

# Personal and Ubiquitous Computing (Springer) Special Issue on

## Pervasive Technologies for Assistive Environments

### Aims and scope of this special issue

As the diffusion of computing technology into everyday life continues at an exponential rate, the technology is becoming increasingly embedded in artifacts and environments. One important environment for this diffusion is the domestic environment or Oikos as it was known in ancient Greece. People's living environment is particularly important when one takes into account the world's ageing population and that as people grow older they will increasingly rely on technology. People will however, have differing levels of computer knowledge and assisted living needs. In addition awareness towards the elderly and the need of constant medical supervision for chronic patients or habitants of remote, isolated and underserved locations has risen recently. To this end, services once available at a few centralized locations, such as high quality medical services, are now intended to be made available through a network anytime, anyplace and to anyone. In such an environment, provision of medical data communication is currently dependent on low-bandwidth point-to-point telemedicine systems. An easily field-deployable ad hoc wireless network or even a basic sensor network could provide a significant improvement in real-time patient monitoring and emergency communications capability in general.

The key area of this special issue is the technology, as it is now increasingly possible to assist people, who have health care needs, in their every day routine by using sensors, databases, personal area networks, ubiquitous connectivity, distributed intelligence and adaptive easy to use interfaces and interactions. It is at this critical moment that we would like to invite researchers working in the area of healthcare and assisted living to submit their original research findings to this PUC special issue.

### Main topics

This special issue will focus on research work on the design, development, evaluation, and use of emerging pervasive technologies for healthcare applications. Authors of submissions should carefully explain how the work and results presented contribute to facilitating and promoting the use of pervasive computing in the medical field.

Contributions are solicited in, but not limited to, the following topics:

- Tools, infrastructures, architectures and techniques for designing, implementing and deploying pervasive applications for assistive applications
- Devices, software and hardware to monitor patients
- New tools for improved biomedical data analysis and correlation to behavioral patterns (image processing, data mining, machine learning)
- Assistive technologies for learning, communication, secure data sharing and collaboration
- Sensor -enhanced clinical testing of physical condition
- Telehealth monitoring systems and tools and @home monitoring of medication and/or reaction to drugs
- Caretaker and family education and support via pervasive technologies and systems
- Geographical localization systems for behavioral pattern analysis and evaluation
- Motion capture and human body behavior systems
- Wearable, ambient and home based health and wellness measurement and monitoring technologies
- Mobile and wireless technologies for healthcare information storage, transmission, processing, and feedback
- Standards, interoperability and context awareness in pervasive and assistive environments

Only original and unpublished work will be considered. With regard to both the content and formatting style of the submissions, authors should follow the **Personal and Ubiquitous Computing** manuscript format described in the "Information for Authors" at

<http://www.springer.com/uk/home/generic/search/results?SGWID=3-40109-70-1118980-0>

There will be one round of reviews and acceptance will be limited to papers needing only moderate revisions. Prospective authors should submit a separate cover letter that includes the complete information of the paper (title, authors, affiliations, corresponding author, contact detail, and summary) and a pdf version of their complete manuscript without authors' names and affiliation to the Guest Editors of the special issue: Ilias Maglogiannis, Filia Makedon, Lynne Baillie and Grammati Pantziou (e-mails: [imaglo@aegean.gr](mailto:imaglo@aegean.gr); [makedon@uta.edu](mailto:makedon@uta.edu); [baillie@FTW.at](mailto:baillie@FTW.at) ; [pantziou@teiath.gr](mailto:pantziou@teiath.gr)) according to the following timetable:

Submission deadline: Dec 31, 2008

Deadline for the completion of reviews and selection of papers: Mar 31, 2009

Deadline for the submission of modified papers (according to reviews): May 31, 2009

Final Decision and minor corrections June 30, 2009

Date for submitting the material to the publisher July 31, 2009

### **Sources of papers and referees:**

Invitation of the best papers from the 1st ACM International Conference on “Pervasive Technologies Related to Assistive Environments – PETRA 2008” (<http://www.petrae.org/>) and the publicly announced CFP will be the source for papers.