

EIT Manufacturing AIESMA Summer School

Artificial Intelligence-enabled Innovation & Entrepreneurship for Sustainable Manufacturing

08 July - 18 July 2024 (Online) | 22 July – 02 Aug (Onsite)

Detailed Program Schedule

Online Part: Innovative Manufacturing: Harnessing AI and Sustainability for Growth

08 July, Monday

Activity	Time frame	Presenter/speaker	Details
INTRODUCTION TO SUMMER SCHOOL	15:00-15:30	Enrico Blanzieri (UNITN); Milena Bigatto (HIT)	<ul style="list-style-type: none"> 1. Why are we here: introduction on innovation by design 4. How to use the mentors
CHALLENGES PRESENTATIONS	15:30-17:00	Industrial Partners	<ul style="list-style-type: none"> Introduction to industrial partners and their real-world challenges in manufacturing

09 July, Tuesday

Activity	Time frame	Presenter/speaker	Details
Focus on the problem not on the solution	15:00-15:30	UNITN - Caterina Trevisan	<ul style="list-style-type: none"> Introduction to Design Thinking approach
From research to business: a knowledge transfer approach	15:30-17:00	HIT Marco Senigalliesi	<ul style="list-style-type: none"> knowledge transfer in the context of research commercialization. entre-intrapreneurial mindset and the skills needed to succeed as an innovator

Introduction to AI in Manufacturing	17:00-18:00	UNITN DISI - Giorgio Scarton	<ul style="list-style-type: none"> Overview of AI technologies relevant to manufacturing, including machine learning, robotics, and predictive analytics.
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11 July, Thursday

Activity	Time frame	Presenter/speaker	Details
Introduction to Sustainability in Companies	15:00-17:00	Philipp Horne - Voestalpine High Performance Metals GmbH	<ul style="list-style-type: none"> Understanding Sustainability in the Manufacturing Context Integration of Sustainability into Business Strategy and Operations

12 July, Friday

Activity	Time frame	Presenter/speaker	Details
AI in manufacturing: trends, maturity models and applications (I)	15:00-17:00	Donatella Corti - SUPSI	<ul style="list-style-type: none"> Define innovation in the context of manufacturing and its significance for industry growth.

15 July, Monday

Activity	Time frame	Presenter/speaker	Details
AI in manufacturing: trends, maturity models and applications (II)	15:00-17:00	Donatella Corti - SUPSI	<ul style="list-style-type: none"> Industry 4.0 and 5.0.

16 July, Tuesday

Activity	Time frame	Presenter/speaker	Details
Introduction to IP management for innovation in industry	15:00-16:00	HIT Veronica Barchetti e Francesco Placentino	<ul style="list-style-type: none"> Introduction to IP management for innovation in industry

Ethics AI: intro	16:00-17:00	James Brusseau (Pace University, New York, USA and UNITN)	<ul style="list-style-type: none"> • Foundations of Ethical AI
AI Act: Intro	17:00-18:00	Giulia Olivato (UNITN)	Ethical AI Governance and Regulation

Wednesday, 17 July 2024

Activity	Time frame	Presenter/speaker	Details
Introduction to Sustainable Manufacturing Practices in Supply Chain	15:00-17:00	Marco Formentini, UNITN	<ul style="list-style-type: none"> • Introduction to Sustainable Manufacturing Practices in Supply Chain in Manufacturing

Thursday, 18, July 2024

Activity	Time frame	Presenter/speaker	Details
INVERSE (INteractive robots that intuitively LEarn to inVERT tasks by ReaSonig about their Execution) project	15:00-16:00	Daniele Fontanelli UNITN	<ul style="list-style-type: none"> • INVERSE (INteractive robots that intuitively LEarn to inVERT tasks by ReaSonig about their Execution) project
The operator of the future in the industry 5.0 Manufacturing Barriere	16:00-17:00	Francesco Pilati UNITN	<ul style="list-style-type: none"> • The operator of the future in the industry 5.0 Manufacturing Barriers

Onsite Week 1: AI & Sustainability in Manufacturing from problem to impact design

22 July, Monday

Activity	Time frame	Presenter/speaker	Details
Ice breaking - Creativity for innovation	9:00-11:00	<ul style="list-style-type: none"> Milena Bigatto - HIT 	<ul style="list-style-type: none"> Introduction to Creativity and Innovation
Design Thinking workshop (I)	11:00-13:00	Caterina Trevisan (UNITN)	<ul style="list-style-type: none"> design thinking principles and methodologies for re-framing the problem
Lunch break			
Perspectives in AI: machine learning, symbols, bodies	14:00-15:00	Enrico Blanzieri (UNITN)	<ul style="list-style-type: none"> AI beyond statistical models
Process mining	15:00-16:00	Chiara Di Francescomarino (UNITN)	<ul style="list-style-type: none"> Process modelling languages & data representation
Human Computer interaction: a social perspective	16:00-17:00	Giovanna Varni (UNITN)	<ul style="list-style-type: none"> Social Robotics & evaluation methodology
Team Work	17:00-19:00		

23 July, Tuesday

Activity	Time frame	Presenter/speaker	Details
Design Thinking Workshop II	09:00 – 10:30	Caterina Trevisan (UNITN)	<ul style="list-style-type: none"> brainstorming to identify user's needs
Ethics AI in problem settings	11:00-13:00	Giulia Olivato (UNITN)	<ul style="list-style-type: none"> ethical considerations in defining AI systems
Lunch break			
How to present a problem and an innovative solution	14:00-15:00	Milena Bigatto (HIT)	<ul style="list-style-type: none"> communicative skills for presenting innovative ideas to a company

Teamwork	15:00-19:00		
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24 July, Wednesday

Activity	Time frame	Presenter/speaker	Details
Onboarding in a manufacturing company	09:00-10.30	Maddalena Buzzola (DANA)	<ul style="list-style-type: none"> Innovation & company case studies
Data and AI readiness Assesment	11.00-13.00	Stefano Gallinaro (HIT)	<ul style="list-style-type: none"> Introduction to Data and readiness
Lunch break			
Visit to Dana (Arco)	14.00-18.00	Enrico Blanzieri, Maddalena Buzzola, Milena Bigatto	<ul style="list-style-type: none"> Visiting the industrial plant

25 July, Thursday

Activity	Time frame	Presenter/speaker	Details
Simulation Supply chain Sustainability	09:00 – 12.00	Marco Formentini UNITN	<ul style="list-style-type: none"> overview of sustainability risk and opportunities in a supply chain perspective
Formal Ontologies in Manufacturing	12.00-13.00	Stefano Borgo LOA CNR	<ul style="list-style-type: none"> role of ontologies in enhancing data interoperability, knowledge sharing and process efficiency in manufacturing domain
Lunch break			
Team Work	14:00-19:00		

26 July, Friday

Activity	Time frame	Presenter/speaker	Details
teamwork	09:00 – 13.00		
Lunch break			
Participants' final presentations	14.00-19:00		problem setting presentations and feedback from company/mentors

AIESMA social weekend:

26-28 July CANDRIAI (TN)

Participants of the Summer School will be hosted in a training centre in the mountains and will be involved in social activities to get to know each other better and to learn about some of the innovative aspects of the region's economy and culture. Through exploration and meetings with local actors, participants will have the opportunity to approach the topic of innovation as a driver of change.

(Limited free-of-charge availability for the no-EITM student participants on a first-come first-served basis)

Onsite week 2: AI & Sustainability in Manufacturing: from solution prototyping to validation

29 July, Monday

Activity	Time frame	Presenter/speaker	Details
Design Thinking Workshop III	09:00 – 11:00	FABLAB DISI	<ul style="list-style-type: none">design thinking principles and methodologies

Design Thinking Workshop III	11:00 – 13:00	IACOPO CARRERAS Think.in	<ul style="list-style-type: none">process optimization in manufacturing
Lunch break			
AI and human computer Interaction	14:00 – 17:00	ANDREAS STEINER TUW	<ul style="list-style-type: none">HCI human computer interaction: risks and

			opportunities in manufacturing
Team Work	17:00-19:00		

30 July, Tuesday

Activity	Time frame	Presenter/speaker	Details
Circular Economy and end of life management	09:00 – 12:30	STEPHANIE EISL	<ul style="list-style-type: none"> • circular economy in manufacturing risk and opportunities
Lunch break			
AI for solution	14:00 – 16:30	GIULIA OLIVATO	<ul style="list-style-type: none"> • ethical considerations for AI systems
Team Work	17.00-19.00		

31 July, Wednesday

Activity	Time frame	Presenter/speaker	Details
Magician project	9:00-10:00	LUIGI PALAPOLI	<ul style="list-style-type: none"> • case studies on innovation in manufacturing
How to present a problem and an innovative solution II	10:00 – 13:00	MILENA BIGATTO HIT	<ul style="list-style-type: none"> • communicative skills for presenting innovative ideas to a company
Lunch break			
Teamwork	14.00-19.00		

01 August, Thursday

Activity	Time frame	Presenter/speaker	Details
Team work	09:00 – 13:00		
Lunch break			
Team work	14.00-19.00		

02 August, Friday

Activity	Time frame	Presenter/speaker	Details
Team Work	09:00 – 13:00		
Lunch break			
Panel Presentations of solutions and feedback from companies and mentors	14.00-19.00		