



ELSEVIER  
Scopus

# International Conference on Sustainable Development in Mechanical Engineering (SDME 2020)

**March 27-28, 2020**



## DEPARTMENT OF MECHANICAL ENGINEERING VALLURUPALLI NAGESWARA RAO VIGNANA JYOTHI INSTITUTE OF ENGINEERING & TECHNOLOGY

An Autonomous, ISO 9001:2015 Certified & QS I-Gauge 'Diamond' Rated Institute,  
Accredited by NAAC with 'A++' Grade

NBA Accreditation for B.Tech. - CE, EEE, ME, ECE, CSE, EIE, IT Programmes

Approved by AICTE, New Delhi, Affiliated to JNTU Hyderabad

Recognized as "College with Potential for Excellence" by UGC

Vignana Jyothi Nagar, Pragathi Nagar, Nizampet (S.O), Hyderabad – 500 090 TS, India.

Telephone No: 040-2304 2758/59/60, Fax: 040-23042761

[www.vnrvjiet.ac.in](http://www.vnrvjiet.ac.in)



## ❖ About VNRVJIET:

Vallurupalli Nageswara Rao Vignana Jyothi Institute of Engineering and Technology [VNRVJIET], an autonomous institute sponsored by Vignana Jyothi Society, was established in the year 1995 in the state of Telangana. Institution is affiliated to Jawaharlal Nehru Technological University Hyderabad (JNTUH) and is granted the status of Autonomous from the academic year 2012 by University Grants Commission (UGC) New Delhi. The institution is conferred with the honor of "College with Potential for Excellence" (CPE) by UGC in August 2016. Institute has received accreditation from National Assessment and Accreditation Council (NAAC) with Grade A++ with a CGPA of 3.73 on 4 point scale in 2018. National Board of Accreditation (NBA) has re-accredited B.Tech. - UG - CE program for 5 years in 2016 and UG - CSE, ECE, EEE, EIE, IT, ME programmes for 3 years in 2019. Institute has secured 109<sup>th</sup> rank in engineering category and in the rank band of 151-200 in overall category of NIRF India 2019 rankings. Institute has been recognized as 'AICTE Research Centre' by the AICTE. Recently, Institute received I-Gauge 'Diamond' rating from QS. The institute has 9 departments and offers 22 academic programs both at UG and PG level. The institution with a vision of serving the society through value-based education has been making a mark in the educational map of this region. The institute offers academic programs with innovative curriculum, advanced research in cutting-edge technologies and societal engagement through outreach activities. The Institute shall be celebrating its 'Silver Jubilee' in the year 2020.

## ❖ Department of Mechanical Engineering:

The Department of Mechanical Engineering was established in 1995 with an intake of 60 in B.Tech. Mechanical Engineering programme, which was increased to 120 in 2010. In addition to this programme, it offers 2 M. Tech. programmes in Advanced Manufacturing Systems and CAD/CAM with an intake of 18 each and a Diploma in Mechanical Engineering (II shift) with an intake of 120. Department is recognized as 'Research Center' by the JNTU Hyderabad. The department has a team of 49 highly experienced faculty and staff, out of them 17 are doctorates, involved in dedicated research, innovation and training. It has fully equipped workshop and up-to-date laboratories like Machine Tools, Thermal Engineering, Heat Transfer, Metallurgy and Instrumentation etc. The department also has sophisticated CNC, CAD, CAM labs with high configuration workstations and licensed softwares like AUTOCAD, ADAMS, ANSYS, CATIA, FLEXSIM, AUTOMOD, MATLAB, EDGE CAM, and MINITAB, MASTERCAM, AUTOMATION STUDIO etc. The department also has a Center of Excellence in Joining Technologies. Department has received grants from various funding agencies for carrying out research projects. As on date, 09 projects have been completed and 03 are ongoing.

## ❖ About SDME2020 Conference:

In fast paced world of emerging technologies, sustainability will be critical to the success of any process or product or in general a business. Sustainable development is very much essential in the contemporary scenario due to increasing environmental concerns, demand for energy, global warming and end of life safe disposal of products. These issues are also addressed and adopted as 17 Sustainable Development Goals (SDG) by the United Nations. Mechanical Engineering professionals possess a vital role to enable sustainable development in product or process design. Lot of research is being carried out all over the world emphasizing the importance of sustainability in the field of Mechanical Engineering. In order to have an insight into these developments, a platform through this conference is provided.

The primary objective of International Conference on Sustainable Development in Mechanical Engineering (SDME2020) is to bring together the experts from academic institutions, industries and research organizations from various countries across the globe to facilitate close interaction. The participants of SDME2020 will get opportunity to share their views and ideas through deliberations and discussions pertaining to latest developments and trends focussing on sustainability developments in the field of Mechanical Engineering.

## ❖ Call for Papers:

Original research articles broadly within the scope of the conference topics, written in English language, are solicited. The topics/tracks of the conference are available in conference details. Authors will have to sign a declaration of originality at the time of final submission.

## ❖ Topics/Tracks:

The conference aims to be a platform for reporting both fundamental and applied issues of mechanical engineering field leading to sustainability. The overall themes of the conference are classified into the following tracks, but are not limited to:

- Fluid Mechanics
- Heat Transfer
- Thermal Engineering
- **Sustainable Design in Mechanical Engineering:**
  - ✓ Applied Mechanics
  - ✓ Acoustics & Vibration
  - ✓ Fatigue & Fracture Mechanics
  - ✓ CAD/CAM - Analysis & Optimization

- **Sustainable Materials & Technologies:**
  - ✓ Composites & Advanced Materials
  - ✓ Biomechanics & Biomaterials
- **Sustainable Energy:**
  - ✓ Renewable Energy Sources
- **Sustainable Manufacturing Systems:**
  - ✓ Advanced Manufacturing – Additive, Subtractive, Formative & Joining
  - ✓ Green Manufacturing Systems
- **Sustainability in Industrial Engineering:**
  - ✓ Supply Chain Management
  - ✓ Industrial Design
  - ✓ Ergonomic Design
  - ✓ Industrial and Production Engineering
- **Sustainability & Industry 4.0 - Mechanical Engineering:**
  - ✓ Artificial Intelligence
  - ✓ Internet of Things
  - ✓ Machine Vision
  - ✓ Robotics, Automation & Mechatronics
  - ✓ Data Science & Predictive Analytics
  - ✓ Autonomous Vehicles
  - ✓ Automotive Technology
  - ✓ Aerospace Applications

Detailed information on topics/tracks will be updated in the website.

### ❖ **Instructions for Authors:**

- The official language of the conference is **English**. The maximum page limit for full paper is **10 pages**.
- Template of full paper is available in the conference website.
- The authors of the selected papers will directly present their work at the conference as per the format (*oral presentation* or *poster presentation*).
- All the submitted papers will be peer-reviewed and upon paper acceptance, payment of registration fee and presentation in the conference, will be published in **SCOPUS indexed** - *International Journal of Mechanical and Production Engineering Research and Development*
- Efforts are underway to publish conference papers in **Springer** also. Details on the publication procedure will be notified in the conference website.

*Atleast one of the authors must register per full-length paper/poster.*

## ❖ International Advisory Board:

<b>Dr. Sarat Singamneni</b>	Associate Professor, ME, Auckland University of Technology, Auckland, New Zealand
<b>Dr. Xuangliang Dong</b>	Assistant Professor, University of Texas at Tylor, Texas, USA
<b>Dr. A. Subhananda Rao</b>	Distinguished Scientist, DRDO, Chief Consultant & Advisor, Skyroot Aerospace, Hyderabad, India
<b>Dr. V. K. Jain</b>	Distinguished Professor of Mechanical Engineering, IIT Kanpur, India
<b>Dr. Ch. Niranjan Reddy</b>	Norwegian University of Science and Technology, Norway
<b>Dr. M. Anil</b>	Assistant Professor, HCT, United Arab Emirates
<b>Dr. Nadimul Haque Faisal</b>	Assistant Professor, Robert Gordon University, Aberdeen, UK
<b>Dr. G. Madhusudhan Reddy</b>	Director, Defence Metallurgical Research Laboratory (DMRL) DMRL, Hyderabad, India
<b>Dr. V. V. Rao</b>	Director, Armament Research & Development Establishment (ARDE), Pune, India
<b>Dr. Y. V. Rama Rao</b>	Plant Head, Deccan Auto Limited, Hyderabad, India
<b>Dr. Y. V. L. N. Murthy</b>	Ex-GM, Bharat Heavy Electricals Limited Hyderabad, India
<b>Mr. P. Raja Rao</b>	Ex-GM, Bharat Electronics Limited Bangalore, India
<b>Dr. K. K. Pathak</b>	Professor of Mechanical Engineering, IIT BHU Varanasi, India
<b>Dr. B. N. Sarma</b>	Professor of Metallurgical Engineering, IIT BHU Varanasi, India
<b>Dr. D. Ravi Kumar</b>	Professor of Mechanical Engineering, IIT Delhi, India
<b>Dr. R. Venkata Rao</b>	Professor of Mechanical Engineering, NIT Surat, India
<b>Dr. Anuj Jain</b>	Professor & Head, Chemical Engineering, MNNIT Allahabad, India
<b>Dr. A. Venugopal</b>	Professor of Mechanical Engineering, NIT Warangal, India
<b>Dr. A. Kumar</b>	Professor of Mechanical Engineering, NIT Warangal, India
<b>Dr. K. Vijay Kumar Reddy</b>	Professor of Mechanical Engineering, JNTU Hyderabad, India
<b>Dr. J. Rangajanardhana</b>	Professor of Mechanical Engineering, JNTU Ananthapuramu, India
<b>Dr. M. Manzoor Hussain</b>	Professor of Mechanical Engineering, JNTU Hyderabad, India
<b>Dr. B. Balu Naik</b>	Professor of Mechanical Engineering, JNTU Hyderabad, India
<b>Dr. A. V. S. S. K. S. Guptha</b>	Professor of Mechanical Engineering, JNTU Hyderabad, India
<b>Dr. Sriram Venkatesh</b>	Professor of Mechanical Engineering, OU, Hyderabad, India
<b>Dr. A. Suresh</b>	Asst. Professor, Mechanical Engineering, JNTU Jagtial, India
<b>Dr. D. Hanumantha Rao</b>	Principal & Professor of Mechanical Engineering, Matrusri Engg. College, Hyderabad, India
<b>Dr. Lalit Wankhade</b>	Associate Professor of Mechanical Engineering, SGGSIET, Nanded, India
<b>Dr. B. Srinivasa Prasad</b>	Associate Professor of Mechanical Engineering, GITAM Institute of Technology - GITAM Visakhapatnam, India

## ❖ Organizing Committee:

<b>Dr. B. Chennakesava Rao</b>	Director for Advancement, VNRVJIET Hyderabad
<b>Dr. G. Srinivasa Gupta</b>	Convenor, SDME2020, Professor & HOD of Mechanical Engineering, VNRVJIET Hyderabad
<b>Dr. Y. Shivraj Narayan</b>	Organizing Secretary, SDME2020, Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Dr. B. V. R. Ravi Kumar</b>	Coordinator, SDME2020, Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Sri. K. Jaya Prakash</b>	Co-coordinator, SDME2020, Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Sri. L. Sandeep Raj</b>	Co-coordinator, SDME2020, Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Sri. CH. Naveen Reddy</b>	Co-coordinator, SDME2020, Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Dr. P. S. Prasad</b>	Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Dr. M. V. R. Durga Prasad</b>	Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Dr. S. V. S. S. S. Raju</b>	Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Dr. B. Satyanarayana</b>	Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Dr. G. Raghu Babu</b>	Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Dr. K. Balashowry</b>	Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Dr. E. V. Ramana</b>	Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Dr. S. Shyam Sunder Rao</b>	Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Dr. G. K. Pujari</b>	Assoc. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Sri. S. R. Somayajulu</b>	Assoc. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Dr. K. Ajay Kumar</b>	Assoc. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Dr. N. Kiran Kumar</b>	Assoc. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Sri. A. N. Brahmeswara Rao</b>	Sr. Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Smt. Jayashri Nair</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Smt. K. Aruna Prabha</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Dr. M. S. Srinivasa Rao</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Sri. D. Sarath Chandra</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Smt. V. V. Durga Sahithi</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Smt. N. Srilatha</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Sri. K. Krishna Murthy</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Sri. P. Prasad Kumar</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Sri. S. Bhanu Murthy</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Sri. H. Naresh</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Sri. K. Nagendra Babu</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Sri. P. Narendra</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Sri. S. N. S. Saihari</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Smt. CH. Priyadarsini</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Smt. S. Swetha</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Dr. V. Siva Rama Krishna</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Sri. T. Malyadri</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Sri. Gourav Tiwari</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad
<b>Smt. CH. Rajeswari</b>	Asst. Professor of Mechanical Engineering, VNRVJIET Hyderabad



## ❖ Important Dates:

Submission of full length paper for review	February 07 <sup>th</sup> 2020
Author notification of full length paper acceptance	February 10 <sup>th</sup> 2020
Submission of final camera ready papers	February 15 <sup>th</sup> 2020
Early bird registration deadline	February 15 <sup>th</sup> 2020
Dates of Conference	March 27 <sup>th</sup> – 28 <sup>th</sup> 2020

## ❖ Registration:

Registration fee includes conference kit, tea/coffee and food. Food (Breakfast & Lunch) will be provided on March 27<sup>th</sup> & 28<sup>th</sup>, 2020.

Participants	Registration Fee			
	Indian Participants * (in INR)		Foreign National Participants * (in USD)	
	Before Feb. 15th, 2020	After Feb. 15th, 2020	Before Feb. 15th, 2020	After Feb. 15th, 2020
Faculty / Research Scholars	8,500/-	9,500/-	\$ 400	\$ 500
Industry / R & D Organization	10,000/-	12,000/-	\$ 500	\$ 600
Accompanying Person	4,000/-	4,500/-	\$ 150	\$ 250

**NOTE: \* Bank charges / transaction fee to be paid by the participants**

**The registration for the conference will be carried out using the online portal of the conference. Details of payment modes are available in the conference website.**

## ❖ Venue/Accommodation:

### Venue:

The venue of the conference is the campus of VNR Vignana Jyothi Institute of Engineering & Technology, Hyderabad, India. Paper presentations and sessions will be held in the Seminar/Lecture Halls located inside the campus. The Institute is located in Pragathi Nagar, Medchal Dist. under Hyderabad Metropolitan Area.

### Lodging and boarding:

Hotel accommodations are available in close vicinity of the Institute at affordable rates. Nearby locations of hotels are Kukatpally, Miyapur & HiTech City. More details about the accommodation will be provided in the conference website in future.

## ❖ How to Reach:

Hyderabad, capital city of Telangana state, is well-connected by rail, road and air to all the parts of the country.

**Air travel:** The nearest airport is Rajiv Gandhi International Airport, about 75 kms from the VNRVJIET campus (about 1.5 hrs drive).

**Pushpak Airport Liner Service:** TSRTC Pushpak Airport Liner Bus service is available from various parts of Hyderabad city to reach to the Airport and vice-versa. For more details, please refer to the following link:

<http://www.hyderabad.aero/pdf/poste-bus-time-table.pdf>

**Rail travel:** The city is served by three majors railway stations, namely Secunderabad, Hyderabad (Nampally) and Kacheguda connecting it to all parts of India. These railway stations are located at a distance of about 24 km from the VNRVJIET campus. Public transports such as TSRTC City Buses, auto-rickshaws, Uber/Ola cabs and taxi from the station are available. Interested participants are advised to make railway reservation well in advance.

**Weather at Hyderabad:** The weather at Hyderabad in the month of March is expected to be pleasant with maximum temperature during day time to reach upto 36°C and night temperatures upto 21°C.



## ❖ Sponsorship:

Type	Sponsorship Amount (Rs.)	Benefits
Platinum	1,00,000	Name of the sponsor will be attached to the conference. Four delegates free of cost One full page advertisement in souvenir Name as chief sponsor on the conference website and banner on the main stage Free (self-arranged) exhibition.
Gold	75,000	Three delegates free of cost One full page advertisement in souvenir and banner Free (self-arranged) exhibition.
Silver	50,000	Two delegates free of cost One full page advertisement in souvenir and banner Free (self-arranged) exhibition.
Bronze	25,000	One delegate free of cost One full page advertisement in souvenir and banner Free (self-arranged) exhibition.

## ❖ Contact:

**Dr. Shivraj Narayan Yeole**

Organizing Secretary - SDME2020 &

Professor of Mechanical Engineering,

VNR VJIET

Vignana Jyothi Nagar, Pragathi Nagar, Nizampet (S.O),

Hyderabad - 500090, Telangana State

Ph. 040-23042758/59/60, Ext: 4205/4201

Mob: 9849272656

Email: [sdme2020@vnrvjiet.in](mailto:sdme2020@vnrvjiet.in)

Website: <http://www.sdme.co.in>

## :: Our Sponsors ::

