

## Call for Participation - WS06

### How to make collaborative robots more collaborative for real environments

#### Organizers and Chairs

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**FOCUS** The proposed workshop aims at the practical enhancement of the collaboration capabilities of collaborative robots (cobots) for dynamic and unstructured environments. In particular, this workshop focuses on adapting cobots to operate efficiently in real industrial and healthcare environments by addressing challenges such as safety, adaptability (to different users and products) and user-friendly integration. In addition, it explores cost-effective solutions that are able to transform traditional manual production processes of small and medium-sized enterprises (SMEs) by the adoption of cobots, emphasizing scalability and practical deployment without requiring extensive technical expertise. This workshop invites academic researchers and industrial partners of different international projects (ROBOTA-SUDOE and REMAIN), research groups (HURO) and technological institutes (ADIV) to show their own experience in the agri-food (meat and fruit), manufacturing (toys and shoes) and rehabilitation sectors and discuss their extension to other sectors with the audience.

#### TOPICS

- ❖ Self-sensing soft grippers
- ❖ Perception of humans working together with collaborative robots
- ❖ Learning from demonstration (LfD) of complex manipulation tasks
- ❖ Force control strategies for human assistance

- ❖ **AIM** The aim of the conference is to bring together the international community to present the latest research results, share new ideas and engineering breakthroughs, and discuss state-of-the-art challenges and future directions in technology and innovation in the broad domain of Automation with a focus on Industrial and Factory Automation.

#### WORKSHOP FORMAT

##### Half day Workshop, based on invited presentations.

This Workshop will include 9 presentations with 5 speakers from academia (UBI, USC, CA INP and HURO-UA) and 6 from technological institutes and industry (CENTIMFE, Cerfundao, AIJU-JUEMA, CeTeCa, INESCOP and ADIV) to show the synergies that are required between research, innovation and use-cases to apply collaborative robots in challenging real environments. Each presentation will be allocated a 25-30-minute time slot, including time for questions and interaction with the audience for exchanges about the possibility of extending the developed robotic solutions to other use-cases.

For any detail regarding registration to the Workshop, please refer to the ETFA 2025 website.

#### Workshop Presenters

##### 1. ROBOTA-SUDOE project:

- P1: Overview of ROBOTA-SUDOE project  
❖ Tânia Mendes, CENTIMFE;

##### 1.1. Fruit use-case

- P2: Automation in fruit industry and computer vision in fruit handling  
❖ Filipe Costa, Cerfundão;  
❖ Rodrigo Antunes, UBI;

- P3: Self-sensing soft grippers with TPU

- ❖ Luan Lang, UBI;

##### 1.2. Toy use-case

- P4: Automation and perception and control of collaborative robots in the toy sector  
❖ Diego Sánchez, AIJU and integrator at JUEMA

##### 1.3. Meat use-case

- P5: Automation in the meat use-case and learning by demonstration in meat+toy Sectors  
❖ Antía Vázquez, CeTeCa  
❖ Saltanat Seitzhan, USC

- P6: Force control for human assistance in industrial applications

- ❖ Alexis Babut, CA INP

##### 2. Other applications:

- P7: Robot technologies in the meat Industry  
❖ Franck Stephan, ADIV

- P8: Force control for human rehabilitation  
❖ Carlos Alberto Jara Bravo, HURO-UA

- P9: Towards robotics footwear and textile remanufacturing

- ❖ José Francisco Gómez, INESCOP-REMAIN