



Advances in Additive Manufacturing

(Complete Online Program)

Overview

Recently additive manufacturing has been identified as the next generation of manufacturing and is gaining its importance under the era of Industry 4.0. The term additive manufacturing covers a wide spectrum of processes, where parts can be manufactured directly from a CAD data layer-by-layer with reduced the lead-time. Moreover, it is expected to save material, time and at the same time introduce added functionalities. This course will make the participants familiar with both the theory and practice of the different additive manufacturing processes and their principles.

The expected outcome of the course is the following:

- Innovate new additive manufacturing processes
- Select the right process for fabrication of the right component
- Provide a basic understanding of the emerging additive emerging technologies

This course is organized in two modules that should be taken together. The topics in Module A will expose the participants to the introduction of additive manufacturing, its advantages, disadvantages, applications of additive manufacturing, design for additive manufacturing, and introduction to different additive manufacturing processes. In Module B, lectures will be devoted to metal additive manufacturing processes with the focus on laser-based powder-bed fusion process (Selective laser melting) followed by the metallurgy of additive manufacturing, alloy design along with some case studies, additive manufacturing process selections, and finally, the participants will be exposed to the future of additive manufacturing.

Course participants will learn these topics through lectures and hands-on experiments. Also, case studies and assignments will be shared to stimulate the research motivation of participants.

Modules	A: Introduction to Additive Manufacturing : May 16 – May 20 B: Advances in Metal Additive Manufacturing : May 23 – May 28
You Should Attend If...	<ul style="list-style-type: none">▪ you are a mechanical, manufacturing, production, or materials engineer or research scientist interested in next-generation manufacturing, the metallurgy of additive manufacturing, design aspects of additive manufacturing, and/or interested in developing next-generation additive manufacturing processes/materials.▪ you are a student or faculty from an academic institution interested in learning the nuances of additive manufacturing
Fees	The participation fees for taking the course is as follows: Participants from abroad : US \$ 300 Industry/ Research Organizations : INR 12000 Academic Institutions : INR 8000 Student / Scholar : INR 5000 For Fee payment mode, please contact the Course Coordinator

The Faculty



Prof. Dr.-Ing. Prashanth Konda Gokuldoss (K. G. Prashanth) presently working as the Full Professor and Head of the Additive Manufacturing Laboratory, Tallinn University of Technology, Estonia. His research areas revolve around Manufacturing and Production Engineering (including but not limited to additive manufacturing, powder metallurgy, casting and forging), Materials Science,

Metallurgy, Mechanical testing of Materials, Heat Treatment of Materials, Composites, Welding Metallurgy, Solidification, etc.). He has delivered several keynote lectures, invited talks, contributed oral and poster presentations at various national and international Conferences, Symposiums and Seminars. He has received several awards including S.K. Tamotia Award for research in Aluminum Metallurgy presented by Indian Institute of Metals Bhubaneshwar Chapter, India, Young Scientist Award ISMANAM 2018 honored at the 25th International Symposium on Metastable, Amorphous and Nanostructure Materials, Rome, Italy, to name a few. He has nearly 175 research articles in peer scientific reviewed international journals with a h-index of 41 and 7200 citations (google scholar Moreover, he has been recognized as top 2% Materials Scientists in the world by 2019/2020/2021 Stanford survey.



Dr. Katakam Sivaprasad is working as Associate Professor in Department of Metallurgical and Materials Engineering, National Institute of Technology, Tiruchirappalli, India. His research interests include mechanical behavior of materials, advanced materials processing, additive manufacturing, structure – property – process correlations, light

weighting of structures. He is the first recipient of Sir Dorabji Tata – T R Anantharaman Faculty Fellowship 2013. He has published more than 90 peer reviewed journal articles with more than 2800 citations and h-index 30. He has guided 10 PhD scholars.

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