Tuesday, 23 March 2010

9:00-9:20 Opening

9:20-10:00 **Keynote 1: Prof. Heinz Gerhauser, Fraunhofer IIS**

10:00-11:00 **Session 1: Human Motion with Accelerometers (Chair: Katie Siek)**
- Toward Free-Living Walking Speed Estimation Using Gaussian Process-based Regression with On-Body Accelerometers and Gyroscopes
  - Harshvardhan Vathsangam, University of Southern California
  - Adar Emken, University of Southern California
  - Donna Spruijt-Metz, University of Southern California
  - Gaurav Sukhatme, University of Southern California
- User-friendly System for Recognition of Activities with an Accelerometer
  - Gerd Krassnig, Fraunhofer Institute
- Comparison of accelerometer-based energy expenditure estimation algorithms
  - Niall Twomey, UCC

11:00-11:20 Break

11:20-12:40 **Session 2: Patient and User Needs (Chair: Eric Wade)**
- Embedded Assessment of Aging Adults: A Concept Validation with Stakeholders
  - Matthew L Lee, Carnegie Mellon University
  - Anind Dey, Carnegie Mellon University
- Acceptance and use of a social robot by elderly users in a domestic environment
  - Tineke Klamer, University of Twente
  - Somaya Ben Allouch, University of Twente
- Asthma Management Practices of Families and Pediatric Patients with Asthma
  - Tae-Jung Yun, Georgia Institute of Technology
  - Hee Young Jeong, Georgia Institute of Technology
  - Hee Rin Lee, Georgia Institute of Technology
  - Rosa Arriaga, Georgia Institute of Technology
  - Gregory D. Abowd, Georgia Institute of Technology
- Training Social Problem Solving Skills in Adolescents with High-Functioning Autism
  - Fatima A Boujarwah, Georgia Institute of Technology
  - Hwajung Hong, Georgia Institute of Technology
  - Jackie Isbell, Georgia Institute of Technology
  - Rosa Arriaga, Georgia Institute of Technology
  - Gregory D. Abowd, Georgia Institute of Technology

12:40-14:00 Lunch
14:00-15:00  **Session 3: Applications (Chair: Bert Arnrich)**
- Mobile Music Touch: Vibration Stimulus as a Possible Hand Rehabilitation Method
  - Tanya Thais Markow, Georgia Institute of Technology
  - Thad Starner, Georgia Institute of Technology
- Mobile Phone Based Drunk Driving Detection
  - Jiangpeng Dai, Southeast University/The Ohio State University
  - Jin Teng
  - Xiaole Bai, The Ohio State University
  - Zhaohui Shen, The Ohio State University
  - Dong Xuan, The Ohio State University
- Towards Developing Effective Continence Management through Wetness Alert Diaper: Experiences, Lessons Learned, Challenges and Future Directions
  - Aung Aung Phyo Wai, Research Engineer
  - Foo Siang Fook
  - Maniyeri Jayachandran
  - Jit Biswas
  - Jer En Lee
  - Philip Yap

15:00-15:20  Break

15:20-16:20  **Session 4: Self Monitoring (Chair: Fatima Boujarwah)**
- *Improving Activity Classification for Health Applications on Mobile Devices using Active and Semi-Supervised Learning* (candidate for best paper)
  - Brent Longstaff, CENS UCLA
- Salud!: An Open Infrastructure for Developing and Deploying Health Self-management Applications
  - Yevgeniy Medynskiy, Georgia Institute of Technology
  - Elizabeth Mynatt, Georgia Institute of Technology
- A System for Unobtrusive In-Car Vital Parameter Acquisition and Processing
  - Lorenzo Tancredi D’Angelo, TU München
  - Jan Parlow
  - Wolfgang Spiessl
  - Stefan Hoch
  - Tim Lueth, MiMed - Technical University Munich

**Wednesday, 24 March 2010**

9:00-10:00  **Panel Discussion – Chaired by Tim Lueth**
- *Pervasive Healthcare – Who is really benefiting and how can benefits be proven?*
  - Katie A. Siek, University of Colorado at Boulder
  - Johannes Kornhuber, Univiersitatsklinikum Erlangen
  - Hartmut Strese, VDI/VDE-IT Innovation + Technik GmbH
  - Jörg Walter, Vitaphone

10:00-11:00  **Session 5: Health Care User Needs (Chair: Julie Maitland)**
- A Comparative Evaluation Study of Basic Interaction Techniques for PDAs in Point-Of-Care Situations
  - Ole Alsos, NTNU
- Technology acceptability for medical assistance
Strategies for Development and Supporting Adoption of EHR in German Ambulatory Care
- Martina Ziefle
- Wiktoria Wilkowska
- Ali Sunyaev, TU München
- Sebastian Dünebeil, Technische Universität München
- Jan Marco Leimeister
- Helmut Krcmar

11:00-11:20 Break

11:20-12:40 Session 6: Ambient Assisted Living (Chair: Lorenzo D’Angelo)
- AID-ME: Automatic Identification of Dressing failures through Monitoring of patients and activity Evaluation (candidate for best paper)
  - Aleksandar Matic, CREATE-NET
  - Priyal Mehta, Georgia Tech
  - James M. Rehg, Georgia Tech
  - Venet Osmani, CREATE-NET
  - Oscar Mayora, CREATE-NET
- Using duration to learn activities of daily living in a smart home environment
  - Shuai Zhang, School of Computing and Information Engineering, University of Ulster
  - Sally McClean, School of Computing and Information Engineering, University of Ulster
  - Bryan Scotney, School of Computing and Information Engineering, University of Ulster
  - Priyanka Chaurasia, School of Computing and Information engineering
  - Chris D Nugent, University of Ulster
- Artifacts’ Roaming Beats Recognition for Estimation of Care Activities in a Nursing Home
  - Francisco Eduardo Martinez Perez, Universidad Autonoma De Baja California
  - Angel Gonzalez-Fraga
  - Monica Tentori
- Robotic Service Cores for Ambient Assisted Living (candidate for best paper)
  - Matthias Kranz, Technische Universität München

12:40-14:00 Lunch

14:00-15:20 Session 7: Sensors and Health (Chair: Tim Lueth)
- Automatic Classification of Daily Fluid Intake (candidate for best paper)
  - Jonathan Lester, University of Washington
  - Shwetak Patel, Georgia Institute of Technology
  - Desney Tan, Microsoft Research
  - A.J. Brush, Microsoft Research
- A Kinetic Energy Harvester with Fast Start-up for Wearable Body-Monitoring Sensors
  - Jacopo Olivo, EPFL
  - Davide Brunelli, University of Trento
  - Luca Benini, University of Bologna
- Recognition of Interactions with Objects based on Radio Modules
Axel Czabke, Technical University Munich
Jakob Neuhäuser
Tim Lueth, MiMed - Technical University Munich

Achieving Human-Agent Teamwork In eHealth Based Pervasive Intelligent Environments
Matthew Ball, University of Essex
Vic Callaghan, University of Essex
Michael Gardner, University of Essex
Dirk Trossen, BT Research

15:20-15:50 Minute Madness for Demos
7 Demos quickly pitch their work

15:50-17:00 Poster and Demo Session (see last page)
18:00 - end Social Event

Thursday, 25 March 2010
9:00-10:00 Keynote: David Godden, Clinical Professor at University of Aberdeen
Integration of digital technologies into healthcare systems

10:00-11:00 Session 8: Neurological and Stroke Assistive Applications (Chair: Joachim Hornegger)
Sensor Device for Testing Activities in Parkinson and ALS Patients
Karol Grandez, CEIT and Tecnun (University of Navarra)
Gonzalo Solas, CEIT and Tecnun (University of Navarra)
Paul Bustamante, CEIT
Raul Barrena
Automated Administration of the Wolf Motor Function Test Assessment
Eric Wade, University of Southern California
Tremor Compensation by Use of a mechatronic Cup Holder
Marcus Fischer
Markus Schraufstetter
Christian Richter
Franz Irlinger
Tim C. Lueth, MiMed, Technische Universität München

11:00-11:20 Break

11:20-12:00 Session 9: Gait (Chair: Axel Czabke)
Precise Assessment of Self-Selected Gait Velocity in Domestic Environments
Thomas Frenken, OFFIS - Institut
Andreas Hein, University of Oldenburg / OFFIS
Wearable assistant for load monitoring: recognition of on-body load placement from gait alterations
Marco Benocci, University of Bologna
Marc Bächlin, Swiss Federal Institute of Technology Zurich
Elisabetta Farella, University of Bologna
Daniel Roggen, ETH Zurich
Luca Benini, University of Bologna
Gerhard Troester, Institut für Elektronik, Zürich

12:00-12:40 Town Hall Meeting and Closing Remarks
Announcement of the next Pervasive Health 2011 Conference
List of Accepted Posters

A Study of Vibration-Based Energy Harvesting in Activities of Daily Living
Alberto Olivares, Gonzalo Olivares, Peter Gloesekoetter, Juan Manuel Górriz, Javier Ramirez

Context-aware disclosure of health sensor data
Jatinder Singh, Jean Bacon, Pedro Brandao

Measurement of Angles in Time-of-Flight Data for the Automatic Supervision of Training Exercises
Stefan Soutschek, Johannes Kornhuber, Andreas Konrad Maier, Sebastian Bauer, Patrick Kugler, Joachim Hornegger, Michael Bebenek, S. Steckmann, Simon von Stengel, Wolfgang Kemmler

Teleaudiometry; A Work Toward Accessible Hearing Screening in Rural Areas
Pasin Israsena

Altcare: Safe Living for Elderly People
Muhammad Shoaib

Ambient Assisted Living for Type 2 Diabetic Patients
Markus Schwarz, Nefise Bal

Challenges in participation: Users and their roles in the development of home-based Pervasive Healthcare applications
Erik Grönvall, Rikke Aarhus, Morten Kyng

Iterative Design of Teleoperative Slit Lamp Microscopes for Telemedicine
Kentaro Go

A Low-Power Simplified-MEWS Scoring Wireless Node for Patient Monitoring
Dirk de Jager, Evangelos Mazomenos

Information-centric Pervasive Healthcare Platforms
Dirk Trossen, Dana Pavel, Jatinder Singh, Jean Bacon, Kenneth M. Guild

A Device for Measuring Potentially Hazardous Forces on Medical Equipment for Patient Transport
Nicholas Caporusso
Participatory Design with a Community of Seniors
William Hazlewood

User-driven Design of an Ontology-based Ambient-aware Continuous Care Platform
Femke Ongenae, ann ackaert, An Jacobs, Mieke Van Gils, Annelies Veys, Filip De Turck, Piet Verhoeve

Designing an Interactive Technology Solution to Deliver Balance and Strength Exercises to Older Adults
Julie Doyle

HM4All: A Vital Signs Monitoring System based in Spatially Distributed ZigBee Networks
Ricardo Simoes, Helena Fernandez-Lopez

Physician Usage of Technology and Opportunities for Continuous Care Management of Pediatric Asthma Patients
Adebola A Osuntogun, Rosa Arriaga

SOA-based Integrated Pervasive Personal Health Management System using PHDs
Sung-Hyun Lee, Byoung-Kee Yi

Low Power Compression of EEG Signals Using JPEG2000
Garry C Higgins

Novel Approach for Ensuring Increased Validity in Home Blood Pressure Monitoring
Stefan Wagner

RFID: Recognizing Failures In Dressing activity
Kyriaki Kalimeri, Aleksandar Matic, Alessandro Cappelletti

Democratization of healthcare through self-monitoring technologies
Dana Pavel
List of Accepted Demonstrations

**MagTag - A Wearable Wrist Device for Localization Applications**
*S.Silva, Paulo Mendes, L.Domingues*

**Continuous Healthcare**
*Stefan Wagner, Patrick Bentsen, Jesper Hedeager Nielsen, Christen Ring, Jorgen Nybo*

**Patient Tracking System. Continuous Monitoring and Location Solution for Ambient Assisted Living Facilities**
*Hugo Gamboa, Filipe Silva, Hugo Silva*

**A Smart Poultice with Reconfigurable Sensor Array for Wearable Cardiac Healthcare**
*Long Yan, Hoi-Jun Yoo*

**Sleep Coach: A home-cared sleep doctor**
*Shih-Chung Kang, Chia-Hsuan Chiang, I-Ling Chen, Yi Chen, Jhe-Wun Yang, Zai-Ting Yeh, Peng-Chih Wang, Rayleigh Ping-Ying Chiang*

**Vital-Jacket: A wearable wireless vital signs monitor for patients' mobility in Cardiology and Sports**
*Joao Paulo Cunha, Bernardo Cunha, Antonio Souse Pereira, William Xavier, Nuno Ferreira, Luis Meireles*