

PerCom2008

The Sixth Annual IEEE International Conference on Pervasive Computing and Communications (PerCom2008)

PROGRAM

Sponsored by:

IEEE, IEEE Computer Society
IEEE Technical Committee on Parallel Processing
The University of Texas at Arlington
The HK University of Science and Technology
The Hong Kong Polytechnic University
The Croucher Foundation
The KC Wong Education Foundation
The Google Company
IBM Research
The US National Science Foundation
The Pervasive and mobile computing Journal (Elsevier)



PROGRAM OF PERCOM2008 AT A GLANCE

Monday March 17, 2008	
8:00 - 17:00	Registration
8:30 - 17:00	Five Parallel Pre-Conference Workshops: <p>PerSeNS 2008: The 4th International Workshop on Sensor Networks and Systems for Pervasive Computing</p> <p>CoMoRea 2008: 5th Workshop on Context Modeling and Reasoning</p> <p>PerDev 2008: The First International Workshop on Power-Aware Pervasive Devices</p> <p>PerEL 2008: The 4th IEEE International Workshop on Pervasive Learning</p> <p>WPS 2008: The 2nd International Workshop on Web and Pervasive Security</p>
10:00 - 10:30	Coffee/Tea
12:00 - 13:30	Lunch Break
15:30 - 16:00	Coffee/Tea
18:00	Reception

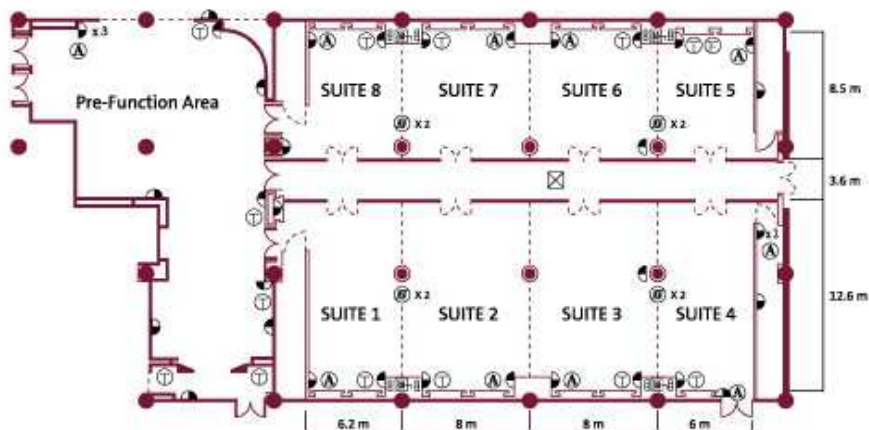
Tuesday March 18, 2008	
8:00 - 18:00	Registration
8:45 - 9:00	Opening Remarks
9:00 - 10:00	Keynote Lecture-1: Peter Steenkiste, CMU, USA "Making Computing and Communications Truly Pervasive"
10:00 - 10:30	Coffee/Tea
10:30 - 12:00	Conference Session-1: RFID
12:00 - 13:30	Lunch Break
13:30 - 15:00	Conference Session-2: Localization and its Applications
15:00 - 15:15	Coffee/Tea
15:15 - 16:35	Conference Session-3: Pervasive Networking Session
16:40 - 18:00	PhD Forum Sponsored by Google

Wednesday March 19, 2008	
8:30 - 15:00	Registration
9:00 - 10:00	Keynote Lecture-2: Jian Wang, Microsoft Research Asia Title: Computing Trends and Their Implication to Pervasive Computing
10:00 - 10:30	Coffee /Tea
10:30 - 12:00	Conference Session-4: Best Paper Candidates
12:00 - 13:30	Lunch Break
13:30 - 15:30	Conference Session-5: Applications of Pervasive Systems
15:30 - 16:00	Coffee/Tea
16:00 - 17:30	Panel "Pervasive Computing: Dream or Reality?" Moderator: Matt Mutka, Michigan State University, USA
18:30 - 22:00	Conference Banquet Venue: Hung Kee Seafood Restaurant Banquet (speech, musical performance, etc events).

Thursday March 20, 2007	
8:30 - 12:00	Registration
9:00 - 10:00	Conference Session-6: Context Aware Pervasive Systems
10:00 - 10:30	Coffee/Tea
10:00 - 13:00	Demonstration Session (Suites 5 – 8)
11:00 - 12:00	Work in Progress Session (Suites 1 -4)
12:00 - 13:30	Lunch Break
13:30 - 15:00	Conference Session-7: Software Engineering, Security, and Privacy
15:00 - 15:30	Coffee/Tea
15:30 - 17:00	Conference Session-8: Data Management and Wireless Networks
17:05 - 18:00	Town Hall Meeting and Conclusions

Friday March 21, 2007	
8:30 - 10:00	Registration
8:30 - 17:00	Five Parallel Post-Conference Workshops: <p>PerWare 2008: IEEE Middleware Support for Pervasive Computing Workshop</p> <p>PWN 2008: The 4th IEEE PerCom Workshop on Pervasive Wireless Networking</p> <p>MP2P 2008: The 5th IEEE International Workshop on Mobile Peer-to-Peer Computing</p> <p>PerCare 2008: First International Workshop on Pervasive Digital Healthcare</p> <p>ATPC 2008: The 1st IEEE Workshop on Agent Technologies for Pervasive Communities</p>
10:00 - 10:30	Coffee /Tea
12:00 - 13:30	Lunch Break
15:30 - 16:00	Coffee/Tea

Saturday March 22, 2007	
8:30 - 12:00	Half day tour: Ching Ma Bridge, The Peak, Stanley



THE FOUR SEASONS
四季廳

RENAISSANCE.
KOWLOON HOTEL
HONG KONG

KEYNOTE LECTURE

Making Computing and Communications Truly Pervasive

Speaker: Dr. Peter Steenkiste
Carnegie Mellon University, USA

Abstract:

The goal of pervasive computing is to make services that help users with diverse tasks available everywhere, all the time. This is an ambitious goal, given the diverse environments that users spend time in during a typical day. Probably in part because of this, many pervasive computing projects focus on a specific environment (e.g. office) or activity (e.g. tourist guide). In this talk I will discuss some research efforts that try to make pervasive computing and wireless networking "more" pervasive. The talk will have three parts. I will first present some results from the Aura project, which explored pervasive computing and networking in an office environment. Next, I will talk about our experience in moving some of the technologies to different environments. Finally, I will discuss how a wireless testbed based on signal propagation emulation can be used to evaluate wireless networking and pervasive computing technologies in a wide range of environments. Some of the work presented is joint research with David Garlan, Bradley Schmerl, and Srinu Seshan.

Speaker's Bio:

Dr. Peter Steenkiste is a Professor of Computer Science and of Electrical and Computer Engineering at Carnegie Mellon University. He received the degree of Electrical Engineer from the University of Gent in Belgium, and the MS and PhD degrees in Electrical Engineering from Stanford University. His research interests are in the areas of networking and distributed computing. Over the last 20 years, his research has addressed problems in high performance networking, cluster computing, network quality of service, and scalable network services. His current research is in the areas of pervasive computing and wireless networking. He is involved the Aura project on "distraction-free" computing. Aura is developing systems that self-optimized to best meet the user's intent. His work in wireless focuses on having wireless networks that self-optimize based on the communication environment and traffic load. He is also building a wireless testbed based on signal propagation emulation that supports wireless experiments that are fully repeatable and easy to control. More information on his research can be found at <http://www.cs.cmu.edu/~prs>

KEYNOTE LECTURE

Computing Trends and Their Implication for Pervasive Computing

Speaker: Jian Wang
Microsoft Research Asia

Abstract:

Computing industry is very competitive and has changed significantly over the years. The presentation will discuss computing trends in the area of data center, storage and user interface technologies. Today's data center is the computer with hundreds of thousands of processors and millions of hard disks. More importantly, the data center is becoming an integrated part of everyone's desktop computers, laptops and mobile phones through internet and PC has been completely redefined. The ability of large-scale data-centric computing has been changing the way people use and interact with future computing system in cloud.

Speaker's Bio:

Dr. Jian Wang is a principal researcher and assistant managing director at Microsoft Research Asia. His research interests are pen computing, multimodal user interface, seamless computing, large scale data processing and infrastructure and human cognition. Dr. Wang manages five research groups (multimodal user interface, interaction design, machine learning, media communication and data intelligence and tools) and Microsoft adCenter Lab Beijing.

Dr Jian Wang's recent effort is to research core technologies and build data infrastructure for large scale data-centric computing. These technologies have been used to develop MS Office 2007 and more recently also released as a tool for Vista and other Microsoft products. The group lead by Jian invented an inline input and correction user interface for Asian languages called modeless input user interface. The technology was shipped with Windows XP/Vista and Office XP/2007.

Digital ink technology from Jian's group has been shipped with first release of Tablet PC, OneNote 2003, Windows XP Tablet PC edition 2005 and Vista. The handwriting math equation recognizer has been shipped in July 2005. His work on digital pen can also be found at http://www.technologyreview.com/read_article.aspx?id=13570&ch=infotech

Before joining Microsoft in 1999, Dr. Jian Wang held the position of Professor, Department of Psychology at Zhejiang University, China. He received his Ph.D. in engineering psychology from Department of Psychology, Hangzhou University in 1990.

PANEL

Pervasive Computing: Dream or Reality

Moderator: Matt Mutka
Michigan State University, USA

Topic

Pervasive computing has been a hot research subject for over a decade now. However, the dream of pervasive computing does not seem to be realizable in the near future for practical applications. The panelists are going to debate around the following questions:

- Is pervasive computing just another dream?
- Are we going to experience some useful pervasive computing environments within the next five years?
- What are short term hurdles preventing useful pervasive computing applications from being realized?
- What are real challenges in making pervasive computing a reality?
- What are the “killer” pervasive applications you want to see?

Panelists

Anand Ranganathan, IBM Watson

Qian Zhang, Hong Kong University of Science and Technology

Yuanchun Shi, Tsinghua University

Daniela Nicklas, University of Stuttgart

Steve Ward, MIT

SCHEDULE FOR PERCOM 2008

Monday March 17, 2008

8:00 - 17:00 Registration

8:30 - 17:00 Five Parallel Pre-Conference Workshops

PerSeNS 2008: The 4th International Workshop on Sensor Networks and Systems for Pervasive Computing

CoMoRea 2008: 5th Workshop on Context Modeling and Reasoning

PerDev 2008: The First International Workshop on Power-Aware Pervasive Devices

PerEL 2008: The 4th IEEE International Workshop on Pervasive Learning

WPS 2008: The 2nd International Workshop on Web and Pervasive Security

Exploiting Environmental Properties for Wireless Localization and Location Aware Applications, Yingying Chen, Shu Chen, and Wade Trappe, *Stevens Institute of Technology, USA, Rutgers University/WINLAB, USA*

Location Fingerprint Analyses Toward Efficient Indoor Positioning, Nattapong Swangmuang, and Prashant Krishnamurthy, *University of Pittsburgh, USA*

Solving RSS Client Differences by Hyperbolic Location Fingerprinting (concise contribution), Mikkel Kjaergaard, and Carsten Munk, *University of Aarhus, Denmark*

An Off-line Algorithm to Estimate Trajectories of Mobile Nodes Using Ad-hoc Communication (concise contribution), Sae Fujii, Akira Uchiyama, Takaaki Umedu, Hirozumi Yamaguchi, and Teruo Higashino, *Osaka University, Japan*

15:00 - 15:15 Coffee/Tea break

15:15 - 16:35 Session-3: Pervasive Networking

Chair: *Gergely Záruba*

The University of Texas at Arlington, USA

ReMo: An Energy Efficient Reprogramming Protocol for Mobile Sensor Networks, Pradip De, Yonghe Liu, and Sajal K. Das, *The University of Texas at Arlington, USA*

IP Address Passing for VANETs, Todd Arnold, Wyatt Lloyd, Guohong Cao, and Jing Zhao, *Pennsylvania State University, USA*

On-demand Video Streaming in Mobile Opportunistic Networks, Hayoung Yoon, JongWon Kim, Feiselia Tan, and Robert Hsieh *Gwangju Institute of Science and Technology, Korea, NICTA, Australia, and Deutsche Telekom Labs, Germany*

16:40 - 18:00 PhD Forum

Chair: *Joesph Ng*

Hong Kong Baptist University

Tuesday March 18, 2008

8:00 - 18:00 Registration

8:45 - 9:00 Opening Remarks

9:00 - 10:00 Keynote Lecture-1

Making Computing and Communications Truly Pervasive, Peter Steenkiste, *Carnegie Mellon University, USA*

10:00 - 10:30 Coffee/Tea break

10:30 - 12:00 Session-1: RFID

Chair: *Daqing Zhang*

GET/INT France

Cardinality Estimation for Large-scale RFID Systems, Chen Qian, Hoi-Lun Ngan, and Yunhao Liu, *University of Science and Technology, Hong Kong*

Randomized Bit Encoding for Stronger Backward Channel Protection in RFID Systems, Tong Lee Lim, Tieyan Li, Sze Ling Yeo, *Institute for Infocomm Research, Singapore*

Providing Security and Privacy in RFID Systems Using Triggered Hash Chains, Dirk Henrici, and Paul Mueller, *University of Kaiserslautern, Germany*

12:00 - 13:30 Lunch

13:30 - 15:00 Session-2: Localization and its Applications

Chair: *Yunhao Liu*

Hong Kong Univ. of Science and Technology

Wednesday March 19, 2008

8:30 - 15:00 Registration

9:00 - 10:00 Keynote Lecture-2

Computing Trends and Their Implication on Pervasive Computing, Jian Wang, *Microsoft Research Asia*

10:00 - 10:30 Coffee/Tea break

10:30 - 12:00 Session-4: Best Paper Candidates

Chair: **Christian Becker**
Universität Mannheim, Germany

The Mark Weiser Best Paper Award is sponsored by the Elsevier's Pervasive and Mobile Computing Journal

Structured Decomposition of Adaptive Applications. Justin Mazzola Paluska, Hubert Pham, Umar Saif, Grace Chau, and Steve Ward, *Massachusetts Institute of Technology, USA*

Protecting Users' Anonymity in Pervasive Computing Environments, Linda Pareschi, Daniele Riboni, and Claudio Bettini, *University of Milan, Italy*

A Context Directed Search Facilitator for Home Entertainment Devices, Alan Messer, Anugeetha Kunjithapatham, Phuong Nguyen, Priyang Rathod, Mithun Sheshagiri, Doreen Cheng, and Simon Gibbs, *Samsung Information Systems/Electronics, USA*

12:00 - 13:30 Lunch

13:30 - 15:30 Session-5: Applications of Pervasive Systems

Chair: **Steve Ward**
Massachusetts Institute of Technology, USA

Efficient Retargeting of Generated Device User-Interfaces, Olufisayo Omojokun, and Prasun Dewan, *University of North Carolina, USA*

MyNet: a Platform for Secure P2P Personal and Social Networking Services, Zoe Antoniou, and Dimitris Kalofonos, *Nokia Corporation*

Speech "Siglet" Detection For Business Microscope (concise contribution), Jun Nishimura, Nobuo Sato, Tadahiro Kuroda, *Keio University, Japan*

An Approach Towards a Real-time Data Exchange Platform System Architecture (concise contribution), Francesco Calabrese, Carlo Ratti, and Bernd Resch, *Massachusetts Institute of Technology, USA*

15:30 - 16:00 Coffee/Tea Break

16:00 - 17:30 Panel: "Pervasive Computing: Dream or Reality?"

Chair: **Matt Mutka**
Michigan State University, USA

Panelists:

Anand Ranganathan, IBM Watson
Qian Zhang, Hong Kong University of Science and Technology
Yuanchun Shi, Tsinghua University
Daniela Nicklas, University of Stuttgart
Steve Ward, MIT

18:30 - 22:00 Conference Banquet

Banquet Speaker: TBD

Hung Kee Seafood Restaurant,
4-8, Sai Kung Hoi Pong Square,
Sai Kung, Kowloon New Territory
Attendees with banquet tickets have the choice to be transported for free from the hotel, or can meet the group at the restaurant. Busses will leave the conference site at around 6pm. Further instructions will be posted in the foyer.

Thursday March 20, 2007

8:30 - 12:00 Registration

9:00 - 10:00 Session-6: Context Aware Pervasive Systems

Chair: **Francis Lau**
Hong Kong University

An Autonomic Context Management System for Pervasive Computing, Peizhao Hu, Jadwiga Indulska, and Ricky Robinson, *University of Queensland, Australia, and NICTA, Australia*

Context-aware Battery Management for Mobile Phones, Nishkam Ravi, James Scott, and Liviu Iftode, *Rutgers University, USA*

10:00 - 10:30 Coffee/Tea Break

10:00 - 13:00 Demonstration Session

11:00 - 12:00 Work in Progress Session

Chair: TBA

Busy Tone Multi Channel (BTMC): A New Multi Channel MAC Protocol for Ad Hoc Networks, Mohamed Elhawary, and Zygmunt J. Haas, *Cornell University, USA*

Context Integration for Smart Workflows, Matthias Wieland, Peter Kaczmarczyk, and Daniela Nicklas, *Universität Stuttgart, Germany*

Estimating the Energy Consumption in Pervasive Java-Based Systems, Chiyong Seo, Sam Malek, and Nenad Medvidovic, *University of South California, USA*

HARMONI: Context-aware Filtering of Sensor Data for Continuous Remote Health Monitoring, Iqbal Mohamed, Archan Misra, Maria Ebling, and William Jerome, *University of Toronto, Canada, IBM TJ Watson Research, USA*

High-level Programming Support for Robust Pervasive Computing Applications, Wilfried Jouve, Julien Lancia, Nicolas Palix, Charles Consel, and Julia Lawall, *INRIA, France, DIKU, Denmark*

Improving Emergency Response to Mass Casualty Incidents, Marcus Lucas da Silva, Vassilis Kostakos, and Mitsuji Matsumoto, Waseda University, Japan, University of Bath, UK

Non-anchored Unified Naming for Ubiquitous Computing Environments, Yoo Chul Chung, and Dongman Lee, Information and Communications University, Korea

TIGRA: Timely Sensor Data Collection Using Distributed Graph Coloring, Lilia Paradis, and Qi Han, Colorado School of Mines, USA

12:00 - 13:30 Lunch

13:30 - 15:00 Session-7: Software Engineering, Security, and Privacy

Chair: **Sheik Iqbal Ahamed**
Marquette University, USA

Provably Correct Pervasive Computing Environments, Anand Ranganathan, and Roy Campbell, IBM TJ Watson Research Center, USA, and University of Illinois at Urbana Champaign, USA

Towards Robust Low Cost Authentication for Pervasive Devices, Erdinc Ozturk, Berk Sunar, and Ghaith Hammouri, Worcester Polytechnic Institute, USA

GP2S: Generic Privacy-Preservation Solutions for Approximate Aggregation of Sensor Data (concise contribution), Wensheng Zhang, Chuang Wang, and Taiming Feng, Iowa State University, USA

15:00 - 15:30 Coffee/Tea break

15:30 - 17:00 Session-8: Data Management and Wireless Network Session

Chair: **Daniela Nicklas**
Universität Stuttgart, Germany

Catch Me (If You Can): Data Survival in Unattended Sensor Networks, Roberto Di Pietro, Luigi Mancini, Claudio Soriente,

Angelo Spognardi, and Gene Tsudik, Università di Roma "La Sapienza", Italy, University of California, Irvine, USA

Data Quality and Query Cost in Wireless Sensor Networks, David Yates, Erich Nahum, James F. Kurose, and Prashant Shenoy, Bentley College, USA, IBM Research, USA, and University of Massachusetts at Amherst

MeshChord: A Location-Aware, Cross-Layer Specialization of Chord for Wireless Mesh Networks (concise contribution), Simone Burrelli, Claudia Canali, Maria Elena Renda, and Paolo Santi, Istituto di Informatica e Telematica - CNR, Italy, University of Pisa, Italy

17:05 - 18:00 Town Hall Meeting and Conclusions

Chair: **Mohan Kumar**
PerCom Steering Committee Chair
The University of Texas at Arlington, USA

Friday March 21, 2007

8:30 - 10:00 Registration

8:30 - 17:00 Five Parallel Post-Conference Workshops

PerWare 2008: IEEE Middleware Support for Pervasive Computing Workshop

PWN 2008: The 4th IEEE PerCom Workshop on Pervasive Wireless Networking

MP2P 2008: The 5th IEEE International Workshop on Mobile Peer-to-Peer Computing

PerCare 2008: First International Workshop on Pervasive Digital Healthcare

ATPC 2008: The 1st IEEE Workshop on Agent Technologies for Pervasive Communities

WORKSHOP SCHEDULES

Monday March 17, 2008

- 8:00 - 17:00 Registration
8:30 - 17:00 Five Parallel Pre-Conference Workshops
10:00 - 10:30 Coffee /Tea Break
12:00 - 13:30 Lunch
15:30 - 16:00 Coffee/Tea Break
18:00 - 20:00 Reception

PerSeNS 2008: The 4th International Workshop on Sensor Networks and Systems for Pervasive Computing

In Suite 2

- 8:30 Opening Remarks
9:00 - 10:00 Session-1: Networking architectures and protocols
Chair: Fabio A. Schreiber
Distributed Interactions with Wireless Sensors Using TinySIP for Hospital Automation, Sudha Krishnamurthy, and Lajos Lange, *Deutsche Telekom Laboratories, Germany*
Topology Formation in IEEE 802.15.4: Cluster-tree Characterization Middleware and Software Tools, Francesca Cuomo, Sara Della Luna, Emanuele Cipollone, Petia Todorova, and Tapio Suihko, *University of Rome La Sapienza, Fraunhofer FOKUS, Germany, Technical Research Centre of Finland*
10:00 - 10:30 Coffee Break
10:30 - 12:00 Session-2: Middleware and Software Tools
Chair: Mohan Kumar
WSN-PDL: a Data Language for Pervasive Systems, Fabio A. Schreiber, Romolo Camplani, Marco Fortunato, Marco Marelli, and Filippo Pacifici, *Politecnico di Milano, Italy*
Lightweight Sensor Network Management System Design, Fenghua Yuan, Wen-Zhan Song, Nina Peterson, Yang Peng, Lei Wang, and Behrooz Shirazi, *Washington State University, USA*
Information Agents for Pervasive Sensor Networks, Alex Rogers, Mike Osborne, Sarvapali D. Ramchurn, Stephen Roberts, and Nicholas R Jennings, *University of Southampton, UK, University of Oxford, UK*

- 12:00 - 13:30 Lunch
13:30 - 15:00 Session-3: Power Management, Modeling and Performance Evaluation

Chair: Behrooz Shirazi

Analysis of On-off policies in Sensor Networks using Interacting Markovian Agents, Marco Gribaudo, Davide Cerotti, and Andrea Bobbio, *Università di Torino, Italy, Università del Piemonte Orientale, Italy*

Budget-Based Clustering with Context-awareness for Sensor Networks, Jiaxi You, Dominik Lieckfeldt, Matthias Handy, and Dirk Timmermann, *University of Rostock, Germany*

Stability and Delay Analysis for Multi-Hop Single-Sink Wireless Sensor Networks, Muhammad Farukh Munir, Arzad Alam Kherani, and Fethi Filali, *Institut Eurécom, France, Indian Institute of Technology, India*

- 15:00 - 15:30 Coffee Break

- 15:30 - 16:30 Session-4: Algorithms for Localization and Security

Chair: Qi Han

An Algorithm for Distributed Beacon Selection, Dominik Lieckfeldt, Jiaxi You, and Dirk Timmermann, *University of Rostock, Germany*

A Group Key Management Scheme with Revocation and Loss-tolerance Capability for Wireless Sensor Networks, Linchun Li, Jianhua Li, Ping Yi, and Yue Wu

- 16:30 - 17:30 Invited Talk

Pervasive Security with Sensor Networks, Mohan Kumar, *The University of Texas at Arlington, USA*

CoMoRea 2008: 5th Workshop on Context Modeling and Reasoning

In Suite 3

- 8.30 - 10:00 Session-1: Contextual Ontologies and Privacy

Chair: Daniela Nicklas

Ontology and Context, Isabel Cafezeiro, and Edward Hermann Haeusler

Collision Avoidance in VANETs - An Application for Ontological Context Models, Robert Eigner, and Georg Lutz

Composition and Generalization of Context Data for Privacy Preservation, Linda Pareschi,

Daniele Riboni, Alessandra Agostini, and Claudio Bettini

10:00 - 10:30 Coffee Break

10:30 - 12:00 Session-2: Context Reasoning

Chair: Jadwiga Indulska

Peer-to-Peer Context Reasoning in Pervasive Computing Environments, Tao Gu

Adding High-level Reasoning to Efficient Low-level Context Management: a Hybrid Approach, Daniela Nicklas, Matthias Grossmann, Jorge Mínguez, and Matthias Wieland

12:00 - 13:30 Lunch

13:30 - 15:00 Session-3: Context Queries and Context Management

Chair: Daniele Riboni

Environment-Awareness: Quantitative Processing of Context Changes, Andreas Heil, and Martin Gaedke

A Context Query Language for Pervasive Computing Environments, Roland Reichle, Michael Wagner, Mohammad Ullah Khan, Kurt Geihs, Massimo Valla, Christina Fra, Nearchos Paspallis, and George Papadopoulos

Kinds of Contexts and their Impact on Semantic Similarity Measurement, Krzysztof Janowicz

PerDev 2008: The First International Workshop on Power-Aware Pervasive Devices

In Suite 6

8.30 - 10:00 Session-1: Power Aware Protocol and Mechanism

Chair: Qiang Yang

An Advanced Save-Energy Mechanism of Ad hoc Networks, Feng Zhen Xin, and Li Layuan, Wuhan University of Technology, China

PZSPTF: Parallelism-aware and Zone-based Shortest Positioning Time, Tianzhou Chen, Tiefei Zhang, Like Yan, and Ying Deng, Wuhan University of Technology, China

A Distributed Energy-Efficient Flow Protocol for Mobile Ad Hoc Wireless Networks, H.Y. Hu, and H. Hu, Zhejiang Gongshang University, China

10:00 - 10:30 Coffee break

10:30 - 12:00 Session-2: Power Aware Pervasive Devices

Chair: Lijuan Duan

WiFi-Based Power Aware Pervasive Device, Yiqiang Chen, Junfa Liu, Mingqing Hu, and Qingsheng Yuan, Institute of Computing Technology, Chinese Academy of Sciences

Power-Aware Code Restructuring for Embedded

Parallel Storing Device, Tianzhou Chen, Yan Like, Xinliang Wu, and Weihua Sheng, Yonsei University, South Korea

Establishing a Trusted Architecture on Pervasive Terminals for Securing Context Processing, Chen Li, Ye Zhang, and Lijuan Duan, Beijing University of Technology, China

12:00 - 13:30 Lunch

13:30 - 15:00 Session-3: Power Aware System and Applications of Pervasive Devices

Chair: Yiqiang Chen

Digital Wall: A Power-efficient Solution for Location-based Data Sharing, Jeffrey Junfeng Pan, Sinno Jialin Pan, Vincent Wenchen Zheng, Junhui Zhao, Yong Xia, and Qiang Yang, Hong Kong University of Science and Technology, Hongkong, China

A Power Management mechanism for Handheld Systems having a Multimedia Accelerator, Junho Ahn, Junghi Min, Hojung Cha, and Rhan Ha, Zhejiang University, China

PerEL 2008: The 4th IEEE International Workshop on Pervasive Learning

In Suite 8

10:30 - 12:00 Session-1

Chair: Rory McGreal

Welcome and introduction from the Program Chair, Djamshid Tavangarian, University of Rostock

Implementing Scenarios in a Smart Learning Environment, Christoph Burghardt, Christiane Reisse, Thomas Heider, Martin Giersich, and Thomas Kirste, University of Rostock

An Artifact-based Mobile Learning Environment, Christian Hoff, and Ulf Wehling, University of Luxembourg

12:00 - 13:30 Lunch

13:30 - 15:00 Session-2

Chair: Djamshid Tavangarian

An Infrastructure for Developing Pervasive Learning Environments, Sabine Graf, Kathryn MacCallum, Tzu-Chien Liu, Maiga Chang, Dunwei Wen, Qing Tan, Jon Dron, Fuhua Lin, Nian-Shing Chen, Rory McGreal, and Kinshuk, Vienna University of Technology, Massey University, National Central University Taiwan, Athabasca University

HyLearn: A Mobile Learning System for Hybrid Networks, Matthias Brust, Adrian Andronache, and Steffen Rothkugel, University of Luxembourg

Meta-Service Organization for a Pervasive University, Raphael Zender, Enrico Dressler, Ulrike Lucke, and Djamshid Tavangarian, *University of Rostock*

WPS 2008: The 2nd International Workshop on Web and Pervasive Security

In Suite 7

13:30 - 15:00 Session-1: Applications on Web and Pervasive Security

Chair: *Sheikh Iqbal Ahamed*

Detecting and Tracing DDoS Attacks by Intelligent Decision Prototype (IDP), Ashley Chonka, Wanlei Zhou, Yang Xiang, and Jaipal Singh

Entropy-Based Collaborative Detection of DDOS Attacks on Community Networks, Shui Yu, and Wanlei Zhou

A Key Distribution Scheme for Wireless Sensor Networks, Yong Ho Kim, Hwaseong Lee, and Dong Hoon Lee

A Risk-aware Trust Based Secure Resource Discovery (RTSRD) Model, Sheikh Ahamed

15:00 - 15:30 Coffee Break

15:30 - 16:30 Session-2: Theories on Web and Pervasive Security

Chair: *Shui Yu*

On the Automated Creation of Understandable Positive Security Models for Web Applications, Christian Bockermann, Ingo Mierswa, and Katharina Morik

Building an Open Toolkit of Digital Certificate Validation for Mobile Web Services, Florina Almenares, Andres Marin, Daniel Diaz, Alberto Cortes, Celeste Campo, and Carlos Garcia-Rubio

Extraction of Residual Information in the Microsoft PowerPoint file from the Viewpoint of Digital Forensics considering PerCom Environment, JungHeum Park, Bora Park, SangJin Lee, SeokHie Hong, and Jong Hyuk Park

Friday March 21, 2007

8:30 - 10:00 Registration

8:30 - 17:00 Five Parallel Post-Conference Workshops

10:00 - 10:30 Coffee /Tea Break

12:00 - 13:30 Lunch

15:30 - 16:00 Coffee/Tea Break

PerWare 2008: IEEE Middleware Support for Pervasive Computing Workshop

In Suite 3

8.30 - 10:00 Session-1: Middleware for Pervasive Computing Environments

Chair: *Anand Ranganathan*

Experiences in Designing an Energy-Aware Middleware for Pervasive Computing, Gregor Schiele Marcus Handte, and Christian Becker, *University of Mannheim, Germany, University of Bonn, Germany*

MAGIC Broker: A Middleware Toolkit for Interactive Public Displays, Aiman Erbad, Michael Blackstock, Adrian Friday, Rodger Lea, and Jalal Al-Muhtadi, *University of British Columbia, Lancaster University, King Saud University*

Middleware Services for Multimodal Interactions in Smart Environments, Antonio Coronato, and Giuseppe De Pietro, *ICAR-CNR, Italy*

10:00 - 10:30 Coffee break

10:30 - 12:00 Session-2: Middleware for Trust, Safety and Energy Management

Chair: *Gregor Schiele*

Enabling Deliberate Design for Energy Management in Pervasive Systems, Angela Dalton, Carla Ellis, and Christine Julien *University of Texas at Austin, Duke University*

Safety Enhancing Mechanisms for Pervasive Computing Systems in Intelligent Environments, Hen-I Yang, and Abdelsalam Helal, *University of Florida, Southern Methodist University, USA*

A Trust-based Middleware for Providing Security to Ad-Hoc Peer-to-Peer Applications, Florina Almenarez, Andres Marin, Daniel Diaz, Alberto Cortes, Celeste Campo, and Carlos Garcia-Rubio *University Carlos III of Madrid, Spain*

12:00 - 13:30 Lunch

13:30 - 15:00 Session-3: Middleware & Service Oriented Architectures

Chair: *Jalal Al-Muhtadi*

An Adapter Chaining Scheme for Service Continuity in Ubiquitous Environments with Adapter Evaluation, Byoungoh Kim, Kyungmin Lee, and Dongman Lee, *Information and Communications University*

Design of Software Architecture for Smart Meeting Space, Namgon Kim, Sangwoo Han, and JongWon Kim, *Gwangju Institute of Science and Technology*

A Survey of Current Directions in Service Placement in Mobile Ad-hoc Networks, Georg Wittenburg, and Jochen Schiller, *Freie Universität Berlin*

**PWN 2008: The 4th IEEE PerCom Workshop
on Pervasive Wireless Networking**

In Suite 4

**9:00 - 10:00 Session-1: Link/PHY Layer Issues in
Ad Hoc Networks**

*An Interference-aware and Power Efficient
Topology Control Algorithm for Wireless
Multi-hop Networks*, Huang Chuanhe, Cheng
Yong, Li Yuan, Shi Wenming, and Zhou Hao
Wuhan University, Hubei, China

*Performance Analysis of Dynamic Spectrum
Access Networks*, Zhong Fan, Toshiba Research
Europe, Bristol, UK

10:00 - 10:30 Coffee Break

**10:30 - 12:00 Session-2: Efficient Resource
Utilization in Mobile Networks**

Implementation of Flow Binding Mechanism,
Tanguy Ropitault, and Nicolas Montavont, ENST
Bretagne, France

*A MAC Layer Multicasting Approach for WiMAX
Access Networks*, Kyu Seol Lee, and Hee Yong
Youn, Sungkyunkwan University, Suwon, Korea

*Resource Optimization for 60 GHz Indoor
Networks Using Dynamic Extended Cell
Formation*, Bao Linh Dang, R. Venkatesha
Prasad, and Ignas Niemegeers, Delft University
of Technology, Delft, Netherlands

12:00 - 13:30 Lunch

**13:30 - 14:30 Session-3: Network Layer
Optimization in Mobile Environment**

*SGR: A Shared Generic Routing Support for Ad
hoc Ubiquitous Computing Environments*,
Yangwoo Ko, and Dongman Lee, Information
and Communications University, Daejeon, Korea

*An Approach to Load Balancing and Network
Longevity using Dynamic Adaptive Routing in
Wireless Sensor Network*, R. Sumathi, M. G.
Srinivasa, and R. Srinivasan, Visvesvaraya
Technological University, Karnataka, India

*Enabling Pervasiveness by Seamless Inter-domain
Handover: Performance Study of PANA
Pre-authentication*, Patryk Chamuczyński, Omar
Alfandi, Henrik Brosenne, Constantin Werner,
and Dieter Hogrefe, University of Göttingen
Lotzestrasse, Göttingen, Germany

**MP2P 2008: The 5th IEEE International
Workshop on Mobile Peer-to-Peer
Computing**

In Suite 1

8.30 - 10:00 Session-1

Chair: Li Li

Opening Remarks, Li Li, Communications
Research Center Canada, Canada

*Cooperative Caching in Wireless Ad Hoc
Networks*, Jiannong Cao, Hong Kong
Polytechnic University

*Mobile P2P Networks for Highly Dynamic
Environments*, Kei Takeshita, Masahiro Sasabe,
and Hirotaka Nakano, Osaka University

10:00 - 10:30 Coffee Break

10:30 - 12:00 Session-2

Chair: Kurt Tutschku

*An Architecture for Mobile P2P File Sharing in
Marine Domain*, Huafeng Wu, Chaojian Shi,
Haiguang Chen, Xi Zhou, and Chuanshan Gao,
Fudan University, China, Shanghai Maritime
University, China

*Evaluation of Peer-to-Peer Overlays for First
Response*, Dirk Bradler, Jussi Kangasharju, and
Max Mühlhäuser, Technische Universitaet
Darmstadt, Germany, University of Helsinki,
Finland

*Load Sharing and Bandwidth Control in Mobile
P2P Wireless Sensor Networks*, Elisa Rondini,
Stephen Hailes, and Li Li, University College
London, UK, Communications Research Center
Canada, Canada

12:00 - 13:30 Lunch

13:30 - 15:00 Session-3

Chair: John Buford

*EuroFGI: the European Network of Excellence
for the Design and the Engineering of the Next
Generation Internet - Efforts and Perspectives
for Ubiquitous Mobile P2P Services*, Kurt
Tutschku

*Prototyping a P2P SIP User Agent With Support
for Multiple Overlays*, Mosiuoa Tsietsi, Alfredo
Terzoli, and George Wells, Rhodes University,
South Africa

15:00 - 15:30 Coffee Break

15:30 - 17:30 Session-4

Chair: Kurt Tutschku

*P2PNS: A Secure Distributed Name Service for
P2PSIP*, Ingmar Baumgart, Universität
Karlsruhe, Germany

*A Novel Utility and Game-Theoretic Based Model
for Mobile P2P Systems*, Brent Lagesse, and
Mohan Kumar, The University of Texas at
Arlington, USA

*Distributed Video Adaptation and Streaming for
Heterogeneous Devices*, Razib Iqbal, Dewan
Tanvir Ahmed, and Shervin Shirmohammadi
Univeristy of Ottawa, Canada

A Scalable Approach for Application Layer

Multicast in P2P Networks, Amad Mourad, and Meddahi Ahmed, *GET/Telecom Lille 1, France*

17:30 **Closing Remarks**

PerCare 2008: First International Workshop on Pervasive Digital Healthcare

In Suite 2

8:30 - 10:00 **Session-1: Core Technology Support for Pervasive Digital Healthcare**

Chair: Wilfred W.K. Lin

Applying Dynamic Buffer Tuning to Help Pervasive Medical Consultation Succeed, Wilfred W.K. Lin, Jackei H.K. Wong, and Allan K.Y. Wong, *Hong Kong Polytechnic University, Hong Kong*

Optimal Routing in Sensor Networks for In-home Health Monitoring with Multifactor Considerations, Xiaoling Wu, Brian J. d'Auriol, Jinsung Cho, and Sungyoung Lee, *Kyung Hee University, Korea*

Enforcing Patient Privacy in Healthcare WSNs Using ECC Implemented on 802.15.4 Beacon Enabled Clusters, Jelena Mišić, *University of Manitoba Canada*

10:00 - 10:30 **Coffee Break**

10:30 - 12:00 **Session-2: Pervasive Digital Healthcare System Design**

Chair: Jelena Mišić

WAITER: A Novel Wearable Personal Healthcare and Emergency Aid System, Wanhong Wu, Jiannong Cao, and Yuan Zheng, *Hong Kong Polytechnic University, Hong Kong*

Wireless Networked Chinese Telemedicine System: Method and Apparatus for Remote Pulse Information Retrieval and Diagnosis, Shilong Lu, Rui Wang, Li Cui, Youhua Yu, and Zengyu Shan, *Institute of Computing Technology, Chinese Academy of Sciences, China*

Towards an Implementation of Smart Hospital: a Localization System for Mobile Users and Devices, Antonio Coronato, and Massimo Esposito, *ICAR - CNR Italian National Council of Research, Italy*

12:00 - 13:30 **Lunch**

13:30 - 15:00 **Session-3: Applications for Pervasive Digital Healthcare**

Chair: Daqing Zhang

Assisting Elders with Mild Dementia Staying at Home, Daqing Zhang, *Institut National des Télécommunications, France*

Pervasive Digital Monitoring and Transmission of Pre-Care Patient Biostatics with an OSGi, MOM and SOA Based Remote Health Care System, Ing-Yi Chen, and Chen-Hsin Tsai, *National Taipei University of Technology, Taiwan*

Wireless Patient Information Provision and Sharing at the Point of Care using a Virtual Organization Framework in Clinical Work, Mohyuddin, W.A.Gray, Hazel Bailey, and David Morrey, *Cardiff University, UK*

ATPC 2008: The 1st IEEE Workshop on Agent Technologies for Pervasive Communities

In Suite 8

8:30 - 10:00 **Session-1**

Chair: Yu (Cathy) Jiao

Spatial Distribution Patterns, Power Law, and the Agent-Based Directed Diffusion Sensor Networks, Zhanshan (Sam) Ma, and Axel Krings, *University of Idaho, USA*

Multiagent Place-Based Virtual Communities for Pervasive Computing, Tuan Nguyen, Seng Loke, Torab Torabi, and Hongen Lu, *Latrobe University, Australia*

A Flexible Protocol Composition for Multi-Party Coordination Protocols in Multi-Agent Systems, Ryuichi Takahashi, Kenji Tei, Fuyuki Ishikawa, Yoshiaki Fukazawa, and Shinichi Honiden, *Waseda University, Japan, National Institute of Informatics, Japan, The University of Tokyo, Japan*

10:30 - 11:30 **Session-2**

Chair: Helena Unger

Geographical Observation System based on P2P Agents, Yuuichi Teranishi, Hirokazu Tanaka, and Yoshimasa Ishi

Road Intersections as Pervasive Computing Environments: towards a Multiagent Real-Time Collision Warning System, Flora Dilys Salim, Licheng Cai, Maria Indrawan, and Seng Wai Loke

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