# Table of Contents

## Invited Talk I

Fighting Malicious Software ................................................. 1  
*Christopher Kruegel*

## Technical Session I: Software Security

VulnerableMe: Measuring Systemic Weaknesses in Mobile Browser Security ................................................................. 16  
*Chaitrali Amrutkar, Kapil Singh, Arunabh Verma, and Patrick Traynor*

Security Assessment of Node.js Platform ...................................... 35  
*Andres Ojamaa and Karl Düüna*

## Invited Talk II

Foundations of Dynamic Access Control ...................................... 44  
*Prasad Naldurg*

## Technical Session II: Access Control

Risk-Aware RBAC Sessions ...................................................... 59  
*Khalid Zaman Bijon, Ram Krishnan, and Ravi Sandhu*

A Cognitive Trust Model for Access Control Framework in MANET .... 75  
*Soumya Maity and Soumya K. Ghosh*

**TRUST–OrBAC:** A Trust Access Control Model in Multi-Organization Environments ............................................................. 89  
*Khalifa Touni, César Andrés, and Ana Cavalli*

## Invited Talk III

On Policies and Intents ............................................................ 104  
*Matthew L. Bolton, Celeste M. Wallace, and Lenore D. Zuck*
Technical Session III: Covert Communications

ProtoLeaks: A Reliable and Protocol-Independent Network Covert Channel .................................................. 119
Arne Swinnen, Raoul Strackx, Pieter Philippaerts, and Frank Piessens

Keyless Steganography in Spatial Domain Using Energetic Pixels ...... 134
Goutam Paul, Ian Davidson, Imon Mukherjee, and S.S. Ravi

Fuzzy Inference Rule Based Reversible Watermarking for Digital Images .................................................. 149
Ruchira Naskar and Rajat Subhra Chakraborty

Technical Session IV: Network Security I

Secure Trust Metadata Management for Mobile Ad-Hoc Networks ...... 164
Vivek Natarajan, Yi Yang, and Sencun Zhu

Defence against Wormhole Attacks in Wireless Mesh Networks ........ 181
Rakesh Matam and Somanath Tripathy

A Novel Key Update Protocol in Mobile Sensor Networks ............. 194
Sarita Agrawal, Rodrigo Roman, Manik Lal Das, Anish Mathuria, and Javier Lopez

Autonomous Certification with List-Based Revocation for Secure V2V Communication ........................................... 208
Anup Kumar Bhattacharya, Abhijit Das, Dipanwita Roychoudhury, Aravind Iyer, and Debojyoti Bhattacharya

Technical Session V: Database and Distributed Systems Security

Mitigating Insider Threat on Database Integrity .......................... 223
Weihan Li, Brajendra Panda, and Qussai Yaseen

Coercion Resistant MIX for Electronic Auction ........................ 238
Jaydeep Howlader, Jayanta Kar, and Ashis Kumar Mal

Verification of Money Atomicity in Digital Cash Based Payment System .................................................. 249
Girish Chandra and Divakar Yadav

Technical Session VI: Network Security II

Cryptographic Analysis of a Type of Sequence Generators .......... 265
Alberto Peinado and Amparo Fuster-Sabater
Certificate-Less On-Demand Public Key Management (CLPKM) for Self-organized MANETs ........................................... 277  
Soumyadev Maity and R.C. Hansdah

Computationally Efficient Secure Access Control for Vehicular Ad Hoc Networks ................................................... 294  
Y. Sreenivasa Rao and Ratna Dutta

Technical Session VII

Tracking Insecure Information Flows: A Prototype Evaluator in ASF+SDF .......................................................... 310  
Doaa Hassan

Attacking Image Based CAPTCHAs Using Image Recognition Techniques ................................................................. 327  
David Lorenzi, Jaideep Vaidya, Emre Uzun, Shamik Sural, and Vijayalakshmi Atluri

Correctness Verification in Database Outsourcing: A Trust-Based Fake Tuples Approach ............................................. 343  
Simin Ghasemi, Morteza Noferesti, Mohammad Ali Hadavi, Sadegh Dorri Nogoorani, and Rasool Jalili

Author Index ................................................................. 353