



VIT[®]
Vellore Institute of Technology
 (Deemed to be University under section 3 of UGC Act, 1956)

SCHOOL OF MECHANICAL ENGINEERING

INVITES YOU
 for



IMPORTANT DATE

Abstract Submission Commences	15 March 2021
Abstract Acceptance	25 May 2021
Manuscript Submission Commences	11 May 2021
Manuscript Submission Ends	25 June 2021
Manuscript Acceptance Notification	15 July 2021
Registration Begins	20 July 2021
Submission of Camera Ready Papers	10 August 2021
Registration Closes	10 September 2021
Pre Conference Workshop	10 September 2021
Panel Discussion	11 September 2021

PRE CONFERENCE WORKSHOP

Future of Making-Generative Design for Industry 4.0

In Association with AUTODESK Ind Pvt Ltd.

Development and Deployment of Autonomous Driver Assistance Systems

In Association with MATLAB Ind Pvt Ltd.

National Level Student Competition

GENERATE-A-THON

A 30 Hours AUTODESK FUSION 360 Generative Design Challenge

PANEL DISCUSSION

Opportunities for Product Design, Development, and Deployment in Indian Markets`

PRODUCT DESIGN

Product Definition, Modeling and Simulation: CAD/Geometric Modeling, Requirements Engineering, Conceptual Design, Simulation Based Engineering, Finite element analysis, Computer Aided Engineering, Multidisciplinary Analysis and Optimization, Smart Structure Modeling and Analysis.

Product Safety: Product Safety Engineering, Product Safety Design, Product Safety Management, Design, Testing, and Manufacturing for Safety, Products Liability Litigation and Law, Evaluation of Product Design, Human-robot /Robot-robot Collaboration and Robot Motion Control.

Automation and Control: Robotics, Mechatronics, Cloud-based Automation, Cyber Physical Production Systems and Industry 4.0, Automated Fault Detection, Diagnostics, and Prognostics, Modelling and Simulation, Optimization of Automation Systems, Sustainability and Green Automation.

Design Engineering: Aerodynamics, Combustion Modelling and Simulation, Aerospace Systems and Technology, Rotor Dynamics, Optimization of Systems, Virtual Reality and Augmented Reality, CAD/CAM/CAE/CIM, Rapid Prototyping, Nano Composites and Micro Mechanics, Vibration, Noise Analysis and Machine Design.

Design Philosophy: Design Thinking for Social Innovation, Meaning Centred Design, Double Diamond Design, and Design Squiggle for product development, Brainstorming, the Future of Prototyping, Desirability, Viability and Feasibility, Ideation, Critical Thinking, Inspiration and Implementation, Tools of Design Conceptualization.

Big data: Big Data Analytics for Product Design and Development, Big Data Analytics for Product Lifecycle Management and Innovation

PRODUCT DEVELOPMENT

Product Visualization and Realization: Computational Graphics, Virtual Prototyping, Distributed Visualization, Visual Collaboration, Virtual Reality in Product Development, Digital Mockup, Advanced Manufacturing Techniques, Rapid Prototyping, Jigless Manufacturing, Process Planning and Control, Computational Metrology, Process Planning Integration.

Smart Systems: MEMS, Automotive Control Systems, Automotive Electronics, Networked Control Systems, Recent Developments in Automation and Control, System Modelling and Simulation, Linear and Nonlinear, Energy Management Technology.

Materials for New Product Development: Characterization of Bulk, Micro, Nano and Smart Materials, Characterization of Metal and Ceramic Matrix composites, Synthesis of Polymeric Composites, Wear, Tribology and NDT, and Repair technology in composites.

Virtual Manufacturing: Virtual Reality Technology in Product Design and Manufacturing, Product Maintenance using Virtual Reality, Fixture/Jig Analysis using Virtual Reality, Human-centered Manufacturing System with Virtual Reality. Virtual Reality Physical Modelling, Behaviour and Management Techniques and Methods.

Product Development Frame Work: DFX, Knowledge based Engineering, Life Cycle Management, Collaborative Product Development and Commerce, Concurrent Engineering.

Bio Products - Biomass, Green Structures, BioFuel, BioGas, BioHydrogen, BioChar, BioComposites, BioFoam, BioRubber, BioPolymers, Bioenergy, BioImplants and BioProcess.

PRODUCT DEPLOYMENT

Emerging Life Cycle Design for X Methods: Reliability, Maintainability and Warranty, Prognostics and Health Monitoring, Availability - Performance Based Logistics, Obsolescence, Life Cycle Cost and Total Cost of Ownership, Technology Insertion, Toad Mapping.

System Safety Engineering: Human Factors Engineering, Failure Analysis Techniques, Evaluation of Defects, Risk Assessment and Foreseeability in Agriculture, Environment, Health Applications, Smart and Connected Healthcare Automation, Smart Products with Embedded Intelligence, Autonomous Vehicle.

Life-cycle Engineering: Engineering Activities in Product Life-cycle, Life-cycle Engineering for Sustainability, Sustainable Design and Manufacturing Principles, New Life Cycle Modeling Methods and Assessment, Practices for Effective Sustainable Design, Methods for Merging Industrial Value Creation towards Sustainability.

Reliability engineering: Maintenance, Service, Repair, and Overhaul of Manufacturing Machines and Equipment, Maintenance Engineering Theory and Application, Total Quality Management Techniques, Quality Assurance and Cost Issues, Quality Engineering, Customer Focus, Leadership and Engagement.

Product Delivery: Sustainable Product Development, Product Maintenance, Service and Repair, End-of-Life, Robust Design, Variation Management, Robust Life Cycle Management, Six Sigma and Lean Quality Management, TRIZ, FMEA, and Benchmarking.

CONFERENCE OBJECTIVE

The event gives a platform for knowledge dissemination and understanding in-recent advancement in engineering, technology, and management towards design, development, and deployment of a product. The knowledge of design, manufacturing and processing of material, as well as the simulation helps in product realization. Product Design always cater to design and material selection then the Product Development is done by employing suitable processing and manufacturing. The logistics as well as other management and marketing techniques helps in the deployment of the product in the market. One of the most important responsibility of researchers and academicians is to be innovative and develop new products useful to the society. This event is structured in a way that the recent research outcome is discussed and it is aimed at bringing experts from research, academia, and industry in a single platform for the benefits of participants. Further, it is also aimed at faculty members, research engineers/scientists, full-time and part-time research scholars, who are actively involved in the research. The sessions are organized in such a way that participants of the conference will get a better insight into the recent proceedings in the area of "Product Design, Development& Deployment."

WHO CAN ATTEND?

Academicians, Researchers, Graduate Students and Industrialist who are working in the Interdisciplinary Areas of Product Development.



ABOUT VELLORE INSTITUTE OF TECHNOLOGY

Vellore Institute of Technology (VIT), Vellore, one of the premier institutes in India Tamil Nadu, was established in 1984. It is a major, comprehensive, student-centred research institution dedicated to excellence in teaching, research and service. VIT comprises of various schools and interdisciplinary research centres offering undergraduate, post graduate and research programmes in various engineering disciplines. The institute was established with the aim of providing quality higher education at par with International standards. VIT Vellore campus has a cosmopolitan atmosphere with students from all corners of the globe. Memoranda of Understanding with various international universities and industries are the major strength of VIT.

Mission of VIT is to educate students from all over India, including those from the local and rural areas, and from other countries, so that they can become enlightened individuals, improving the living standards of their families, industries and society. VIT provides individual attention, world-class quality education and takes care of character building. There are student and faculty exchange programs, to encourage joint research projects for the mutual benefit..

VIT HIGHLIGHTS

- ❖ Recognized as Institute of Eminence by Govt. of India.
- ❖ Ranked 16th in the Nation by NIRF
- ❖ Ranked 801-1000th Globally by QS & THE
- ❖ Ranked 201-250th in ASIA by THE
- ❖ Ranked 228th in ASIA by QS

REGISTRATION FEE FOR CONFERENCE

Category	FOR PRESENTATION
Foreign Delegates	50 USD
Industry/ R & D	1500 INR
Academia	1000 INR
Participants	500 INR

All the manuscripts, based on their quality after blind peer review process by editorial committee, will be recommended for publication in any one of the Scopus indexed journals or UGC journals. The Journal Publication processing fee is as per the norms of the publishers is given in the website.

ABOUT SCHOOL OF MECHANICAL ENGINEERING

School of Mechanical Engineering (SMEC) is amongst the premier schools of VIT which started functioning right from 1984. The school has got a team of highly qualified faculty members, many holding PhDs from the elite institutes across the globe, to teach and train the best minds of this country. The pride of the school lies in the significant research funding received from several government agencies such as DST, DRDO, MNRE, CSIR, CVRDE, CPDO, IE, AR&DB, BRNS, ISRO, UGC, NRB, AICTE and also from international funding agencies such as DSTUKIERI, Royal Academy of Engineering, Indo-German etc., and Memorandum of Understanding (MoU) with various Industry, Research Organizations and leading Universities.

The Department of Science and Technology, Govt. of India has recognized the school for its research activities and supported in 2003 and 2010 under FIST scheme. The School has modern facilities, enabling cutting edge research in a wide spectrum of technological areas. The school actively assists local industries in product design, complex-part manufacturing and Computational Fluid Dynamics.

SMEC has modern facilities enabling cutting edge research in a wide spectrum of technological areas. Three of the Bachelor's Degree Programmes offered by the school, B. Tech. in Mechanical Engineering, B. Tech. Mechanical with Specialization in Automotive Engineering, B. Tech. Mechanical with Specialization in Energy Engineering are accredited by Engineering Accreditation Commission of ABET. M.Tech degree programs like CAD/CAM, Mechatronics, Manufacturing and in cyber physical systems are also offer Mechanical with specialization red to the students. The courses offered cater to the needs of Aerospace, Defence, Manufacturing, Energy and Automotive industries.

SMEC HIGHLIGHTS

- ❖ Ranked 501-600th Globally by THE
- ❖ Ranked 401-450th Globally by QS

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CONTACT DETAILS

Website: <https://vit.ac.in/pdcube/>

Email Id: pdcube@vit.ac.in

Mobile: +91 9820720940, +91 8220063226,

+91 8105419267, +91 9994304360

Abstract Submission

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