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*Hisashi Oguma (Toyota InfoTechnology Center, Co., Ltd., Japan); Akira Yoshioka (Toyota InfoTechnology Center, Co., Ltd., Japan); Makoto Nishikawa (Toyota InfoTechnology Center, Co., Ltd., Japan); Rie Shigetomi (AIST, Japan); Akira Otsuka (AIST, Japan); and Hideki Imai (AIST, Japan)*

A Reliable Network Identification Method Based on Transition Pattern of Payload Length..... 1915  
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Mutual Authentication Protocol for Low Computational Capacity RFID Systems ..... 1920  
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*Jeong Hyun Yi (Soongsil University, Korea)*

Cobra: Correlation-Based Content Authentication in Wireless Sensor Networks ..... 1930  
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A Secure VANET MAC Protocol for DSRC Applications ..... 1945  
*Yi Qian (National Institute of Standards and Technology, USA); Kejie Lu (University of Puerto Rico at Mayaguez, USA); and Nader Moayeri (National Institute of Standards and Technology, USA)*

AWF-NA: A Complete Solution for Tampered Packet Detection in VANETs..... 1950  
*Zhengming Li (Michigan Tech, USA); Chunxiao Chigan (Michigan Tech, USA); and Danniell Wong (Malaysia University of Science and Technology, Malaysia)*

Security and Pseudo-Anonymity with a Cluster-Based Approach for MANET..... 1956  
*Abderrezak Rachedi (University of Avignon, France); and Abderrahim Benslimane (University of Avignon, France)*

A Novel Coalitional Game Model for Security Issues in Wireless Networks..... 1962  
*Xiaoqi Li (The Chinese University of Hong Kong, Hong Kong); and Michael R. Lyu (The Chinese University of Hong Kong, Hong Kong)*

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Trust Credential Distribution in Autonomic Networks ..... 1974  
*Tao Jiang (Huazhong University of Science and Technology, China); and John S. Baras (University of Maryland College Park, USA)*

TwoHop: Metric-Based Trust Evaluation for Peer-to-Peer Collaboration Environments ..... 1979  
*Dimitris Glynos (University of Piraeus, Greece); Patroklos Argyroudís (University of Dublin, Trinity College, Ireland); Christos Douligeris (University of Piraeus, Greece); and Donal O'Mahony (University of Dublin, Trinity College, Ireland)*

Securing Time-Synchronization Protocols in Sensor Networks: Attack Detection and Self-Healing ..... 1985  
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Mitigating Wormhole Attacks Using Passive Monitoring in Mobile Ad Hoc Networks ..... 1991  
*Xu Su (UT San Antonio, USA); and Rajendra V. Boppana (UT San Antonio, USA)*

Secure Virtual Backbone-Based Power Management for Ad Hoc Networks..... 1996  
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