

## Call For Papers

IEEE TBME  
Special Section on

### **Mobile and Wireless Technologies for Healthcare Delivery**

Recent global focus on healthcare issues has stimulated research and development of innovative technologies which address many unsustainabilities of the current healthcare provision models. Rapid advances in mobile, wireless and sensing technologies have opened new opportunities in healthcare. Exploitation of Information and Communications Technologies enables cost-effective and efficient healthcare delivery in home, hospital, assisted-living, and nursing home settings. Remote diagnosis, patient and elderly monitoring, computer assisted rehabilitation and therapy, control of vital parameters of people suffering from chronic diseases such as asthma, diabetes, epilepsy, Parkinson's disease and heart attacks, sensing of individual's health-related activities and vital signals, and smart management of medical records with the help of on/in body biosensors, radio frequency medical devices and intra-body communication systems are just some examples. However, these modern healthcare systems set some additional critical requirements and challenges compared to traditional wireless networks. Several open issues and technical challenges have been identified as key factors for revitalizing healthcare delivery and assisting the shift towards preventive, personalized and citizen-centered care. These include: timely access to diagnostic information in many acute care settings, energy-efficient biosensor design, biocompatibility and "chronic implantability", system integration, sensor miniaturization, patient safety, emergency response and detection.

IEEE TBME Special Section on "**Mobile and wireless technologies for healthcare delivery**" will publish full manuscripts (7 printed pages) in highly innovative research activities which reveal the rapidly changing face and context of patient monitoring and healthcare delivery services facilitated by wireless communications and sensing technologies. Breakthrough research in wireless and mobile technologies with high impact in biomedical applications and healthcare is solicited.

The following are example topics of interest to this special issue:

- Specialty and site specific applications
- General well-being and chronic disease management
- Patient monitoring in diverse environments (hospitals, nursing homes, assisted living)
- Remote diagnosis and patient management
- Sensing of vital signs and signatures
- Sensor technology, reliability, long-term stability and biocompatibility
- Intra-body propagation and communication
- Multi-sensory data fusion
- Decision support algorithms for sensor analysis
- Real-time transmission of multiple medical data
- Wireless access in ubiquitous systems
- Wearable computing and communication
- Body sensor networks
- Wireless and wearable devices for pervasive healthcare
- Medical device control via wireless technology
- Safe, effective, secure and reliable use of wireless technology in healthcare

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## TIMETABLE

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Any enquiries should be directed to Guest Editors listed above, Atam Dhawan, IEEE TBME Senior Editor ([dhawan@adm.njit.edu](mailto:dhawan@adm.njit.edu)), or Bruce Wheeler, IEEE TBME Editor-In-Chief ([editor@tbme.embs.org](mailto:editor@tbme.embs.org)).