

SINAIA, ROMANIA  
SEPTEMBER, 12<sup>th</sup>-15<sup>th</sup>, 2023

## Call for Papers Digitalisation of Manufacturing and Collaborative Robotics for Industry 5.0

### Organized and Co-Chaired by

Grigore Stamatescu<sup>1</sup>, Răzvan Şolea<sup>2</sup>

<sup>1</sup> University Politehnica of Bucharest

<sup>2</sup> "Dunărea de Jos" University of Galați

- ❖ **FOCUS.** The workshop brings together industry and academic researchers to discuss emerging digital and collaborative robotic technologies that shape the transition from Industry 4.0 towards human-facing, sustainable and resilient Industry 5.0. It accounts for the growing role of information technology in automation and the growing multidisciplinary approaches required for designing and deploying complex automated manufacturing systems. Key enabling technologies for industrial communication, control, sensing and distributed data processing, computer vision and applied AI/ML and their integration in next generation manufacturing systems are also of interest.

### ❖ TOPICS

- ❖ Emerging digital technologies applied in manufacturing scenarios
- ❖ Integration of collaborative robotic platforms
- ❖ Distributed sensing and edge computing for in situ awareness
- ❖ Control and cognition algorithms, methods and tools for manufacturing systems
- ❖ Industrial Internet of Things communication technologies and protocols
- ❖ Industrial data management including applied AI/ML for forecasting and anomaly detection
- ❖ AR/VR platforms and tools for immersive manufacturing design and evaluation
- ❖ Resilient and human-facing cybersecurity paradigms for Industry 5.0
- ❖ IT/OT convergence in manufacturing
- ❖ Case studies for various industry application (automotive, food, logistics, etc.)

- ❖ **AIM.** Increased adoption of advanced digital technologies and collaborative robotic platforms in modern manufacturing systems for resource efficiency and sustainability. This is achieved through seamless interconnection and integration of new sensing, communication, control, learning and optimization algorithms that operate in real-time, close to the manufacturing process. Human-in-the-loop approaches offer the potential to increase the acceptance of the new automated systems, while combining open hardware and software components with proprietary systems represents a challenge in designing efficient, cyber-secure solutions.

- ❖ **WORKSHOP FORMAT.** Half-day hybrid workshop based on solicited research papers and invited industry presentations

### ❖ AUTHOR'S SCHEDULE (2023)

#### ❖ Regular and special sessions papers

Submission deadline ..... June 16  
Acceptance notification ..... July 7  
Deadline for final manuscripts ..... July 21

## Workshop: September 12, 2023

### Workshop Program Committee

- ❖ Florin Anton, University Politehnica of Bucharest, Romania
- ❖ Cristian Axenie, Technische Hochschule Nuremberg, Germany
- ❖ Carlo Alberto Boano, Graz University of Technology, Austria
- ❖ Constantin Căruntu, Gheorghe Asachi Technical University of Iași, Romania
- ❖ Daniela Cernega, "Dunărea de Jos" University of Galați, Romania
- ❖ Ioana Făgărășan, University Politehnica of Bucharest, Romania
- ❖ Adrian Filipescu, "Dunărea de Jos" University of Galați, Romania
- ❖ Vinko Lesic, University of Zagreb, Croatia
- ❖ Eugenia Mincă, Valahia University of Târgoviște, Romania
- ❖ Bogdan Constantin Pîrvu, Lucian Blaga University of Sibiu, Romania
- ❖ Pedro Sousa, OnControl Tech, Portugal
- ❖ Levente Tamaș, Technical University of Cluj-Napoca, Romania
- ❖ Constantin Zamfirescu, Lucian Blaga University of Sibiu, Romania