

Message from the WSNS'08 Chairs

Welcome to WSNS 2008, the 4th IEEE International Workshop on Wireless and Sensor Networks Security held in conjunction with the 5th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS 2008).

Wireless networks have experienced an explosive growth during the last few years. Nowadays, there exist a large variety of networks spanning from the well-known cellular networks to non-infrastructure wireless networks such as mobile ad hoc networks and sensor networks. The security issues are the central concern for achieving secured communication in these networks. Interest has increased in this area. They include attacks and countermeasures, authentication and access control, computer-aided tool for security, cross-layer design for security, cryptographic protocol, denial of service (DoS), key management, information hiding, intrusion detection and response, malicious behavior detection and analysis, privacy and anonymity, secure localization and synchronization, security and performance tradeoff, security policy and enforcement issues, security protocols analysis, design, and proof, secure routing/MAC, surveillance and monitoring, trust establishment and management, and so on. The WSNS workshop aims to provide a forum for continued activity in such an area, to allow interaction of security researchers and developers, and to give attendees of MASS 2008 an opportunity to network with experts in wireless and sensor networks security.

In response to the call for papers of this workshop, 36 papers from 20 different countries and regions were submitted. Each paper was reviewed by 2-4 reviewers including program committee members and external experts. The program committee made selection based on review reports and space and time limitation. As a result, 15 regular papers and 1 invited keynote speech will be presented at WSNS 2008.

The technical program for WSNS 2008 is the result of the hard work of many authors, reviewers, program committee members. We are grateful to them for their help and investing time and energy in the development of the very high quality technical program. We must acknowledge the MASS 2008 Workshops Chairs, Professor Yonghe Liu (University of Texas at Arlington) and Sencun Zhu (Pennsylvania State University), and MASS 2008 Local Chair, Professor George Riley (Georgia Institute of Technology) for the help in organizing this workshop. We will also appreciate the advices and supports from our WSNS 2008 Steering Committee members, Professor Dharma Agrawal (University of Cincinnati), Professor Sajal Das (University of Texas at Arlington), Professor Yong Guan (Iowa State University), Professor Thomas La-Porta (Pennsylvania State University), and Professor Jie Wu (Florida Atlantic University & US National Science Foundation).

We hope you will enjoy and benefit from the presentations and discussions of WSNS 2008!

Workshop Chairs

Falko Dressler, University of Erlangen-Nuremberg, Germany

Zhen Jiang, West Chester University, USA

Wensheng Zhang, Iowa State University, USA

WSNS Workshop Organization

Workshop Co-Chairs

Falko Dressler, University of Erlangen-Nuremberg, Germany

Zhen Jiang, West Chester University, USA

Wensheng Zhang, Iowa State University, USA

Steering Committee

Dharma Agrawal, University of Cincinnati, USA

Sajal Das, University of Texas, Arlington, USA

Yong Guan, Iowa State University, USA

Thomas La-Porta, Penn. State University, USA

Jie Wu, Florida Atlantic University, USA & US National Science Foundation

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P. Traynor, Pennsylvania State University, USA

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A. Weimerskirch, Escrypt Inc., USA

Y. Xia, University of Florida, USA

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S. Yang, Rensselaer Polytechnic Institute, USA

S. Zhong, State University of New York, Buffalo, USA

X. Zou, Purdue University at IUPUI, USA

WSNS'08 Workshop Program

Monday, September 29th, 2008
Atlanta, Georgia, USA

Opening (9:00-9:10): Introduction to WSNS'08

Dr. Falko Dressler
University of Erlangen-Nuremberg,
Germany

Dr. Zhen Jiang
West Chester University
USA

Dr. Wensheng Zhang
Iowa State University
USA

Session A (9:10-10:00): Security Strategies, Chair: W. Zhang

1	KeyLED - Transmitting sensitive data over out-of-band channels in wireless sensor networks	R. Roman, J. Lopez-Munoz (Univ. of Malaga, ES)
2	Why is IPSec a viable option for Wireless Sensor Networks	J. Granjal, R. Silva, E. Monteiro, J. Silva, F. Boavida (University of Coimbra, PT)
3	Requirements and Objectives for Secure Traffic Information Systems	F. Dressler (Univ. of Erlangen, DE), T. Gansen (AEV GmbH, DE), C. Sommer (Univ. of Erlangen, DE), L. Wischhof (AEV GmbH, DE)

Break (10:00-10:30)

Session B (10:30-12:00): Attacks and Countermeasures, Chair: F. Dressler

4	Securing Coding Based Distributed Storage in Wireless Sensor Networks	L. Buttyan, L. Czap, I. Vajda, (Budapest University of Technology and Economics, HU)
5	Detecting Sybil Attacks in Wireless and Sensor Networks Using Cluster Analysis	J. Yang, Y. Chen (Stevens Institute of Technology, US), W. Trappe (WINLAB, Rutgers Univ., US)

Lunch (12:00 - 13:30)

Session C (13:30-15:00): Key Management and Cryptographic Protocol, Chair: TBA

6	DHB-KEY: An Efficient Key Distribution Scheme for Wireless Sensor Networks	A. Chung, U. Roedig (Lancaster University, UK)
7	Authenticated Symmetric Key Distribution For Mobile Ad Hoc Networks	H. Dahshan (University of Strathclyde, EG), J. Irvine (University of Strathclyde, UK)
8	Pair-wise Network Topology Authenticated Hybrid Cryptographic Keys for Wireless Sensor Networks using Vector Algebra	M. Pugliese, F. Santucci (University of L'Aquila, IT)
9	Study of a new physical layer encryption concept	A. Ahmad (GET-INT, FR), A. Biri (Institut National Des Télécommunications, FR), H. Afifi (Institut Telecom, FR)

Break (15:00-15:30)

Session D (15:30-17:00): Intrusion Detection and Misbehavior Detection, Chair: R. Roman

10	An Intrusion Detection System for Wireless Process Control Systems	T. Roosta (Cisco System, US), D. Nilsson (Chalmers Univ. of Tech., SE), U. Lindqvist (SRI International, US), A. Valdes (SRI International, US)
11	Protecting the DNS Infrastructure of a Top Level Domain: Real-Time monitoring with Network Sensors	J. Afonso (Foundation for National Scientific Computing, PT), P. Veiga (University of Lisbon, PT)
12	Analysis the Cooperation Strategies in Mobile Ad hoc Networks	Z. Li, H. Shen (University of Arkansas, US)
13	Harnessing Delay Tolerance to Increase Delivery Ratios in Mobile Ad Hoc Networks with Misbehaving Nodes	A. König, C. Gottron, M. Hollick, R. Steinmetz (Technische Universität Darmstadt, DE)

Final Discussions (17:00-17:30)