Important Dates

Last date for registration : March 01, 2024

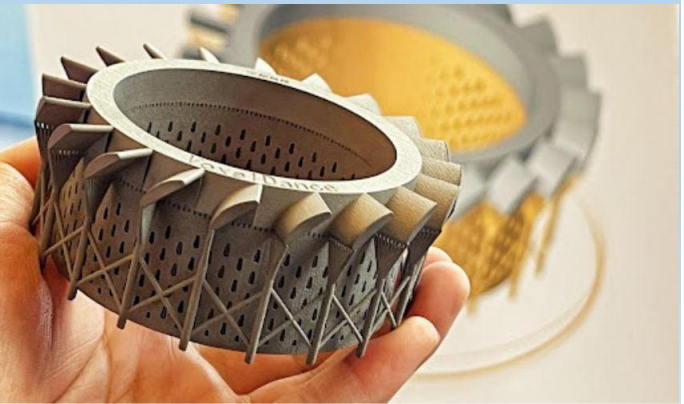
Only limited participants are allowed;
No registration fee.

Registration

For registration, scan me

Contact :

Prof. R. Vasudevan,
Email : vasudevan.r@vit.ac.in



Chief Patron

Dr. G. Viswanathan, Chancellor

Patrons

Mr. Sankar Viswanathan, Vice - President

Dr. Sekar Viswanathan, Vice - President

Dr. G V Selvam, Vice - President

Dr.V.S.Kanchana Bhaaskaran, Vice Chancellor I/C

Dr. Partha Sharathi Mallick, Pro-Vice Chancellor

Dr. Jayabarathi T, Registrar

Convenor

Prof. Devendranath Ramkumar K, Dean-SMEC, VIT, Vellore

Co-Convenor

Prof. Benedict Thomas,
HOD, Design & Automation, SMEC, VIT, Vellore

Prof. Pandivelan C,
HOD, Manufacturing Engineering, SMEC, VIT, Vellore

Prof. Ashok B,
HOD, Automotive Engineering, SMEC, VIT, Vellore

Prof. Asokan M A,
HOD, Thermal & Energy Engineering, SMEC, VIT, Vellore

Co-ordinators

Prof. R. Vasudevan, SMEC, VIT, Vellore

Prof. B. Ashok, SMEC, VIT, Vellore

Prof. S. Denis Ashok, SMEC, VIT, Vellore

Prof. Bibin John, SMEC, VIT, Vellore

Prof. S. Sreeja, SMEC, VIT, Vellore

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

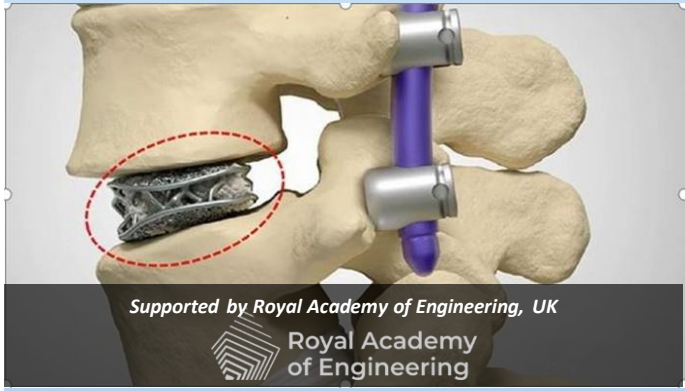
One-day Workshop on "Application of Additive Manufacturing in Aerospace and Healthcare"

March 05, 2024
VIT, Vellore

Online Mode

Resource Persons

Ms. Akshatha Hulmani Dayananda
Mr. Sai Rakesh Kandagatla
Wipro3D, Bangalore



Organised by

School of Mechanical Engineering
Vellore Institute of Technology, Vellore, India

in association with

Mapúa University, Philippines; Wipro3D, Bangalore;
EOS GmbH, India.

Vellore Institute of Technology (VIT)

Vellore Institute of Technology was founded in 1984 as Vellore Engineering College by the Founder and Chancellor Dr.G.Viswanathan. University status was conferred in 2001 by MHRD Govt. of India in recognition of its excellence in academics, research and extracurricular initiatives.

Ranking & Accreditation

Vellore Institute of Technology (VIT) has emerged as one of the best institutes of India and is aspiring to become a global leader. Quality in teaching-learning, research and innovation makes VIT unique.

- Engineering and Technology subject areas of VIT are the 240th best in the World and the 9th best in India, and eight subjects of VIT are within the top 500 in the world (as per QS World University Rankings by Subject 2023)
- The 8th best University, the 11th best research institution and the 11th best engineering institution in India (NIRF Ranking, Govt. of India 2023)
- Ranked among the top 600-800 universities of the world (THE World University Ranking 2024)
- NAAC Accreditation with A++ grade (3.66 out of 4)
- The 173rd best Institution in Asia (QS - Asia University Rankings 2023)

School of Mechanical Engineering (SMEC)

The School of Mechanical Engineering is one of the oldest and most prestigious schools of VIT. This school started functioning right from 1984, the year in which our institution began. The School of Mechanical Engineering offers 3 undergraduate and 6 post-graduate programs. The school has a team of highly qualified faculty members, many holding PhDs from elite institutes across the globe, to teach and train this country's best minds. The pride of the school lies in the significant research funding received from several National and International agencies such as DST, DRDO, MNRE, CSIT, CVRDE, CPDO, IE, AR&DB, BRNS, ISRO, UGC, NRB, Royal Academy of Engineering etc. The Department of Science and Technology, Govt. of India has recognized the school for its research activities and supported it in 2003, 2010 and 2022 under the FIST scheme. The school has modern facilities, enabling cutting-edge research in a wide spectrum of niche technological areas. The school is ranked 501-600 in the World as per THE World University Subject Ranking in 2021. Mechanical and Manufacturing Engineering is ranked within the top 10 in India and top 251-300 in the world as per QS World University Rankings by Subject 2023.

About the workshop

Manufacturing has been the backbone of the world's economy and we now live on-demand and localizing production high-end products with environmentally sustainable production lines through additive manufacturing (AM). There is growing interest in applications of innovative manufacturing technologies across a number of sectors towards achieving those goals. The three key industries viz, automotive, aerospace and medical, have adopted and experienced the developments in AM technology for various reasons. Lack of appropriate skills prevents the adoption of the graduates and current employees to the industries. Hence, up-skilling current workforce and attain the training for the next generation are much needed in the present scenario. Laser Powder Bed Fusion Thermography (LPBF) is an Additive Manufacturing process that uses a laser to melt thin layers of powder. A laser beam scans at a controlled speed the selected locations of the powder bed and fuses the powder to the solid material underneath by either full melting [selective laser melting (SLM)] or partial melting [selective laser sintering (SLS)]. The powder bed is lowered by the defined layer thickness and a new layer of powder is dropped and levelled after laser radiation in one layer is completed. The process repeats until the part is completely built. There are about 200 parameters which need to be understood and controlled in the Metal LPBF technology. The understanding and control of some of these parameters is the most important to get repeatable print every time. It is the understanding of these parameters which will enable one to edit the parameters. Parameter editing is done for various reasons like improving productivity, building challenging geometry, improving accuracy or finish etc. Since the part quality and buildability are both connected to the parameter, understanding these concepts will open the options of developing new parameters. In the field of adopting non-native alloys to AM, understanding the parameters will aid in leveraging all the options for creating a new parameter set and hence printing a new material. This one-day workshop focuses on various applications of additive manufacturing processes in aerospace technology and healthcare applications. Further, it addresses the defects in the LPBF process and their solutions, and various post processing techniques to suit the products developed.