

# **2013 IEEE International Conference on Pervasive Computing and Communications**

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## Technical Program

### I1: Keynote 1

#### **Keynote1: The Golden Age of Pervasive Computing**

Roy Want (Google Inc, USA)  
pg. 1

### R1: Innovative applications, tools and software design

#### **Where Has My Battery Gone? Finding Sensor Related Energy Black Holes in Smartphone Applications**

Yepang Liu (The Hong Kong University of Science and Technology, Hong Kong); Chang Xu (Nanjing University, P.R. China); Shing-Chi Cheung (The Hong Kong University of Science and Technology, P.R. China)  
pp. 2-10

#### **COMITY: Coordinated Application Adaptation in Multi-Platform Pervasive Systems**

Verena Majuntke (University of Mannheim, Germany); Sebastian VanSyckel (University of Mannheim, Germany); Dominik Schäfer (University of Mannheim, Germany); Christian Krupitzer (University of Mannheim, Germany); Gregor Schiele (Digital Enterprise Research Institute (DERI) at NUIG, Ireland); Christian Becker (Universität Mannheim, Germany)  
pp. 11-19

#### **Fast Dynamic Execution Offloading for Efficient Mobile Cloud Computing**

Seungjun Yang (Seoul National University, Korea); Yongin Kwon (Seoul National University, Korea); Yeongpil Cho (Seoul National University, Korea); Hayoon Yi (Seoul National University, Korea); Donghyun Kwon (Seoul National University, Korea); Jonghee Youn (Gangneung-wonju National University, Korea); Yunheung Paek (Seoul National University, Korea)  
pp. 20-28

### R2: Context modeling and reasoning

#### **Effective Routine Behavior Pattern Discovery from Sparse Mobile Phone Data via Collaborative Filtering**

Jiangchuan Zheng (Hong Kong University of Science and Technology, Hong Kong); Siyuan Liu (Carnegie Mellon University, USA); Lionel Ni (Hong Kong University of Science and Technology, Hong Kong)  
pp. 29-37

#### **Infrastructure-Assisted Smartphone-based ADL Recognition in Multi-Inhabitant Smart Environments**

Nirmalya Roy (Washington State University, USA); Archan Misra (Singapore Management University, Singapore); Diane J. Cook (Washington State University, USA)  
pp. 38-46

#### **Extraction of Latent Patterns and Contexts from Social Honest Signals Using Hierarchical Dirichlet Processes**

Thuong C. Nguyen (Deakin University, Australia); Dinh Q. Phung (Deakin University, Australia); Sunil Gupta (Deakin University, Australia); Svetha Venkatesh (Deakin University, Australia)  
pp. 47-55

#### **Time-lag Method for Detecting Following and Leadership Behavior of Pedestrians from Mobile Sensing Data**

Mikkel Baun Kjærsgaard (Aarhus University, Denmark); Henrik Blunck (Aarhus University, Denmark); Martin Wirz (ETH Zurich, Switzerland); Markus Wüstenberg (Aarhus University, Denmark); Daniel Roggen (ETH Zürich, Switzerland); Gerhard Tröster (Wearable Computing Lab ETH Zürich, Switzerland); Kaj Grønbæk (Aarhus University, Denmark)  
pp. 56-64

## I2: Keynote 2

### **Keynote2: Pervasive Communication and Interaction to make the Built Environment Better and more Sustainable**

David Culler (University of California at Berkeley, USA)  
pp. 65

## R3: Best Papers

### **Supero: A Sensor System for Unsupervised Residential Power Usage Monitoring**

Dennis Phillips (Michigan State University, USA); Rui Tan (Advanced Digital Sciences Center, Singapore); Mohammad Mahdi Moazzami (Michigan State University, Iran); Guoliang Xing (Michigan State University, USA); Jinzhu Chen (Michigan State University, USA); David Yau (Advanced Digital Sciences Center, Singapore)  
pp. 66-75

### **Providing Privacy-Aware Incentives for Mobile Sensing**

Qinghua Li (Pennsylvania State University, USA); Guohong Cao (The Pennsylvania State University, USA)  
pp. 76-84

### **METIS: Exploring mobile phone sensing offloading for efficiently supporting social sensing applications**

Kiran K. Rachuri (University of Cambridge, United Kingdom); Christos Efstratiou (University of Cambridge, United Kingdom); Ilias Leontiadis (Telefonica I+D, Spain); Cecilia Mascolo (University of Cambridge, United Kingdom); Peter Rentfrow (University of Cambridge, United Kingdom)  
pp. 85-93

## R4: Privacy, security and location detection

### **PIKE: Enabling Secure Interaction with PIggybacked Key-Exchange**

Wolfgang Apolinarski (University of Duisburg-Essen, Germany); Marcus Handte (University of Duisburg-Essen, Germany); Umer Iqbal (Universität Duisburg-Essen Germany, Germany); Pedro Jose Marrón (University of Duisburg-Essen and Fraunhofer FKIE, Germany)  
pp. 94-102

### **Privacy Preservation for Participatory Sensing Data**

Ioannis Boutsis (Athens University of Economics and Business, Greece); Vana Kalogeraki (Athens University of Economics and Business, Greece)  
pp. 103-113

### **RF-Beep: A light ranging scheme for smart devices**

Mostafa Uddin (Old Dominion University, USA); Tamer Nadeem (Old Dominion University, USA)  
pp. 114-122

## NSF Initiatives on Sustainability Research (Krishna Kant, NSF)

## R5: Pervasive networking and sensing

### **WizNet: A ZigBee-based Sensor System for Distributed Wireless LAN Performance Monitoring**

Ruogu Zhou (Michigan State University, USA); Guoliang Xing (Michigan State University, USA); Xunteng Xu (HP Labs, P.R. China); Jianping Wang (City University of Hong Kong, Hong Kong); Lin Gu (Hong Kong University of Science and Technology, Hong Kong)  
pp. 123-131

### **Probabilistic Registration for Large-Scale Mobile Participatory Sensing**

Sara Hachem (Inria Paris-Rocquencourt, France); Animesh Pathak (Inria Paris-Rocquencourt, France); Valerie Issarny (INRIA, France)

pp. 132-140

***Scheduling Sensors for Monitoring Sentient Spaces using an Approximate POMDP Policy***

Ronen Vaisenberg (University of California - Irvine, USA); Alessio Della Motta (Università di Bologna, Italy); Sharad Mehrotra (University of California, Irvine, USA); Deva Ramanan (University of California - Irvine, USA)

pp. 141-150

## P1: Panel

Moderator: Peter Marx, Qualcomm

***PerCom 2013 Panel: Intelligent Devices and Smart Spaces***

Peter Marx (Qualcomm Labs, USA)

pg. 151

## R6A: Positioning and tracking (Concise papers)

***OpenCapSense: A Rapid Prototyping Toolkit for Pervasive Interaction using Capacitive Sensing***

Tobias Grosse-Puppenthal (Fraunhofer Institute for Computer Graphics Research, Germany); Yannick Berghoefer (Technical University Darmstadt, Germany); Andreas Braun (Fraunhofer Institute for Computer Graphics Research, Germany); Raphael Wimmer (University of Regensburg, Germany); Arjan Kuijper (Fraunhofer IGD & TU Darmstadt, Germany)

pp. 152-159

***Bichromatic Reverse Nearest Neighbors in Mobile Peer-to-Peer Networks***

Phuong Thao Nghiem (Monash University, Australia); Kiki Maulana (Monash University, Australia); Agustinus Borgy Waluyo (Monash University, Australia); David Green (Monash University, Australia); David Taniar (Monash University, Australia)

pp. 160-165

***Human Tracking and Identification using a Sensitive Floor and Wearable Accelerometers***

Miguel Sousa (Future-Shape GmbH, Germany); Axel Techmer (Future-Shape GmbH, Germany); Axel Steinhage (Future-Shape GmbH, Germany); Christl Lauterbach (Future-Shape GmbH, Germany); Paul Lukowicz (DFKI and University of Kaiserslautern, Germany)

pp. 166-171

***CLIPS: Infrastructure-free Collaborative Indoor Positioning Scheme for Time-critical Team Operations***

Youngtae Noh (Cisco Systems Inc., USA); Hirozumi Yamaguchi (Osaka University, Japan); Uichin Lee (KAIST, Korea); Prerna Vij (University of California Los Angeles & Adobe Systems, USA); Joshua Joy (UCLA, USA); Mario Gerla (University of California at Los Angeles, USA)

pp. 172-178

## R6B: Context-awareness and social sensing (Concise papers)

***Community Detection in Weighted Networks: Algorithms and Applications***

Zongqing Lu (Nanyang Technological University, Singapore); Yonggang Wen (Nanyang Technological University, Singapore); Guohong Cao (The Pennsylvania State University, USA)

pp. 179-184

***DrOPS: Model-Driven Optimization for Public Sensing Systems***

Damian Philipp (University of Stuttgart, Germany); Jaroslaw Stachowiak (University of Stuttgart, Germany); Patrick Alt (University of Stuttgart, Germany); Frank Dürr (University of Stuttgart, Germany); Kurt Rothermel (University of Stuttgart, Germany)

pp. 185-192

***Bluetooth based Collaborative Crowd Density Estimation with Mobile Phones***

Jens Weppner (University of Kaiserslautern & Deutsches Forschungszentrum für Künstliche Intelligenz GmbH, Germany); Paul Lukowicz (DFKI and University of Kaiserslautern, Germany)  
pp. 193-200

***CircleSense: A Pervasive Computing System for Recognizing Social Activities***

Guanqing Liang (The Hong Kong Polytechnic University, Hong Kong); Jiannong Cao (Hong Kong Polytechnic Univ, Hong Kong); Weiping Zhu (The Hong Kong Polytechnic University, Hong Kong)  
pp. 201-206

## **R7: Enabling technologies, smart applications and devices**

***A Dense Pressure Sensitive Bedsheet Design for Unobtrusive Sleep Posture Monitoring***

Jason J Liu (University of California, Los Angeles, USA); Wenyao Xu (University of California, Los Angeles & Wireless Health Institute, USA); Ming-Chun Huang (UCLA, USA); Nabil Alshurafa (UCLA, USA); Majid Sarrafzadeh (UCLA, USA); Nitin Raut (Medisens Wireless Inc., USA); Behrooz Yadegar (Medisens Wireless Inc., USA)  
pp. 207-215

***Idetic: A High-level Synthesis Approach for Enabling Long Computations on Transiently-powered ASICs***

Azalia Mirhoseini (Rice University, USA); Ebrahim M. Songhori (Rice University, USA); Farinaz Koushanfar (Rice University, USA)  
pp. 216-224

***B-Planner: Night Bus Route Planning using Large-scale Taxi GPS Traces***

Chao Chen (Institut TELECOM & Management SudParis, France); Daqing Zhang (Institut Télécom, Télécom SudParis, France); Zhi-Hua Zhou (Nanjing University, P.R. China); Nan Li (Nanjing University & Soochow University, P.R. China); Tulin Atmaca (IMT/Telecom SudParis, France); Shijian Li (Zhejiang University, P.R. China)  
pp. 225-233

## **PerCom "Town Hall" Meeting**