Special Session
Intelligent Robotic Systems for Digital Agriculture (IODA)

Description/Scope

There is no doubt that the interest around agricultural robotics, intelligent systems and automation for digital/precision agriculture is vast and growing, not only from academia and industry, but also from the local producers and stakeholders in general. The proposed special session (IODA - Intelligent RObotic Systems for Digital Agriculture) combines two very exciting and well-known components – robotics and agriculture – with machine leaning and applied AI. The IODA special session, as part of the ROBOT'23 conference, is focused on agricultural robotics, field robotics, applied machine learning, sensing and perception systems applied to digital agriculture, forestry, and real-world deployment of robots in field/agricultural environment. The prospective submissions are encouraged to propose new techniques, methods or approaches related to machine learning, multimodality perception, and intelligent systems for/within the context of agriculture, precision farming, digital agriculture, field robotics, and related applications.

Topics (but are not limited to)

1) Agricultural robotics, field robotics, and automation for agriculture
2) Artificial intelligence for agriculture domains
3) Machine learning for Agricultural Robotics and Automation (AgRA)
4) Perception systems
5) UAS and remote sensing
6) Trends and emerging technologies on AgRA
7) Connected and autonomous robots in real-world conditions
8) Cooperative/collaborative robots
9) Test-cases, scenarios, real-world Pilots
10) Artificial intelligence influence on AgRA
11) Cyber security for AgRA
12) IoT systems

Organizers

- Cristiano Premebida

University of Coimbra, Dep. of Electrical and Computer Engineering, Portugal.

- Cunjia Liu

Dep. of Aeronautical and Automotive Engineering (AAE) at Loughborough University, UK.

- Cédric Pradalier

GeorgiaTech Lorraine (the DREAM Lab), UMI2958 GT-CNRS, Metz, France.

- João Valente

Wageningen University & Research, NL.