

The Second International Workshop on Wireless Network Algorithm and Theory (*WiNA* 2009)

Message from the Workshop Chairs

We would like to welcome everyone to The Second International Workshop on Wireless Network Algorithm and Theory (*WiNA* 2009), held on October 12 in Macau in conjunction with IEEE MASS 2009.

The Second International Workshop on Wireless Networks Algorithm and Theory (*WiNA*-09), as an international workshop, is devoted to deeper understanding in the algorithms and fundamental problems of wireless networks including mobile ad hoc networks, wireless sensor networks, vehicular ad hoc networks, underwater sensor networks, and all kinds of wireless networks. The workshop is intended to encourage cooperation among researchers in wireless networking algorithms, and push the theoretical and practical research forward for a deeper understanding in the fundamental algorithm, modeling theory, and analysis techniques of wireless networks.

In response to the call-for-papers, this second edition of the workshop received 27 submissions, coming from different countries all around the globe. The program committee selected 13 papers for presentation at the workshop, putting together a very strong program while allowing a fair amount of time for presentation and discussions. We believe that accepted papers provide a good balance of the application of algorithms and theory to different networking problems like vehicular communications, routing, tracking and publish/subscribe services.

The program committee consisted of 50 experts covering many of the different aspects of wireless networks. Each paper was carefully reviewed by at least three program committee members. Most submissions received three to four reviews, which were all collected electronically, and carefully revised by both program co-chairs. All the communication between chairs and TPC members were performed using EDAS, which made the program selection process very efficient.

We appreciate the outstanding work performed by our TPC members, as well as the continuous support from IEEE MASS 2009 organizers and committees for their help in dealing with final papers, copyright forms, workshop registrations, etc.

We hope you enjoy the workshop.

Xiang-Yang Li, Illinois Institute of Technology, USA, *James Chang Wu Yu*, Chung Hua University, Taiwan

WiNA 2009

Workshop Organization

Workshop Chairs

Prof. Xiang-Yang Li, Illinois Institute of Technology, USA
Prof. James Chang Wu Yu, Chung Hua University, Taiwan

Program Committee

Lin Cai, University of Victoria, Canada
Zhipeng Cai, University of Alberta, Canada
Chih-Yung Chang, Tamkang University, Taiwan
Yusun Chang, Georgia Institute of Technology, USA
GuiHai Chen, NanJing University, China
Min Chen, University of British Columbia, Canada
Yuh-Shyan Chen, National Taipei University, Taiwan
Rei-Heng Cheng, Hsuan Chuang University, Taiwan
Maggie X. Cheng, Missouri University of Science and Technology, USA
Kuang-Hui Chi, National Yunlin University, Taiwan
Naveen Chilamkurti, La Trobe University, Australia
Jacques Demerjian, Communication & Systems, France
Stephan Eidenbenz, LANL, USA
Song Guo, University of Aizu, Japan
ZhongWen Guoa, China Ocean University, China
Feng Hong, China Ocean University, China
Santosh Kumar, University of Memphis, USA
Fan Li, Beijing Institute of Tech, China
Fei Li, George Mason University, USA
MinMing Li, HongKong City University, Hong Kong
Qun Li, College of William and Mary, USA
Xu Li, University of Ottawa, Canada
Zongpeng Li, University of Calgary, Canada
Benyuan Liu, Umass Lowell, USA
Chuan-Ming Liu, National Taipei University of Technology, Taiwan
Wei Lou, The Hong Kong Polytechnic University, Hong Kong
Kami Makki, Lamar University, USA
Manki Min, South Dakota State University, USA
Petar Popovski, Aalborg University, Denmark
Yong Qi, Xi'An JiaoTong University, China
Kui Ren, Illinois Institute of Technology, USA
Stefan Ruehrup, University of Freiburg, Germany
Yi Shi, Virginia Tech, USA
Min Song, Old Dominion University, USA
Kun Tan, Microsoft Research Asia, China
My T. Thai, University of Florida, USA
Yu-Chee Tseng, National Chiao-Tung University, Taiwan
Natalija Vljajic, York University, Canada

Binod Vaidya, University of Beira Interior, Portugal
Xinbing Wang, ShangHai JiaoTong University, China
Weichao Wang, University of North Carolina at Charlotte, USA
Yu Wang, University of North Carolina at Charlotte, USA
Lin-Chuan Wu, Chung Hua University, Taiwan
Tung-Kuang Wu, National Changhua University of Education, Taiwan
Guoliang Xing, Michigan State University, USA
Wenyen Weng, Chung Hua University, Taiwan
Xinqing Yan, Huazhong University of Science and Technology, China
Boting Yang, University of Regina, Canada
Li-Hsing Yen, National University of Kaohsiung, Taiwan
Alex Zelikovsky, Georgia State University, USA
Jizhong Zhao, Xi'An JiaoTong University, China

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Workshop Program

Tea Break (10:00 am-10:30 am)

Session I (10:30 am-12:00 am): Wireless Sensor Networks

On Efficient Deployment of High-end Sensors in Large-scale Heterogeneous WSNs
Yi Gu (University of Memphis, US) Qishi Wu (University of Memphis, US) Xiaoshan Cai (University of Memphis, US) Jeremy Bond (University of Memphis, US)

UD-TDMA: A Distributed TDMA Protocol for Underwater Acoustic Sensor Network
Li Zhengbao (Ocean University of China, CN) Zhongwen Guo (Ocean University of China, CN) Haipeng Qu (Ocean University of China, CN) Feng Hong (Ocean University of China, CN) Pengpeng Chen (Ocean University of China, CN) Meng Yang (Ocean University of China, CN)

A Proportional Fair Backoff Scheme for Wireless Sensor Networks
Yuanfang Chen (Dalian University of Technology, CN) Yuanfang Chen (School of Software, CN) Mingchu Li (Dalian University of Technology, CA) Lei Wang (Dalian University of Technology, CN) Lei Shu (National University of Ireland, Galway, IE)

A High-Accuracy Real-Time Localization Algorithm for Wireless Sensor Networks
Wen Ouyang (Chung Hua University, TW) Ying Tsao (Chung Hua University, TW)

Lunch (12:00 am-2:00 pm)

Session II (2:00 pm-3:30 pm): Throughput and Delay Analysis

4 papers (20 minutes per paper)

An Enhanced Query Tree Protocol for RFID Tag Collision Resolution with Progressive Population Estimation
Yan Xinqing (North China University of Water Conservancy and Electric Power, CN)

On Channel Usability of Wireless Mesh Networks --When Stability Plays With You
Panlong Yang (Nanjing University, CN)

Throughput and Delay Analysis of the IEEE 802.15.3 CSMA/CA Mechanism
Xin Liu (Software School, Fudan University, Shanghai, CN) Wenjun Zeng (Univ. of Missouri, Columbia, US)

A Cross-Layer Design for Dynamic Resource Block Allocation in 3G Long Term Evolution System
Hossam Fattah (Texas A&M University at Qatar, QA) Hussein Alnuweiri (Texas A&M University, Qatar, QA)

Tea break (3:30 pm-4:00pm)

Session III (4:00 pm-5:40 pm): Algorithm and Optimization

An Enhanced Synchronization Approach for RFID Private Authentication

Qingsong Yao (Xi'an Jiaotong University, CN) Yong Qi (Xi'an Jiaotong University, CN) Jizhong Zhao (Xi'an Jiaotong University, CN) Jinsong Han (School of Electronic and Information Engineering, Xi'an Jiaotong University, CN)

A Note on the Study of Bluetooth Networks' Distributed Algorithms

Ahmed Jeddah (University of Ottawa, CA) Nejib Zaguia (University of Ottawa, CA) Guy-Vincent Jourdan (University of Ottawa, CA)

A kNN Search Protocol Using a Voronoi Diagram in Wireless Broadcast Environments

Chuan-Ming Liu (National Taipei University of Technology, TW)

Delay and Energy Efficiency Tradeoffs for Data Collections in Large Scale Wireless Sensor Networks

Chao Ren (Northwestern Polytechnical University, CN) Xufei Mao (Illinois Institute of Technology, US) Li Zhanhuai (Dept of computer science Northwestern Polytechnic University, CN)

A Force-Driven Evolutionary Approach for Multi-objective 3D Differentiated Sensor Network Deployment

Liang-Che Wei (Chung Hua University, TW) Chih-Wei Kang (Chung Hua University, TW) Jian-Hung Chen (Chung Hua University, TW)