Workshop on Smart Manufacturing

December 11, 2019, IIT Indore

Module I: Expert Talks

(1) Title: Smart Manufacturing (Industry 4.0) for SMEs

Speaker: Prof. M.S. Kulkarni, IIT Mumbai, 45 Min

Expected learnings:

- Role of information in industry 4.0 or smart manufacturing
- How industry 4.0 can be useful for SMEs
- Various business models for smart manufacturing
- Concept of asset administration shell and digital twin

(2) Title: Implementing of Digitalization 4.0 technology in an SME: A case study

Speaker: Dr. Bhupesh K Lad, IIT Indore, 45 Min

Expected learnings:

- Identification of a case for digitalization in SME
- Developing low cost digitalization solution for SME
- Expected benefits for proposed solution to SME

Module II: Hands on

(1) Digital Manufacturing on Shoestring: Digital Solution Requirement: 1.5 hour

By Dr. Ajith K. Parlikad, University of Cambridge, UK

Expected learnings:

- Identify our strategic priorities
- Identify areas where digitalisation can help
- Prioritising your digitalization activities
- Engaging with other SMEs who are embarking on their digitalization journey

(2) Analytics (with specific focus on Predictive Health Monitoring) for Industry 4.0: 2 hour

By Prof. M. S. Kulkarni, IIT Bombay

Expected learnings:

- The concept of Predictive Health Monitoring
- Brief of some of the important approaches

- Hidden Markov Models HMM concepts
- Solving a small example (Hands on will be guided by our team)
- Relating the example with a case study (how to collect the data)
- Discussion on how to use the results

(3) Manufacturing Simulation using Witness: 1.5 hour

By Dr. Bhupesh K Lad, IIT Indore and Dr. Sandeep Kumar, IIT Bombay

Expected learnings:

- Modelling a realistic shop floor using one of the production modelling software
- Performing what-if analysis
- Role of simulation model in digital twining and distributed decision making

Module III: Prototype Demonstrations

- Machine to Machine communication
- Prognostics and Health Monitoring
- Augmented and Virtual Reality (AR/VR) for smart manufacturing
- Artificial Intelligence and Machine Learning (AI/ML) application in smart manufacturing
- Automated Guided Vehicle (AGV) for smart Communication
- Distributed decision making
- Analytics/Reliability assessment tool
- Online scheduling tool, etc.

Who Should Attend?

✓ Executives, engineers, managers/Senior managers, and researchers from manufacturing, service and government organizations including R&D laboratories.

✓ Faculty members/students from Higher Education Institutes (HEIs), interested to work in the area of smart manufacturing

Additional Benefits

✓ Participants will get opportunity to interact with other members of will IndAC-SM (http://indacsm.iiti.ac.in/) and explore more about its activities and objectives.

✓ Industries may discuss their digitalization related problems and challenges with the experts

Registration Process

Category	*Fee (INR)
Participants from TEQIP institute (05 more seats remaining)	Free
Others institute faculty members/postdoctoral students (sold out)	1500
Other institute UG/PG/PhD students (sold out)	1000
Industry personnel (Available seats=20)	3000

Note:
(1) *50 % discount, if you have already registered for COPEN-2019 (http://copen2019.iiti.ac.in/)
(2) Participations is free for sponsors of COPEN 2019
(3) The course fee includes study material, breakfast, lunch, and tea
(4) Number of seats: Limited (only 20 seats for industry participants)
(5) Accommodation can be arranged, if requested, in hostel/guest house subjected to availability.
(6) Workshop is free for IndAC-SM members (http://indacsm.iiti.ac.in/)

Mode of Payment: e-payment only
Name of Account Holder : IIT Indore
Name of Bank : Canara Bank
Branch : IIT Indore, Simrol, Branch
Account Number : 1476101027440
Account Type : Saving A/c
Bank IFS Code : CNRB0006223
Bank SWIFT Code : CNRBINBBISG

Important Dates: The soft copy of the completely filled registration form (next page) along with online payment slip should be sent to indacsm@iiti.ac.in (with a cc to bklad@iiti.ac.in) on or before **November 30, 2019.**
Feel free to contact/email the course coordinator for any queries or clarifications.

Course Coordinator:

Dr. Bhupesh Kumar Lad
Associate Professor, Discipline of Mechanical Engineering,
IIT Indore, India, 453552
Email: bklad@iiti.ac.in, Phone: 9926906964

Registration Form

(1) Full Name:

(2) Designation:

(3) Institute/ Organization:

(4) Address:

(5) Hostel accommodation required: Yes /No

(6) Email id:

(7)Phone/Mobile No.:

- **Payment details:**

- **Date of Payment**

- **Amount**

- **Online transfer reference number (please attach receipt, if possible)**

Signature
Date

For any query, please contact course coordinator

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