



# 2024 IEEE 20th International Conference on Automation Science and Engineering

August 28 – September 1, 2024, Bari, Italy

## 2<sup>nd</sup> French-Italian Workshop on Robotics 4.0

### Goal:

The aim of this workshop is to bring together scientists from academia as well as experts from companies, both from France and Italy, who carry out research in the field of robotics and automation. The goal is to share latest advancements and perspectives concerning robots and automation systems in various domains, including manufacturing, healthcare, transportation, and household tasks, focusing on human well-being, in addition to efficiency and productivity.

### Organizers:

- Raffaele Carli, Assistant Professor, Polytechnic of Bari. E-mail: raffaele.carli@poliba.it
- Mariagrazia Dotoli, Full Professor, Polytechnic of Bari. E-mail: mariagrazia.dotoli@poliba.it
- Andrea Cherubini, Full Professor, University of Montpellier. E-mail: andrea.cherubini@lirmm.fr

### Abstract:

Recent development and practice of Robotics 4.0 technologies are getting huge momentum to improve citizens quality of life and well-being and enhance society conditions. Latest advancements delve into the progression from traditional automation to collaborative and cognitive automation, emphasizing the importance of human-robot interaction and cooperation. In this context, the proposed workshop aims at exploring the evolution of robotics and automation across different human-centric technological domains, such as manufacturing, healthcare, transportation, and household tasks, while investing the effectiveness of new solutions for helping people, improving working conditions, transferring applications and economic enhancement of research.

### Description:

This workshop is intended to be the second edition of the French-Italian Workshop on Robotics. Details on the first edition, conducted in Paris last year and supported by Groupement de Recherche GDR Robotique and Italian Institute for Robotics and Intelligent Machines I-RIM (Working Group on Robotics 4.0), are available here: <https://fr-it-robots4fof.sciencesconf.org/>

The list of speakers as well as the title of their talks is reported below.

1.
  - Title: Robot perception for interacting with humans and for manipulating soft objects
  - Speaker: Andrea Cherubini, Full Professor, Université de Montpellier, France.
2.
  - Title: AI-powered force control: enhancing manufacturing performance in Robotics 4.0
  - Speaker: Enrico Ferrentino, Assistant Professor, University of Salerno, Italy.



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3.
  - Title: Large Human Prediction Model for Collaborative Robotics
  - Authors: Marco Casarin, Michael Vanuzzo, Mattia Guidolin, Stefano Michieletto, Monica Reggiani - Department of Management and Engineering, University of Padova, Italy
  - Speaker: Stefano Michieletto, Assistant Professor.
4.
  - Title: Aerial Cooperative Full Pose Manipulations Control in Air and in Contact with the Environment
  - Authors: Dario Sanalidro and Maide Bucolo, University of Catania, Italy
  - Speaker: Dario Sanalidro, Assistant Professor.
5.
  - Title: Integrating machine learning and control methods: our experience with medical applications
  - Authors: Andrea Cristofaro, Guglielmo Cappellini, Emanuele De Santis, and Marilena Vendittelli - Department of Computer, Control and Management Engineering, Sapienza University of Rome, Italy
  - Speaker: Marilena Vendittelli, Associate Professor.
6.
  - Title: Electroactive Materials for Soft Robots and Wearables
  - Speaker: Vito Cacucciolo, Associate Professor, Polytechnic of Bari, Italy.
7.
  - Title: to be defined
  - Speaker: Francesco Ferro, CEO, PAL Robotics.

## Format:

The workshop is organized in half day, featuring presentations and open discussions. Each presentations will last approximately 30 minutes, followed by a 5-minute discussion session. At the end of the session, the workshop will turn into an open floor discussion, serving as a final roundtable session, where all participants will be encouraged to share their thoughts and insights on the topics covered during the workshop.

## Scheduling:

It will be posted shortly.