

Seminar

Reinforcement Learning for Energy Systems: Fundamentals and Applications

Can energy systems learn how to operate smarter, more efficient and autonomous over time?

As power systems become more uncertain, dynamic, distributed, and data-rich, Reinforcement Learning (RL) is emerging as a powerful framework for sequential decision-making in complex environments. Unlike conventional control or optimization methods, RL enables an agent to learn through interaction, improving its decisions over time by observing the system state, taking actions, and receiving feedback.

This seminar introduces the foundations of RL and explains how these elements translate into power and energy system problems, with examples drawn from projects. GitHub code and relevant materials will also be shared to support further study and implementation.

April 23, 2026 h 10.00-12.30

Room Sole-Terra
EN:lab Building
Ground floor
Via Lambruschini, 6
Milan



Dr. Elham Shirazi

Assistant Professor
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Elham Shirazi (Eli Shirazi) got her PhD in Electrical Engineering with a focus on smart grid control. Her thesis is entitled: "Self-Healing of Smart Distribution Networks with PV Penetration by Distributed Control". She joined the University of Twente in 2021 after completing her postdoctoral research at the Electrical Engineering Department of Katholieke Universiteit Leuven in Belgium. She also worked at the Energy Department of IMEC, Belgium.

Her research is multidisciplinary on energy system control through data-driven and learning-based methods, with a focus on embedding trustworthiness principles into AI models that help decision-making in power systems while supporting the transition to a more resilient, flexible, and low-carbon infrastructure.

