

**CFP: BodyNets 2014 Special Track on  
Antennas and Propagation in Body Area Networks (APBAN)**

**Paper submission due:** June 1, 2014

**Conference dates:** September 29, 2014 (Mon) - October 1, 2014 (Wed) London, Great Britain

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Proceedings to be published by ACM

Wireless interconnection of BAN devices has been an ever-growing trend in recent years. BANs can be used to interconnect various components to support health monitoring, medical diagnoses and treatment, telemedicine, assistance to people with disabilities. Research in antennas and propagation for BAN continues to grow in response to increasing demands for various application scenarios. Different from conventional mobile wireless communications systems, the antenna design and wireless propagation technology for BANs is in general strongly subject to the frequency-dependent electromagnetic characteristics of the human body. Different operating environments and propagation channels will strongly influence antenna designs. On-body/off-body antennas may suffer from energy absorption, reflection, diffraction or shadowing and multipath fading due to body movements. In-body antennas mainly involve severe signal decay and shortening effects depending on the surrounding biological tissue. In this respect, diversity techniques and multiple antenna systems can be utilized to cope with these disadvantages. In view of the specific operating location of the antennas in BANs, new antenna materials are also widely utilized, such as the fabric/textile antennas for wearable applications. In terms of the wireless propagation research, channel modeling and characterization have been widely carried out via numerical electromagnetic analysis methods as well as experimental measurements. Due to frequency-dependent EM characteristics of the biological tissues, channel characteristics also show a large difference in different operating frequencies, such as in ultra wide band (UWB), in medical implant communication service (MICS) band, in industrial, scientific and medical (ISM) bands as well as in human body communication (HBC) bands. Meanwhile, the related EMI/EMC as well as SAR analysis for human safety evaluation cannot be ignored.

The purpose of this special session is to provide a forum for researchers and engineers to share experiences and to discuss recent advances in antenna design and

propagation technology for BANs. Regular papers, short papers, and poster submissions are welcome. Topics include, but are not limited to:

#### **TOPICS OF INTEREST**

- On-body/wearable antennas
- In-body/implanted antennas
- Off-body antennas for BANs
- Fabric/textile antennas
- Antenna arrays and multiple antenna arrangements for BANs
- Antenna diversity and MIMO antenna systems for BANs
- Miniaturized smart antennas for BANs
- Hybrid integration with organic electronics
- Multiband, wideband, UWB antennas for BANs
- Antenna and human body interactions
- Antenna matching networks
- RFID tags and sensors for BANs
- Microwave imaging antennas for BANs
- RF characteristics of human tissues
- Numerical computation for propagation in BAN
- Radio propagation channel modeling and characterization
- Propagation mechanism in BAN
- Numerical electromagnetic analysis methods
- SAR analysis for human safety evaluation
- EMI and EMC in BAN
- Propagation phenomena and effects in BAN
- Electromagnetic imaging and sensing applications in BAN
- Dosimetry and exposure assessment

#### **IMPORTANT DATES**

Paper submission due: **June 1, 2014**

Notification and Registration Opens: **June 30, 2014**

Camera ready due: **July 31, 2014**

#### **PAPER SUBMISSION**

Authors are invited to submit regular papers (up to 7 pages each) or short papers (up to 4 pages each) in the ACM proceedings format. Up to two extra pages are allowed for each paper with extra

page charges. See <http://bodynets.org/2014/show/initial-submission> for more details.

#### **PUBLICATION**

All accepted paper will be published by ACM and submitted for indexing by ISI, EI Compendex, Scopus, Google Scholar, and many more. All accepted papers will be published by ACM. Selected papers will be invited to:

- ACM/Springer Mobile Networks and Applications
- Springer Journal of Ambient Intelligence and Humanized Computing

#### **TRACK CHAIR**

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**PROGRAM COMMITTEE MEMBERS (To be announced)**