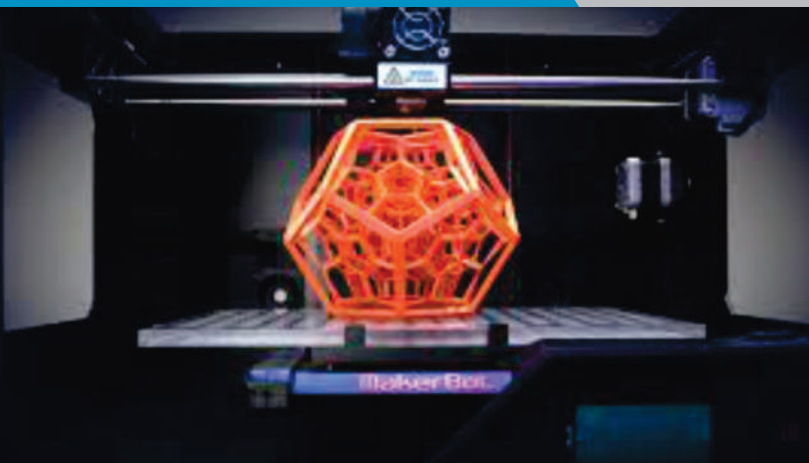


First International Workshop on



# ADDITIVE MANUFACTURING

12-16 March 2018



Sponsored by



Savitribai Phule Pune University, Pune



Additive Manufacturing Society of India

In association with

Institution of  
**MECHANICAL  
ENGINEERS**

Institution of Mechanical Engineers  
India Chapter

Technology Partners

**RENISHAW**  
apply innovation

• **DesignTech**  
Technology for designing the future

 **stratasys**

 **RoboKart**  
Share what you do

**think3D**

 **REVER  
INDUSTRIES**

Organized by



**Department of Mechanical Engineering**

Amrutvahini Sheti & Shikshan Vikas Sanstha's

## Amrutvahini College of Engineering

Amrutnagar, (Sangamner S.K.), Tal : Sangamner, Dist : Ahmednagar, 422 608, Maharashtra, India

[www.avcoe.org](http://www.avcoe.org)

## Course objectives / Scope

Additive Manufacturing (also known as 3D-printing or ALM additive layer manufacturing or Rapid Prototyping) is a production technology which involves highly complex processes, dependent upon many process parameters. Accompanying the increasing advances and interest in Additive Manufacturing (AM) technologies is an increasing demand for an industrial workforce that is knowledgeable about the technologies and how to apply them to solve real-world problems. The participants of this 5-days International workshop will learn the importance of AM and technologies, devices, capabilities, materials and applications along with various software tools, processes and techniques. The course will help to explore various applications including Engineering, Biomedical & Bio-manufacturing, Aerospace, Consumer Products, and Creative Artistry to mention a few. The workshop also includes hands-on experience with samples and AM equipment.

## Course Content

### Theory and Research Aspects Related Sessions :

- Basic Principles of Additive Manufacturing
- Additive manufacturing processes for polymers, metals, composites, and biomaterials
- Design/Fabrication Processes
- Designing for Additive Manufacturing
- Industrial applications of AM
- Future Trends and Directions in Additive Manufacturing,
- Business Opportunities.
- Standards and standardization in 3D Printing and the Future of Manufacturing.

### Hands-on Experience Sessions :

- |  |  |
|--|--|
| • 3D printer Development Process         | • Interfacing of 3D Printer with Computer    |
| • CAD Design software installation       | • Interfacing software installation          |
| • Overview of CAD 3D designing software  | • Mechanism demonstration of 3D printer      |
| • Designing of 3D models on CAD software | • Controlling of 3D printer through computer |
| • Analysis of CAD model with parameters  | • Slicing concept of CAD models              |
| • Stereo lithography file format         | • Gcode Generation of CAD design             |
| • STL extension file conversion          | • Printer operating steps                    |
| • Mechanism Explanation of 3D printer    | • Object printing on 3D printer              |

### Who should attend

- Design, Development and Manufacturing Engineers and practitioners
- Industries and Research Organizations
- PG and Research Scholars
- Faculties of Engineering/Polytechnic who are pursuing or planning to pursue research in AM and related technologies.

This workshop is not just a course; it is a skill building program in new technology area. Anyone (students/faculty/engineers of industries from Civil, Mechanical, Automotive, Electrical, Construction, Aerospace, Biomedical interested to enhance their skill in the Additive Manufacturing domain, are welcome to participate.

### Important Dates :

Last Date of Registration

**05 March 2018**

Confirmation of the selection  
to the candidate by an e-mail :

**06 March 2018**

## Organizing Committee

### Chief Patron

**Hon'ble Shri. Balasaheb B. Thorat**

MLA and Ex. Minister, Revenue & Khar Land, Govt. of Maharashtra

**Hon'ble Dr. Sudhirji B. Tambe**

MLC & Trustee, AVS&SV, Sanstha

**Hon'ble Mrs. Sharayu R. Deshmukh**

Trustee, AVS&SV, Sanstha

### Patron

**Prof. Dr. Nitin R. Karmalkar**

Vice - Chancellor, SPPU, Pune

**Mr. A. B. Shinde**

CEO, AVS&SV, Sanstha

**Dr. V. B. Gaikwad**

Dean, Sci. & Tech., SPPU, Pune

**Prof. V. B. Dhumal**

Manager, AVS&SV, Sanstha

#### Program Chair

**Dr. M. A. Venkatesh**

Principal

#### Program Co-Chair

**Prof. A. K. Mishra**

Vice Principal

#### Organizing Chair

**Dr. V. D. Wakchaure**

Prof. & Head, MED

9850683641

hod.mech@avcoe.org

#### Organizing Co - Chair

**Dr. V. S. Gadakh**

Assoc. Prof. MED

9404716998

vijay.gadakh@avcoe.org

## Advisory Committee

**Dr. Tim Fox** (CEng, FIMechE),

Vice-Chair, Process Industries Division Board,  
Institution of Mechanical Engineers (IMechE), UK

**Dr. L. Jyothish Kumar**

President, Additive Manufacturing Society of India

**Mr. Mahesh Shinde**, (CEng, FIMechE),

Secretary, Process Division and IMechE India Branch.

**Dr. Chua Chee Kai**

Executive Director, Singapore Centre for 3D Printing,  
Nanyang Technological University, Singapore.

**Dr. Olaf Diegel**

Professor of Product Development, School of Engineering, Department of  
Design Sciences, ITH, Lund University, Sweden

**Dr. P. K. Bramhankar**, Prof. MED, BATU Lonere

**Dr. Shreyes Melkote**

Associate Director, Georgia Tech Manufacturing Institute, USA

**Dr. Albert Shih**

Professor, Integrative Systems and Design, University of Michigan, USA

**Dr. K. P. Rajurkar**

Director, Center for Nontraditional Manufacturing Research,  
University of Nebraska, Lincoln, USA

**Dr. B. B. Ahuja**, Director, College of Engineering, Pune

**Dr. A. M. Kuthe**, Professor, Department of Mech. Engg., VNIT, Nagpur

**Dr. K. N. Nandurkar**, Principal, KKW IEE&R, Nashik

**Dr. S. P. Kallurkar**, Principal, Atharv CoE, Mumbai

**Dr. A. M. Kate, Dr. A.G.Thakur and Dr. P. A. Patil**

Member, Board of Studies, Mechanical Engineering, SPPU, Pune

## Speakers

**Dr Mustafizur Rahman,**

Department of Mechanical Engineering, National University of Singapore

**Dr. Khalid Abdelghany**

Dean, Advanced Manufacturing Division, The Central Metallurgical  
Research and Development institute (CMRDI), Cairo, Egypt.

**Dr. Edward Huang**

Chung Shan Additive Mfg Centre, National Chung-Shang Institute of  
Science and Technology, Taiwan

**Nayan. R. Patel,**

Manager, Additive Manufacturing Solutions Centre, Renishaw Metrology Systems Ltd.

**Dr. Pulak M. Pandey**

Professor, Department of Mechanical Engineering, Indian Institute of Technology, Delhi

**Dr. K. P. Karunakaran**

Professor, Department of Mechanical Engineering, Indian Institute of Technology, Mumbai

**Dr. Arvind Kumar**

Department of Mechanical Engineering, Indian Institute of Technology, Kanpur

**Dr. T. V. K. Gupta**

Department of Mechanical Engineering, VNIT, Nagpur

**Mr. N. K. Vaidya**

General Manager, Proto Manufacturing, Tata Motors, Pune

**Wg. cdr Jayesh C S Pai**

Head, Tech Facilitation, Taiwan External Trade Development Council (TAITR)

**Mr. Ravi Kumar Patil**

National Technical Manager for 3D Printing, Design Tech System,

**Mr. Suyog Vispute** Rever Industries, Nashik

**Mr. Nawal Ambavkar**

Team Lead, R&D Department, Robokart, Mumbai

## Bank Details :

A/C Name :

Principal,  
Amrutvahini College of Engineering

A/C No.: 322501010033387

IFSC Code : UBIN0532258

## DELEGATE FEE

Category	Per Delegate Fee
P.G. Student	Rs. 1000
Ph.D. Student	Rs. 1200
Faculty	Rs. 1500
Foreign Delegate	US \$200
R & D Industry	Rs. 2000



## Welcome to Ahmednagar (Historic & Holy City)

Ahmednagar is a largest district of Maharashtra state in western India, about 120 km northeast of Pune, 70 km from Nashik and 114 km from Aurangabad. It is situated on the west bank of the Sina river. Sugar, Milk and bank co-operatives thrive here. The city was founded in 1490 by Ahmed Nizam shah Bahri. The city witnesses some magnificent architectural monuments from the Nizam Shahi dynasty. The district is strewn with a number of temples, many of them ancient, which are much visited by the pilgrims. Among them, Shirdi is quite famous across the India. The famous Sai Baba temple lies in Shirdi. Some other famous tourist places in Ahmednagar are Ahmednagar Fort, Alamgir, Amruteshwar Temple, Anand Dham, Mula Dam, Chandbibi Mahal, Harishchandragad Fort, Meherazd, Newasa where Dnyaneshwari was written, one of Ashtavinayaks at Siddhatek, the famous Kanifnath temple, the Palace of Chandbibi, the Bhandardara Dam, Mula Dam, Ratangadh Fort, Mount Kalsubai, Shani Shingnapur, the Maldhok (Black-Buck) sanctuary and the Rehkuri sanctuary, etc. are some of the places of tourist attractions.

### About Sanstha

Honorable Sahakar Maharshi Late Shri. Bhausaheb Thorat, Freedom Fighter, Pillar of Co-operative Movement and founder of Amrutvahini Sheti and Shikshan Vikas Sanstha, a great visionary and philanthropist. He converted his thoughts into reality by creating educational and training facilities. For this he has founded the Amrutvahini Sheti & Shikshan Vikas Sanstha in 1978 to provide education to the poor farmer at his doorstep, which boosted the socio-economic progress of the rural people. The Sanstha is running following educational institutions :

- Amrutvahini College of Engineering
- Amrutvahini Polytechnic
- Amrutvahini Junior College
- Amrutvahini College of Pharmacy
- Amrutvahini Model School
- Amrutvahini Institute of Management & Business Administration
- Amrutvahini Industrial Training Institute
- Amrutvahini Institute of Diploma in Pharmacy
- Amrutvahini International School

### About Institute

Amrutvahini College of Engineering has been established in 1983 and presently offers UG (Civil - (Intake -180), Production - (Intake-60), Computer - (Intake - 120), Electronics - (Intake - 60), Mechanical - (Intake - 180), E&TC - (Intake - 60), IT - (Intake - 60). Electrical Engineering - (Intake - 60) & PG (structure - (Intake - 18), Mech. Design - (Intake - 18), Computer - (Intake - 24), Prod. CAD / CAM - (Intake-18) Electronics Digital Systems - (Intake - 24), IT - (Intake - 24), MBA - (Intake - 60) courses with Ph.D, Center in Mechanical Engineering. All the UG programs except Electrical Engineering were accredited by NBA, New Delhi.

### About the Department

Department of Mechanical Engineering was started in the year 1991-92. All labs of department are well equipped with the modern equipments. Students of department participated under the aegis of SAE chapter, different events like SAE - BAJA, SAE - Effi - Cycle, SAE - Supra, etc. Students of the department have achieved 7th rank all over India and 2nd in Maharashtra in SAE-BAJA competition in the year 2013-14 and achieved 30th Rank across India & 4th Rank in Maharashtra in SAE-Effi-Cycle in the year 2015-16. The department has following major equipments; Computerized IC engine, Single cylinder Diesel Engine, Two stage Reciprocating Air-Compressor, Vapour Absorption Refrigeration, Computerized natural Convection Heat Transfer, Wear & bearing test Rig, VCR Engine, Steam Power Plant, FFT Vibration Analyzer, Hydraulic & pneumatic Trainer, Hydraulic Accumulator & Intensifier, four Ball Tester, Fatigue Testing Machine, Smarturn CNC Machine (Lakshmi Machine Works Ltd., Coimbatore), Co-ordinate Measuring Machine (Electronica), robotic Arm (ABB), etc.



3 Times Accredited by



Accreditation



Accredited by



Affiliated to

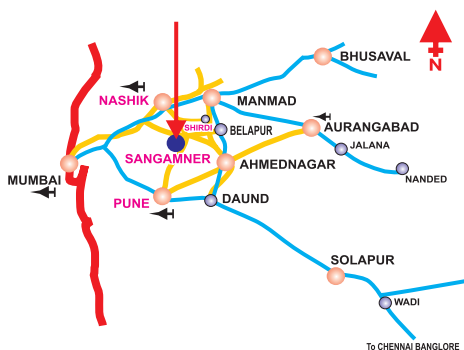


ISO Certified



'A' Grade by Govt.  
of Maharashtra

Best Engineering College  
Award by SPPU University



Amrutvahini Sheti & Shikshan Vikas Sanstha's

## Amrutvahini College of Engineering

Amrutnagar, (Sangamner S.K.), Tal : Sangamner,  
Dist : Ahmednagar, 422 608, Maharashtra

• Phone : (02425) 259015/16/17/18. • Fax : (02425) 259016