



Global Information Infrastructure and Networking Symposium (GIIS 2018)

October 23-25, 2018

Thessaloniki, Greece

Conference Centre of Piraeus Bank (12-14 Katouni st., Thessaloniki, Greece)

Program

Tuesday, October 23, 2018

08:45 – 09:00 Opening Session

Dr. Periklis Chatzimisios, Alexander TEI of Thessaloniki and Bournemouth University, General co-Chair
Dr. Toktam Mahmoodi, King's College London, UK, General co-Chair

09:00 – 09:45 Plenary Talk “Robust Crowdsensing for Intelligent Road Services” Prof. Hossam S. Hassanein, Queen's University, Canada

09:45 – 11:15 Session 1 “Architectures and Applications for IoT”

Session Chair: Nizar Zorba (Qatar University, Qatar)

Quality of Coverage: A Novel Approach to Coverage for Mobile Crowd Sensing Systems

Sherif B. Azmy and Nizar Zorba (Qatar University, Qatar); Hossam S. Hassanein (Queen's University, Canada)

Smart Grid Architecture, Communications and Data Model: The WiseGRID approach

Dimitrios Stratogiannis and Stamatia Gkiala - Fikari (National Technical University of Athens, Greece)

HYCCUPS: Opportunistic Engine for Device-to-Device Communication on Android

Andrei Ionescu-Tautu and Radu-Ioan Ciobanu (University Politehnica of Bucharest, Romania); Radu C Marin (Politehnica University of Bucharest, Romania); Ciprian Dobre (University Politehnica of Bucharest, Romania)

Effects of Traffic Characteristics on Energy Consumption of IoT End Devices in Smart City

Augustine Ikpehai, Bamidele Adebisi and Kelvin Anoh (Manchester Metropolitan University, United Kingdom (Great Britain))

9:45 – 11:15 Tutorial “Leveraging IoT Data in Tactile Internet operation”

Tutorial Speaker: Sharief Oteafy (DePaul University, Chicago, USA)

11:15 – 11:30 Coffee Break

11:30 – 13:00 Session 2 “Recent Results: Resource Allocation”

Session Chair: *Dimitrios Stratogiannis (National Technical University of Athens, Greece)*

Multi-cell Massive MIMO Network Optimization towards Power Consumption in Suburban Scenarios

Michel Matalatala (Ghent University & Belgium, Belgium); Margot Deruyck (Ghent University - IMEC, Belgium); Emmeric Tanghe (Ghent University, Belgium); Sotirios Goudos (Aristotle University of Thessaloniki, Greece); Luc Martens (Ghent University - imec, Belgium); Wout Joseph (Ghent University/IMEC, Belgium)

Modeling the Energy Consumption of LoRaWAN in ns-3 Based on Real World Measurements

Joseph Finnegan (Maynooth University, Ireland); Stephen Brown (National University of Ireland, Maynooth, Ireland); Ronan Farrell (Maynooth University, Ireland)

TAOF: Traffic Aware Objective Function for RPL-based Networks

Chenyang Ji (Alexander TEI of Thessaloniki, Greece); Remous-Aris Koutsiamanis (IMT Atlantique, France); Nicolas Montavont (Institut Mines Telecom / IMT Atlantique, France); Periklis Chatzimisios (Alexander TEI of Thessaloniki and Bournemouth University, Greece); Diego Roberto Dujovne (Universidad Diego Portales & Facultad de Ingeniería, Chile); Georgios Z. Papadopoulos (IMT Atlantique, France)

Intelligent Routing in Mobile Opportunistic Networks

Pavlos Kosmides (National Technical University of Athens, Greece & Cyprus University of Technology, Cyprus); Lambros Lambrinos (Cyprus University of Technology, Cyprus)

Adaptive Hybrid Scheme for Cooperative Communications

Youstina Kamal (The German University in Cairo, Egypt); Wassim Alexan (German University in Cairo, Egypt); Ahmed E. El-Mahdy (The German University in Cairo, Egypt)

11:30 – 13:00 Tutorial “Leveraging IoT Data in Tactile Internet operation”

Tutorial Speaker: *Sharief Oteafy (DePaul University, Chicago, USA)*

13:00 – 14:00 Lunch Break

14:00 – 16:00 Session 3 “Security, Privacy and Trust in the Internet of Things”

Session Chair: *Stavros Shiaeles (University of Plymouth, United Kingdom)*

Security Analysis of Forward Error Correction Codes in Relay Aided Networks

Mehmet Özgün Demir (Boğaziçi University, Turkey); Gunes Karabulut Kurt (Istanbul Technical University, Turkey); Guido Dartmann (University of Applied Sciences Trier, Germany); Gerd H. Ascheid (RWTH Aachen University, Germany); Ali E. Pusane (Bogazici University, Turkey)

Detection of LDDoS Attacks Based on TCP Connection Parameters

Michael Siracusano (School of Computing, Electronics and Mathematics, United Kingdom); Stavros Shiaeles (University of Plymouth, United Kingdom); Bogdan Ghita (University of Plymouth & Centre for Security, Communications, and Network Research, United Kingdom)

There is No Need to Waste Communication Bandwidth on MACs

Michael E. Kounavis, David Durham, Sergej Deutsch, Saeedeh Komijani, Antonios Papadimitriou and Ken Grewal (Intel Corporation, USA)

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An Anomaly-Based Intrusion Detection System for the Smart Grid Based on CART Decision Tree

Panagiotis Radoglou-Grammatikis and Panagiotis Sarigiannidis (University of Western Macedonia, Greece)

Agent-based Vs Agent-less Sandbox for Dynamic Behavioral Analysis

Muhammad Ali and Stavros Shiaeles (University of Plymouth, UK); Bogdan Ghita (University of Plymouth & Centre for Security, Communications, and Network Research, UK); Maria Papadaki (University of Plymouth, UK)

14:00 – 16:00 Tutorial “Toward Deterministic Traffic in 6TiSCH Networks”

Tutorial Speakers: *Georgios Z. Papadopoulos and Nicolas Montavont (IMT Atlantique, Rennes, France)*

16:00 – 16:15 Coffee Break

16:15 – 17:15 Session 4 “Recent Results: Performance evaluation”

Session Chair: *Michael E. Kounavis (Intel Corporation, USA)*

Adaptive Control of Statistical Data Aggregation to Minimize Latency in IoT Gateway

Hideaki Yoshino, Kenko Ota and Takefumi Hiraguri (Nippon Institute of Technology, Japan)

ExhiSTORY: IoT in the service of Cultural Heritage

Vassilis Pouloupoulos, Costas Vassilakis, Angeliki Antoniou, Manolis Wallace and Georgios Lepouras (University of Peloponnese, Greece); Martin Lopez-Nores (University of Vigo, Spain)

Towards Voronoi-Based Backup Routing for Large-Scale Distributed Applications

Michael Grey (TU Ilmenau, Germany); Markus Theil and Michael Rossberg (Technische Universität Ilmenau, Germany); Guenter Schaefer (Technische Universität Ilmenau, Germany)

Services organisation in IoT: mixing Orchestration and Choreography

Sylvain Cherrier (Université Paris-Est, France); Rami Langar (University Paris Est Marne-la-Vallée, France)

16:15 – 17:15 Session 5 “Recent Results: Wireless Connectivity”

Session Chair: *Adrian Kliks (Poznan University of Technology, Poland)*

On the Performance of NCC-OFDMA with Single Relay Selection

Semiha Tedik Başaran and Gunes Karabulut Kurt (Istanbul Technical University, Turkey); Ioannis Chatzigeorgiou (Lancaster University, United Kingdom (Great Britain))

Tanker Vessel Inner Spaces WLAN Development and Quality of Experience Study for Video Streaming

Georgios I Tsivgoulis, Panagiotis Gkonis, Dimitra I Kaklamani and Iakovos S. Venieris (National Technical University of Athens, Greece); Angelos Telonis (Thenamaris Ships Management Inc, Greece)

Waveform Flexibility in Database-Oriented Cognitive Wireless Systems

Łukasz Kułacz, Paweł Kryszkiewicz and Adrian Kliks (Poznan University of Technology, Poland); Jordi Pérez-Romero (Universitat Politècnica de Catalunya (UPC), Spain)

18:00 – 20:30 Thessaloniki Tour by bus

20:30 – 23:00 Conference Gala

Wednesday, October 24, 2018

09:00 – 09:45 Plenary Talk “Recent advances in non-coherent massive MIMO”
Prof. Ana Garcia Armada, University Carlos III of Madrid, Spain

09:45 – 11:15 Session 6 “Emerging Topics in Internet of Things”

Session Chair: *Dimitrios Zorbas (Tyndall National Institute, Ireland)*

Approaches for Preventing Honeypot Detection and Compromise

Michail Tsikerdekis (Western Washington University, USA); Sherali Zeadally (University of Kentucky, USA); Amy Schlesener (Western Washington University, USA); Nicolas Sklavos (University of Patras, Greece)

A platform for wireless maritime networking experimentation

Esmerald Aliaj, Georgia Dimaki, Petros Getsopoulos, Yannis Thomas, Nikos Fotiou, Stavros Toumpis, Iordanis Koutsopoulos, Vasilios A. Siris and George C. Polyzos (Athens University of Economics and Business, Greece)

Adaptive Multi-Channel Offset Assignment for Reliable IEEE 802.15.4 TSCH Networks

Vasileios Kotsiou (University of Strasbourg, France); Georgios Z. Papadopoulos (IMT Atlantique, France); Periklis Chatzimisios (Alexander TEI of Thessaloniki and Bournemouth University, Greece); Fabrice Théoleyre (CNRS, France)

Game-theoretic Learning-based QoS Satisfaction in Autonomous Mobile Edge Computing

Pavlos Athanasios Apostolopoulos (The University of New Mexico, USA); Eirini Eleni Tsiropoulou (University of New Mexico, USA); Symeon Papavassiliou (ICCS/National Technical University of Athens, Greece)

09:45 – 11:15 Session 7 “Recent Results: Architectures and Applications for IoT”

Session Chair: *Maria Rita Palattella (Luxembourg Institute of Science and Technology, Luxembourg)*

Enabling Internet of Everything Everywhere: LPWAN with Satellite Backhaul

Maria Rita Palattella (Luxembourg Institute of Science and Technology (LIST), Luxembourg); Nicola Accettura (LAAS-CNRS, France)

Utility Decisions for QoE-QoS Driven Applications in Practical Mobile Broadband Networks

Vasileios A Karyotis (Institute of Communication and Computer Systems (ICCS); National Technical University of Athens, Greece); Marios Avgeris (National Technical University of Athens, Greece); Michalis Michaloliakos (University of Piraeus, Greece); Konstantinos Tsagkaris (Incelligent, Greece); Symeon Papavassiliou (ICCS/National Technical University of Athens, Greece)

Performance evaluation of LoraWan physical layer integration on IoT devices

Christos J Bouras (University of Patras & CTI Diophantus); Vasileios Kokkinos (University of Patras & Greek Research and Technology Network S.A., Greece); Nikolaos Papachristos (University of Patras, Greece)

Power Consumption and Throughput of Wireless Communication Technologies for Smartphones

Evan Fallis and Petros Spachos (University of Guelph, Canada)

09:45 – 11:15 Session 8 “Recent Results: Security and Privacy”

Session Chair: *Dimitrios Efstathiou (TEI of Central Macedonia, Greece)*

Run-time Detection of Prime+Probe Side-Channel Attack on AES Encryption Algorithm

Maria Mushtaq (University of South Brittany (UBS), Lorient, France); Ayaz Akram (University of California, Davis, USA); Muhammad Khurram Bhatti (Information Technology University (ITU) Lahore & Embedded Computing Laboratory (ECLab), Pakistan); Rao Naveed Bin Rais (Ajman University, UAE, United Arab Emirates); Vianney Lapotre (Université de Bretagne Sud, France); Guy Gogniat (Lab-STICC, France)

An Overview of the Firewall Systems in the Smart Grid

Panagiotis Sarigiannidis, Panagiotis Radoglou-Grammatikis, Thanasis Liatifis, Tryfon Apostolakos and Spyridon Oikonomou (University of Western Macedonia, Greece)

IoT Physical Layer Security Enhancement

Dimitrios Efstathiou (Technological Educational Institute of Central Macedonia, Greece)

Securing IoT Devices Using Robust DRAM PUFs

Nikolaos Athanasios Anagnostopoulos, Tolga Arul and Yufan Fan (TU Darmstadt, Germany); Jan Lotichius (Hottinger Baldwin Messtechnik, Germany); Christian Hatzfeld, Felipe Fernandes and Ratika Sharma (TU Darmstadt, Germany); Fatemeh Tehranipoor (San Francisco State University, USA); Stefan Katzenbeisser (Technische Universität Darmstadt, Germany)

Container-Based Honeypot Deployment for the Analysis of Malicious Activity

Andronikos Kyriakou and Nicolas Sklavos (University of Patras, Greece)

11:15 – 11:30 Coffee Break

11:30 – 13:15 Session 9 “Recourse Allocation and Management”

Session Chair: *Toktam Mahmoodi (King’s College London, UK)*

Network Coding Techniques in Cooperative Cognitive Networks

Athanasios Papadopoulos, Nestor Chatzidiamantis and Leonidas Georgiadis (Aristotle University of Thessaloniki, Greece)

Throughput-Aware RRHs Clustering in Cloud Radio Access Networks

Nazih Salhab (University Paris-Est, UPEM, France & LIGM-CNRS UMR 8049, Lebanon); Rana Rahim-Amoud (Lebanese University, Lebanon); Rami Langar (University Paris Est Marne-la-Vallée, France)

Joint Power Allocation and Transmission Time Selection in Duty-cycled Wireless Sensor Networks

Christos N. Efrem and Athanasios D. Panagopoulos (National Technical University of Athens, Greece)

Energy Consumption and Proximity Accuracy of BLE Beacons for Internet of Things Applications

Andrew Mackey and Petros Spachos (University of Guelph, Canada)

Load Balanced Model for Bandwidth Calendaring Problem

Masayuki Tsujino (NTT, Japan)

11:30 – 13:15 Session 10 “Low Power Communications for IoT”

Session Chair: *Panagiotis Sarigiannidis (University of Western Macedonia, Greece)*

NBLoT Random Access Procedure: System Simulation and Performance

Aaron Garrido Martín (Nokia, Spain); Raquel Perez Leal and Ana Garcia Armada (Universidad Carlos III de Madrid, Spain); Alfonso Fernández Durán (Nokia Spain, Spain)

Radiation Aware Mobility Paths in Wirelessly Powered Communication Networks

Ioannis Katsidimas (University of Patras and Computer Technology Institute, Greece); Emmanouil Kerimakis (University of Patras, Greece); Sotiris E. Nikolettseas (University of Patras and Computer Technology Institute, Greece)

Collision-Free Sensor Data Collection using LoRaWAN and Drones

Dimitrios Zorbas (Tyndall National Institute, Ireland); Brendan O'Flynn (Tyndall National Institute, Ireland)

IoT Application Protocols Optimisation for Future Integrated M2M-Satellite Networks

Ridha Soua (University of Luxembourg, Luxembourg); Maria Rita Palattella (Luxembourg Institute of Science and Technology (LIST), Luxembourg); Thomas Engel (University of Luxembourg, Luxembourg)

Performance Evaluation of SDN and RPL in Wireless Sensor Networks

Eleftherios Tsapardakis (Alexander TEI of Thessaloniki (ATEITHE), Greece); Mike Ojo (University of Pisa, Italy); Periklis Chatzimisios (Alexander TEI of Thessaloniki and Bournemouth University, Greece); Stefano Giordano (University of Pisa, Italy)

11:30 – 13:15 Tutorial “xStream: a new platform for Application-aware Adaptive Network Slicing in 5G Systems”

Tutorial Speaker: *Evgeny Khorov (Institute for Information Transmission Problems, Russian Academy of Sciences, Russia)*

13:15 – 14:00 Lunch Break

14:00 – 14:45 Plenary Talk “How Reliability, Latency, Massiveness, and Blockchain are Transforming IoT Communication”

Prof. Petar Popovski (Aalborg University, Denmark)

14:45 – 15:30 Plenary Talk “Integrated Multi-Source Monitoring Framework for Critical Infrastructures”

Dr. Crosta Paolo Secondo (ItaITel Spa, Italy)

15:30 – 15:45 Coffee Break

15:45 – 16:30 Women in Communications Engineering (WICE) Panel

Panel Chair: *Ana Garcia Armada (University Carlos III of Madrid, Spain)*

16:30 – 17:30 Tutorial “IoT in Agriculture: Current Issues and Perspectives”

Tutorial Speaker: *Dimitrios Zorbas, Senior Researcher, Tyndall National Institute, Ireland*

16:30 – 19:00 Session 11 “Emerging Topics in 5G and IoT Communications”

Session Chair: *Petros Spachos (University of Guelph, Canada)*

5G Spectrum and Regulatory Policy in Europe: An Overview

Aggeliki Sgora (Hellenic National Telecommunications and Posts Commission & University of Piraeus, Greece)

Adaptation of Carrier Sensing Threshold to Increase Throughput in Dense 802.11ac Wireless Networks

Ömer Topal (Istanbul Technical University & AirTies, Turkey); Gunes Karabulut Kurt (Istanbul Technical University, Turkey); Akin Soysal (Airties Wireless Networks, Turkey)

Evaluation of HTTP/DASH adaptation algorithms on vehicular networks

Dimitrios J. Vergados and Angelos Michalas (Technological Education Institute of Western Macedonia, Greece); Katina Kravevska (Norwegian University of Science and Technology, Norway); Dimitrios D. Vergados (University of Piraeus, Greece)

Delay Performance of a Two-User Broadcast Channel with Security Constraints

Antonia Arvanitaki and Nikolaos Pappas (Linköping University, Sweden); Parthajit Mohapatra (Indian Institute of Technology Tirupati, India); Niklas Carlsson (Linköping University, Sweden)

Diversity in Direct Mobile-to-Mobile Communication Systems: An Experimental Approach

Konstantinos Maliatsos (University of Piraeus & National Technical University of Athens, Greece); Leonidas Marantis, Petros S. Bithas and Athanasios G. Kanatas (University of Piraeus, Greece)

A Survey on Medium Access Control Schemes for 5G Vehicular Cloud Computing Systems

Emmanouil Skondras (UNIFI, Greece); Angelos Michalas (Technological Education Institute of Western Macedonia, Greece); Dimitrios D. Vergados (University of Piraeus, Greece)

18:45 – 19:00 Closing Session

Thursday, October 25, 2018

08:45 – 19:00 IEEE 5G and IoT Thessaloniki 2018 Summit