

2021 PhD Week – Energy and Environmental Engineering Sciences

The 2021 PhD Week of the PhD Program in Energy and Environmental Engineering Sciences will be held from **Wednesday, October 20, 2021** to **Friday, October 22, 2021** with the following preliminary programme:

WEDNESDAY 20/10/2021 h 15:00 – Sala Verde (piccola ex-DPIA)

Invited talk (**VIRTUAL** – link to attend will be sent later on)

Title: On the formation of liquid plugs in human lungs

Speaker: Prof. Francesco Romanò (Arts et Métiers Paris Tech, Laboratoire de Mécanique des Fluides de Lille, France)

WEDNESDAY 20/10/2021 h 16:00 – Sala Verde (piccola ex-DPIA)

ORAL presentations by the 1st-year students (Cycle XXXVI)

Length of presentation: 10 - 15 min (max 15 min allowed)

- **Vincenzo Aiello** (Sup. Prof. Casarsa)
Topic: Leakage flow analysis in gas turbine labyrinth seals
- **Filippo Campagnolo** (Sup. Prof. Zuccaccia, co-Sup. Prof. Aneggi)
Topic: Sustainable gold catalysis
- **Georgios Giamagas** (Sup. Prof. Marchioli) - **ONLINE**
Topic: Wave formation and breaking: Influence of surfactant
- **Jordi Kindt** (Sup. Prof. Morassi)
Topic: Inverse dynamical problems for microplate sensors
- **Gianmarco Miroddi** (Sup. Prof. Boaro, co-Sup. Prof. Trovarelli)
Topic: Design, development and implementation of a thermo-photo catalytic reaction system to study the plasmonic effect on small molecule (CO₂, H₂, CH₄) activation and reaction
- **Federico Spizzo** (UNESCO Chair, Sup. Prof. Goi)
Topic: Analysis and vulnerability of water distribution systems for potential pollution phenomena control
- **Gabriele Toffoletti** (Sup. Prof. Cortella)
Topic: Refrigeration systems and heat pumps with natural fluids
- **Andrea Zanolla** (UNESCO Chair, Sup. Prof. Goi)
Topic: Vulnerability and resilience of the sewage-WWTP system: perspectives of water recovery

THURSDAY 21/10/2021 h 11:00 – Sala Verde (piccola ex-DPIA) e spazi antistanti

POSTER presentations by the 2nd-year students (Cycle XXXV) + Marie-Curie PhD students (Cycle XXXV) with Best Poster Award

Committee: Paolo Giannozzi, Alberto Policriti, Roberto Rinaldo

- **Antonio Carabillò** (Sup. Prof. Lanzutti)
Topic: Tribology of Titanium based PVD Multilayer Hard Coatings on HSS for Cold Rolling Application
- **Davide Di Giusto** (Sup. Prof. Marchioli, co-Sup. Prof. Soldati) - **ONLINE**
Topic: Flexible fibers in turbulent channel flow at high Reynolds number
- **Fernando Kevin Miranda S. Cruz** (Sup. Prof. Marchioli, co-Sup. Prof. Campolo) - **ONLINE**
Topic: Simulation of particle-droplet interaction in turbulent three-phase flows
- **Alessandro Moretti** (Sup. Prof. Goi) - **ONLINE**
Topic: Integrated water cycle sustainability: water reuse in circular economy

THURSDAY 21/10/2021 h 16:00 – Sala Verde (piccola ex-DPIA)

ORAL presentations by the 3rd-year PhD students (cycle XXXIV, scientific areas “Heat and Fluid Flow” & “Ottimizzazione Energetica e Industriale”)

Committee: C. Marchioli, P. Simeoni, G. Croce

Length of presentation: 15 min + questions (max 20 min allowed)

- **Hadi Sichani Pejman** (Sup. Prof. Marchioli, co-Sup. Prof. Soldati) - **ONLINE**
Topic: Numerical simulation of double-diffusive turbulent convection
- **Cottes Mattia** (Sup. Prof. Simeoni) - **ONLINE**
Topic: Sustainable smart energy systems

FRIDAY 22/10/2021 h 14:30 – Auditorium ex DCFA (via del Cotonificio 108)

ORAL presentations by the 3rd-year PhD students (cycle XXXIV, scientific area “Processi Chimici e dei Materiali”)

Committee: M. Boaro, A. Melchior, S. Colussi

Length of presentation: 15 min + questions (max 20 min allowed)

- **Calligaro Rudy** (Sup. Prof. Trovarelli, co-Sup. Prof. Boaro)
Topic: Novel catalysts for CO₂ and CH₄ valorization/H₂ production prepared by mechano-chemical approach
- **Sanadar Martina** (Sup. Prof. Melchior, co-Sup. Prof. Tolazzi)
Topic: Luminescent lanthanide complexes for biomarkers sensing

NOTE: Oral presentations can be given either in Italian or in English