16th International Conference on Ubiquitous Computing and Ambient Intelligence
UCAmI 2024
www.ucami.org

Ulster University
Belfast, United Kingdom
November 27 to 29th, 2024

Conference Background & Goals

Ubiquitous Computing (UC), as envisioned by Weiser in 1991, has recently evolved to a more general paradigm known as Ambient Intelligence (AmI) 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 from modern life ranging from consumer electronics to mobile phones. Ideally, people in an AmI environment will not notice these devices, however, they will benefit from the services these solutions provide. Such devices are aware of the people present in such environments and can react to their gestures, actions, and context. Recently the interest in AmI environments has grown considerably due to the 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, Home Automation, amongst others. The focus of this edition of the UCAmI Conference will be "Technologies in the Creation of Sustainable Ambient Intelligence Solutions".

Publication

All accepted papers will be included in **Proceedings published by Springer.** Selected papers will be invited to submit extended versions of the work to a series of dedicated Special Issues journals:

- Coming soon

The Journals will be announced shortly on our website (link at the top of the email)

Important Dates

Abstract submission:	**June, 15th 2024**
Paper submission:	**July, 15th 2024**
Notifications:	**September 15th, 2024**
Camera-ready version:	**October 1st, 2024**
Conference dates:	**November 27 to 29th, 2024**

TRACKS

AmI FOR HEALTH & A3L (Ambient, Active & Assisted Living) (Topics)

- Wearable and portable devices for health monitoring and promoting wellbeing.
- The role of AI and machine learning in promoting A3L.
- Smart homes and ambient intelligence for supporting independent living.
- User-centered design and user experience in health environments.
- Evaluation and validation of ambient assisted living systems and applications.
- Ambient assisted living and aging in place.
- Synthetic Data Generation and Comprehensive Data Management for A3L: Collection, Cleansing, Processing, Distribution, and Storage.
- Activity recognition and behavioral analysis

- Ambient assisted living and chronic disease management.
- Business models and commercialization of ambient assisted living products and services.
- Improving healthcare using medical digital twin technology.
- Digital interventions for depression, mental health issues and quality of life improvement.
- Knowledge management for health: context, cognition, behaviour, and user modelling.
- Education, training, and e-Learning systems in Health domains.
- Mobile or Affective, and Multimodal Interfaces for A3L.
- Human Centered AI.

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 and Ethical implications of IoE.
- Security, privacy and trust in IoE.
- IoE interoperability, integration and performance.
- IoE experimental results and deployment scenarios.
- Human factors in IoE.

- Scalable IoT architectures, protocols and algorithms of sensor networks.
- Energy Efficiency and Sustainability, resource allocation, quality of service (QoS) and fault tolerance in Sensor Networks.
- Applications of hybrid sensor networks.
- Design and evaluation of interfaces for smart devices in the IoT ecosystem.
- Personalization of interactions in IoT.
- Robotic integration in Smart Environments
- AI for the embedded IoT/IoE and Edge computing.

SUSTAINABLE AMBIENT INTELLIGENCE (Topics)

- AI & Machine learning for sustainable development goals
- Transparency and Explainability of AI
- Security and privacy preserving A
- Green computing and sustainability in ambient intelligence
- Renewable energy integration in ambient intelligence networks
- Social and ethical considerations in sustainable ambient intelligence
- Energy-efficient ambient intelligence systems
- Robustness and reliability in ambient intelligence

- Sustainable design principles for ambient intelligence environments
- Sustainability impact assessment of ambient intelligence technologies
- Resource optimization and conservation in ambient intelligence systems
- Circular economy approaches in ambient intelligence development
- Sustainable agriculture and food systems leveraging ambient intelligence
- Policy frameworks and regulations promoting sustainability in ambient intelligence deployment

Satellite Events

Special Session: Quantum Computing for Ambient Intelligence