

PERCOM 2005
<http://www.percom.org>

Sheraton Kauai Resort, Kauai, Hawaii

March 8-12, 2005

Advance Program and Call for Participation

**IEEE International Conference on Pervasive Computing and Communications
(PerCom)**

**Sponsored by The IEEE Computer Society, The University of
Texas at Arlington, and the IEEE Technical Committee on
Computer Communications.**

**Cosponsored by the IEEE Technical Committee on Parallel
Processing and the IEEE Technical Committee on Distributed
Processing**

Industry Sponsors: NOKIA Corporation and IBM Research

IEEE PerCom 2005 will be the third annual conference on the emerging area of pervasive computing and communications aimed at providing an exciting platform and paradigm for all the time, everywhere services. PerCom 2005 will provide a high profile, leading edge forum for researchers and engineers alike to present their latest research in the field of pervasive computing and communications.

MAIN FEATURES

- * 31 Full Papers and 8 Concise Contributions
- * 2 Keynote speeches
- * 2 Panels
- * 7 Workshops
- * Demonstrations

ADVANCE PROGRAM

Tuesday March 8, 2005

8:00 AM – 12 Noon: **REGISTRATIONS**

8:30 AM – 5 PM: **3 Workshops**

- Pervasive Computing and Communications Security (PerSec '05)

<http://www.cl.cam.ac.uk/persec-2005/>

- Middleware Support for Pervasive Computing (PerWare '05)

<http://ciae.cs.uiuc.edu/perware/>

- Sensor Networks and Systems for Pervasive Computing (PerSeNS '05)

<http://www.ing.unipi.it/persens2005>

6:00 PM - 8:00 PM

IBM Session and Dinner for Students

CONFERENCE PROGRAM

Wednesday March 9, 2005

8:00 AM - 6:00 PM Registration

9:15 AM - 9:30 AM Opening Remarks

9:30 AM - 10:30 AM

Keynote Lecture 1

Beyond Global Communications: The Active World

Roy Campbell

University of Illinois at Urbana-Champaign

10:30 AM - 11:00 AM Coffee/Tea break

11:00 AM - 12:30 PM Parallel Sessions

Session 1: Applications and Programmability

Chair: Phil McKinley (Michigan State University)

* Olympus: A High-level Programming Model for Pervasive Computing Environment

Shiva Chetan, Anand Ranganathan, Jalal Al Muhtadi, Roy Campbell, M.

Dennis Mickunas

University of Illinois at Urbana-Champaign

* Efficient Browsing of Web Search Results on Mobile Devices Based on Block Importance Model

Xing Xie, Ruihua Song, Ji-Rong Wen, Wei-Ying Ma

Microsoft Research Asia

Gengxin Miao

Tsinghua University

* EZCab: A Cab Booking Application Using Short-Range Wireless Communications

Peng Zhou

University of Maryland, College Park,

*Tamer Nadeem, Porlin Kang, Cristian Borcea, Liviu Iftode
Rutgers University*

Session 2: Sensor Networks

Chair: Marco Conti, Istituto di Informatica e Telematica (IIT) Pisa, Italy

* Selection and Navigation of Mobile Sensor Nodes Using a Sensor Network

*Atul Verma, Hemjit Sawant, Jidong Tan
Michigan Technological University*

* Dynamic Coverage Maintenance Algorithms for Sensor Networks with Limited Mobility

*Archana Sekhar
McKinsey & Company Mumbai, India
B.S. Manoj, C. Siva Ram Murthy
Indian Institute of Technology Madras, India*

*TinyLIME: Bridging Mobile and Sensor Networks through Middleware

*Carlo Curino, Matteo Giani, Marco Giorgetta, Alessandro Giusti, Gian
Pietro Picco
Politecnico di Milano, Italy
Amy L. Murphy
University of Lugano, Switzerland*

12:30 PM - 2:00 PM Lunch

2:00 PM - 3:30 PM Parallel Sessions

Session 3: Location Management

Chair: Manuel Roman (NTT DoCoMo)

* A Bayesian Sampling Approach to In-door Localization of Wireless Device Using Received Signal Strength Indication

*Vinay Seshadri, Manfred Huber, Gergely Zaruba
The University of Texas at Arlington*

* Adaptive Temporal Radio Maps for Indoor Location Estimation

*Jie Yin, Qiang Yang, Lionel Ni
Hong Kong University of Science and Technology*

* Reducing Calibration Effort for Location Estimation Using Unlabeled Samples

*Xiaoyong Chai, Qiang Yang
Hong Kong University of Science and Technology*

Session 4: Energy Efficiency

Chair: Amy Murphy (UNISI, Switzerland)

* Distributed Low-Overhead Energy-efficient routing for sensory networks via topology management and path diversity

Athanassios Boulis
National ICT Australia

* A new energy efficient protocol for minimizing multi-hop latency in wireless sensor networks

M. Dhanaraj, B.S. Manoj, C.Siva Ram Murthy
Indian Institute of Technology, Madras, India

* Performance and energy efficiency of block ciphers in personal digital assistants

Creighton Hager, Thomas Martin, Scott Midkiff, Jung Min Park
Virginia Polytechnic Institute and State University

3:30 PM - 4:00 PM Coffee/Tea Break

4:30 PM - 7:30 PM Demonstrations and Reception

Thursday March 10, 2005

8:30 AM - 12:00 NOON Registration

9:00 AM - 10:00 AM TBD

10:00 AM - 10:30 AM Mark Weiser Best Paper Session

Chair: Klara Nahrstedt (University of Illinois, Urbana Champaign)

* Sizzle: A Standards-based End-to-End Security Architecture for the Embedded Internet

Vipul Gupta, Matthew Millard, Stephen Fung, Yu Zhu, Nils Gura,
Hans Eberle, and Sheueling Chang
Sun Microsystems Laboratories

10:30 AM - 11:00 AM Coffee/Tea break

11:00 AM - 12:30 PM Parallel Sessions

Session 5: Pervasive Devices

Chair: Jadwiga Indulska (Queensland University, Australia)

* Using Symbiotic Displays to View Sensitive Information in Public

Stefan Berger, Rick Kjeldsen, Claudio Pinhanez, Mark Podlaseck,
Chandra Narayanaswami, Mandayam Raghunath
IBM Research, T.J. Watson

* A Study on Users' Preference on Interruption When Using Wearable Computers and Head Mounted Displays

*Marcus Nilsson, Mikael Drugge, Urban Liljedahl, Kare Synnes,
Peter Parnes
Lulea University of Technology*

* Unleashing the power of wearable devices in a SIP infrastructure

*Arup Acharya, Stefan Berger, Chandra Narayanaswami
IBM T.J. Watson Research Center*

Session 6: Wireless Networks

Chair: Rajeev Shorey (IBM Research India)

* V3: A Vehicle-to-vehicle live streaming architecture

*Meng Guo, Mostafa Ammar, Ellen Zegura
Georgia Institute of Technology*

* SIP-based Mobility Architecture for Next Generation Wireless Networks

*Nilanjan Banerjee, Sajal Das
University of Texas at Arlington
Arup Acharya
IBM T.J. Watson Research Center*

* The Problem of Bluetooth Pollution and Accelerating Connectivity in Bluetooth Ad Hoc Network

*Somil Asthana
State University of New York
Dimitris N. Kalofonos
Nokia Research Center*

12:30 PM - 2:00 PM Lunch

2:00 PM - 3:30 PM Parallel Sessions

Session 7: Service Discovery

Chair: Daqing Zhang (Institute of Infocomm Research, Singapore)

* A Location Model for Pervasive Computing Environments

*Ichiro Satoh
National Institute of Informatics*

* Expose or Not? A Progressive Exposure Approach for Service Discovery in Pervasive Computing Environments

*Feng Zhu, Wei Zhu, Matt Mutka
Michigan State University*

Lionel Ni
Hong Kong University of Science and Technology

* Scalable Service Discovery for MANET
Francoise Sailhan, Valerie Issarny
Inria-Rocquencourt

Session 8: Security

Chair: Christian Becker, University of Stuttgart, Germany

* Secure Routing and Intrusion Detection in Ad Hoc Networks
Anand Patwardhan, Jim Parker, Anupam Joshi
University of Maryland, Baltimore County (UMBC)
Michaela Iorga, Tom Karygiannis
National Institute of Standards and Technology (NIST)

* Secure Context-sensitive Authorization
Kazuhiro Minami, David Kotz
Dartmouth College

* Exploiting Information Relationships for Access Control
Urs Hengartner, Peter Steenkiste
Carnegie Mellon University

3:30 PM - 4:00 PM Coffee/Tea Break

4:00 PM - 5:30 PM **Panel 1: Trustworthiness in Pervasive and Ubiquitous Environment**

Moderator: *Taieb Znati, University of Pittsburgh*

Panelists:

Fabio Martinelli, Istituto di Informatica e Telematica - IIT, Pisa, Italy

Mani Srivastava, University of California, Los Angeles

David Wagner, University of California, Berkeley

Sri Kumar, DARPA

6:30 PM - 10:00 PM Conference Banquet

Friday March 11, 2005

8:30 AM – 9:30 AM Keynote Lecture 2:
Pervasive Sensing and Computing
Srikanta (Sri) P. Kumar, DARPA

9:30 AM - 11:00 AM Parallel Sessions (Concise Contributions)

Session 9: Information Sharing & Applications

Chair: Liviu Iftode (Rutgers University)

* Policy-Driven Data Dissemination for Context-Aware Applications

Guanling Chen, David Kotz

Dartmouth College

* Anonymous Content Sharing in Ad Hoc Networks

Seung-Seok Kang, Matt W. Mutka, Li Xiao

Michigan State University

* Traditional Systems can Work Well for Pervasive Applications:

A Case Study: Plan 9 from Bell Labs becomes ubiquitous

Francisco Ballesteros, Gorka Guardiola, Enrique Soriano, Katia Leal

Universidad Rey Juan Carlos

* Applying a Disciplined Approach to the Development of a Context-Aware Communication Application

Ted McFadden, Karen Henriksen, Jadwiga Indulska, Peter Mascaro

The University of Queensland

Session 10: Middleware Services and Platforms

Chair: Roy Campbell (University of Illinois, Urbana-Champaign)

* Gaia Microserver: An Extendable Mobile Middleware Platform

Ellick Chan, Jim Bresler, Jalal Al-Muhtadi, Roy Campbell

University of Illinois at Urbana-Champaign

* Constraining Event Flow for Regulation in Pervasive Systems

Prashant S. Kumar, Qiang Zeng, Gurdip Singh

Kansas State University

* System Level Energy Optimization for Location Aware Computing

Hariharan Sankaran, Srinivas Katkoori, Umadevi Kailasam

University of South Florida

* Energy Analysis of Public-Key Cryptography on Small Wireless Devices

Arvinderpal S. Wander, Nils Gura, Hans Eberle, Vipul Gupta, Sheueling Chang Shantz

Sun Microsystems Laboratories

11:00 AM - 11:30 AM Coffee/Tea Break

11:30 AM - 1:00 PM Parallel Sessions

Session 11: Context & System Support

Chair: Ichiro Satoh (National Institute of Informatics, Japan)

* Efficiently Managing Context Information for Large-scale Scenarios
*Matthias Grossmann, Martin Bauer, Nicola Honle, Uwe-Philipp Kappeler,
Daniela Nicklas, Thomas Schwarz
University of Stuttgart*

* PICASSO: Pervasive Information Chronicling, Access, Search and Sharing for organizations
*Sinem Guven
Columbia University
Mark Podlaseck, Gopal Pingali
IBM T. J. Watson Research Center*

* Managing Adaptive Versatile Environments
*Michael Youngblood, Diane Cook, Larry Holder
The University of Texas at Arlington*

Session 12: Mobile Services and Protocols

Chair: Matt Mutka (Michigan State University)

* Affinity-Based Power Saving MAC Protocol in Ad Hoc Network
*Jung Hyon Jun, Saewoong Bahk
Seoul National University*

* A dynamic lightweight Architecture for Ad hoc Infrastructures
*Andreas Frei, Gustavo Alonso
Swiss Federal Institute of Technology Zurich*

* Accessing Ubiquitous Services Using Smart Phones
*Nishkam Ravi, Peter Stern, Niket Desai, Liviu Iftode
Rutgers University*

1:00 PM - 2:00 PM Lunch

2:00 PM - 3:30 PM **Panel 2: On the Challenges and Opportunities of Pervasive and Ubiquitous Computing in Health Care**

Moderator: Taieb Znati, University of Pittsburgh

Panelists:

Kathy J. Liszka, The University of Akron

Jay Lundell, Intel Corporation

Loren Schwiebert, Wayne State University

TBD

3:30 PM - 4:00 PM Coffee/Tea Break

Saturday March 12, 2005

8:00 Am – 12 Noon: **REGISTRATIONS**
8:30 AM - 5 PM: **4 WORKSHOPS**

- Context Modeling and Reasoning (CoMoRea '05)
<http://nexus.informatik.uni-stuttgart.de/COMOREA/>

- Mobile Peer-to-Peer Computing (MP2P '05)
<http://www.cs.unc.edu/mp2p/>

- Pervasive Wireless Networking (PWN '05)
<http://www.eecs.orst.edu/~benl/PWN05>

- Pervasive eLearning (PerEL '05)
<http://wwwra.informatik.uni-rostock.de/perel2005>

IMPORTANT DATES

Early Registration: February 15, 2005

Conference: March 8-12, 2004
