

MobiHealth 2011
5-7 October 2011, Kos Island, Greece

Program at a Glance

Wednesday 5 October 2011	
8:00 - 8:30	Registration
8:30 - 8:45	Opening, welcome
8:45 - 9:30	10 th Bioeng Award Presentation
9:30 - 10:30	Session We.1: Intrabody Communications and Transmission of Patient Data
10:30 - 11:00	Coffee Break
11:00 - 12:30	Session We.2: ICT Technologies and Tools for Chronic Disease Management
12:30 - 14:00	Lunch Break
14:00 - 14:45	Keynote We.1: "Telehealth/Telemedicine Evolution: Driven by Technology or Need?", <i>Dr Yadin David</i>
14:45 - 16:15	Session We.3: Advances in Wireless Implantable Devices
16:15 - 16:45	Coffee Break
16:45 - 18:00	Session We.4: Mobile Devices for Patient Monitoring
18:00 - 19:00	Workshop We.1: Electromagnetic Issues in Advanced Mobile Healthcare Applications
20:00 - 21:30	Welcome Reception
Thursday 6 October 2011	
8:30 - 9:15	Keynote Th.1: "Mobile Health: Monitoring and Security", <i>Dr Nikolaos Bourbakis</i>
9:15 - 10:30	Session Th.1: Healthcare Telemetry and Telemedicine
10:30 - 11:00	Coffee Break
11:00 - 12:30	Session Th.2: ICT Platforms and Technologies for the Daily Management of Chronic Diseases and the Support of the Ageing Population
13:00 - 16:30	Excursion to Asclepeion
17:00 - 18:15	Session Th.3: Patient Monitoring and Management
18:15 - 19:45	Session Th.4: Mobile and Wireless Technologies for Healthcare Delivery and Emergency
20:30 - 23:00	Gala Dinner
Friday 7 October 2011	
8:30 - 9:15	Keynote Fr.1: "Antennas and Propagation for Body-Centric Wireless Communications in Healthcare", <i>Dr Yang Hao</i>
9:15 - 10:30	Session Fr.1: Measurement and Monitoring Technologies
10:30 - 11:00	Coffee Break
11:00 - 12:30	Session Fr.2: Ambient Assistive Technologies for Pervasive Healthcare Services (<i>Special Session</i>)
12:30 - 14:00	Lunch Break
14:00 - 14:45	Keynote Fr.2: "AAL: The New Paradigm to Deliver and Consume Health Services", <i>Dr Sergio Guillen</i>
14:45 - 15:45	Workshop Fr.1: Mobile Systems and Technologies for Patient Safety, Guidance and Empowerment
15:45 - 16:30	Short Tutorial Fr.1: The Use of Mobile Technologies and Health Informatics for Disaster and Crisis Management
16:30 - 17:00	Closing

Technical Program

Keynote We.1: “Telehealth/Telemedicine Evolution: Driven by Technology or Need?”

Speaker: *Yadin David, Biomedical Engineering Consultants LLC, USA*

Chair: *K. S. Nikita*

Keynote Th.1: “Mobile Health: Monitoring and Security”

Speaker: *Nikolaos Bourbakis, ATRC, WSU, Dayton OH, USA*

Chair: *M.-T. Arredondo*

Keynote Fr.1: “Antennas and Propagation for Body-Centric Wireless Communications in Healthcare”

Speaker: *Yang Hao, Queen Mary University of London, UK*

Chair: *D. Fofiadis*

Keynote Fr.2: “AAL: The New Paradigm to Deliver and Consume Health Services”

Speaker: *Sergio Guillen, Polytechnic University of Valencia, Spain*

Chair: *D. Koutsouris*

Session We.1: Intrabody Communications and Transmission of Patient Data

Chairs: *O. Wolfson, J. Reina-Tosina*

- A Distributed-parameter Approach to Model Galvanic and Capacitive Coupling for Intra-body Communications, *A. Callejon, J. Reina-Tosina, L. Roa, D. Naranjo*
- An Ultra-Low Power MAC Protocol for In-Body Medical Implant Networks, *A. Ghildiyal, B. Godara, A. Amara*
- On the Effectiveness of Relaxation Theory for Controlling High Traffic Volumes in Body Sensor Networks, *N. Yaakob, I. Khalil, J. Hu*
- Design and Validation of a Secure Communication Platform for Mobile Health, *B. Martin de Juan, M.A. Valero Duboy, D. Soler, J.M. Azorin, R. Conde*

Session We.2: ICT Technologies and Tools for Chronic Disease Management (*Special Session*)

Organizers: *F. Chiarugi, E. Spanakis, A. Prentza*

Chairs: *F. Chiarugi, E. Spanakis*

- Activity Recognition Using Smartphones and Wearable Wireless Body Sensor Networks, *D. Koutsouris, I. Kouris*
- Decision Support for the Remote Management of Chronic Patients, *M. Martinelli, S. Colantonio, G. de Pietro, M. Esposito, A. Machi, O. Salvetti*
- Risk Assessment Models for Diabetes Complications: a Survey of Available Online Tools, *L. Koumakis, F. Chiarugi, V. Lagani, A. Kouroubali, I. Tsamardinis*
- Clinical Effectiveness of the “Healthwear” Wearable System in the Reduction of COPD Patients’ Hospitalization, *A. Milsis, T. Katsaras, N. Saoulis, E. Varoutaki, A. Vontetsianos*
- Towards an Accessible, Personal Health Record Data, *I. Basdekis, V. Sakkalis, C. Stephanidis*
- Developing advanced technology services for diabetes management: User preferences in Europe, *A. Kouroubali, F. Chiarugi*

Session We.3: Advances in Wireless Implantable Devices (*Special Session*)

Organizer: *K.S. Nikita*

Chairs: *L. Roa, M. Valero-Duboy*

- Wireless Microrobotic Oxygen Sensing for Retinal Hypoxia Monitoring, *O. Ergeneman, G. Chatzipirpiridis, S. Pane, G. Sotiriou, C. Bergeles, B. Nelson*
- Meandered versus Spiral Novel Miniature PIFAs Implanted in the Human Head: Tuning and Performance, *A. Kiourti, K.S. Nikita*
- A Radio Channel Model for In-body Wireless Communications, *K.Y. Yazdandoost*

- Parametric Study and Design of Implantable PIFAs for Wireless Biotelemetry, *A. Kiourti, M. Tsakalakis, K.S. Nikita*
- In Vitro and In Vivo Operation of a Wireless Body Sensor Node, *F. Merli, L. Bolomey, F. Gorostidi, Y. Barrandon, E. Meurville, A. Skrivervik*
- Recent Results in Computer Security for Medical Devices, *S. Clark, K. Fu*

Session We.4: Mobile Devices for Patient Monitoring

Chairs: *E. Biglieri, M. Martinelli*

- Wearable System for EKG Monitoring - Evaluation of Night-Time Performance, *A. Vehkaoja, J. Verho, A. Comert, M. Honkala, J. Lekkala*
- A Smartphone-Based Healthcare Monitoring System---PHY Challenges and Behavioral Aspects, *E. Biglieri, N. Alrajeh, A. Lozano, B. Bounabat*
- Phone Based Fall Risk Prediction, *V. Guimaraes, P. Teixeira, M. Monteiro, D. Elias*
- Infusing Image Processing Capabilities into an RFID-Based Personal Mobile Medical Assistant, *K. Sidiropoulos, P. Georgiadis, N. Pagonis, N. Dimitropoulos, P. Asvestas, G. Matsopoulos, D. Cavouras*
- Securing Medical Sensor Network with HIP, *D. Kuptsov, B. Nechaev, A. Gurtov*

Session Th.1: Healthcare Telemetry and Telemedicine

Chairs: *T. Korhonen, T. Kakarountas*

- Development of an mHealth Open Source Platform for Diabetic Foot Ulcers Tele-consultations, *G.E. Dafoulas, S. Koutsias, J. Behar, J.S. Osorio, B. Malley, A. Gruentzig, L.A. Celi, P. Angelidis, K. Theodorou, A. Giannoukas*
- Towards Continuous Wheeze Detection Body Sensor Node as a Core of Asthma Monitoring System, *D. Oletic, B. Arsenali, V. Bilas*
- Reduced Power Consumption for 3GPP-Compliant Continua Health Devices by Deployment of Femtocells in the Home Environment, *E. Mutafungwa, Z. Zheng, J. Hamalainen*
- A New Platform for Delivery Interoperable Telemedicine Services, *F. Andriopoulou, D. Lymberopoulos*
- Social Media in Healthcare - User Research Findings and Site Benchmarking, *T. Korhonen, M. Pekkola, C. Karaikos*

Session Th.2: ICT Platforms and Technologies for the Daily Management of Chronic Diseases and the Support of the Ageing Population (*Special Session*)

Organizers: *F. Chiarugi, E. Spanakis*

Chairs: *F. Chiarugi, E. Spanakis*

- Diabetes Management: Devices, ICT Technologies and Future Perspectives, *M. Spanakis, F. Chiarugi*
- Exploring new Care Models in Diabetes Management and Therapy with a Wireless Mobile eHealth Platform, *J. Thestrup, T. Gergely, P. Beck*
- A Mobile Android-based Application for in-hospital Glucose Management in compliance with the Medical Device Directive for Software, *S. Spat, B. Holl, P. Beck, F. Chiarugi, V. Kontogiannis, M. Spanakis, D. Manousos, T. Pieber*
- Ontology-driven Monitoring of Patient's Vital Signs enabling Personalized Medical Detection and Alert, *A. Hristoskova, V. Sakkalis, G. Zacharioudakis, M. Tsiknakis, F. de Turck*
- A Mobile Reasoning System for Supporting the Monitoring of Chronic Diseases, *A. Minutolo, M. Esposito, G. de Pietro*
- Using SOA for a Combined Telecare and Telehealth Platform for Monitoring of Elderly People, *G. Lamprinakos, S. Asanin, P. Rosengren, D. Kaklamani, I. Venieris*

Session Th.3: Patient Monitoring and Management

Chairs: *C. Menard, N. Serbedzija*

- Adaptive Assistance: Smart Home Nursing, *N. Serbedzija*
- Ubiquitous Healthcare Profile Management Applying Smart Card Technology, *M.A. Fengou, G. Mantas, D. Lymberopoulos, N. Komninos*
- Identifying Chronic Disease Complications Utilizing State of the Art Data Fusion Methodologies and Signal Processing Algorithms, *J. Gialelis, P. Chondros, D. Karadimas, S. Dima, D. Serpanos*
- A Support Vector Machine Approach for Categorization of Patients Suffering from Chronic Diseases, *C. Bellos, A. Papadopoulos, R. Rosso, D. Fotiadis*
- Combined Health Monitoring and Emergency Management through Android Based Mobile Device for Elderly People, *M. Kozlovsky, J. Sicz-Mesziar, J. Ferenczi, J. Marton, G. Windisch, P. Kotcauer, A. Boruzs, P. Bogdanov, Z. Meixner, K. Karoczkai, S. Acs*

Session Th.4: Mobile and Wireless Technologies for Healthcare Delivery and Emergency

Chairs: J. Thestrup, P. Collins

- An ISO-based Quality Model for Evaluating Mobile Medical Speech Translators, *N. Tsourakis, P. Estrella*
- An Interdisciplinary Approach to Emergency Responder Mobile Technology Design, *P. Collins, S. Lanthier*
- TOPS - System for Planning and Providing the Health and Social Services at the Home Environment of Clients, *T. Vana, D. Zak, J. Lebuska*
- A Data Synchronization Framework for Personal Health Systems, *D. Capozzi, G. Lanzola*
- Service-Oriented Middleware Architecture for Mobile Personal Health Monitoring, *M. Ahlsen, S. Asanin, P. Kool, P. Rosengren, J. Thestrup*
- Inactivity Monitoring for People with Alzheimer's Disease Using Smartphone Technology, *N. Armstrong, C. Nugent, G. Moore, D. Finlay, W. Burns*

Session Fr.1: Measurement and Monitoring Technologies

Chairs: S. Hey, I. Karanasiou

- Performance of a Near-Field Radio-Frequency Pressure Sensing Method in Compression Garment Application, *T.J. Salpavaara, J. Verho, P. Kampulainen*
- Hybrid Vital Sensor of Health Monitoring System for the Elderly, *D.I. Shin, J.H. Song, S.K. Joo, S.J. Huh*
- Low-Cost Blood Pressure Monitor Device for Developing Countries, *C. Arteta, J. Domingos, M. Pimentel, M. Santos, C. Chiffot, D. Springer, A. Raghu, G. Clifford*
- Telemedical Systems for Diagnosis and Therapy of Stress related Disorders, *S. Hey*
- An Integrated Approach towards Functional Brain Imaging Using Simultaneous Focused Microwave Radiometry, Near—Infrared Spectroscopy and Electroencephalography Measurements, *P. Farantatos, I. Karanasiou, N. Uzunoglu*

Session Fr.2: Ambient Assistive Technologies for Pervasive Healthcare Services (Special Session)

Organizers: I. Maglogiannis, D. Vergados

Chairs: I. Maglogiannis, D. Vergados

- A New Home-Based Training System for Cardiac Rehabilitation, *C. Menard, R. Antonitsch*
- Context-Aware System for Neurology Hospital Wards, *I. Flinsenber, R. Cuppen, E. van Loenen, E. Daemen, R. Rajae-Joordens*
- Towards Utilizing Tcpcrypt in Mobile Healthcare Applications, *S. Nikolidakis, V. Giotsas, E. Georgakakis, D. Vergados, C. Douligeris*
- An Access Control Framework for Pervasive Mobile Healthcare Systems Utilizing Cloud Services, *M. Poullymenopoulou, F. Malamateniou, G. Vassilacopoulos*
- Distributed Management of Pervasive Healthcare Data through Cloud Computing, *C. Doukas, T. Pliakas, P. Tsanakas, I. Maglogiannis*

- Efficient Exploitation of Parallel Computing on the Server-Side of Health Organizations' Intranet for Distributing Medical Images to Smart Devices, *A. Kakarountas, I. Mavridis*

Workshop We.1: Electromagnetic Issues in Advanced Mobile Healthcare Applications

Organizer: *P. Nepa*

Chairs: *K. Yazdandoost, S. Koulouridis*

- Body Absorbed Radiation and Design Issues for Wearable Antennas and Sensors, *S. Koulouridis*
- Development of a FDTD Simulator for the Calculation of Temperature Rise in Human Heads from Mobile Phones, *A. Kyriakou, E. Aitides, M. Chryssomallis*
- Numerical Assessment of EEG Electrode Artifacts during EMF Exposure in Human Provocation Studies, *M. Christopoulou, O. Kazasidis, K.S. Nikita*

Workshop Fr.1: Mobile Systems and Technologies for Patient Safety, Guidance and Empowerment

Organizer: *V. Koutkias*

Chairs: *V. Koutkias, A. Prentza*

- A Hybrid Case-based and Content-Based Retrieval Engine for Mobile Cancer Management System – MCMS, *B.M. El-Bagoury, A.B. Salem*
- On Location-based Services for Patient Empowerment, Guidance and Safety, *A. Triantafyllidis, V. Koutkias, I. Moulos, N. Maglaveras*
- Mobile Resource Tracking Utility: A platform independent application for managing medical resources, *P.C. Polina, R. Kelley, A. Kumar*

Short Tutorial Fr.1: “The Use of Mobile Technologies and Health Informatics for Disaster and Crisis Management”

Organizer: *Luis Kun, National Defense University*