PerCom 2009 Main Program

Preliminary, subject to change

MANIAC Challenge, Sun/Mon, March 8th and 9th

MANIAC Challenge is a competition to stimulate research in mobile ad hoc network interoperability and cooperation. It will be held in conjunction with PerCom 2009. MANIAC Challenge takes place Sunday, March 8th, and Monday March 9th. MANIAC Challenge manages and maintains its own program.

Conference Registration

"Registration" is located in the hall of the convention center. Opening hours are:
- Monday, March 9: from 7:30am to 4:30pm
- Tuesday, March 10: from 7:30am to 2:30pm
- Wednesday, March 11: from 8:00am to 3:00pm
- Thursday, March 12: from 8:00am to 3:00pm
- Friday, March 13: from 8:30am to 12:00pm

Monday, March 9th, Pre-conference workshops

Morning coffee break: 10:00am-10:30am
Afternoon coffee break: 3:00pm-3:30pm
Lunch on your own

IQ2S2009: The 1st International Workshop on Information Quality and Quality of Service for Pervasive Computing

Session 1 - Information Quality

8:30am   - 10:00am   Chair: TBA

IQ1. "**A Letter Soup for the Quality of Information in Sensor Networks**," Chatschik Bisdikian, Joel Branch (IBM Corporation, USA), Kin K. Leung (Imperial College, UK), and Robert I. Young (Defence Science and Technology Lab, UK)

IQ2. "**Resource Constrained Particle Filtering for Real-time Multi-Target Tracking in Sensor Networks**," Lee-Ling Ong (National University of Singapore), Wendong Xiao, Chen-Khong Tham (Institute for Infocomm Research, Singapore), and Marcelo Ang (National University of Singapore)

IQ3. "**Improving Information Quality of Sensory Data through Asynchronous Sampling**," Jing Wang, Yonghe Liu, and Sajal Das (the University of Texas at Arlington, USA)

Session 2 – Communication and Network QoS

10:30am - 12:00pm   Chair: TBA

IQ4. "**A Bandwidth Management Approach for Quality of Service Support in Mobile Ad Hoc Networks**," Adnan Agbaria (IBM Haifa Research Lab, Israel)

IQ5. "**Implementation of a MAC Protocol for QoS Support in Wireless Sensor Networks**," Petcharat Suriyachai, Utz Roedig, and Andrew Scott (Lancaster University, UK)

IQ6. "**Online Algorithms for Maximizing Link Transmission Quality over a Jammed Wireless Channel**," Rajgopal Kannan, Shuangqing Wei, Costas Busch (Louisiana State University, USA), and Athanasios Vasilakos (University of Western MAcedonia, Greece)

IQ7. "**An Efficient Distributed Synchronization Method for TD/CDMA based Mobile Ad Hoc Networks**," Dhadesugoor Vaman, and Ashok Ashwin (Prairie View A&M University, USA)

Session 3 – Coverage and Data Reporting

1:30pm - 3:00pm   Chair: TBA

IQ8. "**Delaunay-triangulation based complete coverage in wireless sensor networks,**" Chinh T. Vu, and Yingshu Li (Georgia State University, USA)

IQ9. "**Optimal k-support Coverage Paths in Wireless Sensor Networks**," Shaojie Tang, Xufei Mao, and Xiang-Yang Li (Illinois Institute of Technology, USA)

IQ10. "**Cross-Layer Design for Adaptive Data Reporting in Wireless Sensor Networks**," Hyun Jung Choe (the University of Texas at Arlington, USA), Preetam Ghosh (University of Southern Mississippi, USA), and Sajal K. Das (the University of Texas at Arlington, USA)

Session 4 – Platform Development and Prototyping

3:30pm - 5:00pm   Chair: TBA

IQ11. "**OceanSense: A Practical Wireless Sensor Network on the Surface of the Sea**," Mingxing Jiang, Zhongwen Guo, Feng Hong, Yutao Ma, and Hanjiang Luo (Ocean University of China)

IQ12. "**QoS enabled mobility support**," Dario Gallucci (Politecnico di Torino, Italy), and Silvia Giordano (University of Applied Science (SUPSI), Switzerland)

IQ13. "**iMAP: Indirect Measurement of Air Pollution with Cellphones,**" Murat Demirbas, Carole Rudra, Atri Rudra, and Murat Ali Bayir (University at Buffalo, SUNY, USA)

PerWare 2009: IEEE Middleware Support for Pervasive Computing Workshop

Session 1 - Generic Middleware for Pervasive Comp. Environments

8:30am   - 10:00am   Chair: TBA

PW1. "**Extending the Event-Based Programming Model to support Sensor-Driven Ubiquitous Computing Applications**," Sean Reilly and Mads Haahr (20 min.)

PW2. "**Opening Pervasive Computing to the Masses Using the SEAP Middleware**," Seth Holloway, Drew Stovall, Christine Julien, and Jorge Lara-Garduno (20 min.)

PW3. "**The iBICOOP middleware: Enablers and Services for Emerging Pervasive Computing Environments**," Amel Bennaceur, Pushpendra Singh, Pierre-Guillaume Raverdy, and Valerie Issarny (20 min.)

PWD. **Discussion**s (30 min.)

Session 2 - Middleware for Management & Configuration of Pervasive Environments

10:30am   - 12:00pm   Chair: TBA

PW4. "**Generic Role Assignment: A Uniform Middleware Abstraction for Configuration of Pervasive Systems**," Muhammad Haroon, Pedro José Marrón, and Marcus Handte (20 min.)

PW5. "**Multi-Agent-Based Management System for Pervasive Collaborative Computing Environments**," Sangwoo Han, Wolfgang Prinz, and Jongwon Kim (20 min.)

PW6. "**A Middleware Service for Coordinated Adaptation of Communication Services in Groups of Devices**," Jordan Janeiro, Lopes da Silva, Markus Endler, and Thomas Springer (20 min.)

PWD. **Discussions** (30 min.)

Session 3 – Specialized Middleware

1:30pm   - 2:40pm   Chair: TBA

PW7. "**A High-Performance Remote Computing Platform**," Huifeng Shen, Yan Lu, Feng Wu, and Shipeng Li (20 min.)

PW8. "**A Generic Context Service for Ubiquitous Environments**," Holger Schmidt, Florian Flerlage, and Franz J. Hauck (20 min.)

PWD. **Discussions** (30 min.)

Session 3 – Panel Discussion

3:30pm   - 5:00pm   Chair: TBA

PerDev2009: The Second International Workshop on Power-Aware Pervasive Devices

Session 1 – Intelligent Pervasive Systems and Environments

1:30pm - 3:00pm   Chair: **Qiang Yang**

- PD1. "**Smart Devices for Smart Environments: Device-free Passive Detection in Real Environments**," May Moussa, and Moustafa Youssef (Nile University, Egypt)
- PD2. "**Ubiquitous Human Body Motion Capture using Micro-sensors**," Zhiqiang Zhang, Zheng Wu, Jiang Chen, and Jiankang Wu (Graduate University of Chinese Academy of Science, China)
- PD3. "**HAMERA: a Device for Hand Profile Construction in the Pervasive Environment**," Xun Luo, and Robert V. Kenyon (University of Illinois, USA)
- PD4. "**Efficient Utilization of Scratch-Pad Memory for Embedded Systems**," Wei Hu, Tianzhou Chen, and Jiangwei Huang (Zhejiang University, China)

Session 2 – Location & Context Aware Pervasive Devices and Applications

3:30pm - 5:00pm   Chair: **Moustafa Youssef**

- PD5. "**LoSeCo: Location-based Search Computing for Pervasive Device Augmentation**," Yiqiang Chen, Zhuo Sun, Juan Qi, Derek Hao Hu, and Qiang Yang (Institute of Computing Technology, Chinese Academy of Science, China)
- PD6. "**Speech as Feedback Modality for Smart Objects**," Clemens Lombriser, Andreas Bulling, Andreas Breitenmoser and Gerhard Tröster (ETH Zurich, Switzerland)
- PD7. "**HIPS: A Calibration-less Hybrid Indoor Positioning System Using Heterogeneous Sensors**," Vincent W. Zheng, Junhui Zhao, Yongcai Wang, and Qiang Yang (Hong Kong University of Science and Technology, Hong Kong)
- PD8. "**Aligning Activity Sequences for Continuous Tracking of Cellphone Users**," Driss Choujaa, and Naranker Dulay (Imperial College London, United Kingdom)

PerSeNS 2009: The 5th International Workshop on Sensor Networks and Systems for Pervasive Computing

Session 1 – Opening and Keynote Address

8:30am - 10:00am   Chair: TBA

- PSO. Opening Remarks
- PST. Invited Talk

Session 2 – Networking Protocols

10:30am - 12:00am   Chair: TBA

- PS1. "**HI: An Hybrid Adaptive Interleaved Communication Protocol for Reliable Data Transfer in WSNs with Mobile Sinks,**" Eleonora Borgia (IIT-CNR, IT); Giuseppe Anastasi (University of Pisa, IT); Marco Conti (IIT-CNR, IT), and Enrico Gregori (CNR-IIT, IT)

PS2. "**Look-ahead Geographic Routing for Sensor Networks,**" Jiaxi You (University of Rostock, DE), Dominik Lieckfeldt (University of Rostock, DE), Qi Han (Colorado School of Mines, US), Jakob Salzmann (University of Rostock, DE), and Dirk Timmermann (University of Rostock, DE)

PS3. "**Energy-Efficient Connected D-Hop Dominating Sets in Wireless Sensor Networks,**" Trac Nguyen (University of Texas at Dallas, US) and Dung Huynh (University of Texas at Dallas, US)

Session 3 – Event-based Algorithms

1:30pm - 3:00pm Chair: TBA

PS4. "**Event Ordering in Pervasive Sensor Networks,**" Lakshman Kaveti (Kansas State University, US), Sandeep Pulluri (Kansas State University, US), and Gurdip Singh (Kansas State University, US)

PS5. "**PSWare: a Publish/Subscribe Middleware Supporting Composite Event in Wireless Sensor Networks,**" Steven Lai (The Hong Kong Polytechnic University, HK)

PS6. "**EB-MAC: An Event Based Medium Access Control for Wireless Sensor Networks,**" Zaher Merhi (University of Louisiana at Lafayette, US), Mohamed Elgamel (University of Louisiana at Lafayette, US), and Magdy Bayoumi (University of Louisiana at Lafayette, US)

Session 4 – Security and QoS

3:30pm - 5:00 pm Chair: TBA

PS7. "**Towards Privacy-Sensitive Participatory Sensing,**" Brian Huang (University of New South Wales, AU), Salil Kanhere (University of New South Wales, AU), and Wen Hu (CSIRO, Australia, AU)

PS8. "**Distributed Detection of Replicas with Deployment Knowledge in Wireless Sensor Networks,**" Jun-Won Ho (The University of Texas at Arlington, US), Donggang Liu (University of Texas at Arlington, US), Matthew Wright (University of Texas at Arlington, US), and Sajal Das (The University of Texas at Arlington, US)

PS9. "**Quality-and Energy-Aware Data Compression by Aggregation in WSN Data Streams,**" Cinzia Cappiello (Politecnico di Milano, IT) and Fabio Schreiber (Politecnico di Milano, IT)

Tuesday, March 10th, PerCom Day-1

Opening Remarks

8:45am - 9:00am By PerCom Organizing Committee members

Keynote Lecture

9:00am - 10:00am "**Make IT Matter: The opportunities and responsibilities of pervasive computing research**,"
Gregory D. Abowd, School of Interactive Computing, Georgia Tech

Coffee/Tea break

10:00am - 10:30am   Coffee/Tea break

Session 1 – Pervasive Middleware Technologies

10:30am - 12:00pm   Chair: TBA

    1A1.. "**A Dynamic Platform for Runtime Adaptation**," Hubert Pham (MIT, USA); Justin Mazzola Paluska (MIT, USA); Umar Saif (MIT, USA); Christopher Stawarz (MIT, USA); Chris Terman (MIT, Algeria); Steve Ward (MIT, USA)

    1A2. "**Programmable Presence Virtualization for Next-Generation Context-Based Applications**," Arup Acharya (IBM Research, USA); Nilanjan Banerjee (IBM Research, India); Dipanjan Chakraborty (IBM Research, India); Koustuv Dasgupta (IBM India Research Laboratory, India); Archan Misra (Telcordia Technologies, USA); Shachi Sharma (IBM Research, India); Xiping Wang (IBM Research, USA); Charles Wright (IBM Research, USA)

    1A3. "**Distributed Policy Resolution Through Negotiation in Ubiquitous Computing Environments**," Venkatraman Ramakrishna (University of California, Los Angeles, USA); Peter Reiher (UCLA, USA); Leonard Kleinrock (University of California, Los Angeles, USA)

Lunch

12:00pm - 1:30pm   Lunch at the conference venue

Session 2A – Pervasive Applications and Systems (parallel)

1:30pm - 3:00pm   Chair: TBA

    2A1. "**TileTrack: Capacitive Human Tracking using Floor Tiles**," Miika Valtonen (Tampere University of Technology, Finland); Jaakko Mäentausta (Tampere University of Technology, Finland); Jukka Vanhala (Tampere University of Technology, Finland)

    2A2. "**NoShake: Content Stabilization for Shaking Screens of Mobile Devices,**" (concise contribution) Ahmad Rahmati (Rice University, USA); Clayton Shepard (Rice University, USA); Lin Zhong (Rice University, USA)

    2A3. "**A Mobile Product Recommendation System Interacting with Tagged Products**," (concise contribution) Felix von Reischach (ETH Zürich, Switzerland); Florian Michahelles (ETH Zurich, Switzerland); Dominique Guinard (ETH Zurich / SAP Research, Switzerland); Elgar Fleisch (ETH Zurich & University of St. Gallen (HSG), Switzerland)

    2A4. "**Talk to Me! On Interacting with Wireless Sensor Nodes**," (concise contribution) Matthias Gauger (University of Bonn, Germany); Olga Saukh (EMPA, Switzerland); Pedro Marron (University of Bonn and Fraunhofer IAIS, Germany)

Session 2B – Security for Pervasive Communications (parallel)

1:30pm - 3:00pm   Chair: TBA

    2B1. "**Caveat Emptor: A Comparative Study of Secure Device Pairing Methods**," Arun Kumar (Polytechnic University, USA); Nitesh Saxena (Polytechnic University,

USA); Gene Tsudik (University of CA, Irvine, USA); Ersin Uzun (University of California, Irvine, USA);

2B2. **"DTT: A Distributed Trust Toolkit for Pervasive Systems**," (concise contribution) Brent Lagesse (University of Texas at Arlington, USA); Mohan Kumar (The University of Texas at Arlington, USA); Justin Mazzola Paluska (MIT, USA); Matthew Wright (University of Texas at Arlington, USA)

2B3. **"RationalExposure: a Game Theoretical Approach to Optimize Identity Exposure in Pervasive Computing Environments**," (concise contribution) Feng Zhu (University of Alabama in Huntsville, USA); Wei Zhu (Intergraph Co., USA)

2B4. **"Securing Body Sensor Networks: Sensor Association and Key Management**," (concise contribution) Sye Loong Keoh (Philips Research, The Netherlands); Emil Lupu (Imperial College, United Kingdom); Morris Sloman (Imperial College London, United Kingdom)

Coffee/Tea break

3:00pm - 3:30pm   Coffee/Tea break

Demo and Work-in-Progress "Teaser Madness"

3:30pm - 4:00pm   Demo/WiP teasers Moderators: A. Passarella and D. Nicklas

Demo Session (parallel)

4:00pm - 6:30pm   Chair: **Andrea Passarella** (CNR, Italy)

D1. **"BitHoc: A content sharing application for Wireless Ad hoc Networks**," Amir KRIFA, Mohamed Karim SBAI, Chadi BARAKAT, Thierry TURLETTI (EPI Planete, INRIA, France)

D2. **"DiaSim: A Parameterized Simulator for Pervasive Computing Applications**," Wilfried Jouve, Julien Bruneau, Charles Consel (INRIA / LaBRI / ENSEIRB, Talence, France)

D3. **"RFID Based Localization for a Miniaturized Robotic Platform for Wireless Protocols Evaluation**," Vikram P. Munishwar, Shailendra Singh, Christopher Mitchell, Xiaoshuang Wang, Kartik Gopalan, Nael B. Abu-Ghazaleh (Computer Science, Binghamton University,State University of New York and S*ProCom2, The Cooper Union for the Advancement of Science and Art, USA)

D4. **"Human Tracking Using Electric Fields**," Miika Valtonen, Jukka Vanhala (Department of Electronics, Tampere University of Technology, Finland)

D5. **"iLamp: A Sensor-Enhanced Lamp with Surface-Tracking Capability Based on Light Intensity**," Lun-Wu Yeh, Che-Yen Lu, Yu-Hsuan Lin, Yu-Chee Tseng, Chien Chen, Chih-Wei Yi (Department of Computer Science, National Chiao Tung University, Taiwan)

D6. **"An Automatic User Study Demo in Indoor Environments and Its Privacy Implications**," Reza Farivar and Roy Campbell (University of Illinois at Urbana Champaign, USA)

D7. **"Model based Real-Time networked applications for Wireless Sensor Networks**," Christian Nastasi, Paolo Pagano, Mauro Marinoni, Giuseppe Lipari, Francesco Focacci, Paolo Gai, Simone Mannori, and Roberto Bucher (ReTiS lab

Scuola Superiore Sant'Anna (I), and Evidence (I) and The Scilab Consortium (DIGITEO) INRIA (F) and DTI-SUPSI (CH))

D8.   "**Multi-level Interoperability for Pervasive Communication Networks**," Raphael Zender, Enrico Dressler, Ulrike Lucke, and Djamshid Tavangarian (University of Rostock, Department of Computer Science, Chair of Computer Architecture, Germany)

D9.   "**What's up: P2P Spontaneous Social Networking**," Mehdi Mani, Anh-Minh Ngyuen and Noël Crespi (Institut TELECOM SudParis, France)

D10.   "**Proactive and Adaptive Fuzzy Profile Control for Mobile Phones**," Miika Valtonen, Antti-Matti Vainio, Jukka Vanhala (Department of Electronics, Tampere University of Technology, Finland)

D11.   "**Proximiter: Enabling Mobile Proximity-Based Content Sharing on Portable Devices,**" Bo Xing, Karim Seada, and Nalini Venkatasubramanian (School of Information and Computer Sciences, UCI and Nokia Research Center, Palo Alto, USA)

D12.   "**Social Mobile Augmented Reality for Retail**", Sinem Güven, Ohan Oda, Mark Podlaseck, Harry Stavropoulos, Sai Kolluri, Gopal Pingali (IBM T. J. Watson Research Center, USA)

D13.   "**WIS: A Well-being Index based Health Care System in Smart Home**," Jung Wook Park, Yoo Suk Jung, Hui Jung Park, Soon Dong Kim and We-Duke Cho (Center of Excellence for Ubiquitous System, Ajou University, Korea)

D14.   "**NoShake: Content Stabilization for Shaking Screens of Mobile Devices**," Ahmad Rahmati, Clayton Shepard, Lin Zhong (Department of Electrical and Computer Engineering, Rice University, USA)

Work-in-Progress Poster Session (parallel)

4:00pm   - 6:30pm   Chair: **Daniela Nicklas** (Carl von Ossietzky Universität, Germany)

W1.   "**Together we are strong – Towards Ad-Hoc Smart Spaces**," Andreas Brodt (IPVS, Universität Stuttgart), and Sailesh Sathish (Nokia Research Center)

W2.   "**Pervasive Smart Camera Networks exploiting heterogeneous wireless Channels**," Thomas Winkler (Pervasive Computing), and Bernhard Rinner (Klagenfurt University)

W3.   "**Making the World Wide Space Happen: New Challenges for the Nexus Context Platform**," Ralph Lange, Nazario Cipriani, Lars Geiger, Matthias Großmann, Harald Weinschrott Andreas Brodt, Matthias Wieland, Stamatia Rizou, and Kurt Rothermel (IPVS, Universität Stuttgart),

W4.   "**Event Driven Service Composition for Pervasive Computing**," Sourish Dasgupta, Satish Bhat, and Yugyung Lee (University of Missouri-Kansas City)

W5.   "**SmartShadow: Modeling A User-centric Mobile Virtual Space**," Li Zhang, Gang Pan, Zhaohui Wu, Shijian Li, Cho-li Wang, (Department of Computer Science, Zhejiang University)

W6.   "**Development of a Location-Aware Speech Control and Audio Feedback System**," Lasse Kaila, Jouni Hyvönen, Markus Ritala, Ville Mäkinen, and Jukka Vanhala (Tampere University of Technology)

W7. "**Towards Adaptive Resource-Driven Routing**," Angela Dalton (Johns Hopkins University Applied Physics Lab), and Christine Julien (The University of Texas at Austin)

W8. "**Video Ads Dissemination through WiFi-Cellular Hybrid Networks**," Hiroshi Hanano (Nara Institute of Science and Technology), Y Murata (Hiroshima City University), Naoki Shibata (Shiga University), Keiichi Yasumoto (Nara Institute of Science and Technology), and Minoru Ito (Nara Institute of Science and Technology)

W9. "**Swarm Robot Synchronization Using RFID Tags**," Giulio Zecca (INRIA), Paul Couderc (INRIA), Michel Banatre (IRISA, Rennes), and Roberto Beraldi ("Sapienza" Università di Roma)

W10. "**Asynchronous Probing Scheme for the Optimal Energy-Efficient Neighbor Discovery in Opportunistic Networks**," Dongmin Yang, Jongmin Shin, Jeonggyu Kim, and Chee-Ha Kim (POSTECH, Pohang University of Science and Technology)

W11. "**Continuum: A Service-Based Software Infrastructure for Ubiquitous Computing**," Cristiano Costa (Universidade do Vale do Rio dos Sinos), Felipe Kellermann (Universidade do Vale do Rio dos Sinos), Rodolfo Antunes (Universidade do Vale do Rio dos Sinos), Luciano Da Silva (Universidade Federal do Rio Grande do Sul), Adenauer Yamin (Catolics University of Pelotas), and Claudio Geyer (Universidade Federal do Rio Grande do Sul)

W12. "**P2P over MANET: Indirect Tree-based Routing,**" Marcello Caleffi (Università degli Studi di Napoli Federico II, Napoly), and Luigi Paura (Laboratorio Nazionale di Comunicazioni Multimediali, Napoly Italy)

Reception (parallel to Demo/WiP) (parallel)

4:30pm   - 6:30pm   Reception with drinks and hors d'oeuvre

Wednesday, March 11th, PerCom Day-2

Keynote Lecture

9:00am   - 10:00am   "**After Motes and Multihop: Mobile Phones and the Global Mobile Sensor Network,**"
Andrew Campbell, Dartmouth College

Coffee/Tea break

10:00am   - 10:30am   Coffee/Tea break

Session 3: Best papers

10:30am   - 12:00pm   Chair: **Chatschik Bisdikian**

3A1. "**TreeMAC: Localized TDMA MAC Protocol for Real-time High-data-rate Sensor Networks**," Wen-Zhan Song (Washington State University, USA); Renjie Huang (Washington State University, USA); Behrooz Shirazi (Washington State University, USA); Richard LaHusen (U.S. Geological Survey, USA)

3A2. "**Persistent Content-based Information Dissemination in Hybrid Vehicular Networks**," Ilias Leontiadis (University College London (UCL), United Kingdom); Paolo Costa (Microsoft Research, United Kingdom); Cecilia Mascolo (University of Cambridge, United Kingdom)

3A3. "**uWave: Accelerometer-based Personalized Gesture Recognition and Its Applications**," Jiayang Liu (Rice University, USA); Zhen Wang (Rice University, USA); Lin Zhong (Rice University, USA); Jehan Wickramasuriya (Motorola, Inc., USA); Venu Vasudevan (Motorola, Inc., USA)

Lunch

12:00pm - 1:30pm   Lunch with after lunch speaker
Speaker: Ty Znati (NSF Division Direcotr)

Session 4A – Context Awareness (parallel)

1:30pm   - 3:00pm   Chair: TBA

4A1. "**High Accuracy Context Recovery using Clustering Mechanisms**," Dinh Phung (Curtin University of Technology, Australia); Brett Adams (Curtin University of Technology, Australia); Kha Tran (Curtin University of Technology, Australia); Svetha Venkatesh (Curtin University of Technology, Australia); Mohan Kumar (The University of Texas at Arlington, USA)

4A2. "**Concurrent Event Detection for Asynchronous Consistency Checking of Pervasive Context**," Yu Huang (Nanjing University, P.R. China); Xiaoxing Ma (Nanjing University, P.R. China); Jiannong Cao (Hong Kong Polytechnic Univ, Hong Kong); Xianping Tao (Nanjing University, P.R. China); Jian Lu (Nanjing University, P.R. China)

4A3. "**Using Situation Lattices in Sensor Analysis**," Juan Ye (University College Dublin, Ireland); Lorcan Coyle (University College Dublin, Ireland); Simon Dobson (UCD Dublin, Ireland); Paddy nixon (University College Dublin (UCD), Ireland)

Session 4B – Mobile Sensor Application (parallel)

1:30pm   - 2:50pm   Chair: TBA

4B1. "**FollowMe! Mobile Team Coordination in Wireless Sensor and Actuator Networks**," Stephan Bosch (University of Twente, The Netherlands); Mihai Marin-Perianu (University of Twente, The Netherlands); Raluca Marin-Perianu (University of Twente, The Netherlands); Hans Scholten (University of Twente, The Netherlands); Paul Havinga (University of Twente, The Netherlands)

4B2. "**A Novel Communications Protocol Using Geographic Routing for Swarming UAVs Performing a Search Mission**," Robert E. Lidowski (Air Force Institute of Technology, USA); Barry E. Mullins (Air Force Institute of Technology, USA); Rusty O. Baldwin (Air Force Institute of Technology, USA);

4B3 "**A Policy-Based Management Architecture for Mobile Collaborative Teams**," (concise contribution) Eskindir Asmare (Imperial College London, United Kingdom); Anandha Gopalan (Imperial College London, United Kingdom); Morris Sloman (Imperial College London, United Kingdom); Naranker Dulay (Imperial College London, United Kingdom); Emil Lupu (Imperial College, United Kingdom)

Coffee/Tea break

3:00pm - 3:30pm Coffee/Tea break

PhD Forum "Teaser Madness"

3:30pm - 3:50pm **Moderator:** Scott Midkiff (NSF and Virginia Tech, USA)

PhD Forum Posters

3:50pm - 5:30pm Chair: **Scott Midkiff** (NSF and Virginia Tech, USA)

P1. "**Improving Packet Reception Performance in High Traffic Sensor Networks**," Hui Kang (Stony Brook University, USA)

P2. "**Towards an Open Ubiquitous Computing Environment**," Yong Liu (Indiana University, USA)

P3. "**Ubiquitous Human Motion Capture using Wearable Micro-sensors**," Zhiqiang Zhang (Graduate University of Chinese Academy of Sciences, China)

P4. "**Mobile Ad Hoc Networks: the DHT paradigm**," Marcello Caleffi (University of Naples "Federico II", Italy)

P5. "**Positioning for Herd Management**," Torben Godsk (Aarhus University, Denmark)

P6. "**Parasitic Tracking: Enabling Ubiquitous Tracking through Existing Infrastructure**," Manuel Huber (Technische Universität München, Germany)

P7. "**Efficient and Fault Tolerant Service Discovery in MANET using Quorum-based Selective Replication**," Vaskar Raychoudhury (The Hong Kong Polytechnic University, Hong Kong)

P8. "**SmarTV – A Multi-Person User's Behaviour Analysis and Program Recommendation System with iTV**," Aislan Foina (Sao Paulo University, Brazil)

P9. "**Pebbles and Urns: A Tangible, Presence-Based Messaging Service**," William Plymale (Virginia Tech, USA)

P10. "**Energy Optimized Fault Tolerance for Pervasive Communication Spaces**," Jens Kamenik (OFFIS - Oldenburg Research and Development Institute for Information Technology Tools and Systems, Germany)

P11. "**Quality-of-Inference Aware Context Determination**," Nirmalya Roy, University of Texas-Austin, USA

P12. "**A Logic-based Formalism for Pervasive Workflow**," Sourish Dasgupta (University of Missouri-Kansas City, USA)

P13. "**Exploiting Semantics for Event Detection Systems**," Ronen Vaisenberg (University of California, Irvine, USA)

P14. "**Zone-Based Trust Management in Sensor Networks**," Jun-Won Ho (University of Texas at Arlington, USA)

P15. "**Towards Shrink-Wrapped Security: A Taxonomy of Security-Relevant Context**," Gleneesha Johnson (University of Maryland, College Park, USA)

P16. "**Trust and Security in Dynamic Systems**," Brent Lagesse (University of Texas at Arlington, USA)

P17. "**Asynchronous Computing and Communication Architecture Toward Energy Efficient Wireless Sensor Networks**," Jing Wang (University of Texas at Arlington, USA)

P18. **"QoS-Aware Data Report Scheduling in Heterogeneous Wireless Sensor Networks**," Hyun Jung Choe (University of Texas at Arlington, USA)

P19. **"Multi-Event Handlers for Sensor-Driven Ubiquitous Computing Applications**," Sean Reilly, Trinity College Dublin, Ireland

Conference Banquet

6:30pm   - 10:00pm   Conference banquet and presentation of conference awards

Thursday, March 9th, PerCom Day-3

Panel Session

8:30am   - 10:00am   **Panel: "Pervasive Computing: Key Technologies and Adoption"**
Moderator: **Christian Becker** (Universität Mannheim)
Panelists: **Andrew Campbell** (Dartmouth College)
            Jiannong Cao (Hong Kong Polytechnic University)
            Florian Michahelles (ETH Zürich)
            Ty Znati (NSF)

Coffee/Tea break

10:00am   - 10:30am   Coffee/Tea break

Session 5 – Quality of Information

10:30am   - 12:00pm   Chair: TBA

     5A1.   **"REDFLAG: A Run-timE, Distributed, Flexible, Lightweight, And Generic Fault Detection Service for Data-Driven Wireless Sensor Applications**," Iñigo Urteaga (Colorado School of Mines, USA); Kevin Barnhart (Colorado School of Mines, USA); Qi Han (Colorado School of Mines, USA)

     5A2.   **"Remote Real-Time Trajectory Simplification**," Ralph Lange (Universitaet Stuttgart, Germany); Tobias Farrell (Universitaet Stuttgart, Germany); Frank Duerr (University of Stuttgart, Germany); Kurt Rothermel (University of Stuttgart, Germany, Germany)

     5A3.   **"Auction-Based congestion management for Target Tracking in Wireless Sensor Networks**," Lei Chen (Rensselaer Polytechnic Institute, USA); Boleslaw Szymanski (Rensselaer Polytechnic Institute, USA); Joel Branch (IBM Research, USA)

Lunch

   12:00pm- 1:30pm   Lunch at the conference venue

Session 6A – Pervasive Networking   (parallel)

1:30pm   - 3:00pm   Chair: TBA

6A1. "**Practical Rate Adaptation in Mobile Environments**," Xi Chen (Iowa State University, USA); Prateek Gangwal (Iowa State University, USA); Daji Qiao (Iowa State University, USA)

6A2. **IPv6 Lightweight Stateless Address Autoconfiguration for 6LoWPAN using Color Coordinators**," Hyojeong Shin (Yonsei University, Korea); Elmurod Talipov (Yonsei University, Korea); Hojung Cha (Yonsei University, S. Korea, Korea)

6A3. "**Searching for Content in Mobile DTNs**," Mikko Pitkanen (Helsinki Institute of Physics, Finland); Teemu Kärkkäinen (Helsinki University of Technology, Finland); Janico Greifenberg (Dampsoft GmbH, Germany); Joerg Ott (Helsinki University of Technology, Finland)

Session 6B – Pervasive Privacy (parallel)

1:30pm - 3:00pm Chair: TBA

6B1. "**Privacy-Preserving Event Detection in Pervasive Spaces**," Bijit Hore (University of California, Irvine, USA); Jehan Wickramasuriya (Motorola, Inc., USA); Sharad Mehrotra (University of California, Irvine, USA); Nalini Venkatasubramanian (University of California-Irvine, USA); Daniel Massaguer (University of California, Irvine, USA)

6B2. "**Randomizing RFID Private Authentication**," Qingsong Yao (Xi'an Jiaotong University, P.R. China); Yong Qi (Xi'an Jiaotong University, P.R. China); Jinsong Han (Hong Kong University of Science and Technology, Hong Kong); Jizhong Zhao (Xi'an Jiaotong University, P.R. China); Xiangyang Li (Illinois Institute of Technology, USA); Yunhao Liu (Hong Kong University of Science and Technology, Hong Kong);

6B3. "**A Distributed k-Anonymity Protocol for Location Privacy**," Ge Zhong (University of Waterloo, Canada); Urs Hengartner (University of Waterloo, Canada)

Coffee/Tea break

3:00pm - 3:30pm Coffee/Tea break

Session 7 – Topics in Sensor Based Solutions

3:30pm - 5:20pm Chair: TBA

7A1. "**Adaptive Linear Filtering Compression on Realtime Sensor Networks**," Aaron Kiely (Jet Propulsion Laboratory, USA); Mingsen Xu (Washington State University, USA); Wen-Zhan Song (Washington State University, USA); Renjie Huang (Washington State University, USA); Behrooz Shirazi (Washington State University, USA)

7A2. "**epSICAR: An Emerging Patterns based Approach to Sequential, Interleaved and Concurrent Activity Recognition**," Tao Gu (Institute for Infocomm Research, Singapore); Zhanqing Wu (Nanjing University, P.R. China); Xianping Tao (Nanjing University, P.R. China); Hung Keng Pung (National University of Singapore, Singapore); Jian Lu (Nanjing University, P.R. China)

7A3. "**Dynamic Clustering for Tracking Multiple Transceiver-free Objects**," (concise contribution) Dian Zhang (Hong Kong University of Science and Technology, Hong Kong); Lionel Ni (HKUST, Hong Kong)

Friday, March 9ᵗʰ, Post-conference workshops

Morning coffee break: 10:00am-10:30am
Afternoon coffee break: 3:00pm-3:30pm
Lunch on your own

PWN09: The 5th IEEE PerCom Workshop on Pervasive Wireless Networking

Session 1 - PHY Layer Issues in Wireless Networks

8:30am   - 10:00am   Chair: TBA

PN1.   "**Markov Chain Existence and Hidden Markov Models in Spectrum Sensing**," C. Ghosh, C. Cordeiro, D. P. Agrawal, and M. B. Rao C. Ghosh, C. Cordeiro, D. P. Agrawal and M. B. Rao (The University of Cincinnati, USA)

PN2.   "**Dynamic Hard Fractional Frequency Reuse for Mobile WiMAX**," Soumaya Hamouda, Choongil Yeh, Jihyung Kim, Shin Wooram, and Dong Seung Kwon, (Réseau Universitaire et de Recherche, Tunisia)

PN3.   "**Localizing Jammers in Wireless Networks**," Hongbo Liu, Wenyuan Xu, Yingying Chen and Zhenhua Liu (Stevens Institute of Technology, University of South Carolina, USA)

Session 2 - Localization Technologies

10:30am   - 12:00pm   Chair: TBA

PN4.   "**Reliable Ranging Technique based on Statistical RSSI Analyses for an Ad-Hoc Proximity Detection System,**" Keiichi Nakamura, Masato Kamio, Tetsushi Watanabe, Shinsuke Kobayashi, Noboru Koshizuka and Ken Sakamura (The University of Tokyo, Japan)

PN5.   "**HexNet: Hexagon-Based Localization Technique For Wireless Sensor Networks,**" Hady S. AbdelSalam, Stephan Olariu (Old Dominion University, Norfolk, USA)

PN6.   "**On the Accuracy of RFID-based Localization in a Mobile Wireless Network Testbed,**" Vikram Munishwar, Shailendra Singh, Xiaoshuang Wang, Christopher Mitchell, Kartik Gopalan and Nael Abu-Ghazaleh (State University of New York, USA)

Session 3 - Relaying and Routing in Wireless Networks

1:30pm   - 3:00pm   Chair: TBA

PN7.   "**An Energy-Aware Relay Selection Scheme for ALLIANCES**," Xinhua Yang and Tracy Camp, (Colorado School of Mines, USA)

PN8. "**A Formal Passive Testing Approach to test a MANET Routing Protocol**," Ana Cavalli, Stephane Maag, Edgardo Montes de Oca and Fatiha Zaidi, (TELECOM & Management SudParis, France)

PN9. "**Articulation Nodes Based Routing in Delay Tolerant Networks**," Li Ding, Bo Gu, Xiaoyan Hong, Brandon Dixon (The University of Alabama, USA)

Session 4 - Applications and Mobility in Wireless Networks

3:00pm - 5:00pm   Chair: TBA

PN10. "**An Empirical Analysis of Wi-Fi Activity in Three Urban Scenarios**," Thomas Claveirole, Mathias Boc and Marcelo Dias de Amorim (Réseaux et Performances, France)

PN11. "**Seamless VoWLAN Handoff Management Based on Estimation of AP Queue Length and Frame Retries**," Muhammad Niswar, Eigo Horiuchi, Shigeru Kashihara, Tsukamoto Kazuya, Youki KADOBAYASHI and Suguru Yamaguchi (Nara Institute of Science and Technology, Japan)

PN12. "**SRRP: Social Relation Aware Routing Protocol for Mobile Ad hoc Networks**," Jisun An, Yangwoo Ko, and Dongman Lee (Information and Communications University, Korea)

PerEL 2009: The 5th IEEE International Workshop on Pervasive Learning

Session 1 - Pervasive Learning in Higher Education

8:30am - 10:00am   Chair: **Djamshid Tavangarian**

PEW. "**Welcome and Introduction**," Djamshid Tavangarian (University of Rostock, Germany)

PE1. "**The concept of a Pervasive University: Technological Remarks**," Ulrike Lucke (University of Rostock, Germany)

PE2. "**Pervasive Media and Messaging Services for Immersive Learning Experiences**," Raphael Zender, Enrico Dressler, Ulrike Lucke, Djamshid Tavangarian (University of Rostock, Germany)

PED. **Discussion: Key Features of Pervasive Learning in Higher Education**

Session 2 - Pervasive Learning in Further Education

1:30pm - 3:00pm   Chair: TBA

PE3. "**Context Aware Education for Agriculture**," Richard Beckwith, Sharon Greenfield (Intel Research, USA)

PE4. "**Tracking and Annotation in Skills-Based Learning Environments**," Mark Weal, Danius Michaelides, Kevin Page, David De Roure, Mary Gobbi, Ellie Monger (University of Southampton, UK), Fernando Martinez (University of Nottingham, UK)

PED. **Discussion: Characteristics of Pervasive Learning in Further Education**

Session 3 - Pervasive Learning for Children

10:30am - 11:30am   Chair: TBA
- PE5. **"An Infrastructure for Interactive and Playful Learning in an Augmented Toy Environment,"** Steve Hinske (ETH Zurich, Switzerland), Marc Langheinrich (University of Lugano, Italy)
- PED. **Discussion: Lessons Learned from Pervasive Learning for Children**

Session 4 - Workshop Wrap Up

3:00pm - 5:00pm   Chair: TBA
- PED. **Discussion: A Roadmap to Pervasive Learning Environments**

CoMoRea'09: 6th Workshop on Context Modeling and Reasoning

Session 1 - Activity Recognition

8:30am - 10:00am   Chair: TBA
- CRO **Workshop Opening Remarks**, Daniela Nicklas (Carl von Ossietzky Universität Oldenburg)
- CR1. "Invited Talk: **Towards the combination of statistical and symbolic techniques for activity recognition,**" Daniele Riboni (University of Milan)
- CRD. **Discussions**

Session 2 – "The Challenge" – Context Modeling for Sal

10:30am - 12:00pm   Chair: TBA
- CR2. **"PerFlows for the Computers of the 21st Century,"** Stephan Urbanski, Eduard Huber (Taimos GmbH, Germany), Matthias Wieland, Frank Leymann (Universität Stuttgart, Germany), and Daniela Nicklas (Carl von Ossietzky Universität Oldenburg)
- CR3. **"Modelling Weiser's 'Sal' Scenario with CML,"** Jadwiga Indulska, and Ricky Robinson (NICTA, Queensland Research Laboratory, The University of Queensland, Australia)
- CRD. **Discussions**

Session 3 - Context Modeling and Reasoning

1:30pm - 3:00pm   Chair: TBA
- CR4. **"A Classification and Modeling of the Quality of Contextual Information in Smart Spaces,"** Hyun Lee, Jae Sung Choi, and Ramez Elmasri (The University of Texas at Arlington, USA)
- CR5. **"Context Inference of Users' Social Relationships and Distributed Policy Management,"** Alisa Devlic (Appear Networks and Royal Institute of Technology (KTH), Department of Communication Systems,Kista, Sweden), Roland Reichle, Michal Wagner (University of Kassel, Kassel, Germany), Manuele Kirsch Pinheiro (Centre de Recherche en Informatique, Université Paris 1–Panthéon Sorbonne, Paris, France), Yves Vanrompay, Yolande Berbers (Katholieke Universiteit Leuven,

Department of Computer Science, Leuven, Belgium), and Massimo Valla (Telecom Italia Lab, Torino, Italy)

CR6. "**Design and Optimization of Spatial Organizations for Context Exchange and Surveillance**," Ayis Ziotopoulos, and Gustavo de Veciana (University of Texas at Austin)

Session 4 - The Future of Context Modeling and Reasoning

3:00pm - 5:00pm   Chair: TBA
   CRD. **Invited talk and Discussions**

WPS2009: The 3rd International Workshop on Web and Pervasive Security

Session 1 -

8:30am - 10:00am   Chair: **Sheikh Iqbal Ahamed** (Marquette University, USA)
   WP1. "**An Efficient and Effective Key Predistribution Scheme for WSN using Keyed Hash Chain and Multipath Key Reinforcement**," Sajid Hussain, Md Shafayat Rahman, Laurence Yang
   WP2. "**An XML Based Access Control Methodology for Pervasive Computing**," Mohammad M Molla, Praveen Madiraju, Srilaxmi Malladi, Sheikh Iqbal Ahamed
   WP3. "**Defending Grid Web Services from XDoS Attacks by SOTA**," Ashley Chonka, Wanlei Zhou, Yang Xiang

Session 2 -

10:30am - 12:0pam   Chair: **Han-Chieh Chao** (National Ilan University, Taiwan)
   WP4. "**An Adaptive Initial Trust and Demand Aware Secure Resource Discovery (AID-SRD) Model for Pervasive Environments**," Md. Hoque, Farzana Rahman, Sheikh Ahamed
   WP5. "**Encryption Key Protection**," Thomas H. Morris
   WP6. "**RFID system with Allowers**," Przemyslaw Blaskiewicz, Zbigniew Golebiewski, Marek Klonowski, Krzysztof Majcher