



New Technologies, Mobility and Security

Program of NTMS'2009 Conference and Workshops

NTMS'2009 PARTNERS



NTMS'2009 ORGANIZERS



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PREFACE

It is our great pleasure to welcome you to NTMS'2009, the Third International Conference on New Technologies, Mobility and Security, held on 20 to 23rd December 2009 in Cairo, Egypt, technically sponsored by IEEE COMSOC, IFIP TC6 WG and IEEE Egypt. The conference was organised by TELECOM ParisTECH, CNRS/LIMOS Laboratory, American University in Cairo, in cooperation with Ain Shams University and Orange Lab - Cairo.



M. Badra

NTMS 2009 offers the best tutorial, keynotes featuring technical paper presentations and demonstrations.

This year, submissions are processed under three tracks: New Technologies, Mobility and Security. The core of the technical program is the careful selection of interesting and novel research papers selected for presentation at the conference that you will find in this volume.

In response to the call for papers, 200 papers were submitted to the conference. These papers were evaluated on the basis of their significance, novelty, and technical quality. Each paper was reviewed by at least two members of the program committee and up to five reviews in case of disagreement. Of the papers submitted, 64 were selected as regular paper for presentation at the conference, giving an acceptance rate of about 32%. Further we selected 9 short papers describing potentially interesting work but not yet mature as regular paper to be presented in two poster sessions.

We further feature two stimulating keynote speeches by Dr. Bertrand du Castel (Schlumberger Fellow) and by Dr. Tarek El-Ghazawi (George Washington University). In addition to the regular papers and poster sessions, we have a full schedule of Tutorials and Workshops. The Chairs of these events have selected 2 tutorials and 2 workshops.

There is a long list of people who volunteered their time and energy to put together the conference and who deserve acknowledgment. Thanks to all members of the Technical Program Committee, and the external reviewers, for their hard work in evaluating and discussing papers and last but not least their patience in supporting the nagging of TPC co-chairs.

We would like to thank the steering committee and the local organizer for their support. In particular Dr. Ibrahim Hajjeh prompt and helping hand was instrumental to the success of the conference. We are also very grateful to all other NTMS'2009 organizers whose work ensured a smooth organizational process. Thanks to Orange R&D in Cairo for their technical and financial support; in particular to Drs. Ayman Ibrahim and Ayman Hassan.

Our last but not least thanks go to all the authors who submitted papers and all the attendees. We hope you will enjoy the conference. See you at NTMS'2009.

Mohamad Badra – Dhofar University, Oman

On behalf of the Steering Committee

Message from the general Chairs

On behalf of the organization staff and the technical committee, we welcome you to the Third International Conference on New Technologies, Mobility and Security (NTMS 2009) in Cairo, Egypt.

After the huge success of 2007 and 2008 editions, NTMS continued this year to receive and produce high quality of research papers on new and mobile technologies and their security. This year, we received around 200 submissions. In average, each paper was distributed to three reviewers from the experts of the program committee.



K. Al-Agha

G. Newby

The program features papers on leading edge topics, submitted by scholars from around the world. These papers, together, advance our knowledge of the conference topics. They provide insights into security for computerized non-computerized systems, examine the continually emerging roles of mobile technologies for society, and anticipate some new and exciting technological futures.

The conference covers all areas concerning mobility, new technologies and security. In parallel to regular sessions, the conference takes the option to organize three workshop dealing with very specific areas in relation with the conference topics. Those workshops are focusing on the following areas: electronic systems and applications, sensor networks, service computing and positioning, technology demonstration and vehicular technologies.

Two prior editions of NTMS were organized. The first edition, NTMS 2007, took place in Paris, France while the second edition, NTMS 2008, took place in Tangier, Morocco. The conference is organized through collaboration with many sponsors (IEEE, IFIP, Orange, Telecom ParisTech, CNRS, Ain Shams University and the American University in Cairo). We are grateful for their support to the conference organisation.

We want to thank the authors for their submissions. Also, we address our gratitude to the reviewers for their multiple reviews during the selection process. We give a special thank to Pascal Lorenz, Joel Rodrigues, Albert Levi, Roberto Di Pietro, Hassnaa Moustafa and Amr El-Kadi to co-chair the technical program committee and to their strong participation to the paper selection. We thank also Nicolas Sklavos, Ayman Ibrahim for the workshop organization; Bertrand du Castel and Ayman Hassan for the tutorial organization; James Hughes for charing the keynote; Reem Bahghat, Mohamed Taher and Abou El-Alalaa Heussien for all the time that will spend during the conference to provide a perfect organization.

Finally, we have to thank Mohamed Badra for spending a huge amount of time to help in all the conference tasks.

See you in Cairo.

Khaldoun Al Agha and Gregory Newby
NTMS 2009 General co-chairs

Message from the TPC Co-Chairs

It is our great pleasure to welcome you to NTMS'2009, the Third International Conference on New Technologies, Mobility and Security, held on 20 to 23rd December 2009 in Cairo, Egypt, technically sponsored by IEEE COMSOC, IFIP TC6 WG and IEEE Egypt.

NTMS'2009 is an exciting event that provides a dynamic forum for researchers, students and professionals to present their state-of-the-art research and development in the areas of New Technologies, Wireless Networks, Mobile Computing, Ad hoc and Ambient Networks, QoS, Network Security and E-commerce, to mention a few. This year's program introduces high-quality research of both industrial and academic relevance, and offers an ideal forum for researchers from both the academia and the industry to meet, exchange ideas, and learn about the state-of-the-art in the fields of New Technologies, Mobility and Security.

This year submissions are processed under three tracks: New Technologies, Mobility and Security.

1. *New Technologies Track*: It aims to present and discuss the recent advances and novel aspects of technology, applications and services development to help create pathways for the development of common goals in convergent networks environments. In response to our call for paper, we received 50 papers submissions, of which 17 papers were selected for oral presentation, and 3 papers were selected for poster presentation. The paper selection process was a result of a thorough peer review process allowing an acceptance rate of 40%. Great thanks go to our program committee members for helping to assemble such a strong technical program and to NTMS 2009 Steering Committee who devoted an enormous amount of time in following the organisation of this track.



A. El-Kadi



H. Moustafa

2. *Mobility Track*: The response to our call for papers for the Mobility Track was also strong. We received 77 submissions. All papers received at least two independent reviews, and some received as many as four reviews. Based on the reviews of the TPC members, we selected 28 papers for oral presentation and 3 papers for poster presentation. We would like to thank the authors for their submissions. We also address our gratitude to the reviewers for their multiple reviews during the selection process.



Pascal Lorenz



J. Rodrigues

3. *Security Track*: The response to our call for papers for the Security Track was strong. We received 73 submissions from many countries around the globe—special mention must be made of the rising number of submissions from Europe and Asia, highlighting NTMS'2009 Security Track growing appeal to the international research and professional community. A rigorous review process was followed. All papers received



A. Levi



R. Di Pietro

at least three independent reviews, and some received as many as five reviews if the original three reviews were deemed inconsistent. Once the reviews were completed, an email-based discussion phase ensued, where each paper was discussed by its reviewers. The objective of the discussion phase was to try to reach a consensus among the reviewers, and accordingly classify each paper. As a result of these discussions, we selected 19 regular papers and 4 poster papers for the security track. We are satisfied with the balance of the program, as it contains not only strong papers on “established” topics such as applications of cryptography and cryptanalysis in communications security, and authentication protocols and services authorization, but also papers on “higher layer” like security modelling and protocol design, and “systems” papers focusing on experimental and pilot studies related to security. With so many papers to choose from, the job of the TPC was challenging and time consuming. We are very thankful to all the TPC members of the security track, each of whom reviewed an average of 6-7 papers, and who cooperated significantly in maintaining the timeliness of our review process. We are also thankful to the external reviewers. The dedicated help and hard work of the TPC members and the external reviewers helped us put together a very strong technical program.

We would also like to thank the General Co-Chairs, Khaldoun Al Agha and Gregory B. Newby, and the Steering Committee Azzedine Boukerche, Mohamad Badra, Pascal Urien, Stamatios Kartalopoulos, Houda Labiod, whose help was outstanding during the planning phase of the conference. We would also like to thank the other members of the organizing committee for facilitating various aspects of our work. Last but certainly not least, we would like to thank you, the participants, for attending the conference. We welcome you in Cairo, and hope that you will enjoy the conference program. We also look forward to your continued participation in future NTMS conferences.

Finally, we do hope that you will find the proceedings stimulating and a source of inspiration for future research.

New Technologies Track Co-Chairs

Hassnaa Moustafa
Amr El-Kadi

Mobility Track Co-Chairs

Pascal Lorenz
Joel Rodrigues

Security Track Co-Chairs

Roberto Di Pietro
Albert Levi

NTMS'2009 CONFERENCE COMMITTEE

Conference co-chairs

Khaldoun Al Agha – University of Paris XI, France

Gregory B. Newby – University of Alaska Fairbanks, USA

Steering Board

Mohamad Badra – Dhofar University, Oman

Azzedine Boukerche - University of Ottawa, Canada

Stamatios Kartalopoulos - University of Oklahoma, USA

Pascal Urien - TELECOM ParisTech, France

Houda Labiod – Telecom ParisTech, France

TRACKS & TRACK CHAIRS

Mobility Program co-chairs

Pascal Lorenz – University of Haute Alsace, France

Joel Rodrigues – Institute of Telecommunications, University of Beira Interior, Portugal

Security Program co-chairs

Albert Levi – Sabanci University, Turkey

Roberto Di Pietro – University of Roma Tre, Italy

New Technologies & services Program co-chairs

Hassnaa Moustafa – France Telecom (R&D), Orange Labs, France

Amr El-Kadi – AUC, Egypt

Tutorials chair

Bertrand du Castel – Schlumberger, USA

Ayman Hassan – Orange Labs, Egypt

Workshop chair

Nicolas Sklavos – Technological Educational Institute of Patras, Greece

Ayman Ibrahim – Orange Labs, Egypt

Financial chair

Ibrahim Hajjeh - Ineovation, France

Sunday, December 20

09:00 - 12:30

Tutorial: WSN electromagnetic wave propagation environments

By Prof. Walter Grote

Room: Eugenie Salon

In Wireless Sensor Networks (WSN), data is collected from sensors to be transmitted using wireless technology. Important aspects for wireless communications are large and small scale propagation characterization, such as signal fading, channel coherence time and bandwidth, the Rician K factor and power delay profile. Many WSN applications are in open field environments, like in agriculture, on roads, on vehicles, etc. In these cases, propagation models for free space, line of sight, reflection, diffraction and scattering, shadowing and Doppler effects may apply. Home or office environments are also feasible, where the before mentioned effects are effective, but also propagation through wall or window panels may take place. Mining is another field of interest, either if it is underground or in open pits. Modern mining procedures aim to replace human resources directly involved in the mineral extraction process by automatic or remote control systems. Also, human health security issues in mines call for the use of wireless telecommunication systems. A new and exciting application field is the use of Underwater WSN (UWSN) where signal propagation becomes a major issue due to increased attenuations and delays.



W. Grote

WSN designers attending this tutorial will deepen their understanding of the design tradeoffs that will make it feasible to extend the networks lifetime. Since the propagation environment is also used by other technologies using wireless communications, people working in this area may also benefit from this tutorial. In this tutorial, emphasis will be on deriving boundary conditions for propagation conditions based on fundamentals, so that non-specialists in electromagnetic wave propagation issues may get a good grasp of the problems involved and their solutions.

10:30 - 11:00

Coffee Break

12:30 - 14:00

Lunch

14:00 - 17:30

Tutorial: Post-IP Networks (knowledge, piloting, virtualization, security, etc.).

By Prof. Guy Pujolle

Room: Eugenie Salon

Abstract: this presentation deals with important paradigms for the future post-IP generation: Knowledge and piloting planes, network virtualization and strong closed authentication. In this talk, we describe these four paradigms and finally we can deduce what could be the future post-IP generation.



G. Pujolle

So, first, we describe a complete environment based on Autonomic Networking, associated with a knowledge plane and a piloting plane, to control the Quality of Service (QoS) in IP networks and consequently responds to users' requirements. Then we will describe network virtualization that can provide a powerful way to run multiple networks, each customized to a specific purpose, at the same time over a shared substrate. Finally, we introduce a high security scheme that can be deduced from a strong closed authentication where the customers can get a perfect privacy. We will compare the current TPM (Trusted Platform Module) solution with the future TEAPM (Trusted EAP Module) solution.

15:30 - 16:00

Coffee Break

Monday, December 21

09:00 - 10:30

Opening Plenary

Keynote : Maslow's Pyramid: Cloud Computing and the Ascent of Computer Needs
By **Bertrand Du Castel**

Room: Eugenie Salon

Workshop: WSN

Room: The View

10:30 - 11:00

Coffee Break

11:00 - 12:45

1st Session: Mobility Analysis, simulation, measurement and performance evaluation

Room: Eugenie Salon

Chair: Khaldoun Al Agha (University of Paris XI, France)

Radio Communication Model for Underwater WSN

Walter Grote (UTFSM, Chile); Carlos Uribe (Universidad Técnica Federico Santa María, Chile)

Characterization of geographic Distribution of Sensor Data by Opportunistic Network

Yasutaka Nishimura (KDDI R&D Laboratories Inc., Japan); Shinji Motegi (KDDI R&D Laboratories Inc., Japan); Kiyohito Yoshihara (KDDI R&D Laboratories Inc., Japan)

Distributed Delay: Improving Network Throughput by Reducing Redundant Broadcasts

Doug E Lundquist (University of Illinois at Chicago, USA); Aris Ouksel (University of Illinois at Chicago, USA)

2nd Session: Audio-Visual Applications

Room: Salon Vert

Chair: Guy Pujolle (University of Paris 6, France)

Video over MANETs: The Impact of Obstacles, Node Mobility and Background Traffic on The Perceived Video Quality

Hasan Al Khazaali (University of Wassit, Iraq); Christos Papageorgiou (University of Patras, Greece); Ilias Politis (University of Patras, Greece); Tasos Dagiuklas (Technological Educational Institute of Mesolonghi, Greece); Nasser Khamiss Alani (Alnahrain University, Iraq)

Control Services for The HTTP Session Mobility Service



B. Du Castel

Michael O. Adeyeye (University of Cape Town, South Africa); Neco Ventura (University of Cape Town, South Africa); David Humphrey (Seneca College, Canada)

Optimization of File Allocation for Video Sharing Servers

Emad Abd Elrahman (Telecom SudParis (ex. INT), France); Hossam Afifi (Institut Telecom, France)

A Cost-effective Service Delivery Platform to Support Mobility and Roaming in Pay-TV Systems

Hamidreza Shirazi (Self-employed, United Kingdom); John Cosmas (Brunel University, United Kingdom)

3rd Session: Secure Services

Room: Salon Royal

Chair: Albert Levi (Sabanci Univ., Turkey)

A Comprehensive Reference Architecture for Trustworthy Long-Term Archiving of Sensitive Data

Detlef Huehnlein (Secunet, Germany); Ulrike Korte (BSI, Germany); Lucie Langer (TU Darmstadt, Germany); Alexander Wiesmaier (Technische Universität Darmstadt - CDC, Germany)

Mutual Authentication Scheme for EPC Tags-Readers in the Supply Chain

Saleem Wehbe (American University of Beirut, Lebanon); Ayman Kayssi (American University of Beirut, Lebanon); Ali Chehab (American University of Beirut, Lebanon); Imad H Elhaji (American University of Beirut, Lebanon)

Analysis of ECDSA Authentication Processing in VANETs

Jonathan Petit (IRIT - Paul Sabatier University, France)

Simple Dynamic Key Management in SQL Randomization

Serguei A. Mokhov (Concordia University, Canada); Jian Li (Concordia University, Canada); Lingyu Wang (Concordia University, Canada)

12:45 - 14:00

Lunch

14:00 - 16:00

4th Session: WiMAX

Room: Eugenie Salon

Chair: Walter Grote (UTFSM, Chile)

A Two-Stage Frequency-Offset Estimation Scheme for OFDMA System

Mohammed Mostafa (El Shrouk academy, Egypt)

Enhanced Fractional Frequency Reuse to Increase Capacity of OFDMA Systems

Zheng Xie (RWTH Aachen University, Germany); Bernhard Walke (RWTH Aachen University, Germany)

Methodology for Calculating Path Loss Upper and Lower Bounds for WiMAX

Mohamed Mohamed About El-Dahab (Arab Academy for Science and Technology, Egypt); Hossam Kamel (Arab Academy for Science and Technology and Maritime Transport, Egypt)

Adjusting Holdoff Time of the IEEE 802.16 in Mesh Mode

Cecília Cesar (Instituto Tecnológico de Aeronáutica, Brazil); Nelson L. S. da Fonseca (State University of Campinas, Brazil); Solon Carvalho (Instituto Nacional de Pesquisas Espaciais, Brazil)

5th Session: NGN Architectures

Room: Salon Vert

Chair: Tarek El-Ghazawi (The George Washington University, USA)

Email Messaging over Heterogenous Networks and Interfaces

Juho Määttä (Helsinki University of Technology, Finland); Risto Järvinen (Helsinki University of Technology, Finland); Riku Luostarinen (Helsinki University of Technology, Finland); Jukka M J Manner (Helsinki University of Technology, Finland)

A Novel Lookup Service Enabler for Presence-based Applications and its Architecture in the 3GPP IP Multimedia Subsystem

Zhongwen Zhu (Ericsson Canada, Canada); Fatna Belqasmi (Ericsson Canada, Canada); Chunyan Fu (Ericsson Canada, Canada); Roch Glitho (Concordia University, Canada)

Distributed Systems Ontology

João H. S. Pereira (Universidade de Sao Paulo, Brazil); Pedro Rosa (Universidade Federal de Uberlândia, Brazil)

Horizontal Address Ontology in Internet Architecture

João H. S. Pereira (Universidade de Sao Paulo, Brazil); Pedro Rosa (Universidade Federal de Uberlândia, Brazil)

CellNet: A Bottom-Up Approach to Network Design

Hoda M. Hassan (Virginia Tech, Egypt); Mohamed Eltoweissy (Virginia Tech, USA); Moustafa Youssef (Nile University, Egypt)

6th Session: Wireless Sensor Network Security

Room: Salon Royal

Chair: Bertrand Du Castel (SLB, USA)

Secure and Efficient Data Storage in Unattended Wireless Sensor Networks

Yi Ren (University of Agder, Norway); Vladimir Oleshchuk (University of Agder, Norway); Frank Y. Li (University of Agder, Norway)

Fast Recovery from Node Compromise in Wireless Sensor Networks

Bai Li (Deakin University, Australia); Robin Doss (Deakin University, Australia); Lynn M Batten (Deakin University, Australia); Wolfgang Schott (IBM Zurich Research Laboratory, Switzerland)

A Lightweight Key Establishment Scheme for Wireless Sensor Networks

Seyed Hossein Nikounia (Sharif University of Technology, Iran); Farshad Amin (Sharif University of Technology, Iran); Amir Hossein Jahangir (Sharif University of Technology, Iran)

Data-Centric Dempster-Shafer Theory-Based Selfishness Thwarting via Trust Evaluation in MANETs and WSNs

Jerzy Konorski (Gdansk University of Technology, Poland); Rafal Orlikowski (R&D Marine Technology Centre S.A., Poland)

16:00 - 16:20

Coffee Break

16:20 - 18:00

7th Session: Multimedia Protocols / Applications

Room: Salon Vert

Chair: Amr A El-Kadi (The American University in Cairo, Egypt)

A New Implementation of a Half-Duplex Decode-and-Forward Cooperative Algorithm using Complete Complementary Code Sets.

Noha Ossama El-Ganainy (Alexandria Institute of engineering and technology, Alexandria, Egypt., Egypt); Said E. El-Khamy (Alexandria University, Egypt); Mohamed Amr Mokhtar (Alexandria University, Egypt); Ahmed AboulSeoud (University of Alexandria, Faculty of Engineering, Egypt)

A Study on a Dynamic Traffic Control System for Multimedia Communications

Masayuki Yabe (Nippon Institute of Technology, Japan)

CAC for VoIP Traffic over Wireless Systems with Voice Activity Detection and Background Noise Transmission

Yakim Mihov (Technical University of Sofia, Bulgaria); Kiril Kassev (Technical University of Sofia, Bulgaria); Adriana Kalaidzhieva (Technical University of Sofia, Bulgaria); Boris Tsankov (Techniccal University-Sofia, Bulgaria)

CHEFC: Cluster Head Election with Full Coverage in Wireless Sensor Networks

Mohammad Mehdi Shirmohammadi (Islamic Azad University hamedan branch, Iran); Mostafa Chhardoli (Islamic Azad University hamedan branch, Iran)

8th Session: Algorithms and Protocols for New Services

Room: Eugenie Salon

Chair: Sherif Aly (American University in cairo, Egypt)

Web Services for Quality of Service Monitoring

Evelina Pencheva (Technical University of Sofia, Bulgaria); Ivaylo Atanasov (Technical University of Sofia, Bulgaria)

Integrated Control Platform with Load Balancing Algorithm in the Hybrid Optical Wireless Networks

Ying Yan (Technical University of Denmark, Denmark); Lars Dittmann (Technical University of Denmark, Denmark); Shing-Wa Wong (Stanford University, USA); Leonid Kazovsky (Stanford University, USA)

Performance Analysis of IPv4 and IPv6 on Windows Vista and Windows XP over Fast Ethernet in Peer-Peer LAN

Samad S. Kolahi (Unitec Institute of Technology, New Zealand); Burjiz Soorty (Unitec New Zealand, New Zealand); Zhang Qu (Unitec New Zealand, New Zealand); Navneet Chand (Unitec New Zealand, New Zealand)

Utilizing Network Coding for File Dissemination in Peer-to-Peer Systems

Maryam Hosseini Sohei (Sharif University of Technology, Iran); Najmeh Sadat Bathaee (Sharif University of Technology, Iran); Ali Movaghar (Sharif University of Technology, Iran)

9th Session: Biometric Security; Information Hiding

Room: Salon Royal

Chair: Alexander Wiesmaier (Technische Universität Darmstadt - CDC & Center for Advanced Security Research Darmstadt, Germany)

An Expression Invariant 3D Face Recognition Algorithm

Aditya Budhwar (Harcourt Butler Technological Institute, India); Rahul Agrawal (HBTI, India); Anuj Dubey (HBTI, India); Shraddha Gupta (HBTI, India); Vandana Kaushik (Harcourt Butler Technological Institute, India); Vinay Pathak (Harcourt Butler Technological Institute, India); Phalguni Gupta (Indian institute of technology Kanpur, India)

Improving E-Banking Security with Biometrics: Modelling user attitudes and acceptance

Rana Tassabehji (University of Bradford, United Kingdom); Mumtaz Kamala (University of Bradford, United Kingdom)

A New Approach of Mesh Watermarking Based on Maximally Stable Meshes Detection

Ezzeddine Zagrouba (URSIIVA, Tunisia); Saoussen Ben Jabra (Sciences University of Tunis, Tunisia)

Improving Security of Pixel Value Differencing Steganographic Method

Nazanin Zaker (Shiraz University, Iran); Ali Hamzeh (Shiraz University, Iran); Shadrokh Samavi (McMaster University, Canada); S. D. Katebi (Shiraz University, Shiraz, Iran, Iran)

Tuesday, December 22

09:00 - 10:30

10th Session: Mobility services and management

Room: Eugenie Salon

Chair: Kun Mean Hou (LIMOS, France)

Analysis of a Device-free Passive Tracking System in Typical Wireless Environments

Ahmed Kosba (Alexandria University, Egypt); Ahmed Abdelkader (Alexandria University, Egypt); Moustafa Youssef (Nile University, Egypt)

Congestion game models for Dynamic Spectrum sharing

Yenumula B Reddy (Grambling State University, USA)

Reduced Computational Complexity BeamSpace Beamforming Design For MIMO Multicast Systems

Nikolay Petrov (Technical University of Sofia, Bulgaria); Vladimir Poulkov (Technical University of Sofia, Bulgaria); Georgi Iliev (Technical University of Sofia, Bulgaria)

11th Session: Network and System Security

Room: The View

Chair: Albert Levi (Sabanci Univ., Turkey)

Mixing Concrete and Symbolic Execution to Improve the Performance of Dynamic Test Generation

Gen Li (National University of Defense Technology, P.R. China); Kai Lu (School of Computer, National University of Defence Technology, P.R. China); Ying Zhang (National University of Defense Technology, P.R. China); Xicheng Lu (School of Computer, National University of Defence Technology, P.R. China); Wei Zhang (School of Computer, National University of Defence Technology, P.R. China)

A Visualization Framework for Traffic Data exploration and Scan Detection

Mai El-Shehaly (Suez Canal University, Egypt); Denis Gracanin (Virginia Tech, USA); Ayman A. Abdel-Hamid (Arab Academy For Science, Technology, and Maritime Transport, Egypt); Kresimir Matkovic (VRVis Research Center, Austria)

Q-ESP: a QoS-compliant Security Protocol to enrich IPSec Framework

Mahmoud M Mostafa (Université de Toulouse - IRIT - ENSEEIHT - INPT, France); Anas Abou El Kalam (Université de Toulouse - IRIT - ENSEEIHT - INPT, France); Christian Fraboul (ENSEEIHT, France)

10:30 - 11:00

Coffee Break

11:00 - 12:45

12th Session: Home Networks

Room: Eugenie Salon

Chair: Wen Huang (University of Hong Kong, Hong Kong)

New Role of Policy-based Management in Home Area Networks – Concepts, Constraints and Challenges

Annie Ibrahim Rana (Waterford Institute of Technology, Ireland); Mícheál Ó Foghlú (Waterford Institute of Technology, Ireland)

A Bi-objective Power Aware Routing Algorithm for Personal Networks

Javad Vazifehdan (Delft University of Technology, The Netherlands); R Venkatesha Prasad (TUDelft -- Delft University of Technology, The Netherlands); Ramin Hekmat (Delft University of Technology, The Netherlands); Ignas Niemegeers (TU Delft, The Netherlands)

hBox – Connecting Homes

Matti Siekkinen (Helsinki University of Technology, Finland); Jukka M J Manner (Helsinki University of Technology, Finland); Sasu Tarkoma (Helsinki University of Technology, Finland); Antti Ylä-Jääski (Helsinki University of Technology, Finland)

Policy-based Network Management in Home Area Networks: Interim Test Results

Annie Ibrahim Rana (Waterford Institute of Technology, Ireland); Mícheál Ó Foghlú (Waterford Institute of Technology, Ireland)

13th Session: Cryptographic Hardware; Physical Layer Security Protocols

Room: The View

Chair: Robin Doss (Deakin University, Australia)

Low area Scalable Hardware/Software Co-design for Elliptic Curve cryptography

Mohamed Hassan (University of Sheffield, United Kingdom); Mohammed Benaissa (University of Sheffield, United Kingdom)

Hidden Anchor: Providing Physical Layer Location Privacy in Hybrid Wireless Sensor Networks

Rania El-Badry (Nile University, Egypt); Moustafa Youssef (Nile University, Egypt); Mohamed Eltoweissy (Virginia Tech, USA)

An Adaptive Quantization Algorithm for Secret Key Generation using Radio Channel Measurements

Sana Tmar - Ben Hamida (CEA, Leti, Minatec, France); Jean-Benoît Pierrot (CEA-Leti, France); Claude Castelluccia (INRIA, France)

12:45 - 14:00

Lunch

13:30 - 15:30

Workshop: WSN

Room: The View

14:00 - 16:00

14th Session: Routing/QoS for WSN and MANETS

Room: Eugenie Salon

Chair: Nikolaos G. Bardis (University of Military Education - Hellenic Army Academy & N.C.S.R. Demokritos, Institute of Informatics & Telecommunications, Net Media Lab, Greece)

Enhanced Blocking Expanding Ring Search in Mobile Ad Hoc Networks

Ida M Pu (Goldsmiths, University of London, United Kingdom); Yuji Shen (University of Birmingham, United Kingdom)

Functional Enhancements of Proactive Routing in Mobile Ad Hoc Networks

Mohamed Amine Abid (University of Manouba 2010, Tunisia); Abdelfettah Belghith (University of Manouba, Tunisia)

Throughput-Optimized Opportunistic Scheduling for Rate-Guaranteed and Best-Effort Users in Wireless Networks

Wen Huang (University of Hong Kong, Hong Kong); Kwan Yeung (University of Hong Kong, Hong Kong)

Localized QoS Routing Algorithms Based on Residual Bandwidth

Turki Al Ghamdi (University of Bradford, United Kingdom)

A Flexible Routing Architecture to Support Diversified Application-level Data Types in MANETs

Kitisak Osathanunkul (University of Manchester, United Kingdom); Ning Zhang (University of Manchester, United Kingdom)

15:30 - 18:00

Workshop: SCLP

Room: The View

16:00 - 16:20

Coffee Break

16:20 - 18:00

15th Session: NTMS Poster & Demo 2009 Session

Room: Eugenie Salon

A Compact Routing Scheme with Lower Stretch

Huaiyuan Ma (Norwegian University of Science and Technology, Norway); Bjarne E. Helvik (Norwegian University of Science and Technology, Norway); Otto J Wittner (UNINETT, Norway)

Delay and Bandwidth constrained Routing with Throughput optimization in TDMA-based MANETs

David Espes (Paul Sabatier University, France); Zoubir Mammeri (Paul Sabatier University, France)

A Generic Metadata Framework for the Indexation and the Management of Distributed Multimedia Contents

Mihaela Brut (IRIT, France); Sébastien Laborie (IRIT, France); Ana-Maria Manzat (IRIT, France); Florence Sedes (IRIT Université Paul Sabatier, France)

Secure Workflow Execution in Grid Environments

Alexandru-Lucian Petrescu (Politehnica University of Bucharest, Romania); Catalin Leordeanu (University Politehnica of Bucharest, Romania); Valentin Cristea (University Politehnica of Bucharest, Romania)

Dynamic Scheduling of Virtual Machines Running HPC Workloads in Scientific Grids

Omer Khalid (CERN, Switzerland); Ivo Maljevic (Soma Networks, Canada); Richard John Anthony (University of Greenwich, United Kingdom); Miltos Petridis (University of Greenwich, United Kingdom); Kevin Parrott (University of Greenwich, United Kingdom); Markus Schulz (CERN, Switzerland)

Context-aware Dynamic Security Configuration for Mobile Communication Device

Gaeil An (ETRI, Korea); Geuntae Bae (KAIST, Korea); KiYoung Kim (ETRI, Korea); Dong Il Seo (ETRI, Korea)

Towards Semantic Event-Driven Systems

Kia Teymourian (Free University Berlin, Germany); Rehab Alnemr (Hasso Plattner Institute, Potsdam University, Germany); Olga Streibel (Free University Berlin, Germany); Adrian Paschke (Free University Berlin, Germany); Christoph Meinel (Hasso Plattner Institute, University of Potsdam, Germany)

Secure VoIP Using A Bare PC

Gholam H Khaksari (Penn State University, USA); Alexander L Wijesinha (Towson University, USA); Ramesh Karne (Towson University, USA)

The Impact of Security on the Performance of IPv4 and IPv6 Using 802.11n WLAN

Samad S. Kolahi (Unitec Institute of Technology, New Zealand); Zhang Qu (Unitec New Zealand, New Zealand); Burjiz Soorty (Unitec New Zealand, New Zealand); Navneet Chand (Unitec New Zealand, New Zealand)

GNSS Synchronization in Vanets

Riccardo Scopigno (Istituto Superiore Mario Boella - University of Pavia, Italy); Hector Agustin Cozzetti (Istituto Superiore Mario Boella, Italy)

How to build web self-service by functional profiles?

Benjamin Chevallereau, Ecole Centrale de Nantes, France; and Alain Bernard, Ecole Centrale de Nantes, France

A Network Simulator for Autonomic Context-Aware Architecture

Maïssa MBAYE, LaBRI - Laboratoire Bordelais de Recherche en Informatique ,
France; and Francine KRIEF, LaBRI - Laboratoire Bordelais de Recherche en
Informatique , France

19:00 - 22:00

Banquet

Wednesday, December 23

09:00 - 11:00

16th Session: Data and Network Protocols

Room: Eugenie Salon

Chair: Khaldoun Al Agha (University of Paris XI, France)

Performance Analysis of Slotted CSMA/CA IEEE 802.15.4 with Heterogeneous No-Acknowledged Uplink Traffic

Walter Grote (UTFSM, Chile); Gustavo Sarmiento (Universidad Técnica Federico Santa Maria, Chile); Khaldoun Al Agha (University of Paris XI, France)

Title: Energy Conserving Transmission Scheduling using a dynamic p-persistent scheme

Jong-Hoon Youn (University of Nebraska, Omaha, USA); Nam Pham (University of Nebraska at Omaha, USA); Hesham H. Ali (University of Nebraska at Omaha, USA)

Performance Increase of Error Control Operation on Data Transmission

Nikolaos G. Bardis (University of Military Education - Hellenic Army Academy, Greece); Athanasios S Drigas (National Centre for Scientific Research "Demokritos", DTE/YE, Greece); Oleksandr P. Markovskyi (National Technical University of Ukraine, (Polytechnic Institute of Kiev), Ukraine)

Access-Points Deployment for Vehicular Networks Based on Group Centrality

Amine Kchiche (University of Manouba, Tunisia); Farouk Kamoun (CRISTAL, Tunisia)

11:00 - 11:30

Coffee Break

11:30 - 12:30

Keynote: Computing with Manycores and Heterogeneous Processors: The Productivity Challenges

Presented by: Tarek El-Ghazawi, The George Washington University

Room: Eugenie Salon

12:30 - 14:00

Lunch

14:00 - 16:00

17th Session: Mobility management and Handover

Room: Eugenie Salon

Chair: Walter Grote (UTFSM, Chile)



T. El-Ghazawi

Mobility Analyzer: A Framework for Analysis and Recognition of Mobility Traces in Mobile Ad-Hoc Networks

Mojgan Khaledi (Sharif University of Technology, Iran); Alimohammad Afshin Hemmatyar (Sharif University of Technology, Iran); Hamid Reza Rabiee (Sharif University of Technology, Iran); Seyed Morteza Mousavi (Sharif University of Technology, Iran); Mehrdad Khaledi (Sharif university of technology, Iran)

An Autonomic Piloting Plane for the Handover Decision Optimization

Meriem Abid (Paris Universitatis, France); Ilhem Fejjari (Paris Universitatis, France); Guy Pujolle (Laboratoire d'Informatique de Paris 6, France)

State of Host-Centric Multihoming in IP networks

Gabor Fekete (University of Jyväskylä, Finland); Timo Hämäläinen (University of Jyväskylä, Finland)

RFID-assisted Movement Detection Improvement in IP Mobility

Apostolia Papapostolou (Telecom Sudparis, France); Hakima Chaouchi (Telecom Sud Paris, France)

Efficient Micro-Mobility with Congestion Avoiding in Two-Nodes Mobile IP Network Architecture

Yacine Benallouche (Université de Versailles Saint-Quentin, France); Dominique Barth (University of Versailles-St Quentin, France); Mohammed Salah Karouia (Université de versailles Saint Quentin, France); Marc-Antoine Weisser (Supélec, France)

Wireless Sensor Networks - theory and practice

WSN Program

Monday, December 21

8:00 AM – 6:00 PM

Registration

9:00 AM - 09:25 AM

Opening ceremony

Room: The View

9:25 AM - 10:40 AM

Session: Routing Protocols

Room: The View

Chair: Prof. Xiaozong Yang (Harbin Institute of Technology, China)

Modeling the Topology for Cluster-based Wireless Sensor Networks

Li-jun Chen (Nanjing University, P.R. China); Qingfeng Pan (Nanjing University, P.R. China); Daoxu Chen (Nanjing University, P.R. China); Li Xie (Dept of Computer Science and Technology, Nanjing University, P.R. China)

Performance Study of Node Placement for Congestion Control in Wireless Sensor Networks

Vasos Vassiliou (University of Cyprus, Cyprus); Charalambos Sergiou (University of Cyprus, Cyprus)

Flash Mob Organization in Heterogeneous Wireless Sensor Networks

Tobias Baumgartner (Braunschweig University of Technology, Germany); Sándor P. Fekete (Braunschweig University of Technology, Germany); Winfried Hellmann (Braunschweig University of Technology, Germany); Alexander Kröller (Braunschweig University of Technology, Germany)

10:40 AM - 11:00 AM

Coffee Break

11:00 AM - 12:45 PM

Session: Energy Efficient Communication

Room: The View

Chair: Alexander Kröller (Braunschweig University of Technology, Germany)

Potential Game Model to Detect Holes in Sensor Networks

Yenumula B Reddy (Grambling State University, USA)

Characterizing the Traffic Load Distribution in Dense Sensor Networks

Qinghua Wang (Mid Sweden University, Sweden); Tingting Zhang (Mid Sweden University, Sweden)

Impact of Duty Cycle Variation on WSNs

Sithu Sudarsan (University of Arkansas at Little Rock, USA); Vimalathithan Subramanian (University of Arkansas at Little Rock, USA); Kenji Yoshigoe (University

of Arkansas at Little Rock, USA); Srimi Ramaswamy (University of Arkansas at Little Rock, USA); Remzi Seker (University of Arkansas, USA); Rathinasamy Lenin (University of Arkansas at Little Rock, USA)

A new energy-efficient, scalable and robust architecture for Wireless Sensor Networks

Juan-Vicente Capella-Hernández (Technical University of Valencia, Spain); Alberto Bonastre (Technical University of Valencia, Spain); Rafael Ors (Technical University of Valencia, Spain); Salvador Climent (Technical University of Valencia, Spain)

12:45 PM - 2:00 PM

Lunch

2:00 PM - 4:00 PM

Session: Localization

Room: The View

Chair: Hong Sun (Wuhan University, P.R. China)

Localized and Integrated Topology Maintenance for Wireless Sensor Networks

Yu Zhang (Orange Labs - Beijing, P.R. China); Nannan Zhao (Beijing University of Posts and Telecommunications, P.R. China)

Robust Cooperative Localization Technique For Wireless Sensor Networks

Mohamed Youssef (University of Calgary, Canada); Naser El-Sheimy (University of Calgary, Canada)

Minimizing Cost of Scalable Distributed Least Squares Localization

Ralf Behnke (University of Rostock, Germany); Jakob Salzmänn (University of Rostock, Germany); Dirk Timmermann (University of Rostock, Germany)

Towards an Efficient Positioning of Mobile Sinks in Wireless Sensor Networks inside Buildings

Leila Ben Saad (LIP UMR 5668 of CNRS-ENS-INRIA-Université Lyon1, France); Bernard Tourancheau (UMR LIP from CNRS, ENS, INRIA and University Lyon1, France)

Node Localization Algorithm Based on Matrix Pencil for Wireless Sensor Network

Chang Liu (Jilin University, P.R. China); Hong Jiang (Jilin University, P.R. China); Defa Wang (Jilin University, P.R. China)

4:00 PM - 4:30 PM

Coffee Break

4:30 PM - 6:00 PM

Session: Demonstrations

Room: The View

Chair: Alexander Kröllner (Braunschweig University of Technology, Germany)

LIMOS-Cemagref, Kun-Mean Hou & Jean-Pierre Chanet

Tuesday, December 22

8:00 AM – 6:00 PM

Registration

12:15 PM - 1:30 PM

Lunch

1:30 PM - 3:30 PM

Session: Applications

Room: The View

Chair: Dr. Jean-Pierre Chanet (Cemagref, France)

Toward a low cost and single chip HOLTER: SoC-HOLTER

Hao Ding (LIMOS, Université Blaise Pascal, France)

A Practical Scheme to Improve User Satisfaction with Reduced Power in Wireless Networks

Dong Cheul Jang (Sogang University, Korea); Ju Wook Jang (Sogang university, Korea)

Analytical Model for Energy Consumption Analysis in Grid Based Wireless Sensor Networks

Zeeshan Ali Khan (CNRS-LEAT, Université de Nice-Sophia Antipolis, France); Cécile Belleudy (CNRS-LEAT, Université de Nice-Sophia Antipolis, France); Michel Auguin (CNRS-LEAT, Université de Nice-Sophia Antipolis, France)

WSN Architectures for Intelligent Transportation Systems

Mounib Khanafer (University of Ottawa, Canada); Mouhcine Guennoun (University of Ottawa, Canada); Hussein Mouftah (University of Ottawa, Canada)

Fabrication of Passive Wireless Sensor by Pulsed Laser Scribing of Indium Tin Oxide

Oguzhan Balki (Old Dominion University, USA); Hani Elsayed-Ali (Old Dominion University, USA)

2nd International Workshop on Service computing, Context-aware, Location-aware and Positioning techniques

SCLP Program

Tuesday, December 22nd

3:30 PM - 4:05 PM

Welcome

Room: The View

Position-based Routing Protocols For Mobile Ad Hoc Networks

Invited speaker : Mohamed Bakhouya,
Université de Technologie de Belfort Montbéliard,
Belfort, France

4:05 PM - 4:20 PM

Short break

4:20 PM - 6:15 PM

Room: The View

Real-Time Motion Tracking Using the CELL BE

Hoda El-Sayed and Lubomir Riha
Department of Computer Science
Bowie State University,
Bowie, MD 20715, USA

Verification of Real-Time Systems: Application to the Transport Domain

Ahmed Hammad and Hassan Mountassir,
University de Franche-comte, Laboratoire Informatique de l'Université de Franche-Comté,
Besançon, France

TransportML: a middleware for Location-Based Services collaboration

Ana Roxin, Christophe Dumez, Nathanael Cottin, Jaafar. Gaber, Maxime Wack
Université de Technologie de Belfort Montbéliard,
Belfort, France

sDLSnd - Scalable Distributed Least Squares Localization with reduced Complexity

Ralf Behnke, Jakob Salzmann, Dirk Timmermann
Institute of Applied Microelectronics and Computer Engineering
University of Rostock
Rostock, Germany

Evaluating Geographic Routing Protocols for Vehicular Ad-hoc Networks

Kashif Dar, Mohamed Bakhouya, Jaafar Gaber, Maxime Wack
Université de Technologie de Belfort Montbéliard,
Belfort, France