



4th INTERNATIONAL CONFERENCE ON

**Smart and Sustainable Developments in Materials,
Manufacturing and Energy Engineering
(SME-2022)**

**(Under the Aegis of ICETE 2022 Multi-Conference
Platform)**

**December 22 - 23, 2022
Organized by**

Department of Mechanical Engineering



NITTE
(Deemed to be University)

**NMAM INSTITUTE
OF TECHNOLOGY**

Nitte – 574 110, Karkala Taluk, Udupi District, Karnataka, India

ISO 9001:2015 Certified, Accredited by NAAC with 'A' Grade

Phone: +91 8258 281264; Fax: +91 8258 281265

Website: www.nmamit.nitte.edu.in/

About NITTE (Deemed to be University)

Nitte (Deemed-to-be University) has its roots in a group of Institutions established by the Nitte Education Trust. The Trust was established in 1979 by one of India's respected Statesman, Late Justice KS Hegde, Supreme Court Judge and Speaker of Lok Sabha, with the mission of empowering rural youth through quality education and healthcare. The Trust has established 36 institutions spread in three campuses at Nitte, Mangaluru and Bengaluru. It offers education in diverse areas of learning including health professions education, engineering, management, humanities, general education, vocational training, and school/pre-university education.

The University offers a total of 98 programs in the disciplines of engineering, medicine, allied health sciences, dentistry, pharmacy, nursing, physiotherapy, speech and audiology, biological sciences, media & communication, commerce, science, management and Architecture. It has 10,000+ students, over 875 faculty members and over 2475 support staff on roll. The University campuses are spread over 52 acres in Deralakatte-Paneer areas of Mangaluru and 110 acres in Nitte.

The University received A+ Grading in NAAC accreditation in 2021. It has been consistently placed in the Top 70-80 rank band in NIRF. The University is placed in the 401 to 450 Rank Band in the QS Rankings for Asia Region. It has received Diamond rating in the QS I-Gauge India Ratings. The Constituent colleges of the university have good standing in their disciplines in the NIRF rankings. In 2021, the dental college was ranked 6th and the medical college and pharmacy colleges were ranked 45th in NIRF. All the Undergraduate Programs of NMAMIT are accredited by NBA. Further, the BPharm program of the University is accredited by NBA. The teaching hospital is accredited by both NABH and NABL.

About the Institute

Nitte Mahalinga Adyanthaya Memorial Institute of Technology (NMAMIT), affiliated to Visvesvaraya Technological University, Belagavi, is an autonomous Institution offering UG, PG and Doctoral programs. It is a unit of Nitte Education Trust, Mangaluru. It currently offers 10 UG programs in engineering, 8 M.Tech programs, MBA and MCA programs. All the UG programs are accredited by NBA, New Delhi. The Institute is ISO 9001:2015 certified and is also accredited by NAAC, with 'A' grade. The institute is ranked 138 in the NIRF ranking (Engg. Institutes)-2021, Govt. of India. The Institute has been awarded "Diamond" rating by QS I-GAUGE Indian Institute Ratings. The college has signed MoU with reputed industries, research organizations, and foreign universities to promote close interaction in areas of recent technologies, research & development, and skill development programs.

About the Organizing Department

The Department of Mechanical Engineering at NMAMIT was established in the year 1986, with an intake of 40 students. Since then, the department has shown substantial growth and at present the passing out strength of UG students is

~200 per year. The department has two master's degree programs namely Machine Design and Energy Systems Engineering with an intake of 18 students each. The department is accredited by the NBA under Tier-1 category. The department is recognized as an established Research Centre under VTU Belagavi and so far, 15 students have completed their PhD, and there are several part-time and full-time doctoral students. The department has six centres of excellence. The research work carried out in micro-machining has won four awards in the prestigious IMTEX exhibition in the last 5 years. The most recent one is 2nd best prize for Research on "Two axis TIG welding of Aluminum alloy with synchronized pulsating wire feeder" in the IMTMA-IMTEX-ToolTech2020 Exhibition held at Bengaluru in January 2020. The institute also won Best Student Project Award in the Fluid Power Society of India Exhibition 2019. Some of the products have been patented and some products have moved from Lab to Land. The students are provided with all-round development opportunities through professional societies, branch association, and several professional club activities.

About the Conference

The Department of Mechanical Engineering, NMAM Institute of Technology, Nitte is organizing a Two Day International Conference on "Smart and Sustainable Developments in Materials, Manufacturing and Energy Engineering (SME-2022)" as a part of the Multi-Conference "International Conference on Emerging Trends in Engineering" (ICETE- 2022) on 22 – 23 December 2022.

The conference is dedicated to driving innovation in nearly every aspect of mechanical engineering. The conference provides a platform for researchers, professionals, executives and practicing engineers from various research institutes, educational bodies and from industries to share and exchange their ideas on the theme of conference. A series of keynote presentations, technical paper presentations are planned to discuss the emerging trends, feasible solutions to pressing problems and to shape and enable the development of mankind.

Theme of the Conference

Smart and Sustainable developments in Materials, Manufacturing and Energy Engineering, is focused on research and emphasizes the latest technological innovations. It showcases the commitment of NMAMIT in bringing together various disciplines, converge and amalgamate various new ideas, fields and technologies. The focus of the conference is to open a new paradigm to deliberate on eco-friendly and robust design use of materials with less environmental impact, use of fewer materials, optimal utilization of resources during manufacturing processes with zero defects. Also, produce less pollution, waste, reuse and recycling of materials. The emphasis is on application of newer technologies like Artificial Intelligence to enhance the productivity, safety and better management of the systems and processes.

Thrust Areas

- ◆ Smart and Sustainable Developments in Materials
- ◆ Smart and Sustainable Developments in Manufacturing
- ◆ Smart and Sustainable Developments in Energy
- ◆ Applications of AI in Mechanical Engineering

Sub Themes to be addressed in this conference include, but not limited to the following:

Smart and Sustainable developments in Materials

- Advanced High strength steels
- Aluminum Alloys
- Biomaterials
- Ceramic Materials
- Characterization & Testing
- Composite Materials
- Dynamic Behavior of Materials and Structures
- Functional Materials
- High temperature & Cryogenic Processing of Materials
- Luminescence Materials and Its Applications
- Materials for Automotive, Energy and Environment
- Materials for Solid State Ion Batteries
- Nanomaterials
- Porous Materials and Their Applications
- Smart and Device Materials
- Smart Construction Materials
- Transport Properties of Materials

Smart and Sustainable developments in Energy

- Alternative fuels
- Biogas and Biomass
- Energy Storage Batteries and other Storage Devices
- Future Energy Technologies
- Global warming & Green Energy Options
- Health and Environment
- Heat & Mass Transfer
- Hybrid vehicles & Integration
- Nanotechnology for sustainability
- Refrigeration & Air-conditioning
- Sustainable Product development
- Thermal Energy
- Thermo Electric Materials

Smart and Sustainable developments in Manufacturing

- CAD/CAM/CAE/CIM
- Computational Mechanics & Techniques
- Control and Automation
- Electronics Manufacturing
- Flexible/ Lean Manufacturing
- High-Speed/Precision Machining & Inspection
- Industrial Robotics and Automation
- Machine Vision
- Measurement Control Technologies and Intelligent Systems
- Mechatronics, MEMS and Nanotechnology
- Metal Cutting and forming Processes
- Modeling, Analysis & Simulation of Manufacturing Processes
- Non-Conventional Machining Processes
- Production, Operations and Supply Chain Management
- Simulation and Optimization Techniques
- Surface Engineering

Applications of AI in Mechanical Engineering

- Logistics and supply chain management
- Fault diagnosis and predictive maintenance
- Quality inspection
- Improving the safety of work place
- Design improvement of thermal systems
- Engineering design, analysis and manufacturing
- Expert systems in mechanical engineering design
- Robotics and Automation
- Intelligent machinery systems
- Predictive and Forecasting Modeling of Mechanical Systems

Invited Speakers

Eminent researchers, academicians and industrialists will be delivering invited talks on topics pertaining to the three major themes of the conference. The list of invited speakers and related details will be updated in the website.

Invited Speakers



Dr. Puneeth Tandon

Professor, Dept. of Mechanical Engineering,
IIITDM, Jabalpur,
MP, INDIA

[View More Details](#)



Dr. Dasappa S.

Professor, Centre for Sustainable
Technologies, Indian Institute of Science,
Bengaluru, Karnataka, INDIA

[View More Details](#)



Dr. Ketan Kotecha

Director at Symbiosis Institute of
Technology, Dean of Faculty of
Engineering at Symbiosis International
University, Pune, Maharashtra, INDIA

[View More Details](#)



Dr. M.T Mathew

Director of Faculty Research; Associate
Professor, Cedric W. Blazer Endowed
Professor of Biomedical Sciences
University of Illinois College of
Medicine, Illinois, USA

[View More Details](#)

Patron:

Sri N. Vinaya Hegde

Chancellor, Nitte (Deemed to be University) & President, Nitte Education Trust, Mangalore

Steering Committee:

Sri. Vishal Hegde, Pro-chancellor, Nitte (Deemed to be University)

Dr. N.R. Shetty, Chancellor, Central University of Karnataka, Gulbarga, Karnataka

Dr. Takamoto Itoh, Vice Dean- Mech Engg, Ritsumeikan University, Japan

Dr. Harish Kumar Madhyastha, Professor, University of Miyazaki, Japan

Dr. Omid Ansary, Senior Associate Dean & Professor, Penn State University, USA

Dr. Shripad T. Revankar, Professor, Purdue University, U.S.A

Dr. Shuhaimi Mansor, Professor, University Technology Malaysia, Malaysia

Mr. Michio Kaida, Director, Chairman, NIDEC-READ Corp., Kyoto, Japan

Dr. Prasad Yarlagada, Queensland University of Technology, Australia

Mr. Tomonari Kobayashi, President, Kobayashi Create Co. Ltd., Aichi-Ken, Japan

General Chair:

Dr. Niranjan N. Chiplunkar, Principal, NMAM Institute of Technology, Nitte

General Co-Chairs:

Dr. I. R. Mithanthaya, Vice Principal & Dean (Academics), NMAM Institute of Technology, Nitte

Dr. Shrinivasa Rao B. R., Vice Principal & Controller of Examinations, NMAM Institute of Technology, Nitte

SME 2022 Chair:

Dr. Srinivasa Pai P., Professor & Head, Dept. of Mechanical Engineering, NMAM Institute of Technology, Nitte

Organizing Secretary:

Dr. Ravindra, Asst. Professor, Dept. of Mechanical Engg., NMAM Institute of Technology, Nitte,

Dr. Austine Dinesh D'Souza, Asst. Professor, Dept. of Mechanical Engg., NMAM Institute of Technology, Nitte

Dr. Nithin Kumar, Asst. Professor, Dept. of Mechanical Engg., NMAM Institute of Technology, Nitte

Internal Organizing Committee

Dr. Shashikanth Karinka, Professor

Dr. Muralidhara, Professor & Head, Dept. of Robotics & Artificial Intelligence

Dr. Grynal D'Mello, Associate Professor

Dr. Mallikappa, Professor
Mr. Srinivas Prabhu, Asst. Professor
Mr. Mohan Poojari, Asst. Professor
Dr Ajit Hebbale, Associate Professor
Dr Rashmi P Shetty, Asst. Professor
Mr. Aneesh Jose, Asst. Professor
Mr. Vincent Linish D'Souza, Asst. Professor, Dept. of Robotics & Artificial Intelligence
Mr. Ravikiran Kamath, Asst. Professor
Mr. Melwyn Rajesh Castelino, Asst. Professor
Dr. Vidyasagar Shetty, Asst. Professor
Mr. Dilip Kumar K, Asst. Professor
Mr. Goutham Hebbar, Asst. Professor
Mr. Divijesh P, Asst. Professor
Dr. Veeresha R K, Asst. Professor
Dr H S Kumar, Asst. Professor
Dr. Vijeesh V, Asst. Professor
Mr. Manjunath Maiya, Asst. Professor
Mr. P Venkatesh Murthy, Asst. Professor
Dr. Gururaj Upadyaya, Associate Professor
Mr. Sunil Kumar Shetty, Asst. Professor
Mr. Ravishankar Bhat, Asst. Professor
Mr. Suresh Shetty, Associate Professor
Dr. Udaya D, Associate Professor
Mr. Bhaskar P, Asst. Professor
Dr. T R Venugopal, Associate Professor
Mr. Rajath N Rao, Asst. Professor
Dr. Vishwanath J S, Asst. Professor
Dr. Sharathchandra, Asst. Professor
Mr. Raghavendra Pai, Asst. Professor
Mr. Adarsh Rai, Asst. Professor

Advisory Committee:

Dr. Rajkumar P. Singh, Senior Director, Kalyani Center for Technology & Innovation, Bharat Forge Ltd
Prof. Milind Atrey, Dean (R & D), Indian Institute of Technology, Bombay
Dr. N. Ranapratap Reddy, Principal Global Academy of Technology, Bangalore
Mr. V.V. Kamath, Managing Director, Fronius India Private Limited, Pune
Mr. Ashoka Kumar, Director RV- RV-Skills Center for Emerging Technologies, Bangalore
Dr. Mangalpady Aruna, Associate Professor & Head, Dept. of Mining Engg., NITK, Surathkal
Dr. Anand B. Dhaulakhandi, Additional Director, DRDO, New Delhi

Dr. Peter Fernandes, Principal, Alva's Institute of Engineering and Technology, Moodbidri

Dr. M Ravi, Senior Principal Scientist, CSIR- NIIST, Trivandrum

Dr. K.Venkateswaralu, Principal Scientist CSIR-NAL, Bangalore

Dr. M.T Mathew, Director of Faculty Research; Associate Professor, Cedric W. Blazer Endowed Professor of Biomedical Sciences University of Illinois College of Medicine, Illinois, USA

Dr. Dasappa S, Professor, Centre for Sustainable Technologies, Indian Institute of Science, Bengaluru

Dr. Anand M Shivapuji, Principal scientist Centre for sustainable energy, IISc, Bangalore

Dr. Ravi Bhate, Scientist-F & Team Leader, CLPM-ARCI, Hyderabad

Dr. Manish Tak, Scientist-E, CLPM-ARCI, Hyderabad

Dr. G. Siva Kumar, Scientist-F, Center for Engineering Coatings (CEC), ARCI-Hyderabad

Dr. Shiv Prakash Singh, Scientist-D, Centre for Ceramic Processing (CCP), ARCI-Hyderabad

Dr. S. Karunanidhi, Scientist, Control Systems Laboratory Research Centre, Hyderabad

Dr. Yeong-Do Park, Professor, Dong-Eui University, Busan, South Korea

Dr. Murali Tumuluru, Senior Welding Consultant, Tumuluru Welding Consulting, USA

Dr. Raj B K N Rao, Editor-in-Chief & Publisher, COMADEM International, UK

Dr. Amit Banerjee, Professor, Pennsylvania State University Harrisburg, USA

Dr. Ning Fang, Professor, Utah State University, USA

Dr. G. Ravichandran, Adjunct Professor, NMAM Institute of Technology, Nitte, Former General Manager, WRI, Trichy

Dr. Rangan Banerjee, Professor, Energy Systems Engineering, IIT Bombay

Dr. Shripad P Mahulikar Avon Humboldt Fellow, Professor Dept. of Aerospace Engg., IIT-Bombay

Dr. A. K. Sharma, Professor, IIT Roorkee

Dr. J. M. Mallikarjuna, Professor, IIT Madras.

Dr. K V Gangadharan, Professor, NITK Suratkal

Dr. Satyashankara Sharma, Professor & Head, Dept. Mechanical & Manufacturing Engg., MIT, Manipal

Dr. Dinesh Singh Thakur, Professor, DIAT, Pune

Prof. R. Natarajan, Former Director - IIT Madras

Prof. Ajit Kumar Kolar, Retired Professor, Mechanical Engineering Department - IIT Madras

Prof L.M.Das, Professor, Centre for Energy Studies - IIT Delhi

Prof. H. S. Maiti, Former Director, CGCRI, INAE Distinguished Professor, Department of Ceramic Engineering, NIT Rourkela

Dr. Hoysala N Chanakya, Centre for Sustainable Technologies, Indian Institute of Science, Bangalore

Dr. Ketan Kotecha, Director, Symbiosis Institute of Technology, Dean of Faculty of Engineering, Symbiosis International University, Pune, Maharashtra, India

Dr. Srikanth Rao, Professor & Head Mechanical Engg. Department, NITK, Surathkal

Dr. Ramesh M R, Assoc. Professor, NITK, Surathkal

Dr. Prakash K R, Professor, Dept. of Mechanical Engg. NIE, Mysore

Dr. Shivaprakash Y M, Assoc. Professor, MIT, Manipal

Dr. Srinivasa C V, Professor & Head Dept. of Mechanical Engg., GMIT, Davangere

Mr. S. Gopinath, Advisor, NMAM Institute of Technology, Nitte , Former Executive Director - BHEL Trichy

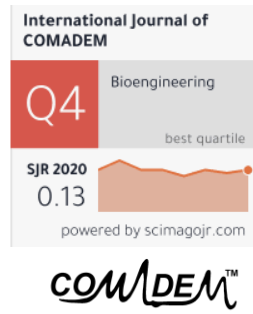
Scientific Committee:

Dr. Narasimha Marakala, Professor, NMAM Institute of Technology, Nitte
Dr. Sudheer M, Professor & Dean, SJEC, Mangalore
Dr. Narasimha Bailkere, Professor, NMAM Institute of Technology, Nitte
Dr. Mallikappa, Professor, NMAM Institute of Technology, Nitte
Dr. Gururaj Upadhyaya, Assoc. Professor, NMAM Institute of Technology, Nitte
Dr. Grynal D'Mello, Associate Professor, NMAM Institute of Technology, Nitte
Dr. Manjunath S H, Professor, Adichunchanagiri University, Mandya
Dr. Praveen MP, Director, Numentrix consulting, Bengaluru
Dr. Rajeshwar. S. Kadadevaramath, Professor, SIT, Tumukur
Dr. Yogesh Velankar, Principal, Cambridge institute of Technology, Bangalore
Dr. Jayashree D. Mallapur, Basaveshwar Engineering College (Autonomous), Bagalkot
Dr. Vijay GS, Associate Professor, Department of Mechanical and Manufacturing Engineering, MIT, Manipal
Dr. J V Simha, Numentrix Consulting, Bengaluru
Dr. Madeva NagaraI, Deputy Manager, Aircraft Research and Design Centre, Hindustan Aeronautics Limited, Bangalore
Dr. Girisha K.B, Professor, Adichunchanagiri University, BGSIT, Bangalore
Dr. Nayaka G P, Scientist, CSIR-National Chemical Laboratory, Pune
Dr. Channabasappa Hampali, Professor, Reva University, Bangalore
Dr. H C Chittappa, Professor, UVCE, Bangalore
Dr. B M Rajaprakash, Professor, UVCE, Bangalore
Dr. Sharanappa, Associate Professor, NITK Surathkal
Dr. Sudheer Reddy, Professor and HoD, NMIT, Bangalore
Dr. Ezil Vannan, Professor, MCE, Hassan
Dr. Sumana B G, Associate Professor, Government Engineering College, Hassan

Important Dates

Submission of Full-length manuscript – Open	: 01/03/2022
Last date to submit Full-length manuscript	: 01/08/2022
Extended date to submit Full-length manuscript	: 01/09/2022
Notification of acceptance	: 20/10/2022
Early Bird Registration Start	: 05/11/2022
Submission of Camera Ready Manuscript	: 20/11/2022
Early Bird Registration Close	: 20/11/2022
Late Registration	: 30/11/2022
Conference Dates	: Dec 22-23, 2022

Publications



Condition Monitoring and Diagnostic Engineering Management

Note: All accepted and presented papers will be published in SCOPUS Indexed Materials Today Proceedings (Elsevier). Selected papers will be published in International Journal of COMADEM based on the theme.

Paper Submission

The research paper submitted should be an original work and should not have been submitted in any another conference or journal. The respective journal format should be followed for preparing the manuscript of the paper. To submit the paper login to conference website: <http://www.sme2022.in/>. Manuscript needs to be prepared by keeping plagiarism below 15%. Manuscripts in electronic format (DOC, DOCX only) need to be submitted.

Conference Registration

Registration Link: <https://forms.gle/RHmN1GeWmaQbr3Za6>

Registration Fees

Category	Registration Fees	Publication Charges
Academia/Researchers (UG/PG/PhD)/Industries Early Bird Registration	7000	No additional publication charges
Academia/Researchers (UG/PG/PhD)/Industries Late Registration Fees	8000	
Foreign Delegates	US\$200	

Mode of Payment

Registration fee can be paid through NEFT as per the details given below:

Name : NITTE DEEMED TO BE UNIVERSITY
Account Number : 110047322915
Type of account : Savings Bank
Bank : Canara Bank, Nitte
IFSC : CNRB0010115
MICR Code : 576015041

NOTE: Delegates must mention their NAME and SME-2022 without fail during online payment. The proof of online transfer (UTR No., date & time) need to be scanned and uploaded in the registration portal.

Accommodation

Limited accommodation on payment basis is available in hostel / guest house (twin sharing) on a first-cum first served basis. Accommodation can be arranged in Hotels in Nitte, Belman and Karkala on prior request.

Conference Location

Nitte is a village in Karkala taluk of Udupi district, in the Indian state of Karnataka. The village is on the way from Padubidri to Karkala. It is 8 km away from Karkala, 36 km from Udupi and 54 km from Mangalore. It is located on the foothills of the Western Ghat Mountains and receives very high rainfall. Nitte is well connected by road. There are frequent express and local buses to Mangalore, Udupi, Padubidri and Karkala. The state highway SH-1 cuts across Nitte which connects to the National Highway NH-66 at Padubidri and NH-13 near Karkala. There are buses to Mumbai and Bangalore on a daily basis. Every 10 minutes there is connectivity of buses to major cities like Mangalore and Udupi.

Famous places to visit nearby:

- Temples (Sri Krishna Math, Kollur, Kateel, Shringeri, Horanadu etc.)
- Malpe, Padubidri & Maravanthe Beach
- Thousand Pillar Temple, Moodbidri
- Karkala Gomateshwara & Chaturmukha Basadi, Karkala
- Attur Church, Karkala
- Light house, Kaup



Contact Us

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