

About Institute and Department

The institute was initially established as Sardar Vallabhbhai Regional College of Engineering & Technology in 1961 and was upgraded as a National Institute of Technology on 4th October, 2002. SVNIT is one of the pioneering engineering institutions of the country which has contributed many outstanding engineers in India & abroad. It is conducting six UG programs, nineteen PG programs (in addition to three integrated M.Sc. programs) and a Ph.D. program in all disciplines of engineering and applied sciences.

The Department of Mechanical Engineering came into existence in the year 1961. The department has qualified and dedicated faculty members with the specialization in various areas. At present the department is conducting a UG program in Mechanical Engineering, five PG programs (Mechanical Engineering, Turbo-machines, CAD/CAM Manufacturing Engineering, and Thermal System Design) and a research program leading to Ph.D. degree.

About Surat

Surat is a top-ranking industrial city of the country with clean wide roads. It is well known worldwide for textiles, Zari and Diamond industries. Several large-scale industries and establishments are located in the city. Surat is situated on the main western railway route between Vadodara and Mumbai. The institute is located at Ichchanath on Surat-Dumas Road at a distance of about 10 Km from Surat railway station.



Self-Sponsored

*One Week Online Short-Term Training Program
On*

Application of Soft-computing techniques and Numerical Modeling in “Additive Manufacturing and Materials Processing”

(A2MP 2022)

17th to 21st December 2022

Coordinators

Dr. Raju Prasad Mahto

Dr. Sunil Kumar

Dr. Neeraj Srivastava

Dr. Krishna Kishore Mugada



Organized by

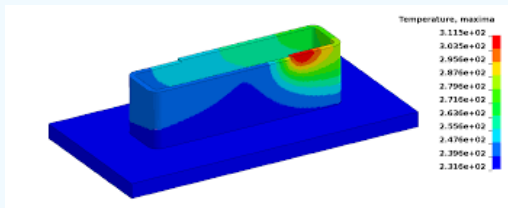
Department of Mechanical Engineering,
Sardar Vallabhbhai National Institute of Technology Surat,
Gujarat, India-395007.

Introduction

The one-week short-term training program (STTP) on 'Application of Soft-computing techniques and Numerical Modeling in "Additive Manufacturing and Materials Processing" (A2MP 2022) is scheduled to be held during 17-21st December 2022. The program covers the fundamental concepts of machine learning, numerical methods, image & signal processing in the area of additive manufacturing & materials processing. Further, hands-on training sessions will be provided for participants in Machine Learning and Numerical Modeling for friction stir welding, resistance spot welding, wire arc additive manufacturing, etc.

Course Objectives

The main objective of this training program is to provide Hands-On training on Numerical modeling and Machine Learning (ML) to solve problems related to additive manufacturing and material processing techniques. This includes direct energy deposition, powder bed fusion, wire arc additive manufacturing, hydroforming, solidification processing, friction stir welding, laser welding, tailor welded blanks, incremental sheet metal forming & microwave joining. The image and signal processing techniques will also be demonstrated. The proposed STTP will be highly helpful for the engineers/technical staff from various industries, faculty members, research scholars, UG/PG students for carrying out research in the current potential areas of manufacturing.



Source: Google images

Course Content

- ❖ Mathematics in machine learning, Hands-On training in Python.
- ❖ Mathematical modelling in Direct Energy Deposition Process & WAAM.
- ❖ Constitutive laws for simulating the welding, forming, additive manufacturing processes, and finishing.
- ❖ Numerical modeling in advanced manufacturing processes such as Friction stir welding, Hydroforming, and Solidification
- ❖ Applications of Artificial intelligence and Machine learning in Material processing and additive manufacturing.

Course Outcomes

After successful completion of this STTP, the faculty, research scholars and UG/PG students will be able to

- ❖ Understand the basics of Numerical modeling, mathematics in machine learning and their applications for research problems.
- ❖ Identify research problems in the area of additive manufacturing and materials processing and use numerical tools or machine learning algorithms to carry out the PG or PhD projects.
- ❖ Originate the research and development opportunity in the proposed area through consultancy.

Course Faculty

Eminent speakers from Indian and Abroad such as IITs/NITs, Industries and other reputed institutions who are experts in the area of additive manufacturing and materials processing.

Registration and General Information

Applications for the participation for the STTP should reach in the attached format via e-mail: a2mp2022@gmail.com or through the google form link <https://forms.gle/6sCZUJgKY2lgwqqWA>

Registration Fee

Participant Category	Fees (in INR) *
Academic Participants	1000/-
Others	2000/-

Limited number of participants with registration on a first-come, first-serve basis.

*All the participants will receive the e-certificates after successful completion of the training program.

The non-refundable registration fees should be paid only by ONLINE TRANSFER in account of:

Bank Account Name : Director, SVNIT-CCE
 SBI Account No. : 37030749143
 Bank Name : State Bank of India
 IFCS Code : SBIN0003320
 Branch : SVRCET Branch,
 Ichchanath, Surat- 395007,
 Gujarat.

Alternatively, you can pay by scanning the QR code displayed.

While paying through the net-banking or using QR code, the purpose is to be written as “A2MP 2022 Registration Fees” under “Others” category.



Important Dates

Last date for receipt of application	10.12.2022
Notification of confirmation (By Email)	14.12.2022

Tentative List of Speakers



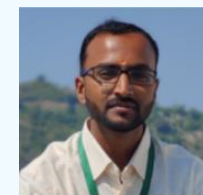
Prof. S.K. Pal, IIT Kharagpur



Prof. Amitava De, IIT Bombay



Prof. K. Hariharan, IIT Madras



Dr. (Mr). B.V. Sainath, Mercedes-Benz, India.



Dr. Rahul Jain, IIT Bhilai



Dr. Debasis Mishra, University of Connecticut, USA



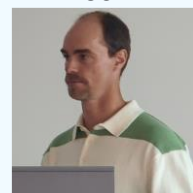
Dr. Shishira Bhagavath, University College of London, UK



Dr. Sobhan Sarkar, Indian Institute of Management (IIM), Ranchi



Dr. A.V. Gaurav Rao, Project Director, NMRL



Dr. Krik Fraser, NRC, Canada



Dr. Vivek Patel, University of West, Sweden



Prof. Vishvesh Badheka, PDPU.



Dr. Ved Prakash, Ford, India



Dr. Tuhin Mukherjee, Pennsylvania State University



Dr. Frank E. Pfefferkorn, University of WM