



Department of Industrial
Engineering for
Energy Transition

PhD International Intensive School 1st Edition

*Towards Zero Emissions Mobility
A Hydrogen Scenario*

07-11 October 2024

Federico II Congress Center
Via Partenope, 36 – Naples (Italy)

Program



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Vecteezy.com



[ingegneria.industriale.unina](https://www.instagram.com/ingegneria.industriale.unina)

Sunday, October 6th

17:00 - 19:30 **Welcome Cocktail** (Barrill Caffè - via G. Fiorelli 11)

Monday, October 7th

8:30 - 9:30 **Registration**

9:30 - 11:00 **Course Opening Greetings
Introduction to the Course**

11:00 - 11:30 **Coffee Break**

11:30 - 13:00 **Implications of Energy Transition on Firms and the Economy**
Prof. Andreas Löschel
Ruhr-Universität Bochum

13:00 - 14:00 **Light Lunch**

14:00 - 16:00 **Perspectives on the Production and Use of Hydrogen
Toward Zero-Emission Mobility**
Prof. Canan Acar
University of Twente

Tuesday, October 8th

8:30 - 10:30 **Hydrogen Flame Technology for Sustainable Combustion (I)**
Prof. Ivan Langella
Technical University Delft

10:30 - 11:00 **Coffee Break**

11:00 - 13:00 **Hydrogen Storage & Distribution: Status, Perspectives, and Industrial
Applications (I)**
Prof. Timothee Pourpoint
Purdue University

13:00 - 14:00 **Light Lunch**

- 14:00 - 15:30 **Machine Learning Methods and Applications for High-Dimensional Multi-Modal Data (I)**
Prof. Kamran Paynabar (hands-on examples for data analysis)
H. Milton Stewart School of Industrial & Systems Engineering, Georgia Institute of Technology
- 15:30 - 16:00 **Coffee Break**
- 16:00 - 17:00 **Machine Learning Methods and Applications for High-Dimensional Multi-Modal Data (II)**
Prof. Kamran Paynabar
- 17:00 - 18:00 **Hydrogen flame technology for sustainable combustion (II)**
Advanced geometry from Ansaldo (introduction case study)
Prof. Ivan Langella

Wednesday, October 9th

All Wednesday activities will be held at the Engineering School (Piazzale Tecchio, 80 - Scipione Bobbio Room, 1st floor)

- 8:30 - 9:30 **Hydrogen Storage & Distribution: Status, Perspectives, and Industrial Applications (II)**
Prof. Timothee Pourpoint
- 9:30 - 10:00 **Coffee Break**
- 10:00 - 11:30 **Machine Learning Methods and Applications for High-Dimensional Multi-Modal Data (III)**
Prof. Kamran Paynabar
- 11:30 - 13:00 **Team Activity**
Prof. Ivan Langella
- 13:00 **Department of Industrial Engineering (DII)
PhD Poster Session (Opening)**
- 13:00 - 14:30 **Light Lunch**
- 14:30 - 15:30 **A Sustainable Powertrain for Reaching Net-Zero Carbon Emissions**
Eng. Alberto Vassallo – Eng. Francesco Pesce
Dumarey Engineering
- 15:30 - 16:00 **Coffee Break**

16:30 **Department of Industrial Engineering (DII)
PhD Poster Session (Closing)**

16:30 - 19:00 **Visit to DII Laboratories**

- Towing Tank
LEIN - Laboratorio di Esperienze Idrodinamiche
proff. De Luca, Begovic
- IDEAS - Interactive Design and Simulation
prof. Antonio Lanzotti
- MMS - Materials and Structures Mechanics Laboratory
prof. Francesco Penta
- Low-Speed Wind Tunnel
Laboratorio di Progetto Velivoli Luigi Pascale
prof. Fabrizio Nicolosi

Thursday, October 10th

8:30 - 10:30 **Team Activity**
prof. Timothee Pourpoint

10:30 - 11:00 **Coffee Break**

11:00 - 12:00 **Team Activity**
prof. Timothee Pourpoint

12:00 - 13:00 **Team Activity**
prof. Ivan Langella - Prof. Kamran Paynabar

13:00 - 14:00 **Light Lunch**

14:00 - 16:00 **Team Activity**
prof. Ivan Langella - Prof. Kamran Paynabar

16:00 - 16:30 **Coffee Break**

16:30 - 18:00 **Team Activity**
prof. Ivan Langella - Prof. Kamran Paynabar

20:00 - 23:30 **Social Dinner** (Il Ristorantino dell'Avvocato - via Santa Lucia 115)

Friday, October 11th

- 8:30 - 10:30 **Presentation of Team Activity**
- 10:30 - 11:00 **Coffee Break**
- 11:00 - 12:30 **Presentation of Team Activity**
- 12:30 - 13:30 **Light Lunch**
- 13:30 - 15:00 **Presentation of Team Activity**
- 15:00 - 15:30 **Coffee Break**
- 15:30 - 17:00 **Group Photo - Peer Grading - Final Remarks**

Saturday, October 12th

Social Program (Visit to Pompei Ruins)