6ᵗʰ International Conference Ubiquitous Computing and Ambient Intelligence & 4ᵗʰ International Workshop on Ambient Assisted Living (UCAmI & IWAAL 2012)
Vitoria-Gasteiz, Spain, December 3-5, 2012
http://mami.uclm.es/ucami2012/

Selected papers will be published in the following journals:

- **Journal of Medical Internet Research** (IF = 4,663)
- **Future Generation Computer Systems Journal** (IF = 2,371)
- **Journal of Biomedical & Health Informatics (**previously, IEEE Transactions on Information Technology in Biomedicine**)** (IF = 1,707)
- **Journal of Universal Computer Science – 2 special issues** (*Ambient Intelligence & Sustainable Computing and Ambient Assisted Living: Home Care)* (IF = 0,578)
- **Journal of Ambient Intelligence & Humanized Computing**

The conference proceedings will be published in Springer LNCS.

Important dates:
Paper submission (deadline extended): June 25, 2012
Notification of acceptance: July 15, 2012
Camera-ready version: September 15, 2012
Conference dates: December 3-5, 2012

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). Ambient Intelligence then represents a new generation of user-centred computing environments aiming to find new ways to obtain a better integration of the 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 they 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 Ambient Intelligence 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 new edition of the conference will be to explore how Ambient Intelligence can contribute towards Smarter but still more Sustainable Environments (e.g. Smart Cities, Smart Cars, Eco-aware device orchestration and so on). This also explains why it will be celebrated in the European Green Capital for 2012, i.e. Vitoria-Gasteiz in Spain. Other key application domains (e.g. Intelligent Transport, AAL, e-Health or IoT) will still play an important role in the conference.

Ambient Assisted Living (AAL) proposes solutions based on Information and Communication Technologies (ICT) to enhance the quality of life of elderly people. AAL promotes the provision of infraestructures and services for the independent or more autonomous living, via the seamless integration of info-communication technologies within homes and residences, thus increasing their quality of life and autonomy and reducing the need for being institutionalized or aiding it when it happens (See: http://www.aal-europe.eu/). According to the European Union, up to 19 Million persons give primary assistance with daily activities to their elderly or dependent relatives. Moreover, most people prefer to live independently in their own homes for as long as possible. However, formal care services are in many cases indispensable and, in this way, ICT-based solutions can enable and sustain older adults to continue managing their daily activities in their homes. Thus, this edition focuses on "Home Care" solutions for elderly according to the 5th call of AAL Joint Programme.

Topics of interest

UCAmI	IWAAL
Sustainable Computing:	**Human-Computer Interaction at AAL environments:**

- Use of sensors for environmental monitoring
- Smart Control for eco-friendly devices and building
- Eco-aware Devices, Services and Environments
- AmI for a Greener Planet
- Green Computing and Power-Aware Middleware
- Smart Cities

Human Interaction in Ambient Intelligence:

- Human-Centric Interfaces for AmI environments (multi-modal, touch computing, NFC, 2D codes)
- Context- and Location-aware Frameworks and Sensing (context modelling, user-adaptability, automatic-generation of user interfaces, sentient computing, knowledge-based approach, affective and social interfaces, etc.)
- Virtual Reality and Augmented Reality
- Smart-object based interaction, persuasive computing and Tangible Interactions.
- Ubiquitous and Ambient Displays Environments, Wall Displays, Urban Displays, Multi-screen Environments.
- Detection and Support for collaboration, User Intentions and Activity Recognition, Analysis of Psychological User States
- Digital TV-based interfaces

ICT instrumentation and Middleware support for Smart Environments and Objects:

- Mobile Ad Hoc Networks and Wireless Sensor Networks (WSNs)
- RFID and 2-D codes for real-world labelling
- Smart Sensors
- Wearable Computing
- Custom made internet-connected objects
- Semantic Middleware Infrastructure (Semantic Web, OSGi, DLNA, DPWS, Home automation standards)

Adding intelligence for Environment Adaptation:

- Knowledge Representation and Management for user and environment modelling and understanding (Ontologies,

- Ubiquitous and Mobile Interfaces
- Tangible Interfaces
- Multi-modal Interaction
- Virtual and Augmented Reality for AAL
- Sensor-based Interfaces
- Agent-based Interfaces
- Robot-based Interfaces
- Computer Vision
- Innovative Interaction Devices
- Mobile Interaction
- Interaction for Inclusion

Intelligent Healthcare and Homecare Environments:

- Ambient Intelligence for AAL
- E-Learning for AAL
- Artificial Intelligence techniques for AAL
- Context-Awareness in Assistive Environments
- Modeling of human activity and behaviour for providing timely assistance
- Collaborative Systems for AAL
- Decision Support Systems
- Knowledge Management
- Architectures for developing AAL Environments
- Applications for elderly people with few resources
- Accessibility

Sensing and Monitoring:

- Identification and Sensing Technologies
- Risks Detection
- Activity Recognition
- Tele-mobile monitoring
- Diet & Exercise monitoring
- Drugs monitoring
- Vital Signs Supervision

AAL Environments:

- Smart Homes & Supervised Homes
- Hospital Communication Management for AAL
- Geriatric Residences
- Living Labs
- Getting older in rural areas

	Key applications domains:
Semantic Web, Logic, Expert Systems Multi-agents) • Autonomic Computing, Responsive and Proactive Systems and Dynamic Reconfiguration • Ontologies for user and environment modelling and understanding • Learning, Reasoning and Adaptation Techniques over context models. Collaborative Smart objects • Linked Open Data applied to Smart Environments **Key application domains for Ambient Intelligence:** • Internet of Things and Social Web of Things • Social Robotics • Intelligent Transport Systems (ITS)	• Chronic diseases • Frailty • Dementia • Rehabilitation • Ocupational therapy • Emotional Support • Healthcare and Social Wellness

Submission format and procedure

Long papers (maximum length of 8 pages) and short papers (maximum length of 4 pages) can be submitted. , A Doctoral Consortium (maximum length of 6 pages) will be created where PhD students are invited to present the topic and progress of their research, in order to obtain feedback from a panel of experts and Posters (maximum length of 2 pages).

Submissions:

https://www.easychair.org/account/signin.cgi?conf=ucamiiwaal2012

Papers format: Lecture Notes in Computer Science (LNCS). **Please ensure that your papers are formatted correctly and are within the specified page limits. Author information and templates are available in** Information for LNCS Authors web**.**

General Co-Chairs
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