

# 14th International Conference on Ubiquitous Computing and Ambient Intelligence

## UCAmI 2022

<https://www.mamilab.eu/ucami2022>

Córdoba, Spain  
November 29th to December 2nd, 2022

### Conference Background & Goals

The Ubiquitous Computing (UC) idea envisioned by Weiser in 1991, has recently evolved to a more general paradigm known as Ambient Intelligence (AmI) that represents a new generation of user-centred computing environments and systems. These solutions aim to find new ways to obtain a better integration of information technology in everyday life devices and activities.

AmI environments are integrated by several autonomous computational devices of modern life ranging from consumer electronics to mobile phones. Ideally, people in an AmI environment will not notice these devices, but they will benefit from the services these solutions provide them. Such devices are aware of the people present in those environments by reacting to their gestures, actions and context. Recently the interest in AmI environments has grown considerably due to new challenges posed by society, demanding highly innovative services, such as vehicular ad hoc networks (VANET), Ambient Assisted Living (AAL), e-Health, Internet of Things and Home Automation among others. The main focus of this edition of the UCAmI Conference will be "Ambient Intelligence: Sensing, Processing and Using Environmental Information".

### Publication

All accepted papers will be included in the conference proceedings. Also, authors of selected papers will be invited to extend their work and submit it to Special Issues that we are preparing in WoS journals (to be announced soon).

### Important Dates

**Paper submission:** July 1st, 2022  
**Notifications:** September 20th, 2022  
**Camera-ready version:** October 20th, 2022  
**Conference dates:** November 29th to December 2nd, 2022

### TRACKS

#### AmI FOR HEALTH & A3L (AMBIENT, ACTIVE & ASSISTED LIVING) (Topics)

- Data Science and analytics in health environments
- Active aging and healthy living.
- Health, wellness and disease monitoring.
- Depression, mental health issues and quality of life improvement.
- Interaction, social and user experience within Health environments.
- Gamification and Serious Games for Health
- Empowerment and digitalization in healthcare
- Sustainable smart healthcare and co-creation processes
- Knowledge management for health: context, cognition, behavior and user modeling
- Health ecosystems: frameworks, algorithms, networks, models and methodologies
- Education, training and e-Learning systems in Health domains.
- Technologies for building age-friendly health environments.
- Security and privacy in health scenarios
- Promotion of initiatives to face pandemic (COVID19) situations
- Healthy lifestyle at the workplace
- Dealing with loneliness, frailty and other disabilities to overcome daily barriers.
- Autonomy and self-care at smart homes.
- Healthcare systems for prevention

#### INTERNET OF EVERYTHING (IoT + PEOPLE + PROCESSES) AND SENSORS (Topics)

- IoE (IoT included) enabling technologies, techniques and methods
- IoE application and services
- Current and future trends in IoE
- IoE societal impacts
- Security, privacy and trust in IoE
- IoE interoperability, integration and performance
- IoE experimental results and deployment scenarios
- Human factors in IoE
- AI for the embedded IoT/IoE and Edge computing
- Sensor design, integration and combination
- Architectures, protocols and algorithms of sensor networks
- Energy management, resource allocation, quality of service (QoS) and fault tolerance in Sensor Networks
- Applications of hybrid sensor networks
- Innovative real-world sensor deployments and applications
- Sensor and actuator technologies in Ambient Assisted Living contexts

#### SECURITY, PRIVACY & TRUST FOR AmI (Topics)

- Bluetooth and NFC security
- Electronic Identification and Access Control
- Blockchain applications
- Cryptography to protect privacy
- Secure drone applications
- Security in video identification
- Security in mobile applications
- Security in wearable devices
- Post-quantum security
- Security in e-health
- Secure use of sensors
- AI Applications in Cybersecurity

#### SMART ENVIRONMENTS (Topics)

- Sensor and actuator networks
- Design principle and guidelines
- User-centered design
- Adaptive Environments
- Ambient Behavioural Analysis
- Decision making
- Artificial Intelligence and big data
- Living Labs
- Connected Health
- Applications
- Smart agriculture
- Industry 4.0
- Intelligent Surveillance and Alerting

#### HUMAN-COMPUTER INTERACTION FOR AmI (Topics)

- Natural User Interface
- Human-Centric Interfaces for AmI environments
- Multimodal Interface
- Use of context and location information in user interfaces
- Novel input devices
- Robot-Human interaction
- Human-Ambient Interaction
- Mobile Interfaces
- Affective Interfaces
- User modelling
- Personalization and adaptation of user interfaces
- Ubiquitous and ambient displays
- User experience in Ambient Computing
- Interaction with smart objects
- Tangible and wearable interfaces
- Brain-computer interaction
- Evaluation of interfaces in Ambient and Ubiquitous environments
- Mobile Augmented Reality
- New methods and methodologies for Evaluation
- Theoretical aspects of HCI
- Adaptive interfaces
- Case studies for users with special needs
- Cultural aspects of design
- HCI & e-Learning
- Context awareness in the learning process
- Remote collaboration and learning
- Design for new experiences
- HCI and Artificial Intelligence

#### HYBRID HUMAN-ARTIFICIAL INTELLIGENCE FOR UBIQUITOUS COMPUTING (Topics)

- Hybrid Human-Artificial Intelligence
- Recommender systems for Human-Environment Interaction
- AI for Smart Things, Spaces and Smarter People
- Behaviour-change modelling and analysis
- Ontologies and Data Models for Intelligent Environments
- Trusted and Transparent AI and algorithms
- Federated machine learning
- Citizen Science and Human Computation
- Big Data and Urban Analytics
- Data Science for Crowdsourcing
- Artificial Intelligence for Edge Computing
- Decentralized computing and Smart Contracts
- Data evidence-based policymaking in hyperconnected societies

## Satellite Events

International Workshop on Ubiquitous Serious Games and Gamified Environments  
(IWUSGGE)

### Contact

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