

## Twelfth International Network Conference – INC 2020

Monday 21<sup>st</sup> of September 2020

Conference Program (all times UK timezone)

Monday, 21<sup>st</sup> of September, 8:30 - 9:40

Keynote session

### **9:30 Conference opening**

Bogdan Ghita (University of Plymouth, United Kingdom)

### **9:40 Challenges and Emerging Applications for Internet of Things and 5G**

Prof. Periklis Chatzimisios (International Hellenic University, Greece)

Abstract: The last few years we have experienced a massive reference and research on Internet of Things (IoT) that connects people, (Big) Data and things by employing Machine-to-Machine (M2M) communications. The obvious targets are to create new and unprecedented opportunities as well as to provide richer Quality of Experience (QoE) to citizens and communities. The talk will provide specific technical details and applications of IoT as well as their impact on enterprises and individuals by focusing on the hot areas of Industrial Internet of Things (IIoT), 5G communications, Tactile Internet, Smart Cities and Precision Agriculture. Along the talk, major research challenges and open issues will be identified and discussed, therefore making the presentation valuable and inspiring for academics and researchers.

Monday, 21<sup>st</sup> of September, 9:40 - 11:45

Security session

### **9:40 Malware Behavior Through Network Trace Analysis**

Xiyue Deng (University of Southern California & Information Sciences Institute, USA); Jelena Mirkovic (USC/ISI, USA)

### **10:05 RC4D: A New Development of RC4 Encryption Algorithm**

Rawan A Alsharida, Maytham M. Hammood, Mohamed Ahmed and Barzan Thamer (Tikrit University, Iraq); Mohanaad Shakir (University of Al Buraimi, Oman)

### **10:30 A Novel Multimodal Biometric Authentication System Using Machine Learning and Blockchain**

Richard Brown (University of Plymouth, Algeria); Gueltoum Bendiab (University of Portsmouth, United Kingdom) & Freres Mentouri, Constantine, Algeria); Stavros Shiaeles (University of Portsmouth, United Kingdom); Bogdan Ghita (University of Plymouth, United Kingdom)

**10:55 *User Attribution Through Keystroke Dynamics-Based Author Age Estimation***

Ioannis Tsimperidis (Democritus University of Thrace, Komotini, Greece); Shahin Rostami and Kevin Wilson (Bournemouth University, Poole, United Kingdom); Vasilios Katos (Bournemouth University, United Kingdom)

**11:20 *802.11 Man-In-The-Middle Attack Using Channel Switch Announcement***

Constantinos Louca (Open University Cyprus, Cyprus); Adamantini Peratikou and Stavros Stavrou (Open University of Cyprus, Cyprus)

Monday, 21<sup>st</sup> of September, 12:15 - 13:30

Routing and transport session

**12:15 *Multi-Level Hierarchical Controller Placement in Software Defined Networking***

Kurdman Abdulrahman Rasol (Universitat Politècnica de Catalunya, Spain); Jordi Domingo-Pascual (Universitat Politècnica de Catalunya - BarcelonaTech (UPC) & Technical University of Catalunya (UPC) Advanced Broadband Communications Center, Spain)

**12:40 *A Novel Congestion Avoidance Algorithm Using Two Routing Algorithms and Fast-Failover Group Table in SDN Networks***

Seyed Hossein Mousavi Nejad (Islamic Azad University, Iran); Mohammad Reza Majma (Pardis Branch, Islamic Azad University, Iran)

**13:05 *Impact of TCP Congestion Control Algorithms on HTTP/x Performance***

Nicolas Nahuel Illia and Gabriel Tolosa (Universidad Nacional de Luján, Argentina)

Monday, 21<sup>st</sup> of September, 14:20 - 16:00

IoT session

**14:20 *Machine Learning Based IoT Intrusion Detection System: An MQTT Case Study***

Hanan Hindy and Ethan Bayne (Abertay University, United Kingdom); Miroslav Bures (Czech Technical University in Prague, Czech Republic); Robert Caddell Atkinson, Christos Tachtatzis and Xavier Bellekens (University of Strathclyde, United Kingdom)

**14:45 *Smart Lamp or Security Camera? Automatic Identification of IoT Devices***

Mathias Thomsen (Technical University of Denmark, Denmark); Alberto Giaretta (Örebro University, Sweden); Nicola Dragoni (Technical University of Denmark, Denmark)

**15:10 *Intelligent Self-Reliant Cyber-Attacks Detection and Classification System for IoT Communication Using Deep Convolutional Neural Network***

Qasem S Abu Al-Haija and Charles D. McCurry (Tennessee State University, USA); Salaeh Zein-Sabatto (Ten State U, USA)

**15:35 On Federated Cyber Range Network Interconnection**

Adamantini Peratikou and Stavros Stavrou (Open University of Cyprus, Cyprus); Stavros Shiaeles (University of Portsmouth, United Kingdom); Constantinos Louca (Open University Cyprus, Cyprus)

Monday, 21<sup>st</sup> of September, 16:20 - 18:00

Wireless networking session

**16:20 Design and Preliminary Functionality Test of Road Network Traffic Monitoring System Based on Indoor SDWMN in-Band Architecture**

Phoo Phoo Thet Lyar Tun and Chaodit Aswakul (Chulalongkorn University, Thailand)

**16:45 Power Optimized Source-Based-Jamming for Secure Transmission Through Untrusted AF Relays**

Shemi P M (MES College Marampally Aluva, Kerala, India); Jibukumar Mangalathu Gopalakrishnan (Cochin university, India); Ali M A (Government Engineering College, Thrissur, India)

**17:10 Cyber Security Attacks on Identity and Location of Vehicle Ad-Hoc Networks**

Haitham Saleh Alfehaid (College of Computer, Saudi Arabia); Salim El khediri, dr (College of Computer & Qassim University, Saudi Arabia)

**17:35 Challenges in Developing a Wireless Sensor Network for an Agricultural Monitoring and Decision System**

Max Frohberg and Stefan Weidling (IHP, Germany); Peter Langendoerfer (IHP Microelectronics, Germany)