

WICON 2005 Technical Program

Sunday July 10

Tutorial 1: Cross-layer models and design techniques for wireless networks

Half day (morning)

Speaker: Prof. Leandros Tassiulas, University of Thessaly, Greece; Research Professor, University of Maryland at College Park, USA

Tutorial 2: IP-Oriented QoS in the Next Generation Networks: application to wireless networks

Half day (morning)

Speaker: Prof. Pascal Lorenz, University of Haute Alsace, France

Tutorial 3: Wireless Networks for Communication, Sensing and Control: Theory, Protocols and Architecture

Half-day (afternoon)

Speaker: Prof. P. R. Kumar, ECE Department, UIUC, USA

Tutorial 4: Topology control in Wireless Ad Hoc Networks

Half day (afternoon)

Speaker: Dr. Paolo Santi, Istituto di Informatica e Telematica del CNR, Italy.

Tutorial 5: IP Mobility Support in a Mobile Internet

Full-day

Speaker: Dr. Rajeev Koodli, Principal Scientist, Nokia Research Center, USA

Monday July 11

8:30 Welcome from the General Chairs

8:45 Keynote Speech

Architecture and protocols in wireless networking

P.R. Kumar, University of Illinois at Urbana Champaign

10:00 Coffee Break

10:30 Session 1. Wireless MAC Protocols

Chair: Imre Sandor, BUTE, Hungary

- *A comparison of HTB based Channel-Aware Schedulers for 802.11 systems*
Rosario Garroppo (University of Pisa, IT), Stefano Giordano (University of Pisa, IT), Stefano Lucetti (University of Pisa, IT), Giuseppe Risi (Dept. of Information Eng. - University of PISA, IT)
- *WiFi does not imply 802.11 standard compliancy: experimental results*
Antonio Di Stefano (University of Palermo, IT), Alessandro Scaglione (University of Palermo, IT), Giovanni Terrazzino (University of Palermo, IT), Ilenia Tinnirello (University of Palermo, IT), Vito Ammirata (University of Palermo, IT), Luca Scalia (University of Palermo, IT)

- *SHUSH: Reactive Transmit Power Control For Wireless MAC Protocols*
Anmol Sheth (University of Colorado, US), Richard Han (University of Colorado, US)
- *Grouping Strategy for Solving Hidden Node Problem in IEEE 802.15.4 LR-WPAN*
Shiann-Tsong Sheu (Tamkang University, TW), Yun-Yen Shih (Tamkang University, TW), Yen-Chieh Cheng (National Central University, TW)

12:00 Lunch

1:30 Session 2. Unicast and Multicast Routing in Wireless Ad Hoc Networks
Chair: Hsung-Ping Chang, National Chun Hsing University, Taiwan

- *Issues in Wardrop routing in wireless networks*
Vivek Raghunathan (University of Illinois, Urbana-Champaign, US), P. R. Kumar (University of Illinois at Urbana-Champaign, US)
- *Optimized Multicast based on Multipoint Relaying*
Song Yean Cho (Samsung electronics, KR), Cedric Adjih (INRIA, FR)
- *A Cross-Layer Optimization Framework for Multicast Multi-hop Wireless Networks*
Jun Yuan (University of Toronto, CA), Zongpeng Li (University of Toronto, CA), Wei Yu (University of Toronto, CA), Baochun Li (University of Toronto, CA)

3:00 Coffee Break

- 3:15 Panel: Research Challenges in Wireless Internets**
Organizer: Renato Lo Cigno (University of Trento, Italy)
- **Giuseppe Bianchi, University of Roma II, Italy**
 - **Jon Crowcroft, University of Cambridge, U.K.**
 - **Mario Gerla, UCLA, US**
 - **David Yau, Purdue University, US**

Tuesday July 12

8:30 Session 3. Handovers and Mobility Management
Chair: Jon Crowcroft, Univ. of Cambridge, UK

- *A Seamless Handoff Approach of Mobile IP Based on Dual-Link*
Min Tan (Beijing University of Aeronautics and Astronautics, CN)
- *Seamless Vertical Handoff in Overlay Networks*
Hsung-Pin Chang (National Chung Hsing University, TW)
- *Interworking of Cellular Networks and Hotspot Wireless LANs via Integrated Accounting System*
Toni Janevski (University "Sv. Kiril i Metodij", MK)
- *The Mold Mobility Model for Mobile Wireless Networks*

Shih-Tsung Liang (Taipei Municipal Teachers College, TW), Wei-Hsueh Sheng (Da-Yeh University, TW)

10:00 Coffee Break

10:30 Panel: Industry Challenges in Wireless Internets

Organizer: Pap Laszlo (BUTE, Budapest, Hungary)

12:00 Lunch

1:30 Session 4. *Security and Vulnerability in WLANs*

Chair: David Yau, Purdue University, USA

- *A Distributed Vulnerability Detection System for WLANs*
Guiomar Corral (Ramon Llull University, ES), Xavier Cadenas (Ramon Llull University, ES), Agustin Zaballos (Enginyeria La Salle - Universitat Ramon Llull, ES), M.Teres Cadenas (Ramon Llull University, ES)

2:15 Session 5. *Performance Issues in Wireless Networks*

Chair: Fabrizio Granelli, Univ. of Trento, Italy

- *An Opportunistic Scheduler To Balance Performance Measures and Energy Consumption in Wireless Networks: Design and Implementation*
Yu Dong (Purdue University, US), David K. Y. Yau (Purdue University, US), John Lui (Chinese University of Hong Kong, HK)
- *Proposal of a Base Station Diversity Technique based on TCP performance*
Katsuhiro Naito (Mie Univ., JP), Kazuo Mori (Mie Univ., JP), Hideo Kobayashi (Mie Univ., JP)

3:00 Coffee Break

3:15 Session 6. *Wireless Sensor Networks*

Chair: Pratik Biswas, Penn State University, USA

- *Efficient Deployment Algorithms for Ensuring Coverage and Connectivity of Wireless Sensor Networks*
You-Chiun Wang (National Chiao-Tung University Taiwan, TW), Chun-Chi Hu (National Chiao Tung University, TW), Yu-Chee Tseng (National Chiao-Tung University, TW)
- *A Scalable Correlation Aware Aggregation Strategy for Wireless Sensor Networks*
Yujie Zhu (Georgia Institute of Technology, US), Ramanuja Vedantham (Georgia Tech, US), Seung-Jong Park (Louisiana State University, US), Raghupathy Sivakumar (Georgia Institute of Technology, US)
- *An Energy Efficient Wakeup Scheduling for Maximizing Lifetime of IEEE 802.15.4 networks*
Diba Mirza (University of California, San Diego, US), Maryam Owrang (University of California, San Diego, US), Curt Schurgers (University of California, San Diego, US)
- *Optimal Data Delivery in Wireless Sensor Networks in the Energy and Latency Domains*
Marco Borghini (University of Rome, IT), Francesca Cuomo (University of Rome La

Sapienza, IT), Tommaso Melodia (Georgia Institute of Technology, US), Ugo Monaco (University of Rome "La Sapienza", IT), Fabio Ricciato (Telecommunications Research Center Vienna, AT)

Wednesday July 13

8:30 Session 7. Congestion Control and QoS Support in Wireless Ad-Hoc Networks
Chair: Srinivasan Keshav, University of Waterloo, Canada

- *Transmission of VoIP Traffic in Multihop Ad Hoc IEEE 802.11b Networks: Experimental Results*
Sergio Armenia (University of Catania, IT), Laura Galluccio (University of Catania, IT), Alessandro Leonardi (University of Catania, IT), Sergio Palazzo (University of Catania, IT)
- *AdHoc Probe: Path Capacity Probing in Wireless Ad Hoc Networks*
Ling-Jyh Chen (UCLA, US), Tony Sun (UCLA, US), Guang Yang (University of California, Los Angeles, US), M.Y. Sanadidi (University of California, Los Angeles, US), Mario Gerla (University of California at Los Angeles, US)
- *Cross-Layer Congestion Control in Multi-hop Wireless Local Area Networks*
Dzmitry Kliazovich (University of Trento, IT), Fabrizio Granelli (University of Trento, IT)
- *TCP-ELN: On the Protocol Aspects and Performance of Explicit Loss Notification for TCP over Wireless Networks*
Gergo Buchholz (Budapest University of Technology and Economics, HU), Thomas Ziegler (Telecommunications Research Center Vienna, AT), Tien Van Do (Budapest University of Technology and Economics, HU)

10:00 Coffee Break

10:30 Session 8. Next Generation Wireless Services and Networks
Chair: Mario Gerla, UCLA, USA

- *Evaluation of MPEG-4 Video Streaming over UMTS/WCDMA Dedicated Channels*
Anthony Lo (Delft University of Technology, NL)
- *Large-Scale RTT Measurements from an Operational UMTS/GPRS Network*
Francesco Vacirca (Telecommunications Research Center Vienna, AT), Fabio Ricciato (Telecommunications Research Center Vienna, AT), RenePilz (Telecommunications Research Center Vienna, AT)
- *Multimedia Messaging Service: System Description and Performance Analysis*
Majid Ghaderi (University of Waterloo, CA), Srinivasan Keshav (University of Waterloo, CA)
- *Twin-Object Platform: a Generic Proxy-based System for Communication Customization in Mobile Computing*
Tzu-Chi Huang (National Cheng Kung University, TW), Ce-Kuen Shieh (National Cheng Kung University, TW), Yu-Ben Miao (Industrial Technology Research Institute, TW)