WiPH 2009

International Workshop on Wireless Pervasive Healthcare 2009

March 31, 2009
London, UK
City University of London

http://www.wiph-workshop.org/

Sponsored by ICST and CREATE-NET
Co-organized by Philips Research

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Aim of the workshop

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Wireless access for pervasive healthcare is an emerging cross-disciplinary subject, focusing on the research and developments of pervasive and ubiquitous wireless technologies in order to improve the quality of healthcare and wellness. With the recent advances in hardware design and wireless communications, the evolution of new generations of embedded wireless devices, which facilitates reliable, comprehensive, and high-standard healthcare, has attracted intensive attention from both industries and academic institutes. Particularly, developments in wireless infrastructure, such as body-area networks or pervasive health-monitoring system, have proved beneficial to deliver telemedicine services regardless of a patient's physical location. However, there still exist many challenges to overcome before the real marketing stage due to requirements for reliable signal propagation characteristics, low network latency, low packet loss, robust data and image transmission, and the great need for safe, secure, and dependable operation. In addition, cost issue is another key concern for worldwide utilization of wireless devices for pervasive healthcare.

The aim of the workshop is to bring together both the industry and academia to present and discuss the problems, challenges, directions, and state-of-art in the fields of wireless access for pervasive healthcare. The workshop will try to build a bridge between the industry and academic research so that future collaborations between two sectors can be identified. In addition, we welcome demos of state-of-the-art products.

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Workshop highlights

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The workshop will be featured by:

- Invited talks from academia and industries
- Technical presentations from academia and industries

- Industry exhibitions and demos

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Local organizing committee

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Rob Davies, Philips Research, UK
David Walker, Philips Research, UK

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Program committee

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Thomas Falck, Philips Research, Netherlands
Lingyang Song, Peking University, China
Bert Gyselinckx, IMEC Eindhoven, Netherlands
Joseph Paradiso, The Media Laboratory, MIT, US
Alister Burr, University of York, UK
Bingli Jiao, Beijing University, China
Pankaj Vadgama, Queen Mary, University of London, UK
Yuanting Zhang, The Chinese University of Hong Kong, HKSAR, China
Steffen Leonhardt, RWTH Aachen University, Germany
George Papadopoulos, University of Patras, Greece
Egidijus Kazanavicius, Kaunas University of Technology, Lithuania
Juanlius Navarro Mesa, Universidad de las Palmas de Gran Canaria, Spain
Agnius Liutkevicius, Kaunas University of Technology, Lithuania
Aggeliki Prayati, Industrial Systems Institute, Greece
William G. Scanlon, Queen's University, Belfast, UK
Arunas Vrubliauskas, Kaunas University of Technology, Lithuania
Christos Koulamas, Industrial Systems Institute, Greece
Christos Antonopoulos, University of Patras, Greece
Guang-Zhong Yang, Imperial College, UK
Lars Schmitt, Philips Research Europe, Netherlands
Marco Sgroi, Wireless Sensor Networks Lab sponsored by Pirelli and Telecom Italia, CA
Jon Adams, Freescale Semiconductor, US
Chris McLeod, Imperial College, UK
Yang Hao, Queen Mary, University of London, UK

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Contact Information

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Technical Programmes
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Time Table

08:30 – 08:55	On-site Registration
08:55 – 09:00	Opening speech
09:00 – 10:30	Session 1: Body Sensor Networks
10:30 – 11:00	Coffee break (incl. demos)
11:00 – 12:30	Session 2: Wireless Pervasive Healthcare
12:30 – 13:45	Lunch break (incl. demos)
13:45 – 15:15	Session 3: Wireless Sensor Networks
15:15 – 15:45	Coffee break (incl. demos)
15:45 – 17:15	Session 4: Other topics and Applications
17:15 – 17:20	Closing remarks
17:20 – 18:00	Networking

Technical sessions

WiPH-01: Body Sensor Networks

Date and Time: Tue, 31 Mar 2009, 9:00 -10:30
Location:
Session chair:

09:00-09:30 Invited talk: Body Sensor Networks - from Healthcare to Elite Sport Performance Monitoring

Prof. Guangzhong Yang, Imperial College London, UK

09:30-09:50 Quality of Service for IEEE 802.15.4-based Wireless Body Sensor Networks

Thomas Falck, Jose Javier Garcia Philips Research Europe

09:50-10:10 Body Area Network for Monitoring Autonomic Nervous System Responses

Lindsay Brown, Bernard Grundlehner, Jef van de Molengraft, Julien Penders and Bert Gyselinckx, Stichting IMEC Nederland

10:10-10:30 Customizing Sensor Nodes and Software for Individual Pervasive Health Applications

Peter Langendoerfer, Frank Vater and Krzysztof Piotrowski IHP, Im Technologiepark 25, Germany,

WiPH-02: Wireless Pervasive Healthcare

Date and Time: Tue, 31 Mar 2009, 11:00 -12:30
Location:
Session chair:

11:00-11:30 Invited talk: Body-centric Antennas and Propagation for Pervasive Healthcare Applications

Prof. Yang Hao, Queen Marry, University of London, UK

11:30-11:50 Performance Control in Wireless Sensor Networks

Thomas Lindh, Ibrahim Orhan School of Technology and Health KTH Sweden

11:50-12:10 Pervasive Wireless-Sensor-Networks for Home Healthcare Need Automatic Reasoning

Davide Merico, Alessandra Mileo and Roberto Bisiani NOMADIS Lab., University of Milano-Bicocca, viale Sarca, 336/14, I-20126 Milan MI, Italy.

12:10-12:30 Server-assisted Context-Dependent Pervasive Wellness Monitoring

Archan Misra, Ben Falchuk, Shoshana Loeb Advanced Technology Services Telcordia Technologies Piscataway, NJ, USA

WiPH-03: Wireless Sensor Networks

Date and Time: Tue, 31 Mar 2009, 13:45 -14:55
Location:
Session chair:

13:45-14:15 Invited talk: WSN Deployment in Practice

Luis Redondo

14:15-14:35 An Overview of Development Problems in WSNs

A. Prayati, F. Kerasiotis, C. Antonopoulos, S. Giannoulis, T. Stoyanova, G. Papadopoulos Research and Innovation Center in Information,Communication, and Knowledge Technologies -ISI, Greece Department of Electrical & Computer Engineering, University of Patras, Greece

14:35-14:55 A.MO.R : An Adaptive Routing Mechanism for WSN Health Applications

S. Giannoulis, A. Prayati, C. Antonopoulos, G. Papadopoulos, Research and Innovation Center in Information,Communication, and Knowledge Technologies -Industrial Systems Institute, Greece

14:55-15:15 μSWN Interconnection to External Networks for Healthcare Applications

Agnius Liutkevicius, Arunas Vrubliauskas, Egidijus Kazanavicius, Aggeliki Prayati Real Time Computing Systems Centre, Kaunas University of Technology, Kaunas, Lithuania

WiPH-04: Other Topics and Applications

Date and Time: Tue, 31 Mar 2009, 15:45 -17:15
Location:
Session chair:

15:45-16:15 Invited talk: The Long Jump for BANs – Crossing the First Metre

Richard McPartland, Toumaz Technology Ltd, Oxfordshire, UK

16:15-16:35 Performance Evaluation of a ZigBee-based Medical Sensor Network

Helena Fernández-López, Pedro Macedo, José Afonso, J. H. Correia Ricardo Simões Industrial Electronics Engineering Department University of Minho, Guimarães, Portugal; Institute of Polymers and Composites University of Minho, Guimarães, Portugal

16:35-16:55 A Wireless Network Scheme of Fetal Monitoring

Ruoya Yao, Bing Liu, Xiaochen You, Wusun Chen Department of Research & Development Edan Instruments, Inc. Shenzhen, China

16:55-17:15 Smart-Clothing Wireless Flex Sensor Belt Network for Foetal Health Monitoring

Luís M. Borges, Norberto Barroca, Fernando J. Velez António S. Lebres Instituto de Telecomunicações – DEM, Universidade da Beira Interior, Covilhã, Portugal; Unidade de Detecção Remota - Departamento de Física Universidade da Beira Interior Covilhã, Portugal