

2012 5th International Conference on New Technologies, Mobility and Security

(NTMS 2012)

**Istanbul, Turkey
7 – 10 May 2012**



**IEEE Catalog Number: CFP1268E-PRT
ISBN: 978-1-4673-0228-9**

TABLE OF CONTENTS

Prospects for WLAN in the Evolved Packet Core Environment	1
<i>S. Frei, A. Rinkel, W. Fuhrmann, B. Ghita</i>	
An Energy Efficient Multi-Core Modem Architecture for LTE Mobile Terminals	6
<i>A. Showk, S. Traboulsi, A. Bilgic</i>	
Perfect Confidentiality Network: A Solution For Information Theoretically Secure Key Agreement	12
<i>J. Braun, J. Buchmann</i>	
Reliable and Scalable Distributed Hash Tables Harnessing Hyperbolic Coordinates	17
<i>T. Tiendrebeogo, D. Ahmat, D. Magoni</i>	
Model-Driven Testing of Security Protocols with SecureMDD	23
<i>K. Katkalov, N. Moebius, K. Stenzel, M. Borek, W. Reif</i>	
Performance of OFDM with Blind Interference Suppression Schemes	28
<i>M. Sriyananda, J. Joutsensalo, T. Hamalainen</i>	
On Clock Frequency Effects in Side Channel Attacks of Symmetric Block Ciphers	34
<i>Q. Tian, S. Huss</i>	
A Study of Mobility in Ad Hoc Networks and its Effects on a Hop Count Based Distance Estimation	39
<i>S. Merkel, S. Mostaghim, H. Schmeck</i>	
Phase Adjustment in HS-SFN for HSDPA	44
<i>O. Puchko, M. Zolotukhin, V. Hytonen, T. Hohne, T. Chapman</i>	
An Emulated Test Framework for Service Discovery and MANET Research based on ns-3	49
<i>M. Skjegstad, F. Johnsen, J. Nordmoen</i>	
Introduction of Multiflow for HSDPA	54
<i>V. Hytonen, O. Puchko, T. Hohne, T. Chapman</i>	
Dethroning Transport Layer Security in the Embedded World	59
<i>S. Unger, S. Pfeiffer, D. Timmermann</i>	
Multi-Party Trust Computation in Decentralized Environments	64
<i>T. Dimitriou, A. Michalas</i>	
Multi-Agent Systems Negotiation Approach For Handoff In Mobile Cognitive Radio Networks	69
<i>E. Triguí, M. Esseghir, L. Merghem-Boulahia</i>	
Mobility-aware Topology Manager for Publish-Subscribe Networks	74
<i>B. Gajic, J. Palenzuela, J. Riihijarvi, P. Mahonen</i>	
Refining a Quantitative Information Flow Metric	79
<i>S. Hussein</i>	
Efficient Cluster-based Fault-tolerant Schemes for Wireless Sensor Networks	86
<i>M. Lehsaini, M. Feham, H. Guyennet</i>	
Towards Smart Anti-Malwares for Battery-Powered Devices	91
<i>H. Housani, H. Otrok, R. Mizouni, J. Robert, A. Mourad</i>	
Compact Implementation of Threefish and Skein on FPGA	95
<i>N. At, J. Beuchat, I. San</i>	
RECOMAC: A Cross-layer Cooperative Network Protocol for Wireless Ad Hoc Networks	100
<i>M. Gokturk, O. Gurbuz, E. Erkip</i>	
Anonymous Identity-Based Encryption With Distributed Private-Key Generator and Searchable Encryption	107
<i>A. Siad</i>	
Adaptive Probabilistic Flooding for Multipath Routing	115
<i>C. Betoule, T. Bonald, R. Clavier, D. Rossi, G. Rossini, G. Thouenon</i>	
ABLA: Angle-Based Location Advertisement for Location-Based Ad-Hoc Routing Protocols	121
<i>H. Higaki</i>	
Global Versus Local Re-Association Approach To Extend The Lifetime Of Large-Scale IEEE 802.15.4/ZigBee Wireless Sensor Networks	126
<i>Z. Ayoub, S. Ouni, F. Kamoun</i>	
Address Allocation Scheme to Improve Lifetime of IPv6 Cluster-based WSNs	131
<i>L. Saad, B. Tourancheau</i>	
Real-life Performance Analysis of Always-Best-Connected Network	136
<i>J. Kellokoski, J. Koskinen, T. Hamalainen</i>	
Power Consumption Analysis of the Always-Best-Connected User Equipment	141
<i>J. Kellokoski, J. Koskinen, T. Hamalainen</i>	

A Distributed Approach for Secure M2M Communications	146
<i>Y. Saied, A. Oliveureau, M. Laurent</i>	
Energy Load Balancing for Fixed Clustering in Wireless Sensor Networks	153
<i>S. Ali, C. Sevgi</i>	
Learning Traffic Light Phase Schedules from Velocity Profiles in the Cloud	158
<i>M. Kerper, C. Wewetzer, A. Sasse, M. Mauve</i>	
Improving the Resistance to Side-channel Attacks on Cloud Storage Services	163
<i>O. Heen, C. Neumann, L. Montalvo, S. Defrance</i>	
SUCH: A Cloud Computing Management Tool	168
<i>H. Yu, J. Rann, J. Zhang</i>	
Self-Timed Physically Unclonable Functions	172
<i>J. Murphy, M. O'Neill, F. Burns, A. Bystrov, A. Yakovlev, B. Halak</i>	
Cross Layer MAC and PHY Architecture for Collision Correction of DSRC Safety Messages	177
<i>W. Cassidy, N. Jaber, K. Tepe</i>	
Vehicular Broadcast Messaging Reliability Enhancement Protocol for Emergency Vehicle Communications	182
<i>N. Jaber, W. Cassidy, E. Abdel-Raheem, K. Tepe</i>	
A Relay Deployment Mechanism for One Scenario of Cost-Effective Coverage Extension in IEEE 802.16j Networks	186
<i>M. Zolotukhin, T. Hamalainen, A. Garnaev</i>	
Towards Strong Security In Embedded And Pervasive Systems: Energy And Area Optimized Serial Polynomial Multipliers In $GF(2^k)$	192
<i>Z. Dyka, P. Langendoerfer, F. Vater, S. Peter</i>	
Demystifying Link Congestion in 4G-LTE Backhaul using OpenFlow	198
<i>D. Venmani, D. Zeglache, Y. Gourhant</i>	
Energy Cost of Mitigating Physical Attacks in Wireless Sensor Networks	206
<i>D. Incebacak, K. Bicakci, B. Tavli</i>	
A Model for Privacy and Security Risks Analysis	211
<i>E. Paintsil</i>	
Non-Transferable Proxy Re-Encryption Scheme	219
<i>Y. He, T. Chim, L. Hui, S. Yiu</i>	
Energy Efficient Resource Allocation and Deployment Strategies for Wireless Networks	223
<i>T. Ahsin, S. Slimane</i>	
Evaluation of Power Efficiency for Digital Serial Interfaces of Microcontrollers	228
<i>K. Mikhaylov, J. Tervonen</i>	
CSMA-based Bandwidth Estimation for Cognitive Radio Sensor Networks	233
<i>G. Shah, O. Akan</i>	
Fingerprinting Seismic Activity Across An Internet Of Things	238
<i>J. Moore, J. Bagale, A. Kheirkhahzadeh, P. Komisarczuk</i>	
Comparison Of Messaging Protocols For Emerging Wireless Networks	244
<i>J. Bagale, J. Moore, A. Kheirkhahzadeh, P. Komisarczuk</i>	
Cache Attacks: An Information and Complexity Theoretic Approach	249
<i>E. Savas, C. Yilmaz</i>	
Evaluation of Security Problems and Intrusion Detection Systems for Routing Attacks in Wireless Self-organised Networks	256
<i>O. Adaobi, E. Igbesoko, M. Ghassemian</i>	
Experiments on the RSSI as a Range Estimator for Indoor Localization	261
<i>N. Dieng, C. Chaudet, M. Charbit, L. Toutain, T. Meriem</i>	
Distributed Shared Memory as an Approach for Integrating WSNs and Cloud Computing	266
<i>P. Langendoerfer, K. Piotrowski, M. Diaz, B. Rubio</i>	
Technical Enforcement of European Privacy Legislation: An Access Control Approach	272
<i>K. Bekara, M. Laurent, T. Nguyen</i>	
Towards an Energy-Efficient Algorithm based Sleep-Scheduling for Wireless Sensor Networks	279
<i>B. Zebbane, M. Chenait, N. Badache</i>	
A Semi-Analytical Macroscopic MAC Layer Model for LTE Uplink	283
<i>S. Louvros, A. Baltagiannis, A. Iossifides, G. Economou, K. Aggelis</i>	
Toward Cognitive Radio Resource Management Based On Multi-Agent Systems For Improvement Of Real-Time Application Performance	288
<i>A. Amraoui, F. Benidriss, B. Benmammar, F. Krief, F. Bendimerad</i>	
Security Aspects Of Policy Controlled Cognitive Radio	292
<i>G. Baldini, V. Rakovic, V. Atanasovski, L. Gavrilovska</i>	

TASAM - Towards The Smart Devices App-Stores Applications Security Management Related Best Practices	297
<i>Z. Kazmi, T. Felguera, J. Vila, M. Marcos</i>	
A Multipath Layered Cluster Based Routing For Ad Hoc Networks.....	302
<i>I. Jemili, N. Chaabouni, A. Belghith, M. Mosbah</i>	
On The Performance Of MANETs Under Different Mobility Patterns And Routing Protocols And Its Improvement Based On Fixed Relay Nodes	307
<i>M. Abdelmoumen, I. Arfaoui, M. Frikha, T. Chahed</i>	
Routing in Content-Centric Networks: From Names to Concepts	312
<i>G. Lioudakis, A. Anadiotis, A. Mousas, C. Patrikakis, D. Kaklamani, I. Venieris</i>	
Dynamic Incentives for Risk Management.....	317
<i>T. Alpcan</i>	
Distributed Medium Access Scheduling for Wireless LANs	322
<i>D. Kwak, H. Ko, C. Kim</i>	
DBAS: A Deployable Bandwidth Aggregation System.....	327
<i>K. Habak, M. Youssef, K. Harras</i>	
A Topology-Based Approach to the Predictive Analysis of Intelligent Transportation Systems Dynamics	333
<i>A. Hamilili</i>	
Towards a Generic Framework for Wireless Sensor Network Multi-Criteria Routing	338
<i>N. Sahli, N. Jabeur, I. Khan, M. Badra</i>	
Energy Efficient Optimization and Route Recovery for Gradient Broadcast Routing Protocol for Wireless Sensor Networks.....	344
<i>A. Apavatjirut</i>	
Risk Management for IT Security: When Theory Meets Practice	348
<i>A. Chorppath, T. Alpcan</i>	
HumanS: A Human Mobility Sensing Simulator.....	353
<i>T. Kanaya, A. Hiromori, H. Yamaguchi, T. Higashino</i>	
Finding Secure Compositions of Software Services: Towards A Pattern Based Approach	357
<i>L. Pino, G. Spanoudakis</i>	
GlobeTraff: A Traffic Workload Generator For The Performance Evaluation Of Future Internet Architectures.....	362
<i>K. Katsaros, G. Xylomenos, G. Polyzos</i>	
Content-Aware Rate Control for Video Transmission with Buffer Constraints in Multipath Networks	367
<i>M. Hajiesmaili, A. Sehati, A. Khonsari</i>	
Aided Navigation Techniques for Indoor and Outdoor Unmanned Vehicles.....	372
<i>G. Tuna, K. Gulez</i>	
Mobile Robot Aided Self-Deploying Wireless Sensor Networks for Radiation Leak Detection.....	376
<i>G. Tuna, K. Gulez, T. Mumcu, V. Gungor</i>	
Wireless Sensor Network Redeployment Under The Target Coverage Constraint	381
<i>D. Zorbas, T. Razafindralambo</i>	
Fighting Phishing The Information-Centric Way	386
<i>N. Fotiou, G. Marias, G. Polyzos</i>	
Opportunistic Relay Selection for Wireless Cooperative Network.....	391
<i>T. Jamal, P. Mendes, A. Zuquete</i>	
Architectural Optimizations & Hardware Implementations of WLANs Encryption Standard	395
<i>N. Sklavos, P. Kitsos</i>	
SUIT: A Cross Layer Image Transport Protocol with Fuzzy Logic Based Congestion Control for Wireless Multimedia Sensor Networks	400
<i>C. Sonmez, S. Isik, M. Donmez, O. Incel, C. Ersoy</i>	
Integral Federated Identity Management for Cloud Computing	406
<i>M. Stihler, A. Santin, A. Marcon Jr., J. Fraga</i>	
Throughput Limits in Spectrum Sensing Cognitive Radio Networks using Point Processes Invited Paper.....	411
<i>A. Busson, B. Jabbari, A. Babaei, V. Veque</i>	
Cluster-Directed Acyclic Graph Formation for IEEE 802.15.4 in Multihop Topologies.....	419
<i>B. Pavkovic, W. Hwang, F. Theoleyre</i>	
Key Management Scheme for Routing in Clustered Heterogeneous Sensor Networks	425
<i>K. Gagheja, K. Nygard</i>	
A Novel Indirect Trust based Link State Routing Scheme using a Robust Route Trust Method for Wireless Sensor Networks.....	430
<i>A. Raha, M. Naskar, A. Chakraborty, O. Alfandi, D. Hogrefe</i>	

Implementation And Benchmarking Of CUSUM Algorithm For Spectrum Sensing Under Low SNR Regimes On ANRC Cognitive Radio Testbed	435
<i>R. Budihal, H. Jamadagni</i>	
Mist: A Reliable and Delay-Tolerant Publish/Subscribe Solution for Dynamic Networks	441
<i>M. Skjegstad, F. Johnsen, T. Bloebaum, T. Maseng</i>	
Automatic Identification Based on Hand Geometry and Probabilistic Neural Networks	449
<i>E. El-Alfy</i>	
Energy-Efficient Clustering Algorithm for Wireless Sensor Networks Using the Virtual Field Force	454
<i>A. Seyam, F. Awad, E. Taqieddin</i>	
Pseudorandom Number Generation in Smart Cards: An Implementation, Performance and Randomness Analysis	459
<i>R. Akram, K. Markantonakis, K. Mayes</i>	
Performance Evaluation of CoAP using RPL and LPL in TinyOS	466
<i>T. Potsch, K. Kuladinithi, M. Becker, P. Trenkamp, C. Goerg</i>	
Resource Location for Opportunistic Networks	471
<i>A. Poersch, D. Macedo, J. Nogueira</i>	
Effective Energy Management in Routing Protocol for Wireless Sensor Networks	476
<i>Z. Aliouat, M. Aliouat</i>	
Solid Waste Management Architecture using Wireless Sensor Network Technology	481
<i>S. Longhi, D. Marzjoni, E. Alidori, G. Buo, M. Prist, M. Grisostomi, M. Pirro</i>	
Self-Certified Based Trust Establishment Scheme In Ad-Hoc Networks	486
<i>K. Hamouid, K. Adi</i>	
Context-Aware, Trust-Based Access Control For The Di.Me Userware.....	493
<i>M. Heupel, L. Fischer, D. Kesdogan, M. Bourimi, S. Scerri, F. Hermann, R. Gimenez</i>	
A Study of Trojan Propagation in Online Social Networks	499
<i>M. Faghani, A. Matrawy, C. Lung</i>	
Multi Path Considerations for Anonymized Routing: Challenges and Opportunities	504
<i>H. Karaoglu, M. Akgun, M. Gunes, M. Yuksel</i>	
Improving Trust and Privacy Models in Social Networks	509
<i>N. Jabeur, S. Zeadally, S. Maydebura</i>	
SCOUT: Social Context-Aware Ubiquitous System	514
<i>D. Rabbou, A. Mtibaa, K. Harras</i>	
Towards Security Certification Schemas For The Internet of Services	520
<i>V. Lotz, S. Kaluvuri, F. Cerbo, A. Sabetta</i>	
Relay Power Minimization Approach based on General-Rank Beamforming for Multi-Antenna Relaying Schemes	525
<i>S. Rezvani, S. Safavi, R. Zadeh, A. Haghbin, R. Davarpanah</i>	
Redefining Security Engineering.....	530
<i>C. Rudolph, A. Fuchs</i>	
Author Index	