Project Competition (IMP-2024) is open to all Engineering students and practitioners under three categories, viz., Undergraduate Students, Postgraduate students and Startups & Ph.D. scholars.



UG
 1st Prize
 ₹40,000
 2nd Prize
 ₹20,000

Startup/Ph.D

1st Prize
 ₹40,000
 2nd Prize
 ₹20,000

PG
 1st Prize
 ₹40,000
 2nd Prize
 ₹20,000

Entries for this competition should be submitted before 7th November 2024

SCAN ME



MORE INFO : CONTACT

Dean R&D

NIT, Warangal

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Submission link

<https://forms.gle/Uarh8SBS9z5jwB4q9>

Limited team's ! Register fast

Event Date
 17th NOVEMBER
 2024



Innovation In Manufacturing Practices

The manufacturing sector in India is crucial for economic growth, job creation, and global competitiveness. Strengthening it through innovation, infrastructure, and skill development will unlock its full potential as a global manufacturing hub.

Innovations like automation, 3D printing, the Internet of Things (IoT), digital twins and sustainability are revolutionizing the design, production, and distribution of goods.

As of 2024, India's manufacturing sector contributes around 17% to the GDP, while the services sector accounts for about 55%. The government aims to raise the manufacturing share to 25% by 2025, focusing on strategic sectors like defence, space, EVs, and energy. These efforts are intended to reduce import dependency, improve national security, and create job opportunities.



HIGHLIGHTS OF IMP

- Eligible Branches: Aeronautical, Biomedical, Chemical, Civil, Computer/Information, Design, Electrical, Electronics & Communication, Industrial, Instrumentation, Material Science, Mechanical, Power, Production and other allied branches.
- Eligible Startups: Entrepreneurs-in-Residence (EiR) and Startups with less than two years and incubated at any of the Technology Business Incubators (TBI).

PARTICIPANT CHECKLIST

- The entries are to be submitted along with a three-minute video [.mp4] of their working model to demonstrate the innovation's operation and a write-up of a maximum of 250 words.
- These selected entries can showcase their innovation through physical demonstration/ presentation during the NatFoE - 24 Conclave & IMP (16th -17th November 2024)
- From the eighteen shortlisted entries, a national committee comprising domain experts will select six prize winners (2 each from each group).



NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL

Telangana, India



For More details

www.nitw.ac.in/natfoe2024