**ICCCN 2019**

**The 28th International Conference on**

**Computer Communications and Networks**

**July 29 – August 1, 2019**

**Final Program**

**Meliá Valencia Hotel**

**Avenida de las Cortes Valencianas, 52
Valencia, Spain**



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ICCCN 2019 Workshop Program Overview

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|   **August 1 (Thursday) - Workshops**  |
| 7:30am - Registration Desk Open (Foyer RM 4/5/6) |
| 8:30 - 12:00  | Meeting Room 2ECN | Meeting Room 4SmartCityCom | Meeting Room 5SMS  | Meeting Room 6BDMLS |
|  9:45 – 10:15 | Coffee break |
| 12:00 - 13:30  | Lunch break |
| 13:30 - 17:20  | Meeting Room 2ECN | Meeting Room 4VFIA | Meeting Room 5 EoT | Meeting Room 6BDMLS |
| 15:00 – 15:30 | Coffee break |

Integrated Workshop Schedule

**Aug 1 (Thursday)**

**ECN Workshop(RM: Meeting Room 2)**

Chair: Paolo Casari, IMDEA Networks, Spain; Antonio Fernandez Anta, IMDEA Networks, Spain;

Lin Wang, VU Amsterdam, Netherlands

Welcome 8:30 – 8:45

**Session 1: 8:45 – 9:45
Session Chair: Paolo Casari**

**Keynote:** Dr. Schahram Dustdar, TU Wien, Austria

**Title:** The Convergence of Humans, Things, and AI

**Coffee Break (9:45 – 10:15 )**

**Session 2: 10:15 – 12: 00**

**Edge computing management**

**Session Chair: Antonio Fernandez Anta (IMDEA Networks)**

* **A reference architecture based on Edge and Cloud Computing for Smart Manufacturing**

Johannes Vater , Lars Harscheidt, Alois Knoll (BMW Group, Germany, and Technical University of Munich, Germany)

* **Disaggregated Cloud Management for Edge Computing**

Rafael Moreno-Vozmediano, Eduardo Huedo, Ruben Santiago Montero, Ignacio Martin Llorente (Universidad Complutense de Madrid, Spain)

* **OpenStack Generalization for Hardware Accelerated Clouds**

Ahmet Erol, Alper Yazar, Ece Güran Schmidt ((ASELSAN, Turkey, and METU, Turkey))

* **Ad-hoc Edge Cloud: A framework for dynamic creation of Edge computing infrastructures**

Ana Juan Ferrer, Joan-Manuel Marquès, Josep Jorba (Atos, Spain, and Universitat Oberta de Catalunya, Spain)

**Lunch Break 12:00 – 13:30**

**Session 3: 13:30 – 15: 00**

**Edge networking**

**Session Chair: Lin Wang (VU Amsterdam, Netherlands)**

* **An Energy Aware Cache Coordination Scheme in Content Centric Networking**

Guoqiang Zhang, Zhizhen Peng, Qian Gao (Nanjing Normal University, China)

* **Improving TCP Performance and Reducing Self-Induced Congestion with Receive Window Modulation**

Francesco Ciaccia, Oriol Arcas-Abella, Ivan Romero, Diego Montero, Rodolfo Milito, René Serral-Gracià, Mario Nemirovsky (Universitat Politècnica de Catalunya, Spain, and Clevernet Inc., USA)

* **DUE Distribution and Pairing in D2D Communication**

Jia Xu, Weifeng Lu, Xiaoqiang Ren, Siguang Chen, Lijun Yang, Jian Xu (Nanjing University of Posts and Telecommunications, China)

Closing

**SmartCityCom Workshop(RM:** **Meeting Room 4)**

Chair: Shuhui Yang (Purdue University Northwest, USA), Besma Smida (University of Illinois at Chicago, USA)

Welcome 8:30 – 8:45

**Session 1: 8:45 – 9:45**

**Session Chair: Shuhui Yang (Purdue University Northwest, USA)**

**Workshop Keynote**: Dr. Wei Yu, Towson University, USA

**Title:** Secure Internet of Things-Based Smart-World Systems: Challenges and Opportunities

**Coffee Break: 9:45 – 10:15**

**Session 2: 10:15 – 12:00**

**Session Chair: Besma Smida (University of Illinois at Chicago, USA)**

* **Real-Time Vehicle Interior Environment Monitoring System through Mobile Sensing**

Beatrice Smetana, Loti Ibrahimi, Justin Lizotte, Sudip Maitra, Frank Walsh, Kumar Yelamarthi (Central Michigan University, and Waterford Institute of Technology)

* **New method of the best path selection with length priority based on reinforcement learning strategy**

Xiaohuan Liu, Degan Zhang, Ting Zhang, Yuya Cui and Lu Chen (Tianjin University of Technology)

* **The Effect of Mobility on Delayed Data Offloading**

Xiaoyi Zhou, Tong Ye and Tony T. Lee (Shanghai Jiao Tong University, and The Chinese University of Hong Kong)

* **CORR: Centralized Opportunistic Reactive Routing for Mobile Multi-hop Wireless Networks**

Ayush Dusia, Ram Ramanathan and Adarshpal Sethi (University of Delaware)

* **Multi-hop D2D Assisted Real-time Video Streaming Transmission System in Infrastructure-less Networks**

Jie Li, Tengfei Li, Fulian Li, Tao Hong and Xingwei Wang (Northeastern University)

**Lunch Break 12:00 – 13:30**

**VFIA Workshop(RM:** **Meeting Room 4)**

Chair: Farhan Ahmad, University of Derby, United Kingdom;

Chaker Abdelaziz Kerrache, University of Ghardaia, Algeria

Welcome 13:30 – 13:45

**Session 1: 13:45 – 15:00**

**MANETs’ management**

**Session Chair: Prof. Floriano De Rango (University of Calabria, Italy)**

* **Improved clock synchronization algorithms for the Controller Area Network (CAN)**

Murat Akpınar, Klaus Werner Schmidt, Ece Güran Schmidt (Aselsan Inc., Turkey, and Middle East Technical University, Turkey)

* **Random Access Congestion Control for Periodic Safety Messages in Dense Traffic Networks**

Tae Hoon Kwon, "Wonwoo Jo, Jong-Yul Lee, Hyo-Seung Seo, Minjin Baek, Sang-Sun Lee (Hanyang University Seoul, Korea)

* **Joint Optimization of Gain and Beaconing for First Order Consensus under Rayleigh Fading**

Daniel Schneider, Hannes Frey (University of Koblenz-Landau, Germany)

**Coffee Break: 15:00 – 15:30**

**Session 2: 15:30 – 17:20**

**VANET, FANET, and Information Centric Networking**

**Session Chair: Dr. Abderrahmane Lakas (UAE University, UAE)**

* **An Analytical Model for Virtual Cut-Through Routing**

Lev B. Levitin, Yelena Rykalova (Boston University, and UMass Lowell, USA)

* **Bio-inspired Strategy for improving Platoon Management in the Future Autonomous Electrical VANETs**

F. De Rango, M. Tropea, P. Raimondo, A. F. Santamaria, P. Fazio (University of Calabria Rende, Italy)

* **Efficient 3D placement of UAVs with QoS assurance in ad hoc wireless networks**

Bhanukiran Perabathini, Kiranteja Tummuri, Achal Agrawal, Vineeth S Varma (Mahindra École Centrale, India, and Université de Lorraine, France)

* **A Novel Congestion-Aware Interest Flooding Attacks Detection Mechanism in Named Data Networking**

Ahmed Benmoussa, Nasreddine Lagraa , Abderrahmane Lakas, Farhan Ahmad , Rasheed Hussain, Chaker Abdelaziz Kerrache, Fatih Kurugollu (University of Laghouat, Algeria, University of Derby, Derby, UK, Innopolis University, Russia, United Arab Emirates University, UAE, University of Ghardaia, Algeria)

* **Network-assisted Consumer Mobility Support for Information Centric Networks**

Aytac Azgin, Ravishankar Ravindran (Huawei Research Center, USA)

Closing

**SMS Workshop (RM:** **Meeting Room 5)**

Chair: Marco Furini, University of Modena and Reggio Emilia, Italy; Silvia Mirri, University of Bologna, Italy

Welcome **8:30 – 8:45**

**Session 1: 8:45 – 9:45**

**Social Media and Public Health**

**Session Chair: Marco Furini (University of Modena and Reggio Emilia)**

* **A general approach to fuzzy community detection in social networks**

Alfonso Niño, Sebastián Reyes, José Ángel Martín-Baos and Camelia Muñoz-Caro (Universidad de Castilla-La Mancha, Spain)

* **What Do Patients Tell Doctors on the Internet? Ask AI How To Valorize Online Medical Conversations**

Luca Casini, Giovanni Delnevo, Silvia Mirri, Lorenzo Monti, Catia Prandi, Marco Roccetti and Paola Salomoni (University of Bologna, Italy)

* **Diabetes: what are Italian Twitter users talking about?**

Stefano Ferretti (University of Bologna, Italy), Marco Furini (University of Modena and Reggio Emilia, Italy), Manuela Montangero (University of Modena and Reggio Emilia, Italy)

**Coffee Break: 9:45 – 10:15**

**Session 2: 10:15 – 12:00**

**Social Media and Society**

**Session Chair: Silvia Mirri (University of Bologna, Italy)**

* **On Predicting the Success of Political Tweets using Psycho-linguistic Categories**

Marco Furini and Manuela Montangero (University of Modena and Reggio Emilia, Italy)

* **Combining Sentiment Analysis and Social Network Analysis to explore Twitter opinion spreading**

Domenico De Stefano and Francesco Santelli (University of Trieste, Italy)

* **Detection of News Satire on Social Media: Case Study of French Dataset and Analysis**

Zhan Liu (University of Applied Sciences and Arts Western Switzerland, Switzerland), Shaban Shabani (University of Basel, Switzerland), Nicole Glassey Balet (University of Applied Sciences and Arts Western Switzerland, Switzerland), Maria Sokhn (University of Applied Sciences and Arts Western Switzerland, Switzerland)

* **Exploiting Social Media for Recommending new Locations**

Carmela Comito (ICAR-CNR, Italy)

* **Predicting employee attitudes with (digital) collaboration data: a preliminary analysis in the HRM field**

Tommaso Fabbri, Federica Mandreoli, Riccardo Martoglia and Annachiara Scapolan (University of Modena and Reggio Emilia, Italy)

**Lunch Break: 12:00 – 13:30**

**EoT Workshop (RM:** **Meeting Room 5)**

Chair: Claudio Savaglio, University of Calabria, Italy, Salvatore Venticinque, Universita degli studi della Campania, Italy, Atay Ozgovde, Galatasaray, Universitesi Istanbul, Turkey, Teemu Lappanen, University of Oulu, Finland

Welcome **13:30 – 13:45**

**Session 1: 13:45 – 15:00**

**EoT Technologies and Applications**

**Session Chair: Claudio Savaglio and Teemu Leppanen**

* **Tracking criminal events enabled by a IoT app through an edge computing based architecture**

Andrea Tundis, Humayun Kaleem and Max Mühlhäuser (Technische Universität, Darmstadt)

* **Architecture and Use Case for an IoT deployment with SDN at the Edge and dual Physical and Virtual Gateway**

Jara Suarez De Puga, Andreu Belsa and Carlos Palau (UPV)

* **An IoT system for monitoring and data collection of residential water end-use consumption**

Anna Di Mauro, Armando Di Nardo and Salvatore Venticinque (University of Campania "Luigi Vanvitelli")

* **Blockchain-based Mobility-as-a-Service**

Tri Nguyen, Juha Partala and Susanna Pirttikangas (University of Oulu)

**Coffee Break: 15:00 – 15:30**

**Session 2: 15:30 – 17:20**

**EoT Models and Architectures**

**Session Chair: Salvatore Venticinque and Atay Ozgovde**

* **TuSoW: Tuple Spaces for Edge Computing**

Giovanni Ciatto, Lorenzo Rizzato, Andrea Omicini and Stefano Mariani (Alma Mater Studiorum–Università di Bologna, and Università di Modena e Reggio)

* **Data Mining at the IoT Edge**

Claudio Savaglio, Pietro Gerace, Giuseppe Di Fatta and Giancarlo Fortino (Università della Calabria)

* **Towards EDISON: An edge-native approach to distributed interpolation of environmental data**

Lauri Lovén, Ella Peltonen, Teemu Leppänen, Ekaterina Gilman, Abhinay Pandya, Susanna Pirttikangas and Jukka Riekki (University of Oulu)

* **IoT-HC: A novel IoT Architecture for the Hybrid Cloud**

Carmine De Napoli, Agostino Forestiero, Giancarlo Fortino, Andrea Giordano, Antonio Guerrieri, Demetrio Laganà, Giovanni Lupi, Carlo Mastroianni and Leonardo Spataro (Eco4Cloud srl, ICAR-CNR, and University of Calabria)

* **Distributed Artificial Intelligence with Multi-agent Systems for MEC**

Teemu Leppänen (University of Oulu)

**BDMLS Workshop (RM: Meeting Room 6):**

Chair: Xiaofeng Lu and Baojiang Cui

Welcome 8:30-8:45

**Session 1: 8:45 – 9:45**

**Malware detection**

**Session Chair: Qusay H. Mahmoud**

* **Malware Identification and Family Attribution based on Instruction Flow and Hierarchical Deep Convolutional Neural Network**

Xiaochen Wang, Bo Wang, Baojiang Cui, and Suoxing Zhang (Beijing university of posts and telecommunications)

* **Overview of malicious code security detection technology for industrial control systems**

Shengwei Yi, Yang Gao, Yangyang Ma, Feng Xie, and Wang Ren (China Information Technology Security Evaluation Center)

* **Malicious Word Document Detection Based On Multi-View Features Learning**

Lu Xiaofeng, Wang Fei, and Shu Zifeng (Beijing University of posts and telecommunications)

**Coffee Break: 9:45 – 10:15**

**Session 2: 10:15 – 12:00**

**Network and IoT security**

**Session Chair: Geethapriya Thamilarasu**

* **Identification of Resource Utilisation Patterns in Data Centers using Tensor Decomposition**

Waltenegus Dargie (Technische Universität Dresden, Germany)

* **Location Aware Clustering and Epidemic Trust Management in Mobile Ad Hoc Networks**

Michail Chatzidakis, Stathes Hadjiefthymiades (University of Athens)

* **An Information Hiding Scheme for Broadcast Communication of WSNs**

Di Luo, Hao Wang, Shengwei Yi, and Wenjuan Fang (Chongqing University of Posts and Telecommunications)

* **User Authentication for Smart Home Networks based on Mobile Apps Usage**

Yosef Ashibani, Qusay Mahmoud (University of Ontario Institute of Technology)

* **Threshold Outsourcing Computation For Modular Exponentiation**

Youliang Tian, Hai Ou Yang, and Hongfeng Gao (Guizhou University)

**Lunch Break 12:00 – 13:30**

**Session 3: 13:30 – 15:00**

**Algorithm**

**Session Chair: Stathes P. Hadjiefthymiades**

* **A Hybrid Model For Optimal Defense Strategy Generation**

Su Yang, Weiqiang Xie, Chensi Wu, Wenjie Wang and Yuqing Zhang (University of Chinese of Academy of Sciences)

* **Behavior Sequence Mining Model Based on Local Differential Privacy**

Yan Wang, Zhaoxin Zhang, Jian-en Yan, Junkai Huang, Yi Xin, and Shuai Wang (Harbin Institute of Technology)

* **A Trajectory stop points Extraction Method based on Move Points Feature Analysis and Modeling**

Yu Qing Yang, Jiang Hui Cai, and Hai Feng Yang (Taiyuan University of Science and Technology)

**Coffee Break 15:00 – 15:30**

**Session 4: 15:30 – 17:20**

**Attack Detection**

**Session Chair: Xiaofeng Lu**

* **Supervised Machine Learning Techniques for Efficient Network Intrusion Detection**

Nada Aboueata, Sara Alrasbi, Aiman Erbad, Andreas Kassler, and Deval Bhamare (Qatar University)

* **A Security Architecture Designed for Lightweight SDN Scenarios**

Da Xiao, and Ziqi Wang (Beijing University of posts and telecommunications)

* **Attack Detection Using Federated Learning in Medical Cyber-Physical Systems**

William Schneble, and Geethapriya Thamilarasu (University of Washington)

Closing

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