International Week – BIP Digital Manufacturing: Technologies and Management

From Monday 14 to Friday 18 March 2022

Free University of Bozen-Bolzano

Room F6 – University Club

Target audience

Bachelor and Master students of Mechanical Engineering, Management Engineering, Electromechanics, Electronics-ICT, Mechatronics and Environmental Sciences.

Activities

- Lessons and exercises
- Virtual labs
- Project works (presentations)

Topics

- Introduction to Industry 4.0
- (Collaborative) Robotics
- Mechatronics and Additive
 Manufacturing
- Assistance Systems
- Cyber-Physical Systems and Security Issues
- Managing Industry 4.0
 Transformation

Registration deadline

15 January 2022

The International Week is part of a new Blended Intensive Program (BIP) that will run between 1st March and 30th April 2022.

More information

www.unibz.it/en/events/-39102blended-intensive-program (coming soon)



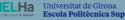
















Digital Manufacturing: Technologies and Management

Monday 14th March 2022 – Introduction to Digital Manufacturing

09.00 - 09.30 Welcome

09.30 – 10.15 Industry 4.0: what's next - a glimpse into the future (D. Matt – unibz/FhI)??

10:15 – 11:00 Main technologies of I4.0 (E. Rauch - unibz)

11.00 - 11:30 Break

11.30 – 12.30 Introduction to the group work

12.30 – 13:45 Lunch

Monday 14th March 2022 – Managing digital manufacturing technologies

13.45 – 15.15 Implementation of I.40 technology from a management/organizational point of view (G.

Orzes - unibz)

15.15 - 15.30 Break

15.30 – 17.00 Impact of Industry 4.0 on production systems (R. de Castro and A. Bikfalvi - UdG)

Tuesday 15th March 2022 – (Collaborative) Robotics and digital twins

09.00-09.45 (Industrial) Robotics: evolution and trends (Gasparetto – uniud)

09.45-10.30 Introduction to collaborative robots and safety standards – part A (E. Smet, – UAntwerp)

10.30-11.00 Break

11.00-11.45 Introduction to collaborative robots and safety standards – part B (E. Smet, – UAntwerp)

11.45-12.30 Collaborative Robotics: examples and applications

12.30 – 13:45 Lunch

13.45-15.15 Industrial Digital Twins (Marquez-Barja, UAntwerp & IMEC)

15.15 - 15.45 Break

15.45-17.30 Smart Mini Factory Lab Demos: collaborative robotics and digital twin (E. Rauch / R. Vidoni - unibz)

Wednesday 16th March 2022 (at NOI Techpark) Assistance and Vision Systems

09.00 – 09.45 Worker assistance systems in production (B. Mark, unibz)

09.45 – 10.30 Worker assistance systems in construction (P. Dallasega/A. Revolti, unibz)

10.30 - 11.00 Break

11.00-12.00 (online) Machine Vision and Learning for automatic yarn inspection (M. Masias - UAntwerp)

12.00 – 13:15 Lunch

13.15 - 14.45 Safety control in robotic manipulator visual servoing system (C. Copot, UAntwerp)

14.45 - 15:00 Break

15.00-17.30 NOI Techpark Lab Tour and Demos

Thursday 17th March 2022 - Additive Manufacturing

09.00-10.30 Introduction to Additive Manufacturing (C. Cappellini - unibz)

10.30-10.45 Break

10.45-12.15 Digital Modelling and Additive Manufacturing with Polymeric Materials (N. Blanco and I.

Ferrer - UdG)

13.00 - 14:15 Lunch

14.15 – 15.15 (online) Modeling technologies for Industry 4.0 (J. M. Lopez-Guede, UPV/EHU)

15.15-17.30 Group work

Friday 18th March 2022 – Optimization

09.00 – 10.30 Introduction to Optimization Concepts and Algorithms (N. Van Oosterwyck, UAntwerp)

10.30 – 11.00 Break

11.00 – 12.30 FEA, optimize your design towards strength (P. Arras, KU Leuven)

Friday 25th March 2022

14.00-15.30 (online) Group work

Friday 1st April 2022

14.00-15.30 (online) Group work

Friday 15th April 2022

14.00-15.30 (online) Group work

Friday 22nd April 2022

09.00-11.00 (online) Group work presentations