BODYNETS
Body Area Networks

1-3 OCTOBER 2018, OULU, FINLAND

PROGRAMME

Monday Oct 1, 2018

20:00-21:30	Welcome Reception, Oulu City Hall

Tuesday Oct 2, 2018 ***********************************Venue: LASARETTI, AURORA HALL***

09:00	Opening: Adj. Prof. Matti Hämäläinen, Centre for Wireless Communications & Vice-Rector Helka-Liisa Hentilä, University of Oulu
09:30	Keynote: Prof. Jovanov *Do you know how I feel? Sensing physiological signals from objects of everyday use*
10:15	Keynote: Prof. Scanlon *Electromagnetic Considerations for Engineering Minimally Invasive Implanted Bioelectronics*
11:00	Coffee
11:30	Panel: Technological Trends and Challenges for Future Healthcare
13:00	Lunch
14:00	Invited speech: Prof. DK Arvind *Automating clinical trials using wearable sensors*
14:30	Invited speech: Prof. Kohno *Medical Healthcare Universal Platform of BAN/Cloud/Big Data Server for On Line Personalized Medicine*
15:00	Coffee
15:30	**Security & Safety** Security in Body Networks: Watermark-based Communications on Air-gap Acoustic Channel Secrecy capacity of diffusion-based molecular communication systems Opportunistic IoT Service to support safety driving from heterogeneous data sources Towards Efficient & Real-time Human Activity Recognition using Wearable Sensors: A Shapelet-based Pattern Matching Approach
16:45- 17:00	Greetings from the General Chair of Bodynets 2019
19:00-22:00	Dinner, Lapland Hotel Oulu

Wednesday 3, 2018 ***********************************Venue: LASARETTI, AURORA HALL***

09:00	Invited speech: Dr. Farserotu *SmartBAN for Digital Health*	
09:30	**SmartBAN** Joint Throughput and Channel Aware MAC Scheduling for SmartBAN Neighbour wireless body area network discovery mechanism for ETSI SmartBAN Evaluation of preamble detection in ETSI SmartBAN PHY	**Antennas & Propagation** Low-UWB directive antenna for Wireless Capsule Endoscopy localization Tunable Front-end Design with a Dual-band Antenna for Small Cellular Devices Biometallic orthopedic implant with printed antenna
10:25	Coffee	

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10:45	**UWBAN** A Finite Integration Technique Based Simulation Study on the Impact of the Sternotomy Wires on the UWB Channel Characteristics Reliable and High-Speed Implant Ultra Wideband Communications with Transmit-Receive Diversity Human Body Effect on Static UWB WBAN Off-Body Radio Channels Ultra-wide Band Positioning in Sport: How the On-body Tag Location Affects the System Performance	**Systems and Applications** Private Audio-Based Cough Sensing for In-Home Pulmonary Assessment using Mobile Devices Using an Indoor Localization System for Activity Recognition Indoor-Outdoor detection using Head-mounted lightweight sensors Analysis of Walking Body Using Kinect2 and Application of Integer Code to WBAN
12:00	Lunch	
13:00	**APWiBEC** Information theoretic analysis for securing Next Generation Leadless Cardiac Pacemaker Feasibility Analysis For Pulse Based Synchronization In A Dual Chamber Leadless Pacemaker System EM imaging-Based Capsule Endoscope Localization with Peak-formed Incident Electric Fields Experimental Path loss models comparison and localization of Wireless Endoscopic Capsule in the Ultra Wideband Frequency Band Planar Elliptical Ring Implanted Antennas for UWB Body Area Communication Motion Artifact Reduction in Electrocardiogram Using Adaptive Filtering based on Skin-Potential Variation Monitoring	**Case studies & Wearable devices** A Pilot Study on Electrode Skin Impedance Analysis of Embroidered EMG Electrodes Toward A Wearable Epileptic Seizure Monitoring - A Case Study A Wearable device for Brain Machine Interaction with Augmented Reality Head-Mounted Display A Cost-Effective Embedded Platform for Scalable Multichannel Biopotential Acquisition Virtual Machine execution for wearables based on WebAssembly Driving Operation Recognition using Smart Cushion based on Deep Neural Network
14:50	Coffee	
15:10 - 17:00	**Communications and Networking** Indoor Energy Harvesting for WE-Safe Wearable IoT Sensor Nodes Signal Transmission with Intra-body and Inter-body Communications A Machine Learning Based Method for Coexistence State Prediction in Multiple Wireless Body Area Networks A Hybrid Optical-Radio Wireless Network Concept for the Hospital of the Future Performance Evaluation of Bluetooth Low Energy Technology under Interference Learning and Recognition with Neural Network of Heart Beats Sensed by WBAN for Patient Stress Estimate for Rehabilitation	**Medical Applications** InstantRR: Instantaneous Respiratory Rate Estimation on Context-aware Mobile Devices Estimation Method of Abdominal Fat Thickness by Micro Wave Exposure to RF EMF from 5G Handheld Devices Wearable Continuous Blood Pressure Estimation with Photoplethysmography Sensors Array on the Arm Cuffless Blood Pressure Estimation Based on Pulse Arrival Time Using Bio-impedance During Different Postures and Physical Exercises Pre-Ejection Period (PEP) Estimation based on Râ€“Wave in ECG and On-Body Continuous Wave Radar Signal during Daily Activities