

The Fifth International Conference on Mobile Ad-hoc and Sensor Networks (MSN)

Wu Yi Mountain • China • December 14 - 16, 2009

Advance Program

Sunday, December 13	
8:00am-10:00pm	Conference and workshop registration

Monday, December 14	
8:00am-3:30pm	Conference and workshop registration
8:30am-9:10am	Opening remarks
9:10am-10:10am	Session 1: Keynote Talk I, Ness B. Shroff, The Ohio State University “Analytical Foundations for the Efficient, Robust, and Scalable Design of Multi-hop Wireless Networks”
10:00am-10:30am	Break and refreshments
10:30am-12:00pm	Session 2A: Data Management I Session 2B: Network Management I
12:00pm-2:00pm	Lunch
2:00pm-3:00pm	Session 3: Keynote Talk II, David H.C. Du, University of Minnesota Minneapolis “Cyber Security: An Obtainable Goal?”
3:00pm-3:15pm	Break and refreshments
3:15pm-4:45pm	Session 4A: Localization & Routing Session 4B: Workshop/PEWiN I: Performance Evaluation and Analysis
4:45pm-5:00pm	Break and refreshments
5:00pm-6:00pm	Session 5: Panel Discursion, Future Directions in Networked Sensing Systems Panel Chair: Xiaohua Jia
6:00pm-6:30pm	Recess
6:30pm-8:30pm	Reception

Tuesday, December 15	
8:00am-3:30pm	Conference and workshop registration
9:00am-10:00am	Session 6: Keynote Talk III, Ivan Stojmenovic, University of Ottawa “Topology Control for Sensor Area and Communication Coverage”
10:00am-10:20am	Break and refreshments
10:20am-12:00pm	Session 7A: Data Management II Session 7B: Network Management II Session 7C: Workshop-LOCAN
12:00pm-2:00pm	Lunch
2:00pm-3:30pm	Session 8A: QoS Performance I Session 8B: MAC & Localization Session 8C: Workshop/PEWiN II: Implementation and Simulation
3:30pm-3:50pm	Break and refreshments
3:50pm-5:30pm	Session 9A: Localization II Session 9B: Routing II Session 9C: Workshop/iWDTN I: Architecture & Protocols
5:30pm-6:30pm	Recess
6:30pm-8:30pm	Banquet dinner

Wednesday, December 16	
8:00am-3:30pm	Conference and workshop registration
8:30am-10:00am	Session 10A: QoS Performance II Session 10B: Coding Applications Session 10C: Workshop/iWDTN II: Routing in DTN
10:00am-10:20am	Break and refreshments
10:20am-12:00pm	Session 11A: Security & Privacy Session 11B: Coverage & Target Tracking Session 11C: Workshop/PEWiN III: Performance Enhancement
12:00pm-2:00pm	Lunch
Afternoon	Wu Yi Mountain Tour

Thursday, December 17	
Wu Yi Mountain Tour	

Sunday, December 13

8:00am -10:00pm – Registration

Monday, December 14

8:00am -3:30pm – Registration

8:30am -9:10am – Opening remarks

9:10am -10:10am – Session 1

Session 1: Keynote Talk I

Chair: Xiuzhen Cheng, The George Washington U., USA

“Analytical Foundations for the Efficient, Robust, and Scalable Design of Multi-hop Wireless Networks”
Ness B. Shroff, The Ohio State University

10:10am -10:30am – Break and refreshments

10:30am -12:00pm – Sessions 2A/2B

Session 2A: Data Management I

Chair: Dajin Wang, Montclair State University, US

Processing Area Queries in Wireless Sensor Networks
Chunyu Ai and Longjiang Guo (Georgia State University, US; Heilongjiang University, CN); Zhipeng Cai (Mississippi State University, US); and Yingshu Li (Georgia State University, US)

Data Caching Based Queries in Multi-Sink Sensor Networks

Jinbao Li, Shouling Ji, and Jinghua Zhu (Heilongjiang University, CN)

Progressive Skyline Query Processing in Wireless Sensor Networks

Baichen Chen and Weifa Liang (Australian National University, AU)

Session 2B: Network Management I

Chair: Bai Li, Deakin University, AU

A Distributed Relay Selection Algorithm for Cooperative Multicast in Wireless Mesh Networks

Bo Rong (Communications Research Center Canada, CA); and Abdelhakim S. Hafid (University of Montreal, CA)

Local optimum algorithms for self-protection in wireless sensor networks

Jibin Cheng, Wenzhe Zhang and Jiwen Yang (Soochow University, CN)

Spanner-Aware Relay Node Placement in Wireless Ad Hoc Sensor Networks

Hongli Xu, Liusheng Huang, Wang Gang, and Yindong Zhang (University of Science and Technology of China, CN)

A High-Performance Vehicle Detection Algorithm for Wireless Sensor Parking Systems

Hongzhong Hui (Liao Cheng University, CN); Jonathan Backens and Min Song (Old Dominion University, US)

12:00pm -2:00pm – Lunch

2:00pm - 3:00pm – Session 3

Session 3: Keynote Talk II

Chair: Li Xu, Fujian Normal University, CN

“Cyber Security: An Obtainable Goal?”

David H.C. Du, University of Minnesota

Advance Program (V3.0)

3:00pm -3:15pm – Break and refreshments

3:15pm -4:45pm – Sessions 4A/4B

Session 4A: Localization & Routing

Chair: Haiyong Luo, Institute of Computing Technology, Chinese Academy of Sciences, CN

Long-range Beacons on Sea Surface based 3D-Localization for Underwater Sensor Networks

Eunchan Kim, Sangho Lee, Chungsan Kim, and Kiseon Kim (Gwangju Institute of Science and Technology (GIST), KR)

A Low-Cost and Accurate Indoor Localization Algorithm Using Label Propagation Based Semi-Supervised Learning

Shaoshuai Liu and Haiyong Luo (Institute of Computing Technology, Chinese Academy of Sciences, CN); and Shihong Zou (Beijing University of Posts and Telecommunications, CN)

Greedy geographic routing algorithms in a real environment

Milan Lukic and Bogdan Pavkovic (University of Novi Sad, Serbia); Nathalie Mitton (INRIA/CNRS, University of Lille, FR); and Ivan Stojmenovic (University of Ottawa, CA)

An Improved ETR Protocol with Energy Awareness for Wireless Sensor Networks

Guisong Yang, Zhongjie Wang, and Wei Wang (Tongji University, CN); and Xingyu He (Shanghai Institute of Process Automation Instrumentation, CN)

Session 4B: Workshop/PEWiN I: Performance Evaluation and Analysis

Chair: Shengming Jiang, South China University of Technology, CN

Estimations of Border Effect on Epoch Mobility Models in Mobile Ad Hoc Networks

Shengming Jiang (South China University of Technology, CN)

Performance of TCP over Ad Hoc Networks: Analysis and Enhancement

Mostafa Kamel (Higher Institute of Eng., EL Shorouk Academy, EG); and Gamal Abdel Fadeel and Usama El Ghandour (Helwan University, EG)

A SINR Threshold-based Limited Feedback and Feedback Load Analysis for Downlink Multiuser Diversity

Peisheng Pan, Baoyu Zheng, and Rongfang Song (Nanjing University of Posts and Telecommunications, CN)

4:45pm -5:00pm – Break and refreshments

5:00pm -6:00pm – Sessions 5

Session 5: Panel Discussion:

Future Directions in Networked Sensing Systems

Chair:

Prof Xiaohua Jia, City University of Hong Kong, HK

Panelists:

Lionel Ni, The Hong Kong University of Science & Technology, HK

Ivan Stojmenovic, *University of Ottawa, CA*
 Yingshu Li, *Georgia State University, US*
 Yang Xiao: *University of Alabama, US*
 Many Rivera: *Rividium Inc., US*
 Weijia Jia: *City University of Hong Kong, HK*
 Dong Xuan: *The Ohio State University*

6:00pm - 6:30pm – Recess

6:30pm - 8:30pm – Reception

Tuesday, December 15

8:00am - 3:30pm – Registration

9:00am - 10:00am – Session 6

Session 6: Keynote Talk III

Chair: Jiannong Cao, Hong Kong Poly U., HK

“Topology Control for Sensor Area and Communication Coverage”

Ivan Stojmenovic, University of Ottawa, CA

10:00am -10:20am – Break and refreshments

10:20am -12:00pm – Sessions 7A/7B/7C

Session 7A: Data Management II

Chair: Baokang Zhao, National University of Defense Technology, CN

Lossy Data Aggregation in Multihop Wireless Sensor Networks

Guojun Dai and Jianhui Zhang (Hangzhou Dianzi University, CN); ShaoJie Tang (Illinois Institute of Technology, US); and Xingfa Shen and Changping Lv (Hangzhou Dianzi University, CN)

Local and Adaptive Amendment to Data Aggregation Tree in Wireless Sensor Networks

Yunxia Feng and Guojun Dai (Hangzhou Dianzi University, CN); ShaoJie Tang (Illinois Institute of Technology, US); and Hong Zeng (Hangzhou Dianzi University, CN)

Precision Constraint Data Aggregation for Dynamic Cluster-based Wireless Sensor Networks

Xiaoyan Wang and Jie Li (University of Tsukuba, JP)

Session 7B: Network Management II

Chair: Di Wu, University of California, Irvine, USA

Gateway Selection Scheme for Throughput Optimization in Multi-radio Multi-channel Wireless Mesh Networks

Qin Xin (Simula Research Laboratory, NO); and Yanbo J. Wang (China Minsheng Banking Corp., Ltd., CN)

A Robust Node Selection Strategy for Lifetime Extension in Wireless Sensor Networks

Olawoye Oyeyele, Hairong Qi (University of Tennessee, US)

Activating the Hot Spot Problem by Switching Multiple Sinks in Wireless Sensor Networks

Chang Wu Yu, Shan Shiung Wei, and Bing Jiun Shie (Chung Hua University, TW)

Session 7C: Workshop-LOCAN

Chair: Yang Xiao (University of Alabama, US)

Minimum Hop Routing Wireless Sensor Networks Based on Ensuring of Data Link Reliability

Ming-Cai Zheng (Hunan University, CN; Hunan First Normal University, CN); and Da-Fang Zhang and Jian Luo (Hunan University, CN)

Clustering-based Compressive Wide-band Spectrum Sensing in Cognitive Radio Network

Fan Deng, Fanzi Zeng, and Renfa Li (Hunan University)

Distributed Localization Protocol for Routing in a Noisy Wireless Sensor Network

Karel Heurtefeux and Fabrice Valois (Universit'e de Lyon-INRIA/INSA-Lyon, FR)

A Hop Count Based Greedy Face Greedy Routing Protocol on Localized Geometric Spanners

Jingzhe Du and Evangelos Kranakis (Carleton University, CA); and Amiya Nayak (University of Ottawa, CA)

Distributed Facility Location for Sensor Network Maintenance

Elio Velazquez and Nicola Santoro (Carleton University, CA)

12:00pm -2:00pm – Lunch

2:00pm -3:30pm – Sessions 8A/8B/8C

Session 8A: QoS Performance I

Chair: Hairong Qi, The University of Tennessee -- Knoxville, USA

Upper Bound on Network Utilization under Fair-Access in Multi-Hop Wireless Grid Sensor Networks with 3-4 Rows

Miao Peng and Yang Xiao (The University of Alabama, US)

QoS Performance Analysis of IEEE 802.15.4 MAC in LR-WPAN with Bursty Error Channels

Jianliang Gao (Fujian Normal University, CN); Jia Hu and Geyong Min (University of Bradford, UK); and Li Xu (Fujian Normal University, CN)

Optimal Date Rate and Opportunistic Scheme on Network Coding Over Rayleigh Fading Channels

Wei Li (University of Tsukuba, JP; Tsinghua University, CN); Jie Li (University of Tsukuba, JP); and Pingyi Fan (Tsinghua University, CN; Southeast University, CN)

Session 8B: MAC & Localization

Chair: Stepan Kucera, National Institute of Information and Communication Technology, JP

ADV-MAC: Advertisement-based MAC Protocol for Wireless Sensor Networks

Surjya Ray, Ilker Demirkol, and Wendi Heinzelman (University of Rochester, US)

Delay and Robustness Analysis of a Distributed Scheme for Optimized Medium Access in Power-controlled Networks

Stepan Kucera and Bing Zhang (National Institute of Information and Communication Technology, JP)

Base Station Localization in Search of Empty Spectrum Spaces in Cognitive Radio Networks

Yuan Zhang (Jilin University, CN); and Lichun Bao, Max Welling, and Shih-Hsien Yang (University of California, Irvine, US)

Session 8C: Workshop/PEWiN II: Implementation and Simulation

Chair: Wen Quyang, Chung Hua University

Vehicle Positioning Using Wi-Fi Networks and GPS/DR System

Liqiang Xu, Sheng Zhang, Jinguo Quan, and Xiaokang Lin (Tsinghua University, CN)

An Event-based Wireless Navigation and Healthcare System for Group Recreational Cycling

Kun-Ming Yu, Jiayi Zhou, Cheng-Yan Yu, Jian-Yuan Liu, Chi-Chung Lee, Hsin-Wen Chang, and Hung-Nien Hsieh (Chung Hua University, TW)

LTE/SAE Model and its Implementation in NS 2

Qinlong Qiu, Jian Chen, Lingdi Ping, Qifei Zhang, and Xuezheng Pan (Zhejiang University, CN)

3:30pm - 3:50pm – Break and refreshments

3:50pm - 5:30pm – Sessions 9A/9B/9C

Session 9A: Localization II

Chair: Bin Xiao, The Hong Kong Polytechnic University

An Mobile Beacon-assisted Localization Algorithm based on Network-Density Clustering for Wireless Sensor Networks

Fang Zhao (Beijing University of Posts and Telecommunications, CN); Haiyong Luo (Institute of Computing Technology, Chinese Academy of Sciences, CN); and Quan Lin (Beijing University of Aeronautics and Astronautics, CN)

Location Updates of Mobile Node in Wireless Sensor Networks

Rajiv Misra (Indian Institute of Technology, Patna, IN) ; and Chittaranjan Mandal (Indian Institute of Technology, Kharagpur, IN)

Fast Localization Using Robust UWB Coding in Wireless Sensor Networks

Di Wu (University of California, Irvine, US; Hunan University, CN); Lichun Bao (University of California, Irvine, US); and Renfa Li and Fanzi Zeng (Hunan University, CN)

Session 9B: Routing II

Chair: Qin Xin, Simula Research Laboratory, NO

Load Balancing Routing Algorithm for Ad Hoc Networks

Wenbin Jiang, Zhaojing Li, Chunqiang Zeng, and Hai Jin (Huazhong University of Science and Technology, CN)

Energy Efficient Integrated Routing Protocol for MANETs

K. Kathiravan (Easwari Engineering College, IN); V. Divya (Tata Consultancy Services, IN); and S. Thamarai Selvi (Anna University, IN)

A Cross-Layer AOMDV Routing Protocol for V2V Communication in Urban VANET

Yufeng Chen (Hubei University of Automotive Technology; Zhejiang University, CN); and Zhengtao Xiang, Wei Jian, and Weirong Jiang (Hubei University of Automotive Technology, CN)

Session 9C: Workshop/iWDTN I: Architecture & Advance Program (V3.0)

Protocols in DTN

Chair: Xiumei Fan, Beijing Institute of Technology, CN

Supporting Emergency Service by Retasking Delay-Tolerant Network Architecture

Fang Dong (Zhengzhou Information Science and Technology Institute, CN); Yuxiang Hu (National Digital Switching System Engineering & Technological Research Center, CN); and Min Tong and Xiaomin Ran (Zhengzhou Information Science and Technology Institute, CN)

Data Dissemination in Delay and Disruption Tolerant Networks Based on Content Classification

Yazhou Jiao, Zhigang Jin, and Yantai Shu (Tianjin University, CN)

DDBA: A Method of Dynamic Deprivable Bandwidth Allocation for Space Information Network

Chunqing Wu, Wei Sun, Wanrong Yu, Huabiao Lu, Ziming Song, and Yanpeng Ma (National University of Defense Technology, CN)

Network Coding for Applications in the Delay Tolerant Network (DTN)

Qian Zhang, Zhigang Jin, Zhenjing Zhang, and Yantai Shu (Tianjin University, CN)

5:30pm - 6:30pm – Recess

6:30pm - 8:30pm – Banquet dinner

Wednesday, December 16

8:00am - 3:30pm: Registration

8:30am - 10:00am – Sessions 10A/10B/10C

Session 10A: QoS Performance II

Chair: Zhu Han, University of Houston, USA

A Novel Congestion Control Scheme in Wireless Sensor Networks

Xiaoyan Yin, Xingshe Zhou, Zhigang Li and Shining Li (Northwestern Polytechnical University, CN)

Congestion-aware Clique-based Handoff in Wireless Mesh Networks

Jihene Rezgui, Abdelhakim Hafid, Michel Gendreau, and Bo Rong (University of Montreal, CA)

A Suboptimal Resource Allocation Algorithm for OFDMA-based Multi-hop Cellular Networks

Zheng Xiang and Xuming Fang (Southwest Jiaotong University, CN); and Jiannong Cao (Hong Kong Polytechnic University, HK)

Session 10B: Coding Applications

Chair: Rong Zheng, University of Houston, USA

On Uplink Superposition Coding and Multi-User Diversity for Wireless Mesh Networks

Anatolij Zubow, Moritz Grauel, Mathias Kurth, and Jens-Peter Redlich (Humboldt University Berlin, DE)

A Signal-Time Coding Approach to Relay Networks

Pingyi Fan (Tsinghua University, CN); and Khaled Letaief (Hong Kong University of Science & Technology, HK)

An Optimal Algorithm for Neville Codes of a Tree Network

Yingjie Wu (Fuzhou University, CN), Kan Chen (Minjiang University, CN), Xiaodong Wang (Quanzhou Normal University, CN)

Session 10C: Workshop/iWDTN II: Routing in DTN

Chair: Chunging Wu, National University of Defense Technology, CN

Adaptive Randomized Epidemic Routing for Disruption Tolerant Networks

Xin Wang, Yantai Shu, Zhigang Jin, and Qingfen Pan (Tianjin University, CN); and Bu Sung Lee (Nanyang Technological University, SG)

MORT: An Efficient Message Overhead Reduction Technique in Multipath Routing

Bin Dai, Huabiao Lu, Zhigang Sun, Ziming Song, Yanpeng Ma, Jinshu Su (National University of Defense Technology)

Integration of Routing & Switching in Delay/Disruption Tolerance Network

Yang Li, Qian He, and Xiufei Fan (Beijing Institute of Technology, CN)

10:00am - 10:20am – Break and refreshments

10:20am - 12:00pm – Sessions 11A/11B/11C

Session 11A: Security & Privacy

Chair: Dr. K. Kathiravan, Easwari Engineering College, IN

Improved Wireless Secrecy Rate using Distributed Auction Theory

Zhu Han (University of Houston, US); Ninoslav Marina (University of Oslo, NO); Merouane Debbah (Supelec, FR); and Are Hjørungnes (University of Oslo, NO)

A Key Management Scheme for Heterogeneous Sensor Networks Using Keyed-Hash Chain

Biming Tian, Song Han, and Tharam Dillon (Curtin University of Technology, AU)

Enhanced Location Privacy Protection of Base Station in Wireless Sensor Networks

Xinfeng Li, Xiaoyuan Wang, Nan Zheng, Zhiguo Wan and Ming Gu (Tsinghua University, CN)

Lightweight Authentication for Recovery in Wireless Sensor Networks

Bai Li, Lynn Batten, and Robin Doss (Deakin University, AU)

Session 11B: Coverage & Target Tracking

Chair: Shaojie Tang, Illinois Institute of Technology

Stochastic Event Capture Using Single Robot Moving along a Certain Track

Xiannuan Liang, Yang Xiao and Nanxiang Li (The University of Alabama, US)

Hamilton Circuit-based Algorithm for Improving Coverage of Hybrid Sensor Network

Huan-juan Wang, Wenzhe Zhang, Ji-wen Yang, and Ying Li (Soochow University, CN)

WiserAnalyzer: A Passive Monitoring Framework for WLANs

Arun Chhetri and Rong Zheng (University of Houston, US)

Session 11C: Workshop/PEWiN III: Performance Enhancement

Chair: Chiming Huang, Hsuan Chuang University

Localized Routing Protocols Based on Minimum Balanced Tree in Wireless Sensor Networks

Chiming Huang, Rei-Heng Cheng, and Shau-Ruei Chen (Hsuan Chuang University, TW)

A Cluster-based Algorithm for Redundant Nodes Discovery in Dense Sensor Networks

Li-Liann Lu (Technology and Science Institute of Northern Taiwan, TW); Jean-Lien C. Wu (St. John's University, TW); and Wen-Chi Yu and San-Hao Chen (National Taiwan University of Science and Technology, TW)

A Comprehensive Real-Time High-Performance Object-Tracking Approach for Wireless Sensor Networks

Wen Ouyang and Ying Tsao (Chung Hua University, TW)

Performance Improvement over Linux Layer-7 Content Filtering

Bing-Heng Peng and Huai-Jen Liu (Chung Hua University, TW); and Huan-Yun Wei (L7 Networks Inc., TW)

12:00pm - 2:00pm – Lunch

Afternoon – Wu Yi Mountain Tour

Thursday, December 17

The whole day – Wu Yi Mountain Tour