CALL FOR PAPERS
4th IEEE International Workshop on Smart Agriculture for the environmental emergency (SmartAgr)

June 16th, 2025

University College Cork & Munster Technological University
Cork, Ireland
https://smartagr.santannapisa.it/

In conjunction with IEEE Int. Conference on Smart Computing (SMARTCOMP 2025)

The global environmental emergency, due to rapid climate change, is having a strong impact on human activities and life, as confirmed by the recent United Nations Conference on Climate Change (COP 29) conference, held at the end of 2024. Agriculture, as one of the main human activities, is directly involved in meeting the needs of the growing population, it is responsible for about 70% of total water consumption and has heavy effects on the environment and land use, increasing the pollution of natural resources (air, water, soil). Recently, agriculture has been affected by a technology evolution in which the new paradigm of Smart Agriculture guided the introduction of ICT technologies to support and make more efficient the agriculture production. Currently, the global environmental emergency calls for further evolution represented by the Climate-Smart Agriculture (CSA) to provide scientific and technological solutions suitable for making agriculture more resilient to climate change, to better address the issues related to the protection of natural resources and the increase in food needs facing off the shortage of soil.

This requires an interdisciplinary approach in the context of ICT technologies for different types of applications (smart monitoring, smart water management, agrochemicals applications, disease management, smart harvesting, supply chain management, smart agricultural practices...). For instance, IoT provides tools for monitoring crops, equipment, vehicles, animals, and resources, and different technologies such as communications technologies, embedded systems, wireless sensor networks, data analytics, cloud/fog computing, Artificial Intelligence are required to collect, manage, share, analyze, and utilize the collected data.

Smart Agriculture can drive the agriculture evolution, improving productivity and environmental sustainability, preserving natural resources (soils, water, and biodiversity) and reorienting the focus on the Three Pillars of CSA as stated by the FAO: sustainably increasing agricultural productivity and incomes; adapting and building resilience to climate change; reducing and/or removing greenhouse gas emissions, where possible. These pillars outline the direction of action regarding the FAO Strategic Framework 2022-2031 based on the Four Betters: better production, better nutrition, a better environment and a better life for all, leaving no one behind.

The 4th International Workshop on Smart Agriculture for the environmental emergency (SmartAgr) investigates the design, implementation, and assessment of innovative technological solutions, including new paradigms, methods, systems, and tools to ensure the implementation of Smart Agriculture to face off the environmental emergency.

SmartAgr is an interdisciplinary, multi-national initiative to invite for participation both representatives of academia and industry across the world interested in discussing on the last evolution of Smart Agriculture with a focus on the environmental emergency to meet the aforementioned challenges. From this point of view the workshop can provide a place where to profitably exchange ideas, present applications and solutions taking advantage from the heterogeneity of the contributors to encourage the cross-fertilization of ideas and competencies.

The papers should address forefront research and development in Smart Agriculture with a particular focus on, but is not limited to, the following topics:

- Pervasive computing and embedded systems solutions enabling Smart Agriculture.
- Artificial intelligence in Smart Agriculture.
- Communications and networking technologies support Smart Agriculture systems and solutions.
- New solutions, systems, models, applications to reduce CO_2 emissions.
- Technologies and applications to sustainably increase agricultural productivity and resilience to climate change.
- Technologies and applications for a sustainable agrifood chain.
- Technologies and applications to preserve natural resources (soil, water, and biodiversity) and to sustain environmental protection.

Each accepted paper requires a full SMARCOMP registration and will be included and indexed in the IEEE digital libraries (Xplore) and in Scopus Database.

Papers must be submitted electronically as PDF files through the EDAS Online Application at the following link https://edas.info/N33049.

IMPORTANT DATES:
Submission Deadline: ~~March 30, 2025~~ April 14, 2025
Acceptance Notification: April 30, 2025
Camera Ready Submission: May 10, 2025

Organizers and Workshop Chairs
Anna Lina Ruscelli, Scuola Superiore Sant'Anna, Pisa, Italy
Gabriele Cecchetti, Scuola Superiore Sant'Anna, Pisa, Italy
Technical Program Committee
Mohammad Banat, Jordan University of Technology, Irbid, Jordan
Piero Castoldi Scuola Superiore Sant'Anna, Pisa, Italy,
Carmelo Di Franco, Aitronik, Italy
Anna Förster, University of Bremen, Germany
Anil Kumar Gupta, Centre for Development of Advanced Computing, Pune University Campus, India
Mukhtar Mohamed Edris Mahmoud, University of Kassala, Sudan and Puntland State University, Somalia
Federica Matteoli, Food and Agriculture Organization of the United Nations (FAO)
Joel Onyango, Climate Resilient Economies Programme, African Centre for Technology Studies, Kenya
Ana Paula Silva, Instituto Politécnico de Castelo Branco - Escola Superior de Tecnologia, Portugal
Lina Stankovic, University of Strathclyde, United Kingdom