

Università degli Studi della Campania  
Dipartimento di Ingegneria  
Corso di Laurea Magistrale in Ingegneria Informatica

**Corso di Robotica**  
**Lunedì 11 aprile, ore 14:00, aula 8B**  
**Via Roma, 29, Aversa (CE)**



**Dr. Pietro Falco**  
**Senior Scientist, @ABB AB, Corporate Research**

#### *Abstract*

A key research goal for the scientific community is to take robots out of production lines, and bring them also in service applications such as healthcare, logistics, and domestic. In order to work effectively in such domains, robots need to have the capability to cooperate with humans and to function in unstructured and not fully predictable environments. Therefore, general-purpose robots need to be provided with navigation, manipulation and adaptation capabilities. In this seminar, I will introduce fundamental concepts of reinforcement learning, which is a promising tool to provide robotic systems with adaptation capabilities.

#### *Biosketch*

Pietro Falco received the Ph.D. degree in Electronic Engineering with specialization in Robotics from the Second University of Naples, Italy, in 2012. From 2010 to 2011, he was a Visiting Scholar with the Karlsruhe Institute of Technology. Until 2015, he worked within several EU projects such as DEXMART, ECHORD, SAPHARI, and EUROCC with the University of Campania. In 2011, he cofounded Aeromechs srl, a successful startup in the field of energy management for aeronautics and home automation. In 2015, he left the active co-leadership of Aeromechs and moved to the Technical University of Munich (TUM), Munich, Germany, with a TUM Foundation Fellowship sponsored by Rohde & Schwarz and a Marie Curie Individual Fellowship for experienced researchers in 2016, with the project LEACON "Learning-Control tight interaction: A novel approach to robust execution of mobile manipulation tasks". Since 2018, he has been a Tenured Senior Scientist with ABB Corporate Research, Västerås, Sweden. His research interests include control theory and machine learning for robotics, human-robot interaction, and human motion interpretation. Dr. Falco is an Associate Editor for the IEEE Robotics and Automation Letters.