



# Call for Papers

## ACM/Springer Mobile Networks & Applications (MONET)

### SPECIAL ISSUE ON

### *Ubiquitous Body Sensor Networks*

<http://www.springer.com/engineering/signals/journal/11036>

#### Overview

Recently, there has been a lot of increasing investigation on a new type of wireless sensor network, which is generally known as body sensor networks (BSNs). Following the continuous advances in wireless communications technologies, there is a growing interest in the design and development of BSNs systems for applications of improving people's daily life, which leads to an increasing demand on interconnecting BSNs with other emerging wireless technologies, such as RFID technology, wireless sensor networks (WSNs), Zigbee, Bluetooth, WiBree, video surveillance system, WPAN, WLAN, internet, and cellular network. With BSNs being incorporated into these technologies, BSNs become ubiquitous. The marketing opportunities for advanced consumer electronics and services will be expanded extensively. More and more autonomous and intelligent applications which are close to human's life will be generated. For example, by using body sensors to collect patient information, and by deploying diverse wireless networking systems for enhanced diagnosis assistance and action handling, better E-healthcare management system can be designed for providing more desirable services, which implies huge market yet to be discovered, due to an increasing demand of E-healthcare management system in recent years.

In this special issue, we solicit research papers on body sensor hardware, system architectures, networking & communication protocols, applications, test-bed and prototype, biomedical sensor data processing and management. Especially, we are interested in the following communication issues:

**\*Intra-BSN Communication:** The terminology of "intra-BSN communication" defines the communication directly relates to the user with the radio coverage of about 2 meters, which consists of two categories: (1) the communication among the body sensors, which are deployed strategically on the human body or planted inside the body, as well as attached within in the human's clothing; (2) the communication between the body sensors and the portable personal server, which typically can be a cell phone, PDA or headset.

**\*Inter-BSN communication:** The terminology of "inter-BSN communication" defines the communication between the personal server and one or multiple access points. The access point can be deployed as a part of infrastructure, or strategically placed in dynamic environment for handling emergency situation. The inter-BSN communication will interconnect BSNs with the wide range networks which are easy to be accessed in daily life.

**\*Beyond-BSN communication:** The beyond-BSN communication is used to interconnect BSN with outside world, which enhances the application and coverage range of body sensor system a step further through pervasive communication technology, such as internet and cellular networks.

The objective of this special issue is to bring together state-of-the-art research contributions, tutorials, and position papers that address these key aspects of Ubiquitous Body Sensor Networks. Original papers describing completed and unpublished work not currently under review by any other journal/magazine/conference/special issue are solicited.

#### Topics

Topics of interest include, but are not limited to, the following scope:

- New applications of ubiquitous body-sensor networks, e.g., healthcare and consumer electronics applications - Remote health/fitness monitoring in ubiquitous body sensor networks, e.g., location and mobility issues - Ambulatory monitoring and BSN assisted rehabilitation, bio-motion, wellbeing analysis and clinical applications - Emerging engineering issues and wearable, implantable/ingestible sensor integration and development platforms. - Scalable and flexible network architectures and deployments for ubiquitous body sensor networks - Advanced body sensor devices, e.g., novel bioelectrical, biochemical, biophysical, and mechanical sensors - Networking and data transmission issues for ubiquitous body sensor networks - Integrating emerging wireless technologies with ubiquitous body sensor networks - Integration with ambient sensors for personalized smart spaces and applications - Link to environment sensing, smart dwellings, and home monitoring - MAC Protocols and QoS Designing for Intra-BSN Communication	- Standards for light-weight communication protocols and integration with heterogeneous networks - Advanced algorithms for ubiquitous body sensor networks, e.g., routing, data processing, packet scheduling - Power efficient issues, e.g., low power RF transceivers, energy scavenging, miniaturization, system integration - Signal processing, context awareness and multi-sensory fusion - Mobile and multimedia supported ubiquitous body sensor networks - Server side body sensor networks information processing, data mining, transient pattern recognition, and long-term, predictive trend analysis - Sensor data management issues for ubiquitous body sensor networks, e.g., publish-subscribe approach - Query processing and optimization for ubiquitous body sensor networks - Sensor data stream processing in ubiquitous body sensor networks - Semantic Web technology enabled ubiquitous body sensor networks - Adaptability and stability of ubiquitous body sensor networks - Transactions and workflows in ubiquitous body sensor networks - Information support, security, privacy, and fault tolerance issues for ubiquitous body sensor networks
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#### Important Dates

- **Manuscript submission deadline:** Feb. 20, 2010
- Notification of acceptance: May 20, 2010
- Submission of final revised paper: July 20, 2010
- Publication of special issue: 3rd or 4th Quarter, 2010 (Tentative)

#### Submission Procedure

Authors should follow the MONET Journal manuscript format at the journal site: <http://www.springerlink.com/content/101750/>. Manuscripts should be submitted on line through <http://www.editorialmanager.com/mone/>. A copy of the manuscript should also be emailed to the following email: [vasilako@ath.forthnet.gr](mailto:vasilako@ath.forthnet.gr) and [minchen@ece.ubc.ca](mailto:minchen@ece.ubc.ca). The "Subject field" of the email must contain "MONET UBSN Paper". Selected papers from Bodynets-2010 (Sep. 10-12, Corfu Island, Greece) will be considered for the issue.

#### Guest Editors

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