IIT PALAKKAD

Hands-on Training Course for Working Professionals on 3D Metal Printing - Laser Powder Bed Fusion (LPBF) Process

Conducted by

CENTRAL FACILITY FOR MATERIALS AND MANUFACTURING (CFMM) ENGINEERING, IIT PALAKKAD

In collaboration with

EOS ELECTRO OPTICAL SYSTEM INDIA PRIVATE LIMITED, CHENNAI

Date: 06 July - 08 July 2022

Additive Manufacturing (AM) has become revolutionary in different industrial sectors considering its most notable advances of rapid manufacturing of geometrically critical components to its near-net shape. The Laser Powder Bed Fusion (LPBF) process in metal 3D printing has attracted immense attention for its capability to produce near-net-shaped parts with customized and complicated structure. The advantage of design freedom in LPBF is very significant to modern industries, including the aerospace, biomedical and automotive sectors. Also, with increasing demands for reducing the cost and time, many industries are investing on AM in production systems to manufacture complex components. This is a vast unconventional manufacturing domain that has only sparingly been explored in industries so far.

The talks and the **hands-on training sessions** in this course using the **EOS-M 290 system** with analysis softwares will explore important aspects of design, analysis, process simulation and processing of LPBF technique focusing industry requirements.

ATTENDEES WILL LEARN

- ➔ When to select metal AM method, process selection guidelines, value addition and design for AM (DFAM), LPBF principles and processing variables, process simulation, mechanical testing and characterization of the AM parts.

WHO SHOULD ATTEND?

- ➔ Working professional who wants to be familiarized with basic 3D metal printing (LPBF) technique

VENUE

- ➔ Additive Manufacturing Facility, Manogatha Building, Nila Campus, Kanjikode, IIT Palakkad

ACCOMMODATION

- ➔ Accommodation in the campus will be arranged on payment basis (very limited, on-request basis)

PROGRAM

DATE & TIME	09.00 am - 10.30 am	TEA BREAK	11.00 am - 01.00 pm	LUNCH	02.00 pm - 3.30 pm	TEA BREAK	04.00 pm - 6.00 pm
WEDNESDAY 06-07-2022	Inauguration & opening remarks (IITPKD & EOS)		Introduction to Metal AM (IITPKD)		Identifying business case for Metal AM (EOS)		Value addition through DFAM (EOS)
THURSDAY 07-07-2022	LPBF - mechanical & optical systems (EOS)		**Lab session** Processing of metal using LPBF system (EOS & IITPKD)		**Lab session** Processing of metal using LPBF system (EOS & IITPKD)		**Lab session** Processing of metal using LPBF system (EOS & IITPKD)
FRIDAY 08-07-2022	**Lab session** LPBF process simulation (IITPKD)		**Lab session** LPBF process simulation (IITPKD)		**Lab session** Microstructure & mechanical testing (IITPKD)		Post-processing of AM & certificate distributions

REGISTRATION

Registration will be on first-come-first-serve basis (only 25 seats)

Registration fees (including GST and other applicable taxes)

- ☐ Academic institutes : ₹ 15,000/-
- ☐ Government R&D : ₹ 18,000/-
- ☐ Industry participants : ₹ 20,000/-

Payment must be made electronically to the following bank account

- Account name : IIT Palakkad I-stem account
- Account number : 6174101001295
- Bank name : Canara bank
- IFSC Code : CNRB0006174
- BRANCH : IIT campus branch

After making the payment, email the participant details (name, email, organisation and mobile no.) and the payment transaction details to cfmmengg@iitpkd.ac.in (Mr. Visant, IIT Palakkad) and copy to admin-cfmmengg@iitpkd.ac.in (Dr. Kesavan, IIT Palakkad).

Registration Link:
https://docs.google.com/forms/d/1wacr1pB2qCsSSYkoDohTtaPPxqyGhv9MPK_2MUlj-p8/edit or **Scan the QR code**

Last date for registration: 30 June 2022 (strict deadline)

ORGANISING COMMITTEE

Mr. Andrews Lijoy (EOS India)
Mr. Joe Ajay (EOS India)
Dr. Afzaal Ahmed (Asst. Professor, IIT Palakkad)
Dr. Buchibabu V (Asst. Professor, IIT Palakkad)
Dr. Chakradhar D (Associate Professor, IIT Palakkad)
Dr. Dinesh Setti (Asst. Professor, IIT Palakkad)
Dr. Kanmani Subbu S (Asst. Professor, IIT Palakkad)
Dr. Kesavan D (Asst. Professor, IIT Palakkad)