



# 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, General co-Chair of GIIS 2018

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#### 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: TBA

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##### **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

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**11:15 – 11:30 Coffee Break**

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

Session Chair: TBA

**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 Kosmidis (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: TBA

**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 and Antonios Papadimitriou (Intel Corporation, USA); Ken Grewal (Intel Corp, USA)

**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 – 18:15 Session 4 “Recent Results: Performance evaluation”**

Session Chair: **TBA**

**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 Universitaet 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 – 18:15 Session 5 “Recent Results: Wireless Connectivity”**

Session Chair: **TBA**

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

**20:00 – 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: **TBA**

***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: **TBA**

***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&P-Diophantus & University of Patras, Greece); 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: **TBA**

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**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, Serres, 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: **TBA**

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**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: **TBA**

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***NB-IoT 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 (IITP), Russian Academy of Sciences (RAS), Russia**

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**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 (ItaTel 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)**

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

Session Chair: **TBA**

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**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); Akın Soysal (Airties Wireless Networks, Turkey)*

**Evaluation of HTTP/DASH adaptation algorithms on vehicular networks**

*Dimitrios J. Vergados (National Technical University of Athens, Greece); 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 (UNIPi, Greece); Angelos Michalas (Technological Education Institute of Western Macedonia, Greece); Dimitrios D. Vergados (University of Piraeus, Greece)*

**19:00 – 19:15 Closing Session**

**Thursday, October 25, 2018**

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