



*The 8th IFIP International Conference on
New Technologies, Mobility and Security
(NTMS 2016)*

→ PROGRAM



**The 2016 Eighth IFIP International Conference on New Technologies,
Mobility and Security**

Program

Monday, November 21			
09:00 am-09:30 am	Opening Session		
09:30 am-10:30 am	Keynote: Adopting nature inspired techniques in solving communication problems		
10:30 am-11:00 am	Coffee Break		
11:00 am-12:30 pm	Security Session 1	Mobile, Wireless and Sensor Networks	
12:30 pm-02:00 pm	Lunch		
02:00 pm-03:30 pm	Power Saving in WSN	Security Session 2	Intelligent Networks
03:30 pm-04:00 pm	Coffee Break		
04:00 pm-06:00 pm	Wireless Sensor Networks	Security Session 3	Information Centric Networking
Tuesday, November 22			
09:00 am-10:30 am	Wireless Networks: Design and tools	Security Session 4	Internet of Things
10:30 am-11:00 am	Coffee Break		
11:00 am-12:30 pm	Cognitive Radio Networks and Channel Measurement	Security Session 5	4G and 5G Networks
12:30 pm-02:00 pm	Lunch		
02:00 pm-05:30 pm	Tutorial 1: Cryptography and Security in Internet of Things (IoTs): Models, Schemes, and Implementations	Tutorial 2: Performance guarantees in Wireless Sensor Networks: Issues, challenges and solutions, from congestion control to mobility management approaches	
03:30 pm-04:00 pm	Coffee Break		
04:00 pm-06:00 pm	Tutorial 1	Tutorial 2	
06:30 pm-10:00 pm	Banquet (Departure from the Hotel at 6 :30 pm)		
Wednesday, November 23			
09:00 am-10:30 am	Innovative Projects Session	WSN-ADT Workshop	CID Workshop Session
10:30 am-11:00 am	Coffee Break		
11:00 am-12:30 pm	Wireless Vehicular and Ad Hoc Networks	CID Workshop Invited Papers	
12:30 pm-02:00 pm	Cloture & Lunch		

Monday, November 21

09:00 - 09:30

Opening Session

Room: Triton

09:30 - 10:30

Keynote: Adopting nature inspired techniques in solving communication problems

Room: Triton

Prof. Andreas Pitsillides, University of Cyprus, Cyprus



10:30 - 11:00

Coffee Break

11:00 - 12:30

Security Session 1

Room: Arethusa

Chair: Nicolas Sklavos (University of Patras, Greece)

Inherent Resistance of Efficient ECC Designs against SCA Attacks

Zoya Dyka (Innovations for High Performance Microelectronics & IHP, Germany); Estuardo Bock and Ievgen Kabin (IHP, Germany); Peter Langendoerfer (IHP Microelectronics, Germany)

A Brief Survey of Security Approaches For Cyber-Physical Systems

Elias Bou-Harb (National Cyber-Forensics and Training Alliance (NCFTA) Canada & Florida Atlantic University, USA)

Towards a Big Data Architecture for Facilitating Cyber Threat Intelligence

Charles Wheelus (Florida Atlantic University & Cequent Incorporated, USA); Elias Bou-Harb (National Cyber-Forensics and Training Alliance (NCFTA) Canada & Florida Atlantic University, USA); Xinqun Zhu (FAU, USA)

Peer to Peer Botnet Detection Based on Network Traffic Analysis

Suzan Al mutairi (King AbdulAziz University, Saudi Arabia); Saoucene Mahfoudh (INRIA, France); Jalal S Alowibdi (University of Jeddah, Saudi Arabia)

Mobile, Wireless and Sensor Networks

Room: Thetis

Chair: Jose Luis Gomez Ortega (Manchester Metropolitan University, United Kingdom)

Performance Evaluation of a Hybrid Paging Mechanism to Support Locator Identity Split End-Host Mobility

Avinash Mungur (University of Mauritius, Mauritius); Ashfaat Tuhalo (University Of Mauritius, Mauritius); Muzaffar Jawarun (University of Mauritius, Mauritius)

RT-SEN MOS: Sink-Driven Congestion and Error Control for Sensor Networks

Charilaos Stais, George Xylomenos and Evangelos Zafeiratos (Athens University of Economics and Business, Greece)

TSimNet: An industrial Time Sensitive Networking simulation framework based on OMNeT++

Peter Heise and Fabien Geyer (Airbus Group Innovations, Germany); Roman Obermaisser (University of Siegen, Germany)

12:30 - 14:00

Lunch

14:00 - 15:30

Power Saving in WSN

Room: Triton

Chair: Evangelia Tsiontsiou (Université de Lorraine, France)

Optimal Probabilistic Energy-Aware Routing for Duty-Cycled Wireless Sensor Networks

Evangelia Tsiontsiou (Université de Lorraine, France); Bernardetta Addis (LORIA & Université de Lorraine, France); YeQiong Song (LORIA - University of Lorraine - France, France); Alberto Ceselli (Università degli Studi di Milano, Italy)

Toward Energy Profiling of Connected Embedded Systems

Nadir Cherifi (University of Lille 1 & Worldline Company, France); Gilles Grimaud (University of Lille, France); Thomas Vantroys (University of Lille 1, France); Boe Alexandre (IEMN, France)

Opportunistic Routing and Data Dissemination Protocol for Energy Harvesting Wireless Sensor Networks

Ons Bouachir (Canadian University Dubai, United Arab Emirates (UAE)); Adel Ben Mnaouer (Canadian University of Dubai & School of Engineering, Applied Sciences and Technology, United Arab Emirates (UAE)); Farid Touati (Qatar University, Qatar); Damiano Crescini (University of Brescia, Italy)

Grid Based Energy-Aware MAC Protocol for WNSN

Rawan Alshaiikh, Nadine Akkari Adra and Etimad Fadel (King Abdulaziz University, Saudi Arabia)

Security Session 2

Room: Arethusia

Chair: Kris Shrishak (Technische Universität Darmstadt, Germany)

Towards User-centred Privacy Risk Detection and Quantification Framework

Welderufael Tesfay (Goethe University Frankfurt, Germany)

Enhancing User Privacy in Federated eID Schemes

Kris Shrishak (Technische Universität Darmstadt, Germany); Zeki Erkin (Delft University of Technology, The Netherlands)

New types of Alert Correlation for Security Information and Event Management Systems

Gustavo Gonzalez Granadillo and Mohammed El Barbori (CNRS Samovar UMR5157, Institut Telecom, Telecom SudParis, France); Herve Debar (Télécom SudParis & Institut Télécom, France)

An Approach to Detecting Text Authorship in the Spanish Language

Mauricio Iturralde, Roberto Maldonado and Daniel Fellig (Universidad San Francisco de Quito (USFQ), Ecuador)

Intelligent Networks

Room: Thetis

Chair: George Xylomenos (Athens University of Economics and Business, Greece)

A Case of Service Interaction in M2M Device Management

Anastas Nikolov, Evelina Pencheva, Ivaylo Atanasov and Kamelia Nikolova (Technical University of Sofia, Bulgaria)

A Novel Dynamic Hidden Semi-Markov Model (D-HSMM) for Occupancy Pattern Detection from Sensor Data Stream

Jose Luis Gomez Ortega, Liangxiu Han and N Bowring (Manchester Metropolitan University, United Kingdom)

Achieving Intelligent Traffic-aware Consolidation of Virtual Machines in a Data Center Using Learning Automata

Akaki Jobava and Anis Yazidi (Oslo and Akershus University College, Norway); John B. Oommen (Carleton University, Canada); Kyrre Begnum (Oslo and Akershus University College, Norway)

15:30 - 16:00

Coffee Break

16:00 - 18:00

Wireless Sensor Networks

Room: Triton

Chair: Nadine Akkari Adra (King Abdulaziz University, Saudi Arabia)

HAMA: A Highly Adaptive Mobility Aware MAC Protocol for WSN

Eyuel Debebe Ayele (University of Twente, The Netherlands & University of Dresden, Germany)

Evaluation of a Fluid Dynamic Model in Wireless Sensor Networks for the Estimation of Maximum Traffic Volume

Charalambos Sergiou, Vasos Vassiliou and Aristodemos Paphitis (University of Cyprus, Cyprus)

MAC-aware Routing in Multi-Sink WSN with Dynamic Back-off Time and Buffer Constraint

Lucas Leão (Université de Franche-Comté & FEMTO-ST, France); Violeta Felea (LIFC, Université de Franche-Comté, France); Herve Guyennet (University of Franche-Comte, France)

Superregenerative wake-up receiver with 20 μ W power consumption for human body communications

Juha Petäjäjärvi and Konstantin Mikhaylov (University of Oulu, Finland); Heikki Karvonen (University of Oulu, Centre for Wireless Communications, Finland); Risto Vuohtoniemi and Jari Linatti (University of Oulu, Finland)

Security Session 3

Room: **Arethusa**

Chair: Badis Hammi (Télécom ParisTech, France)

Modeling of IP scanning activities with Hidden Markov Models: Darknet case study

Giulia De Santis (INRIA - Nancy Grand Est, France); Abdelkader Lahmadi (LORIA, France); Jérôme François (INRIA Nancy Grand Est, France); Olivier Festor (INRIA Nancy - Grand Est, France)

TerminAPTor: Highlighting Advanced Persistent Threats through Information Flow Tracking

Guillaume Brogi (Conservatoire National des Arts et Métiers & Akheros, France); Valérie Viet Triem Tong (Inria - CentraleSupélec, France)

Extending TLS with KMIP protocol for Cloud Computing

Mounira Msahli (TELECOM ParisTech, France); Ahmed Serhrouchni (ENST, France); Mohamad Badra (Zayed University, United Arab Emirates (UAE))

ANASTASIA: Android mAIware detection using STATic analySIs of Applications

Hossein Fereidooni and Mauro Conti (University of Padua, Italy); Danfeng Yao (Virginia Tech, USA); Alessandro Sperduti (Università degli Studi di Padova, Italy)

Adaptive Security Framework for Resource-Constrained Internet-of-Things Platforms

Enrico Ferrera (Istituto Superiore Mario Boella (ISMB), Italy); Davide Conzon (Istituto Superiore Mario Boella, Italy); Rosaria Rossini (Istituto Superiore Mario Boella (ISMB), Italy); Claudio Pastrone (Istituto Superiore Mario Boella, Italy); Sandro Tassone (Politecnico di Torino, Italy)

Information Centric Networking

Room: **Thetis**

Chair: Elias Z. Tragos (Institute of Computer Science, FORTH, Greece)

Securing Information-Centric Networking without negating Middleboxes

Nikos Fotiou (Mobile Multimedia Lab, Athens University of Economics and Business, Greece); George Xylomenos and George C. Polyzos (Athens University of Economics and Business, Greece)

Supporting the IoT over Integrated Satellite-Terrestrial Networks using Information-Centric Networking

Vasilios A. Siris (Athens University of Economics and Business, Greece); Yannis Thomas (Athens University of Economics and Business (AUEB), Greece); George C. Polyzos (Athens University of Economics and Business, Greece)

CoAP over ICN

Nikos Fotiou (Mobile Multimedia Lab, Athens University of Economics and Business, Greece); H. Islam and Dmitrij Lagutin (Aalto University, Finland); Teemu Hakala (EII-i, Finland); George C. Polyzos (Athens University of Economics and Business, Greece)

Tuesday, November 22

09:00 - 10:30

Wireless Networks: Design and tools

Room: Triton

Chair: Aniruddha Chandra (Brno University of Technology & National Institute of Technology, Durgapur, WB, Czech Republic)

A Component-based Cross-Layer Framework for Software Defined Wireless Networks

Vasileios A Karyotis (Institute of Communication and Computer Systems (ICCS) & National Technical University of Athens, Greece); Eleni G Stai (Institute of Communications and Computer Systems / National Technical University of Athens, Greece); Symeon Papavassiliou (National Technical University of Athens, Greece)

Efficient Communications for Location-Based Services Using Spare Extensions of Control Channels in Mobile Networks

Mohammed I Aal-Nouman (University of Salford); Haifa Takruri and Martin Hope (University of Salford, United Kingdom)

Applying and Comparing Two Measurement Approaches for the Estimation of Indoor WiFi Coverage

Jouni Tervonen (University of Oulu, Finland); Markku Hartikainen, Marjo Heikkilä and Marjut Koskela (Centria University of Applied Sciences, Finland)

Security Session 4

Room: Arethusia

Parameterizing Moving Target Defenses

Nicholas Anderson and Robert Mitchell (Sandia National Laboratories, USA); Ing-Ray Chen (Virginia Tech, USA)

Refining the Foundations for Cyber Zone Defense

Robert Mitchell and Paul Sery (Sandia National Laboratories, USA)

Comparison of EM Probes using SEMA of an ECC Design

Christian Wittke (IHP, Germany); Zoya Dyka (Innovations for High Performance Microelectronics & IHP, Germany); Peter Langendoerfer (IHP Microelectronics, Germany)

JTAG Combined Attack

Fabien Majeric (University of Lyon and Gemalto, France); Benoit Gonzalvo (Gemalto, France); Lilian Bossuet (University of Lyon, France)

Internet of Things

Room: Thetis

Chair: George C. Polyzos (Athens University of Economics and Business, Greece)

RFID Based Smart Fridge

Hachani Abderrazak (ESPRIT School of Engineering)

Social Location Awareness: a Prototype of Altruistic IoT

Silvia Mirri, Catia Prandi and Paola Salomoni (University of Bologna, Italy); Lorenzo Monti (Università di Bologna, Italy)

An IoT middleware for enhanced security and privacy: the RERUM approach

George Moldovan (Siemens, Romania); [Elias Z. Tragos](#) and Alexandros Fragkiadakis (Institute of Computer Science, FORTH, Greece); Henrich C. Pöhls (University of Passau, Germany); Daniel Calvo (Atos, Spain)

Time Slotted Channel Hopping and Information-Centric Networking for IoT

Oliver Hahm (INRIA, Germany); Cedric Adjih and Emmanuel Baccelli (INRIA, France); [Thomas C. Schmidt](#) (Hamburg University of Applied Sciences, Germany); Matthias Wählisch (Freie Universität Berlin, Germany)

10:30 - 11:00

Coffee Break

11:00 - 12:30

Cognitive Radio Networks and Channel Measurement

Room: Triton

Chair: Haidar Safa (American University of Beirut, Lebanon)

Green Power Control in Underlying Cognitive Radio Networks

Jerzy Martyna (Jagiellonian University, Poland)

Cross Layer Design to Evaluate Scalable Video Traffic in Multihop Cognitive Radio Environment

[Salman Saadat](#) (Huazhong University of Science & Technology & IEEE, PMI, P.R. China)

60 GHz mmW Channel Measurements inside a Bus

[Aniruddha Chandra](#) (Brno University of Technology & National Institute of Technology, Durgapur, WB, Czech Republic); Tomas Mikulasek and Jiri Blumenstein (Brno University of Technology, Czech Republic); Ales Prokes (Brno University of Technology & Sensor, Information and Communication Systems Research Centre, Czech Republic)

Optimal Power Allocation in Two-tier MIMO Cognitive Femtocell Radio Networks

Jerzy Martyna (Jagiellonian University, Poland)

Security Session 5

Room: Arethusia

Chair: Robert Mitchell (Sandia National Laboratories, USA)

Towards MPTCP Aware Security Technologies

[Zeeshan Afzal](#), Stefan Lindskog and Anna Brunstrom (Karlstad University, Sweden); Anders Lidén (Clavister AB, Sweden)

Remote Identification of Port Scan Toolchains

[Christian Doerr](#), Norbert Blenn and Vincent Ghiette (Delft University of Technology, The Netherlands)

A Framework for Security Enhancement in SDN-based Datacenters

Mostafa Ammar (Alexandria University & AASTMT, Egypt); Mohamed Rizk (Alexandria University, Egypt); Ayman A. Abdel-Hamid (Arab Academy For Science, Technology, and Maritime Transport, Egypt); Ahmed Aboul-Seoud (Alexandria University, Egypt)

Amplified Distributed Denial of Service Attack in Software Defined Networking

Moreno Ambrosin and Mauro Conti (University of Padua, Italy); [Fabio De Gaspari](#) (Sapienza University of Rome, Italy); Nishanth Devarajan (Indian Institute of Technology, Roorkee, India)

4G and 5G Networks

Room: Thetis

Chair: Mohammed I Aal-Nouman (University of Salford, United Kingdom)

Coordination strategy for dense 5G femtocell deployments

Christos J Bouras (University of Patras CTI&P-Diophantus & University of Patras, Greece); [Georgios Diles](#) (Computer Engineering and Informatics Dept., University of Patras, Greece)

Fully Distributed Approach for Energy Saving in Heterogeneous Networks

Hocine Ameur (University of Technology of Troyes, France); Moez Esseghir (Technology University of Troyes & Charles Delaunay Institute, France); Lyes Khoukhi (University of Technology of Troyes, France)

Energy efficient multi-layer femtocell networks

[Jun Zhang](#) (Telecom ParisTech, France); [Houda Labiod](#) (TELECOM ParisTech (ex: ENST), France)

Scalable Processing in 5G Cloud-RAN Networks Using MapReduce Framework

[Ali Mahmood](#) and Adil Al-Yasiri (University of Salford, United Kingdom)

12:30 - 14:00

Lunch

14:00 - 17:30

Tutorial: Cryptography and Security in Internet of Things (IoT): Models, Schemes, and Implementations

Room: Triton

Dr. Nicolas Sklavos
Computer Engineering Informatics Department,
University of Patras, Hellas

Dr. I. D. Zaharakis
Computer Informatics Engineering Department,
Technological Educational Institute of Western
Greece, Hellas
Computer Technology Institute Press "Diophantus",
Hellas



Tutorial: Performance guarantees in Wireless Sensor Networks: Issues, challenges and solutions, from congestion control to mobility management approaches

Room: Arethusa

Dr. Vasos Vassiliou, & Dr. Charalambos Sergiou
Department of Computer Science, University of
Cyprus



15:30 - 16:00

Coffee Break

18:30

Departure from the Hotel for the banquet.

Wednesday, November 23

09:00 - 10:30

Innovative Projects Session

Room: Triton

Chair: Pascal Urien (Télécom ParisTech, France)

Exploiting Ubiquitous Computing, Mobile Computing and the Internet of Things

Ioannis D. Zaharakis (Technological Educational Institute of Western Greece & Computer Technology Institute, Greece); Nicolas Sklavos (University of Patras, Greece); Achilles Kameas (Hellenic Open University & Computer Technology Institute, Greece)

Three Innovative Directions Based on Secure Elements for Trusted and Secured IoT Platforms

Pascal Urien (Télécom ParisTech, France)

Evaluation of the Redundancy-Bandwidth Trade-off and Jitter Compensation in rMPTCP

Pascal Ajoscha Klein (University of Duisburg-Essen, Germany); Axel Hunger (UDE, Germany); Martin Verbunt (Universität Duisburg-Essen, Germany)

WSN-ADT WorkWSN-ADT Workshop

Room: Arethusa

Chair: Patrick Hosein (The University of the West Indies, Trinidad and Tobago)

SenNet: A Programming Toolkit To Develop Wireless Sensor Network Applications

Aymen Salman (University of Salford & School of Computing, Science, and Engineering, United Kingdom); Adil Al-Yasiri (University of Salford, United Kingdom)

WSNs Self-Calibration approach for Smart City applications leveraging Incremental Machine Learning Techniques

Rosaria Rossini and Enrico Ferrera (*Istituto Superiore Mario Boella (ISMB), Italy*); Davide Conzon and Claudio Pastrone (*Istituto Superiore Mario Boella, Italy*)

Cyclic Beam Switching for Smart Grid Networks

Patrick Hosein and Laurielyse Girod-Williams (*The University of the West Indies, Trinidad and Tobago*); Cornelius van Rensburg (*Huawei, USA*)

CID Workshop Session

Room: Thetis

Chair: Farkhund Iqbal (Zayed University, United Arab Emirates (UAE))

White-hat Hacking Framework for Promoting Security Awareness

Sultan Al Sharif and Farkhund Iqbal (Zayed University, United Arab Emirates (UAE)); Thar Baker (Liverpool John Moores University, United Kingdom); Asad Masood Khattak (Zayed University, United Arab Emirates (UAE))

Magec: An Image Searching Tool for Detecting Forged Images in Forensic Investigation

Sultan Al Sharif and Farkhund Iqbal (Zayed University, United Arab Emirates (UAE)); Thar Baker (Liverpool John Moores University, United Kingdom); Andrew Marrington (Zayed University, United Arab Emirates (UAE))

10:30 - 11:00

Coffee Break

11:00 - 12:30

Wireless Vehicular and Ad Hoc Networks

Room: Triton

Chair:

Thomas C. Schmidt (Hamburg University of Applied Sciences, Germany)

Performance Analysis of NEMO with MPTCP

Pratibha Mitharwal (Institut Mines Telecom - Telecom Bretagne, France); Christophe Lohr (Telecom Bretagne, France); Annie Gravey (Institut Mines Telecom - Telecom Bretagne & UMR CNRS 6074 IRISA, France)

Proposal of new solution for service advertisement for ETSI ITS environments: CAM-Infrastructure

Houda Labiod (TELECOM ParisTech (ex: ENST), France); Alain Serval (PSA Peugeot Citroen, France); Gérard Segarra (VICI, France); Badis Hammi (Télécom ParisTech, France); Jean-Philippe Monteuis (Telecom ParisTech, France)

Cooperative Watchdog for Malicious Failure Notification in Wireless Ad-Hoc Networks

Hiroaki Higaki and Norihiro Sota (Tokyo Denki University, Japan)

CID Workshop Invited Papers

Room: Thetis

Chair: Farkhund Iqbal (Zayed University, United Arab Emirates (UAE))

TBC

The Risk-Utility Tradeoff for Data Privacy Models

M. Moein Almasi, Taha R. Siddiqui, Noman Mohammed, Hadi Hemmati

Behavioral Service Graphs: A Big Data Approach for Prompt Investigation of Internet-wide Infections

Elias Bou-Harb, Mark Scanlon, Claude Fachkha

Towards the Leveraging of Data Deduplication to Exceed Past the Disk Acquisition Speed Limit

Hannah Wolahan, Claudio Chico Lorenzoy, Elias Bou-Harb, Mark Scanlon

12:30 - 14:00

Cloture and Lunch