

# CALL FOR PAPERS

## 1st International Conference on **Additive Manufacturing and Advanced Materials**



4 - 5 - 6  
October 2021

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NAAC 'A' Grade

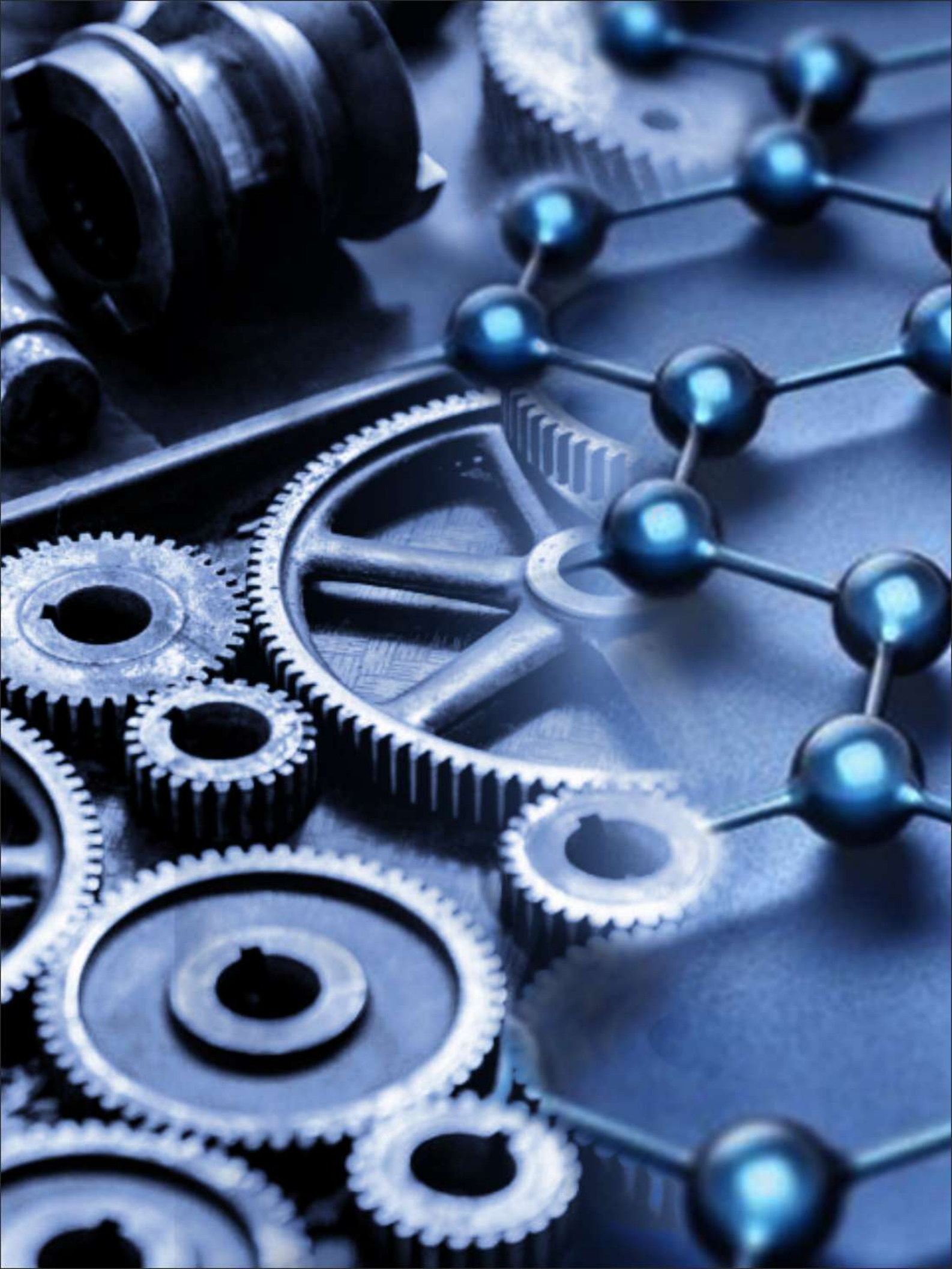
**PDEU** PANDIT  
DEENDAYAL  
ENERGY  
UNIVERSITY

GANDHINAGAR, GUJARAT

Formerly Pandit Deendayal Petroleum University (PDPU)



<https://sot.pdpu.ac.in/am2.html>





# Conference Overview



The 1st International Conference on Additive Manufacturing and Advanced Materials (AM2–2021) is to be held at Pandit Deendayal Energy University (PDEU), Gandhinagar India from 4, 5, 6 October 2021. Additive manufacturing is set to change how the manufacturing sector operates. This technology has brought the change from analog to digital control for the layer by layer building of geometric shapes. The advancements in material science have further given impetus to additive manufacturing. These advancements in material technology has also impacted energy sector to the construction sector. Different domains of engineering are involved in additive manufacturing and employ the advancements in material technology for developing the technology.

AM2–2021 provides a platform to the researchers across the globe to come forward from multidisciplinary areas of Additive Manufacturing, Advanced Manufacturing, Green Manufacturing, Green Materials, Geometrical Dimensioning & Tolerancing, Functionally Graded Materials, Composites, Industrial Engineering, Industrial Automation and Process Control, Micro & Nano Manufacturing, Manufacturing Systems and Equipment, Materials and Characterization, MEMS & Materials, Computer Integrated Industrial Robots and Automation, Metal Joining & Forming Process, Industry 4.0, Lean & Agile Manufacturing, Manufacturing System, Laser Technology & Applications, Surface Modification Technologies, Corrosion & Wear Behavior and Precision Engineering to share their ideas and explore the innovations. The conference also provides the opportunity to showcase and observe the developments in material science and their applications in various domains. With energy being a key sector that power the manufacturing industry, the conference also aims to bring into focus the research trends and direction of research in energy sector. This conference will serve as a melting pot for ideas for cutting edge research and innovations from researchers with industry and academic background from different discipline of engineering and science.

The conference invites industry personnel, academicians, research scholars and students working in the domain of mechanical, electrical, civil, chemical, computer science, information and communication technology, petroleum engineering as well as basic sciences to contribute and present their work. The accepted and presented papers shall be submitted to Materials Today (Scopus indexed) proceedings.

**Office of Dean (R&D) & Internal Quality Assurance and Control Cell, PDEU**

**Conference will be held in hybrid mode. Only the participants who have been Administered with both the vaccine doses will be allowed for on-campus participation.**







# Pandit Deendayal Energy University

Pandit Deendayal Energy University's (PDEU) 100 acre campus is located in Gandhinagar, which is the capital city of Gujarat and located 23 Km North from a well developed city called Ahmedabad with a population of 8 million people. The city is famous for its remarkable cultural development and social life.

PDEU offers multiple courses ranging from engineering, arts and management along with maximum exposure and opportunities to its students through various national and International exchange programs with Best Universities worldwide. For development of its faculties and staff, the University endeavors for various Joint Exchange and Research programs.

## SCHOOLS @ PDEU

**School of Technology** offers B.Tech. in the fields of Civil, Electrical, Electronics and Communication, Mechanical, Automobile, Chemical, Computer and ICT. Besides this the school also offers Ph.D. and M.Tech. in the mentioned domains and in Solar as well as Nuclear Engineering. Moreover, B.Sc. (Hons) program in Physics, Chemistry and Mathematics is also offered by the school.

**School of Petroleum Technology** offers B.Tech., M.Tech. and Ph.D. programs in Petroleum Engineering. It is academically engaged in creating a high quality talent pool for the hydrocarbon sector across the entire value chain.

**School of Petroleum Management** offers M.B.A. in (a) Energy & Infrastructure and (b) General Management, Ph.D., Post Graduate Diploma in Petroleum Management for Executives (PGDPM-X) and Management Development Programmes.

**School of Liberal Studies** offers four year Hons. degree programme in the field of Liberal Studies, M.A. in Public Administration/ International Relations/ Political Science as well as the Ph.D. programs.



## **CHIEF PATRON**

**Dr. Mukesh Ambani**  
President, PDEU

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## **PATRON**

**Prof. (Dr.) S. Sundar Manoharan**  
Director General, PDEU

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Dept. of Chemistry

**Dr. Shakti Mishra**  
Dept. of Computer Science Engg.

**Dr Krunal Mehta**  
Dept. of Mechanical Engg.

## Keynote Speakers

**Dr. U. Chandrasekhar**  
Program Director – Addwize,  
Advanced Technology Centre, Wipro3D,  
Bengaluru, India

**Dr. D. Srivastava**  
Chairman & Chief Executive,  
Nuclear Fuel Complex, Hyderabad, India

**Dr. S. K. Jha**  
Director — Production & Marketing,  
MIDHANI, Hyderabad, India

**Mr. Virendra Gupta**  
Head R&D - Polymer & Senior Vice President  
Reliance Industries Limited

**Dr. Shreedhar Balram**  
MD & Founder, Intech Additive Technology Pvt. Ltd.

**Dr. Chaitanyamoy Ganguly**  
Distinguished Professor,  
Department of Nuclear Science and Technology,  
School of Technology, PDEU

**Dr. Anand Gupta**  
Deputy Director General, DGH

**Dr G. Satheesh Reddy**  
Secretary, Department of Defence R&D  
and Chairman, DRDO





# Scientific Sessions



## Track I: Additive Manufacturing

- Design & Development of AM Machine for Plastics/Polymers and Metals & Alloys
- Basic Science & Modelling of AM
- Raw Materials Including Special Powders for Metallic Additive Manufacturing
- Additive Manufacturing Techniques
- Additive Manufacturing of Smart Materials, Super/High Entropy Alloys/Special Metals
- Additive Manufacturing of Phase Change & Functionally Graded Materials
- Post Processing Techniques in Additive Manufacturing
- Additive Manufacturing Applications in Advanced Areas
- Solid State Additive Manufacturing Processes
- Cold Spray Additive Manufacturing

- Pyrolysis and Gasification
- Energy Efficient Processes/Process Intensification Technologies in Additive Manufacturing
- Power Generation, Transmission and Distribution
- Power System Operations, Control and Protection
- Electrical Machines and Drives
- Power Electronics and its Applications in Energy Systems
- Smart Grids, Electric Vehicles and Distributed Generation
- Automation, Control and Robotics
- Applications of AI and ML in Electrical Engineering

- Printability of Alloys & Materials for Additive Manufacturing
- 3D Printing Technology in Infrastructural Projects
- Statistical Process Control for Advance Material Management of Construction Projects
- Application of Block Chain for Advance Material Management
- Application of IoT and Cloud Computing in Advance Material Management

- Application areas of AM:
  - Aerospace & Defense
  - Engineering Components for Automobile, Metal Forming, Turbine, etc.
  - Nuclear Power Reactor Core and Fuel Assembly Components
  - Biomedical & Implants Including Dental
  - Jewellery & Other Consumer Items
  - Oil & Gas Industry
  - Shape Memory Alloy Components
  - Market & Business Development

- AI Enabled Additive Manufacturing
- Smart Manufacturing Technology
- Predictive Maintenance
- AI in Autonomous 3D Printed Home Architecture
- Machine Vision Techniques for Advance Material Characterization
- 3D Printed RF Passive Structures
- 3D Printed Circuit Boards

# Scientific Sessions



## Track II: Advanced Materials

- Solid Oxide Fuel Cell, Hydrogen Energy Bio Fuels (Mainly for Aviation)
  - Advanced Materials for Super Critical and Ultra Super Critical Boilers
  - Materials for Carbon Capture, Storage and Utilization
  - Materials for Water Security; Nano Filters and Membranes
  - Advanced Materials for Sensors and Actuators
- Advanced Glass, Ceramics and Composites for Engineering Applications
  - Advanced Materials for Building and Infrastructure
  - Advanced Materials Based on Waste Utilisation and Recycling
  - Applications and Characterisation of Advance Materials
- Advance Biomaterial Composites
  - Advance Organic/Inorganic Hybrid Nano Materials
  - Advance Materials for Drug Delivery System
  - Advanced Green Materials
- Processing of Advanced Materials/Micro Moulding
  - Advanced Materials for Catalysis and Electrocatalysis
  - Advanced Materials for Flexible and Nano Electronics/Electronic Devices
  - Nonlinear Optical Materials
  - Radioactive and Nuclear Materials
  - Advance Materials for Photo-Voltaic and Thermo-Voltaic Devices and Applications
- Computational, Simulation and Modeling of the Smart Materials
  - Analysis of Functionally Graded Materials
  - Mathematical Modelling for Production Enhancement and Supply Chain Management of Advanced Materials
  - Control Systems in Additive Manufacturing.
  - Mathematical Modelling and Applications in Additive Manufacturing and Advanced Materials.
  - Manufacturing Enhancement of Materials through Artificial Intelligence.
- Advanced Materials for Energy Security:
    - Carbon-Based & Carbon-Free Energy
    - Solar Photovoltaic, Wind Energy
    - Energy Storage Including Lithium-Ion Batteries & Other Novel Batteries for EV
    - Molten Salt for Energy Storage
  - Advanced Materials for Biofuels
  - Advanced Materials for Wastewater Treatment
  - Advanced Construction Materials
- Waste Material Utilization
  - Application of Nano Materials in Construction
  - Utilization of Industrial and Agricultural by Products



# Paper Submission

Academicians, industry personnel and Ph.D./M.Tech./B.Tech. students are invited to submit their original research papers in the listed technical tracks. The submitted papers should not be already published or under consideration for publication in any conference/journal. **Research papers need to be prepared as per the template given on the website. The maximum page limit is eight.** The authors are needed to adhere to the guidelines provided in the template as well as other guidelines stated by the conference committee.

The final pdf copy of the paper needs to be emailed at [AM2@pdpu.ac.in](mailto:AM2@pdpu.ac.in) before the deadline. The number and name of the track and sub-track, if applicable, to which the paper is being submitted must be mentioned in the email. The authors of the accepted papers will be invited to present the papers during the conference. The accepted and presented papers shall be submitted to Materials Today (Scopus indexed) proceedings.

## Deadlines

Call for Papers	10-07-2021
Last Date for Paper Submission	31-08-2021
Notification of Acceptance	10-09-2021
Submission of Final Camera Ready Paper	16-09-2021
Last Date for Registration	22-09-2021

## Registration Fees (including GST)

Industry Delegates	INR 6000
Faculty & Ph.D. Scholars	INR 5000
Master's & Bachelor's Students	INR 3500
Foreign Faculty & Ph.D. Scholars	US\$ 70
Foreign Master's & Bachelor's Students	US\$ 50
Foreign Delegates	US\$ 100

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