

2016 13th IEEE Annual Consumer Communications & Networking Conference (CCNC 2016)

**Las Vegas, Nevada, USA
9-12 January 2016**

Pages 1-575



**IEEE Catalog Number: CFP16CCN-POD
ISBN: 978-1-4673-9293-8**

**Copyright © 2016 by the Institute of Electrical and Electronic Engineers, Inc
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

******This publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP16CCN-POD
ISBN (Print-On-Demand):	978-1-4673-9293-8
ISBN (Online):	978-1-4673-9292-1
ISSN:	2331-9852

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

Program

2016 13th IEEE Annual Consumer Communications & Networking Conference (CCNC)

Workshop - EdgeCom

- A Novel Driver Identification Method Using Wearables

Ching-Han Yang (National Central University, Taiwan), Deron Liang (National Central University, Taiwan), Chin-Chun Chang (National Taiwan Ocean University, Taiwan) 1

- Performance of LTE Uplink for IoT Backhaul

Esa Piri (VTT Technical Research Centre of Finland, Finland), Jarno E. Pinola (VTT Technical Research Centre of Finland, Finland) 6

- PRE-Fog: IoT Trace Based Probabilistic Resource Estimation at Fog

Mohammad Aazam (Carleton University, Canada), Marc St-Hilaire (Carleton University, Canada), Chung-Horng Lung (Carleton University, Canada), Ioannis Lambadaris (Carleton University, Canada) 12

- Feasibility of Software-Based Duty Cycling of GPS for Trajectory-Based Services

Xiaohan Li (Rutgers University, USA), Fengpeng Yuan (Rutgers University, USA), Janne Lindqvist (Rutgers University, USA) 18

- On My Way: Optimizing Driving Routes for Navigation Applications

Fengpeng Yuan (Rutgers University, USA), Xueyuan Song (Rutgers University, USA), Janne Lindqvist (Rutgers University, USA) 27

- Declarative, Sliding Window Aggregations for Computations at the Edge

Christopher Meiklejohn (Machine Zone, Inc., USA), Seyed Haeri (Université Catholique de Louvain, Belgium), Peter Van Roy (Université Catholique de Louvain, Belgium) 32

Workshop - AALEH

- User Interface Design for Privacy Awareness in eHealth Technologies

Isabel Wagner (De Montfort University, United Kingdom), Ying He (De Montfort University, United Kingdom), Duska Rosenberg (De Montfort University, United Kingdom), Helge Janicke (De Montfort University, United Kingdom) 38

- An Improved Joint Power Harvesting and Communication Technology for Smartphone Centric Ubiquitous Sensing Applications

Hong Nie (University of Northern Iowa, USA), Ranjana Joshi (University of Northern Iowa, USA), Ziyuan Li (University of Northern Iowa, USA) 44

- Modeling the Long Term Fading Behaviour in Residential Wireless Sensor Networks

Falk-Moritz Schaefer (Accenture, Germany), Ruediger Kays (TU Dortmund University, Germany) 49

- PAT: A Power-Aware Decision Tree Algorithm for Mobile Activity Recognition

Luis G Jaimes (Bethune-Cookman University, USA), Yueng Delahoz (University of South Florida, USA), Christopher Eggert (University of South Florida, USA), Idalides Vergara-Laurens (Universidad del Turabo, USA) 54

Workshop - FI4D

- LiteLab: Efficient Large-scale Network Experiments

Liang Wang (University of Cambridge, United Kingdom), Arjuna Sathiseelan (University of Cambridge, United Kingdom), Jon Crowcroft (University of Cambridge, United Kingdom), Jussi Kangasharju (University of Helsinki, Finland) 60

- A Packet Rewriting Core for Information Centric Networking

Christopher Scherb (University of Basel, Switzerland), Manolis Sifalakis (University of Basel, Switzerland), Christian F Tschudin (University of Basel, Switzerland) 67

- Content-Centric Networking in the Internet of Things

Otto Waltari (University of Helsinki, Finland), Jussi Kangasharju (University of Helsinki, Finland) 73

- Scalable Mobility Management for Content Sources in Named Data Networking

Shuai Gao (Beijing Jiaotong University, P.R. China), Hongke Zhang (Beijing Jiaotong University, P.R. China) 79

- Scalable Topology-based Flow Entry Management in Data Center

Chi-Hsiang Hung (National Chiao Tung University, Taiwan), Chao-Wei Huang (National Chiao Tung University, Taiwan), Li-Chun Wang (National Chiao Tung University, Taiwan), Chien Chen (National Chiao Tung University, Taiwan) 85

- Feasible cooperative communication with IEEE 802.11a based devices for multi-hop networks

Katsuhiro Naito (Aichi Institute of Technology, Japan), Kazuo Mori (Mie University, Japan), Hideo Kobayashi (Mie University, Japan) 91

Mini Conference: Social, P2P and Multimedia Networking, Services and Applications

- Just-in-time Reconnaissance and Assistance for Video Game Streams and Players

Ben Falchuk (Applied Communication Sciences, USA), Shoshana Loeb (InterDigital & University of Delaware, USA), Euthimios Panagos (Applied Communication Sciences, USA), KC Lee (Interdigital, USA), Zijun Yao (Interdigital, USA) 99

- Energy Saving Approaches for Video Streaming on Smartphone based on QoE Modeling

Luis Guillermo Martinez Ballesteros (KTH Royal Institute of Technology & Radio Systems Lab, Sweden), Selim Ickin (Ericsson AB, Sweden), Jan Markendahl (Royal Institute of Technology, Sweden), Konrad Tollmar (Royal Institute of Technology (KTH), Sweden), Markus Fiedler (Blekinge Institute of Technology, Sweden), Katarzyna Wac (University of Geneva & Quality of Life group, Switzerland) 103

- Augmented Reality Adaptive Web Content

Joy Bose (Samsung R&D Institute India, Bangalore, India), Ramaswamy Ramanujam (Samsung R&D Institute India, Bangalore, India), Uthra Veluchamy (Samsung R&D Institute India - Bangalore, India) 107

- Distributed Anonymous Computation of Social Distance

Edoardo S. Biagioni (University of Hawaii at Manoa, USA) 111

- Product Rating Prediction Using Trust Relationships in Social Networks

Anahita Davoudi (University of Central Florida, USA), Mainak Chatterjee (University of Central Florida, USA) 115

- Design and Implementation of Interoperable IoT Healthcare System Based on International Standards

Shuyuan Ge (Kyungpook National University, P.R. China), Seung-Man Chun (Kyungpook National University, Korea), Hyunsu Kim (Kyungpook National University, Korea), Jong Tae Park (Kyungpook National University, Korea) 119

Sensing, Smart Spaces, and IoT I

- Closer Destination Selection Scheme for Mobile Sink and Charger Enabled WRSNs

Yuya Tamura (Keio University, Japan), Kentaroh Toyoda (Keio University, Japan), Iwao Sasase (Keio University, Japan) 125

- A floor plan creation tool utilizing a smartphone with an ultrasonic sensor gadget

Yukitoshi Kashimoto (Nara Institute of Science and Technology, Japan), Yutaka Arakawa (Nara Institute of Science and Technology & NAIST, Japan), Keiichi Yasumoto (Nara Institute of Science and Technology, Japan) 131

- An Ontological Ubiquitous City Information Platform Provided with Cyber-Physical-Social-Systems

Alberto Faro (University of Catania, Italy) 137

- Energy-on-Demand System Based on Combinatorial Optimization of Appliance Operation Modes

Naoyuki Morimoto (Kyoto University, Japan) 145

- Distributed Interference Management in Medical Wireless Sensor Networks

Hassine Moun gla (University of Paris Descartes, France), Kahina Haddadi (Paris Descartes University, France), Saadi Boudjit (University of Paris 13, France) 151

Wireless Communications I

- Low-complexity LTE-D2D Synchronization Algorithms

Ashok Kumar Reddy Chavva (Samsung Electronics, India), Sripada Kadambar (Samsung R&D Institute India - Bangalore, India) 156

- Hybrid Scheduling of Component Carriers for Small Cells in Unlicensed Spectrum

Sriram N. Kizhakkemadam (Samsung Research India - Bangalore, India), Vyankatesh Porwal (Samsung Research India Bangalore, India), Nagacharan Udupi (Samsung Electronics, India), Sai Mantripragada (Samsung, India), Bala Kama Raju Chintapenta (Samsung R&D Institute India - Bangalore, India) 164

- Downlink Resource Reuse for Device-to-Device Communication Underlying Cellular Networks Using A Generalized Knapsack Framework

Foad Hajiaghajani (Amirkabir University of Technology, Iran), Mehdi Rasti (Amirkabir University of Technology, Iran) 171

- Fast Timer-based Maximum Function Computation Over Noisy Multiple Access Channels

Jiajia Huang (Nanyang Technological University, Singapore), Boon Hee Soong (Nanyang Technological University, Singapore) 177

- Reduced Complexity K-Best Sphere Decoding Algorithms for Ill-Conditioned MIMO Channels

Ibrahim Al-Nahhal (Egypt-Japan University for Science and Technology (EJUST), Egypt), Masoud Alghoniemy (University of Alexandria, Egypt), Osamu Muta (Kyushu University, Japan), Adel Abdel Rahman (Egypt-Japan University of Science & Technology, Egypt) 183

Wireless Networking and Mobility I

- A System-level Assessment of Uplink CoMP in LTE-A Heterogeneous Networks

Mohamad Tavakoli Sanij (Politecnico di Torino, Italy), Claudio E. Casetti (Politecnico di Torino, Italy) 188

- Performance Evaluation of AQM Techniques with Heterogeneous Traffic

Andrea Marin (Universita' Ca' Foscari of Venice, Italy), Sabina Rossi (Università Ca' Foscari Venezia, Italy), Armir Bujari (University of Padua, Italy), Claudio E. Palazzi (University of Padua, Italy) 194

- Regret Minimization-based Robust Game Theoretic Solution for Dynamic Spectrum Access

Yalin E Sagduyu (Intelligent Automation, Inc., USA), Yi Shi (Intelligent Automation Inc., USA), Allen B. MacKenzie (Virginia Tech, USA), Thomas Hou (Virginia Tech, USA) 200

- Performance analysis of LTE-WiFi very tight coupling

Younes Khadraoui (Institut Mines Telecom / Telecom Bretagne & IRISA, France), Xavier Lagrange (Institut Mines Telecom / Telecom Bretagne & IRISA, France), Annie Gravey (Institut Mines Telecom - Telecom Bretagne & UMR CNRS 6074 IRISA, France) 206

- Robust Routing and Link Scheduling in Cognitive Radio Networks under Channel Uncertainty and Demand Fluctuations

Mejdi Kaddour (University of Oran 1 & Laboratoire de l'Informatique et des Technologies d'Information, Algeria) 212

Mobile and Wearable Devices, Services, and Applications I

- System for fast and seamless communication among user devices

Joy Bose (Samsung R&D Institute India, Bangalore, India), Dipin Kollencheri Puthenveetil (Samsung R&D Institute India - Bangalore, India) 218

- A Priority-Weighted Round Robin scheduling strategy for a WBAN based Healthcare Monitoring System

Audace Manirabona (University of Sfax & University of Paris 13, France), Saadi Boudjit (University of Paris 13, France), Lamia Chaari Fourati (Institut supérieur d'informatique et multimédia de sfax, Tunisia) 224

- A Smartphone-Based Driver Fatigue Detection Using Fusion of Multiple Real-Time Facial Features

Yantao Qiao (University of Michigan, Dearborn, USA), Kai Zeng (George Mason University, USA) 230

- Developing WebRTC-based Team Apps with a Cross-Platform Mobile Framework

Kundan Singh (Avaya Labs, USA), John Buford (Avaya Labs Research, USA) 236

- Side-Channel Attacks on Mobile and Wearable Systems

Ani Nahapetian (California State University, Northridge & UCLA, USA) 243

Demonstrations I

- BeC3: a Crowd-Centric Composition Testbed for the Internet of Things

Zahra Movahedi (Université Paris-Est Marne-la-Vallée, France), Sylvain Cherrier (Université Paris-Est, France), Yacine Ghamri-Doudane (University of la Rochelle, France) 248

- TSA, an SDN Architecture including End Terminals

Jorge Fontenla-Gonzalez (University of Vigo, Spain), Carlos Giraldo-Rodríguez (University of Vigo, Spain), Carlos Pérez-Garrido (University of Vigo, Spain), Saber Mhiri (University of Vigo, Spain), Felipe Gil-Castiñeira (University of Vigo, Spain), Francisco J. González-Castaño (Universidad de Vigo, Spain) 250

- Demonstration of A Joint Power Harvesting and Communication Technology for Smartphone Centric Ubiquitous Sensing Applications

Hong Nie (University of Northern Iowa, USA), Ranjana Joshi (University of Northern Iowa, USA), Ziyuan Li (University of Northern Iowa, USA) 252

- Quality-Driven Mobility Management with a Network Information Service

Esa Piri (VTT Technical Research Centre of Finland, Finland), Jarmo J. Prokkola (VTT Technical Research Centre of Finland, Finland), Mikko Valta (VTT technical research centre of Finland, Finland) 254

- Highly Efficient Environment Aware Wireless Sensor Network

Takeo Fujii (The University of Electro-Communications, Japan), Shunsuke Takagi (The University of Electro-Communications, Japan), Taiki Nakayama (The University of Electro-Communications, Japan), Mai Ohta (Fukuoka University, Japan), Osamu Takyu (Shinshu University, Japan) 256

- Demonstration of Hybrid Overlay/Underlay Waveform Generator with Spectrally Compliant Cognitive Capability via SD-SMSE Framework

Paul Rose (Western New England University, USA), Ruolin Zhou (Western New England University & IEEE Member, USA), Yang Qu (Wright State University, USA), Vasu Devan Chakravarthy (Air Force Research Laboratory, USA), Zhiqiang Wu (Wright State University, USA), Zhiping Zhang (Wright State University, USA) 258

- Demo: Novel Communication Scheme for Spotty Networks and Macro Network Cooperation

Kenji Yokota (KDDI R&D Laboratories, Inc., Japan), Atsushi Tagami (KDDI R&D Laboratories, Japan), Katsunori Yamaoka (Tokyo Institute of Technology, Japan) 260

- Managing Home Routers from the Cloud using Software Defined Networking

Hassan Habibi Gharakheili (University of New South Wales, Australia), Luke Exton (University of New South Wales (UNSW), Australia), Vijay Sivaraman (University of New South Wales, Australia) 262

- Panacea's Cloud: Augmented Reality for Mass Casualty Disaster Incident Triage and Coordination

John Gillis (University of Missouri-Columbia, USA), Prasad Calyam (University of Missouri-Columbia, USA), Olivia Apperson (University of Missouri-Columbia, USA), Salman Ahmad (University of Missouri-Columbia, USA) 264

- Cost Effective Digital Signage System using Low Cost Information Device

Kazuhiro Mishima (Tokyo University of Agriculture and Technology & Keio University, KMD Research Institute, Japan), Takeshi Sakurada (Tokyo University of Agriculture and Technology, Japan), Yoichi Hagiwara (Tokyo University of Agriculture and Technology, Japan) 266

- cacheConnect: On-Device Proxy and Web Cache for Performance Increases

Troy Johnson (Central Michigan University, USA), Patrick Seeling (Central Michigan University, USA) 268

- GeoSentiment: a Tool for Analyzing Geographically Distributed Event-related Sentiments

Carmelo Pino (University of Catania, Italy), Isaak Kavasidis (University of Catania, Italy), Concetto Spampinato (University of Catania, Italy) 270

- Massive Multiple Access Wireless LAN Using Ultra-Wideband Waveguide Floor Tiles
Akihito Noda (The University of Tokyo, Japan), Akimasa Okada (The University of Tokyo, Japan), Yudai Fukui (The University of Tokyo, Japan), Yuichi Masuda (The University of Tokyo, Japan), Hiroyuki Shinoda (University of Tokyo, Japan) 272
- Implementing Cyber Physical Social Systems for Smart Cities: a Semantic Web Perspective
Alberto Faro (University of Catania, Italy) 274
- Innovative DTLS/TLS Security Modules Embedded in SIM Cards for IoT Trusted and Secure Services
Pascal Urien (Télécom ParisTech, France) 276
- Edu-Firewall Device: An Advanced Firewall Hardware Device for Information Security Education
Zouheir Trabelsi (UAE University, UAE), Vasiqullah Molvizadah (UAE University, UAE) 278
- Demo: Implementation of unconscious bus location sensing system with smartphone devices and beacon devices
Katsuyuki Tanaka (Aichi Institute of Technology, Japan), Katsuhiro Naito (Aichi Institute of Technology, Japan) 280
- Demonstration of Kapuer: A privacy policy manager on Android
Arnaud Oglaza (Université de Toulouse & Institut de Recherche en Informatique de Toulouse (IRIT), France), Romain Laborde (Université Paul Sabatier, France), Pascale Zaraté (Université de Toulouse, France) 282
- An Energy-aware End-to-End Crowdsensing Platform: Sensarena
Rim Ben Messaoud (LIGM - University Paris-Est, France), Zeineb Rejiba (Université Paris Est Marne La Vallée, France), Yacine Ghamri-Doudane (University of la Rochelle, France) 284
- The Sensorian IoT Platform
Qusay Mahmoud (University of Ontario Institute of Technology, Canada), Dhimiter Qendri (UOIT, Canada) 286
- Indoor Air Quality Monitoring through Software Defined Infrastructures
Petros Spachos (University of Guelph, Canada), Alberto Leon-Garcia (University of Toronto, Canada), Hadi Bannazadeh (University of Toronto, Canada), Jieyu Lin (University of Toronto, Canada) 288

Poster Session I

- Efficient Sink Location Service for Prolonging the Network Lifetime in Wireless Sensor Networks

Jeongcheol Lee (Chungnam National University, Korea), Jae-Young Jang (Chungnam National University, Korea), Euisin Lee (Chungbuk National University, Korea), Sang-Ha Kim (Chungnam National University, Korea), Mario Gerla (University of California at Los Angeles, USA) 290

- Investigation and Design of Rectangular Waveguide Using Composite Right / Left Handed Transmission Line (CRLH-TL) Structure for Microwave and Communication Consumer Applications

Yasser M. Madany (IEEE, Senior Member, Alexandria University, Egypt), Hassan El Kamchouchi (Alexandria University, Egypt), Bishoy Halim (AAST, Egypt) 292

- Optimum Number of Aggregators based on Power Consumption, Cost, and Network Lifetime in Advanced Metering Infrastructure Architecture for Smart Grid Internet of Things

Alireza Ghasempour (Utah State University, USA) 295

- Resource Saving: Which Resource Sharing Strategy to Protect Primary Shortest Paths?

Mohand Yazid Saidi (University of Paris 13, France), Bernard Cousin (University of Rennes 1 & IRISA Research Laboratory, France) 297

- Two level Evolutionary Algorithm for Capacitated Network Design Problem

Meriem Khelifi (Badji Mokhtar University Annaba & Networks and Systems Laboratory - LRS, Algeria), Saadi Boudjit (University of Paris 13, France), Mohand Yazid Saidi (University of Paris 13, France) 299

- Train Ticket Gate System employing Optical Wireless Communications

Khourn Khemry (Waseda University, Japan), Jiang Liu (Waseda University, Japan), Shigeru Shimamoto (Waseda University & Graduate School of Global Information and Telecommunication Studies, Japan) 301

- Seamless Push Service with Flow Control for Embedded Devices

Joy Bose (Samsung R&D Institute India, Bangalore, India), Sureshkumar Gudla (Samsung R&D Institute India - Bangalore, India), Girija Saride (Samsung R&D Institute India - Bangalore, India), Abhishek Maheshwari (Samsung R&D Institute India - Bangalore, India) 303

- An Overview of Mobile Device Network Activities: Characteristics of Heterogeneous Network Interfaces

Sean Mead (Central Michigan University, USA), Nagasaiamithkumar Veeramachaneni (Central Michigan University, USA), Patrick Seeling (Central Michigan University, USA) 305

- Negotiator Based Quality of Experience Framework for Video

Lina Xu (Technische Universität München, Germany), Yantao Qiao (University of Michigan, Dearborn, USA) 307

- Energy-efficient High-speed Search Engine Using a Multi-dimensional TCAM Architecture with Parallel Pipelined Subdivided Structure

Masami Nawa (Osaka City University, Japan), Kenzo Okuda (Osaka City University, Japan), Shingo Ata (Osaka City University, Japan), Yuji Yano (Osaka City University, Japan), Yasuto Kuroda (Renesas Electronics Corporation, Japan), Hisashi Iwamoto (REVSONIC, Japan), Kazunari Inoue (Osaka University, Japan), Ikuo Oka (Osaka City University, Japan) 309

- Difficulties to enforce your privacy preferences on Android? Kapuer will help you

Arnaud Oglaza (Université de Toulouse & Institut de Recherche en Informatique de Toulouse (IRIT), France), Romain Laborde (Université Paul Sabatier, France), Pascale Zaraté (Université de Toulouse, France) 315

- SyncDS: A Digital Safe Based File Synchronization Approach

Mayssa Jemel (Telecom ParisTech, France), Mounira Msahli (TELECOM ParisTech, France), Ahmed Serhrouchni (ENST, France) 317

- Distributed Internal Anomaly Detection System for Internet-of-Things

Nanda Kumar Thanigaivelan (University of Turku, Finland), Ethiopia Nigussie (University of Turku, Finland), Rajeev Kumar Kanth (University of Turku, Finland), Seppo Virtanen (University of Turku, Finland), Jouni Isoaho (University of Turku, Finland) 319

- A Genetic Algorithm-based Solution for Efficient In-network Sensor Data Annotation in Virtualized Wireless Sensor Networks

Imran Khan (Schneider Electric Industries SAS, France), Jagruti Sahoo (Concordia University, Canada), Son N. Han (Institut Mines-Telecom, Telecom SudParis, France), Roch Glitho (Concordia University, Canada), Noel Crespi (Institut Mines-Télécom, Télécom SudParis, France) 321

- An IoT-based Scheme for Real Time Indoor Personal Exposure Assessment

Houssein Eddine Fathallah (University of Lorraine, France) 323

Mini Conference: Wireless Communications I

- Ergodic Capacity in D2D Underlay Networks with Varying User Distribution

Chang Liu (Kansas State University, USA), Bala Natarajan (Kansas State University, USA) 325

- A Comparative Study of Channel Switching Latency for Conventional and SDN-based Routing in Multi-Hop Multi-Radio Wireless Mesh Networks

Dawood Sajjadi (University of Victoria, Canada), Maryam Tanha (University of Victoria, Canada), Jianping Pan (University of Victoria, Canada) 330

- Enhancement of HCCA utilizing Capture Effect to Support High QoS and DCF Friendliness

Masanori Kanda (Waseda University, Japan), Jiro Katto (Waseda University, Japan), Tutomu Murase (Nagoya University, Japan) 335

- Single RF Based MIMO System using Load-Modulation

Changyoung An (Chungbuk National University, Korea), Heung-Gyoon Ryu (Chungbuk National University, Korea), Seung Hwan Lee (ETRI, Korea) 339

- An Opportunistic Random Linear Network Coding Scheme in Wireless Networks

Sungjin Park (KAIST, Korea), Howon Lee (Hankyong National University, Korea), In-Ho Lee (Hankyong National University, Korea), Dong-Ho Cho (Korea Advanced Institute of Science and Technology, Korea) 344

Social, P2P and Multimedia Networking, Services and Applications I

- Boosting Election Prediction Accuracy by Crowd Wisdom on Social Forums

Ming-Hung Wang (National Taiwan University, Taiwan), Chin-Laung Lei (National Taiwan University, Taiwan) 348

- Assessment and Visualization of Geographically Distributed Event-related Sentiments by Mining Social Networks and News

Carmelo Pino (University of Catania, Italy), Isaak Kavasidis (University of Catania, Italy), Concetto Spampinato (University of Catania, Italy) 354

- A bloom-filter-based socially aware scheme for content replication in mobile ad hoc networks

Ghada Moualla (Rennes1 University, France), Pantelis A. Frangoudis (INRIA Rennes-Bretagne Atlantique, France), Yassine Hadjadj-Aoul (University of Rennes 1, France), Soraya Ait Chellouche (IRISA Lab - University of Rennes 1, France) 359

- Discovering Key Moments in Social Media Streams

Cody Buntain (University of Maryland, USA), Jimmy Lin (College of Information Studies, USA), Jennifer Golbeck (College of Information Studies, USA) 366

Networking and Applications in Entertainment

- Improving User Experience in Low-Latency Adaptive Streaming by Stabilizing Buffer Dynamics

Yongtao Shuai (Saarland University, Germany), Thorsten Herfet (Saarland University & Intel Visual Computing Institute, Germany) 375

- Modeling Cloud gaming experience for Massively Multiplayer Online Games

Eya Dhib (SUP'COM, Tunisia), Khaled Boussetta (University of Paris 13, France), Nawel Zangar (Université of El MANAR & MEDIATRON Laboratory, Tunisia), Nabil Tabbane (Sup'com, Tunisia) 381

- Assessing the Efficacy of a Diegetic Game Interface with Oculus Rift

Paola Salomoni (University of Bologna, Italy), Catia Prandi (University of Bologna, Italy), Marco Rocchetti (University of Bologna, Italy), Lorenzo Casanova (Studio Evil, Italy), Luca Marchetti (Studio Evil, Italy) 387

- Evaluation of Scalability and Communication in MMOGs

Sarmad Abdulazeez (Liverpool John Moores, United Kingdom), Abdennour El Rhalibi (Liverpool John Moores University, United Kingdom), Dhiya Al-Jumeily (Liverpool John Moores University, United Kingdom) 393

Emerging Consumer Communications and Networking I

- Towards Enabling Hyper-Responsive Mobile Apps Through Network Edge Assistance

Miguel Báguena (Universidad Politécnica de Valencia, Spain), Andreas Pamboris (University of Cyprus, Cyprus), Peter Pietzuch (Imperial College London, United Kingdom), George Samaras (University of Cyprus, Cyprus), Mihail Sichitiu (North Carolina State University, USA), Pietro Manzoni (Universidad Politécnica de Valencia, Spain) 399

- Power Scheduling in Privacy Enhanced Microgrid Networks with Renewables and Storage

Arif Isikman (TOBB University of Economics and Technology, Turkey), Cankal Altun (TOBB University of Economics and Technology, Turkey), Suleyman Uludag (The University of Michigan - Flint, USA), Bulent Tavli (TOBB University of Economics and Technology, Turkey) 405

- State-Aware Allocation of Reliable Virtual Software Defined Networks Based on Bandwidth and Energy

Rafael L. Gomes (University of Campinas (UNICAMP), Brazil), Luiz F. Bittencourt (University of Campinas, Brazil), Edmundo Madeira (State University of Campinas, Brazil), Eduardo Cerqueira (Federal University of Para & UCLA & UFPA & UCLA, Brazil), Mario Gerla (University of California at Los Angeles, USA) 411

- Cache Protection Method Based on Prefix Hierarchy for Content-oriented Network

Takashi Kamimoto (Keio University, Japan), Kenta Mori (Keio University, Japan), Sayaka Umeda (Keio University, Japan), Yuri Ohata (Keio University, Japan), Hiroshi Shigeno (Keio University, Japan) 417

Mobile and Wearable Devices, Services, and Applications II

- Bluetooth Low Energy as Enabling Technology for Be-In/Be-Out Systems

Wolfgang Narzt (Johannes Kepler University Linz, Austria), Stefan Mayerhofer (Johannes Kepler University Linz, Austria), Otto Weichselbaum (University of Linz, Austria), Stefan Haselböck (Johannes Kepler University Linz, Austria), Niklas Höfler (Johannes Kepler University Linz, Austria) 423

- On the Effectiveness of Video Prefetching Relying on Recommender Systems for Mobile Devices

Stefan Wilk (TU Darmstadt, Germany), Dominik Schreiber (TU Darmstadt, Germany), Denny Stohr (Technische Universität Darmstadt, Germany), Wolfgang Effelsberg (University of Mannheim, Germany) 429

- FlowMine: Android App Analysis via Data Flow

Lovely Sinha (Malaviya National Institute of Technology Jaipur, India), Shweta Bhandari (Malaviya National Institute of Technology Jaipur, India), Parvez Faruki (Malaviya National Institute of Technology Jaipur, India), Vijay Laxmi (Malaviya National Institute of Technology, Jaipur, India), Manoj Singh Gaur (Malaviya National Institute of Technology, India), Mauro Conti (University of Padua, Italy) 435

- AirDraw: Leveraging Smart Watch Motion Sensors for Mobile Human Computer Interactions

Danial Moazen (California State University, Northridge, USA), Seyed Sajjadi (California State University, Northridge, USA), Ani Nahapetian (California State University, Northridge & UCLA, USA) 442

Vehicular Communications and Applications in Water, Land, and Sky

- Hierarchy-Based Monitoring of Vehicular Delay-Tolerant Networks

Ewerton Monteiro Salvador (Universidade Federal de Minas Gerais, Brazil), Daniel Fernandes Macedo (Federal University of Minas Gerais, Brazil), José-Marcos Nogueira (Federal University of Minas Gerais, Brazil), Virgil Del Duca Almeida (Federal Institute of Minas Gerais, Brazil), Lisandro Z Granville (Federal University of Rio Grande do Sul, Brazil) 447

- Channel Estimation in an Over-water Air-Ground Channel Using Low Complexity OFDM-OQAM Modulations

Hosseinali Jamal (University of South Carolina, USA), David W Matolak (University of South Carolina, USA) 453

- D2CyberSoft: A Design Automation Tool for Soft Error Analysis of Dependable Cybercars

Arslan Munir (University of Nevada, Reno, USA), Farinaz Koushanfar (Rice University, USA) 459

- A novel On-Board Unit to Accelerate the Penetration of ITS Services

Sergio M. Tornell (Universitat Politècnica de València, Spain), Subhadeep Patra (Universitat Politècnica de València, Spain), Carlos T. Calafate (Universidad Politécnica de Valencia, Spain), Juan-Carlos Cano (Universidad Politécnica de Valencia, Spain), Pietro Manzoni (Universidad Politécnica de Valencia, Spain) 467

Mini Conference: Wireless Networking and Mobility

- An Efficient Spreading Epidemic Routing for Delay-Tolerant Network

Teerapong Choksatid (King Mongkut's Institute of Technology Ladkrabang, Thailand), Worrawat Narongkhachavana (King Mongkut's Institute of Technology Ladkrabang, Thailand), Sumet Prabhavat (King Mongkut's Institute of Technology Ladkrabang, Thailand) 473

- AKadeMesh: Software-Defined Overlay Adaptation for the Management of IEEE 802.11s Networks

Michael Rethfeldt (University of Rostock & Institute of Applied Microelectronics and Computer Engineering, Germany), Arne Wall (University of Rostock, Germany), Peter Danielis

(KTH Royal Institute of Technology, Sweden), Björn Konieczek (University of Rostock, Germany), Dirk Timmermann (University of Rostock, Germany) 477

- A2: Agnostic Aggregation in Wireless Sensor Networks

Jin Cui (Univ Lyon, INSA Lyon, Inria, CITI, France), Lalami Omar (INSA Lyon, France), Jia-Liang Lu (Shanghai Jiao Tong University, P.R. China), Fabrice Valois (Univ Lyon, INSA Lyon, Inria, CITI, France) 483

- User association for load balancing with uneven user distribution in IEEE 802.11ax networks

Fengming Cao (Toshiba Europe Research Telecommunication Lab, United Kingdom), Zhenzhe Zhong (Toshiba Research Europe Ltd., United Kingdom), Zhong Fan (Toshiba Research Europe, United Kingdom), Mahesh Sooriyabandara (Toshiba Research Europe Limited, United Kingdom), Simon Armour (University of Bristol, United Kingdom), Ayalvadi Ganesh (University of Bristol, United Kingdom) 487

- A New Network Selection Algorithm for Group Calls over Heterogeneous Wireless Networks with Dynamic Multi-Criteria

Enoruwa Obayiuwana (University of Cape Town, South Africa), Olabisi Emmanuel Falowo (University of Cape Town, South Africa) 491

- Handling Sink Group Mobility in Wireless Sensor Networks

Euisin Lee (Chungbuk National University, Korea), Yongbin Yim (Chungnam National University, Korea), Soochang Park (Hong Kong University of Science and Technology & NIE Social Media Lab, Hong Kong), Sang-Ha Kim (Chungnam National University, Korea), Mario Gerla (University of California at Los Angeles, USA) 495

Wireless Communications II

- Joint Impacts of Atmospheric Interferences on Optical Wireless Communication

Xian Liu (University of Arkansas at Little Rock, USA) 499

- Indoor Positioning with OFDM Visible Light Communications

Mohammadreza Aminikashani (The Pennsylvania State University, USA), Wenjun Gu (The Pennsylvania State University, USA), Mohsen Kavehrad (The Pennsylvania State University -- University Park, USA) 505

- A Study on Correlation Properties of Shadow Fading of Millimeter Wave Frequency Spectrum

Sangkyu Baek (Samsung Electronics, Korea), Youngbin Chang (Samsung Electronics Co., Ltd, Korea), June Hwang (Samsung Electronics, Korea), Sooyoung Hur (Samsung Electronics Co., Korea), Byungchul Kim (Samsung Electronics, Korea) 511

- Performance Analysis of Orbital Angular Momentum(OAM) Transmission Using Dual Polarization Antenna Based Uniform Circular Array Architecture

Lakju Sung (KAIST, Korea), Daehee Park (KAIST, Korea), Dong-Ho Cho (Korea Advanced Institute of Science and Technology, Korea) 517

- Detecting the Impact of Human Mega-Events on Spectrum Usage

Abdallah S. Abdallah (Virginia Tech, USA), Allen B. MacKenzie (Virginia Tech, USA), Vuk Marojevic (Virginia Tech, USA), Roger B Bacchus (Illinois Institute of Technology, USA), Ali Riaz (Illinois Institute of Technology, USA), Dennis Roberson (Illinois Institute of Technology, USA), Juha Kalliovaara (University of Turku, Finland), Juhani Hallio (Turku University of Applied Sciences, Finland), Reijo Ekman (Turku University of Applied Sciences, Finland) 523

Emerging Consumer Communications and Networking II

- Improving the Tunnel Management Performance of Secure VPLS Architectures with SDN

Madhusanka Liyanage (University of Oulu, Finland), Mika Ylianttila (University of Oulu, Finland), Andrei Gurtov (Aalto University, Finland) 530

- NRTS: Content Name-based Real-time Streaming

Kazuhisa Matsuzono (National Institute of Information and Communication Technology (NICT), Japan), Hitoshi Asaeda (National Institute of Information and Communications Technology (NICT), Japan) 537

- Towards Energy-Autonomous Wake-up Receiver using Visible Light Communication

Joyce Sariol Ramos (Universitat Politècnica de Catalunya, Spain), Ilker Demirkol (Universitat Politècnica de Catalunya & i2CAT Foundation, Spain), Josep Paradells (Universitat Politècnica de Catalunya, Spain), Daniel Vössing (University of Freiburg, Germany), Karim Gad (University of Freiburg, Germany), Martin Kasemann (University of Freiburg, Germany) 544

- A Reliable Data Aggregation Mechanism with Homomorphic Encryption in Smart Grid AMI Networks

Samet Tonyali (Florida International University, USA), Kemal Akkaya (Florida International University, USA), Nico Saputro (Florida International University, USA), A. Selcuk Uluagac (Florida International University, USA) 550

- Adaptive 802.15.4 Backoff Procedure to Survive Coexistence with 802.11 in Extreme Conditions

Eugene David Ngangue Ndi (Université de Sherbrooke, Canada), Soumaya Cherkaoui (Université de Sherbrooke, Canada) 556

Wireless Communications and Networking Standards

- Coexistence of IEEE 802.11n and Licensed-Assisted Access devices using Listen-before-Talk techniques

Claudio E. Casetti (Politecnico di Torino, Italy) 562

- An Integrative Methodology to Enable Compliance-aware Data Services Accelerating Consumer Regulatory Governance Paradigms of an Enterprise

Vikas S Shah (Wipro Technologies, USA) 568

- Design and Evaluation of Adaptive Switched Digital Video System

Adil Alsuhaimeh (Clemson University & King Fahd University of Petroleum and Minerals, USA), Zhaoyu Jing (Clemson University & University of Science and Technology of China, USA), James Martin (Clemson University, USA) 576

- Performance Evaluation of Low Complexity Double-Sided Massive MIMO Transceivers

Stefan Schwarz (TU Wien, Austria), Markus Rupp (TU Wien, Austria) 582

- Adaptive Listen-Before-Talk (LBT) Scheme for LTE and Wi-Fi Systems Coexisting in Unlicensed Band

Chung K. Kim (Korea University, Korea), Chan S. Yang (Korea University, Korea), Chung G. Kang (Korea University, Korea) 589

Wireless Models and Simulations for Consumer Communication and Networking

- Performance Analysis of In-Band Full Duplex Collision and Interference Detection in Dense Networks

Tom Vermeulen (KU Leuven, Belgium), Fernando Rosas (KU Leuven, Belgium), Marian K. h. Verhelst (University of Leuven (KU Leuven), Belgium), Sofie Pollin (KU Leuven, Belgium) 595

- Realtime Throughput Optimization Protocol in IEEE802.11 Networks

Samir Kant Sahu (Samsung Electronics, Korea), Hun-je Yeon (Yonsei University & Samsung Electronics, Korea) 602

- Proximity-aware offloading of person-to-person communications in LTE networks

Christian Quadri (University of Milano, Italy), Sabrina Gaito (University of Milan, Italy), Gian Paolo Rossi (University of Milan, Italy) 608

- Cost Factor Analysis of QoS in LTE/EPC Mobile Networks

William Diego (Orange Labs & Telecom Bretagne, France), Isabelle Hamchaoui (Orange Labs, France), Xavier Lagrange (Institut Mines Telecom / Telecom Bretagne & IRISA, France) 614

- CONET: COntrolled Data Packets Propagation in Vehicular Named Data NETworks

Syed Hassan Ahmed (Kyungpook National University, Korea), Safdar Hussain Bouk (Kyungpook National University & COMSATS Institute of Information Technology, Islamabad, Korea), Muhammad Azfar Yaqub (Kyungpook National University, Korea), Dongkyun Kim (Kyungpook National University, Korea), Mario Gerla (University of California at Los Angeles, USA) 620

Mini Conference: Consumer Communications and Networking

- Generalized Software Defined Network Platform for Radio Access Networks

Aravinthan Gopalasingham (Alcatel-Lucent Bell Labs, France), Laurent Roulet (Alcatel-Lucent Bell Labs, France), Nessrine Trabelsi (INRIA, France), Chung Shue Chen (Bell Labs, France), Abdelkrim Hebbar (Alcatel Lucent Bell Labs, France), Erick Bizouarn (Alcatel-Lucent Bell Labs France, France) 626

- Multi-Attribute Caching: Towards Efficient Cache Management in Content-Centric Networks

Sheneela Naz (M A Jinnah University Islamabad, Pakistan), Naveed Bin Rais (M. A. Jinnah University, Islamabad, Pakistan), Amir Qayyum (M. A. Jinnah University, Islamabad & Center of Research in Networks and Telecom, Pakistan) 630

- Investigation of Double Way-Quadrature Phase Shift Key (DW-QPSK) for Digital Communication Consumer Applications

Yasser M. Madany (IEEE, Senior Member, Alexandria University, Egypt) 634

- Redundancy Control Using Software Defined Networking

Douglas Comer (Purdue University, USA), Rajas Karandikar (Purdue University, USA), Adib Rastegarnia (Purdue University, USA) 638

- Inferring network infrastructural behaviour during disasters

Zafar Gilani (University of Cambridge, United Kingdom), Arjuna Sathiseelan (University of Cambridge, United Kingdom), Veljko Pejovic (University of Ljubljana, Slovenia), Jon Crowcroft (University of Cambridge, United Kingdom) 642

- Fair and Delay Adaptive Scheduler (FDAS) Preliminary Modeling and Optimization

Abdelwahab Elnaka (University of Guelph, Canada), Qusay Mahmoud (University of Ontario Institute of Technology, Canada), Xining Li (University of Guelph, Canada) 646

Wireless Communications III

- Control Method to Guarantee Throughput based on Media Access Control Method SP-MAC over WLAN

Yuuki Yamamoto (Hiroshima City University, Japan), Ryo Hamamoto (Hiroshima City University, Japan), Hiroyasu Obata (Hiroshima City University, Japan), Chisa Takano (Hiroshima City University, Japan), Kenji Ishida (Hiroshima City University & Graduate School of Information Sciences, Japan) 650

- Robust Cooperative Beamforming against Steering Vector Uncertainty in Cognitive Radio Networks

Md Monzurul Alam (Purdue University, USA), Sudeep Bhattarai (Virginia Tech, USA), Liang Hong (Tennessee State University, USA), Sachin Shetty (Tennessee State University, USA) 656

- Secure Beamforming and Self-Energy Recycling with Full-Duplex Wireless-Powered Relay

Hongjun Kim (Korea Advanced Institute of Science and Technology, Korea), Jinkyu Kang (Korea Advanced Institute of Science and Technology, Korea), Seongah Jeong (Korea Advanced Institute of Science, Korea), Kwang-Eog Lee (Agency for Defense Development, Korea), Joonhyuk Kang (KAIST, Korea) 662

- Improving the Energy Efficiency of Wireless Network on Chip Architectures through Online Selective Buffers and Receivers Shutdown

Davide Patti (University of Catania, Italy), Maurizio Palesi (Kore University, Italy), Vincenzo Catania (University of Catania, Italy), Salvatore Monteleone (Università degli Studi di Catania, Italy), Andrea Mineo (University of Catania, Italy) 668

Wireless Networking and Mobility II

- TCast: A Transitional Region Aware Broadcast Protocol in Variable Wireless Link Qualities

Chunchao Liang (Texas Tech University, USA), Sunho Lim (Texas Tech University, USA), Manki Min (South Dakota State University, USA), Wei Wang (San Diego State University, USA) 674

- Real-Time Communication in Low-Power Mobile Wireless Networks

Behnam Dezfouli (University of Iowa, USA), Marjan Radi (University of Iowa, USA), Octav Chipara (University of Iowa, USA) 680

- Q-RoSA: QoE-aware Routing for SVC Video Streaming over Ad-hoc Networks

Quang Pham (INRIA/IRISA Research Center, France), César Viho (IRISA / INRIA Rennes & University of Rennes I, France), Kamal Deep Singh (Telecom Saint Etienne / University Jean Monnet, France), Kandaraj Piamrat (CRESTIC / University of Reims Champagne-Ardenne, France) 687

- Service Differentiation Strategy Based on MACB Factor for M2M Communications in LTE-A Networks

Nawel Zangar (Université of El MANAR & MEDIATRON Laboratory, Tunisia), Sami Gharbi (FST, Tunisia), Marwen Abdennebi (L2TI Laboratory, University of Paris Nord, France) 693

- Dynamic Channel Switching for High-Definition Peer-to-Peer 802.11-based Video Streaming

Erin Sullivan (Oregon State University, USA), Taylor Johnson (Oregon State University, USA), Ben Lee (Oregon State University, USA) 699

Cloud Services and Networking

- Broker and Federation Based Cloud Networking Architecture for IaaS and NaaS QoS Guarantee

Mohamad Hamze (University of Burgundy, France), Nader Mbarek (LE2I, University of Burgundy, France), Olivier Togni (University of Burgundy, France) 705

- A Content-Based Traffic Engineering Policy for Information-Centric Networks

Serhat Nazim Avci (Futurewei Technologies, USA), Cedric Westphal (Huawei Innovation Center, USA) 711

- K-anonymous Location-based Fine-grained Access Control for Mobile Cloud

Yaser Baseri (University of Montreal, Canada), Abdelhakim Hafid (University of Montreal, Canada), Soumaya Cherkaoui (Université de Sherbrooke, Canada) 720

- On Mobile Traffic Distribution over Cellular Backhauling Network Nodes

Sandesh Uppoor (Orange Labs, France), Cezary Ziemlicki (Orange labs, France), Stefano Secci (University Pierre et Marie Curie - Paris 6, France), Zbigniew Smoreda (Orange Labs & France Telecom Group, France) 726

- QoS-aware Resource Allocation for mobile media services in Cloud Environment

Amir Karamoozian (University of Montreal, Canada), Abdelhakim Hafid (University of Montreal, Canada), Mustapha Boushaba (École Polytechnique de Montréal, Canada), Mahboubeh Afzali (Universiti Teknologi Malaysia, Iran) 732

Security, Privacy and Content Protection I

- On the anonymity of privacy-preserving many-to-many communication in the presence of node churn and attacks

Jörg Daubert (Technische Universität Darmstadt, Germany), Tim Grube (Technische Universität Darmstadt, Germany), Max Muehlhaeuser (Technical University Darmstadt, Germany), Mathias Fischer (University Muenster, Germany) 738

- SMOV: Array Bound-Check and Access in a Single Instruction

Antonio Maia (Universidade Federal de Minas Gerais, Brazil), Leandro Melo (Universidade Federal de Minas Gerais, Brazil), Fernando Magno Pereira (Universidade Federal de Minas Gerais, Brazil), Omar Neto (UFMG, Brazil), Leonardo Oliveira (Federal University of Minas Gerais, Brazil) 745

- Efficient Tuning Methodologies for a Network Payload Anomaly Inspection Scheme

William Edmonds (University of Alabama in Huntsville, USA), Sun-il Kim (University of Alabama in Huntsville, USA), Erik MacIntyre (University of Alabama in Huntsville, USA), Chockalingam Karuppanchetty (University of Alabama in Huntsville, USA), Nnamdi Nwanze (iDEA Hub, Nigeria) 752

- What Does the Memory Say? Towards the Most Indicative Features for Efficient Malware Detection

Jelena Milosevic (Università della Svizzera Italiana, Switzerland), Alberto Ferrante (University of Lugano, Switzerland), Miroslaw Malek (University of Lugano, Switzerland) 759

- Simple and Compact Flow Fingerprinting Robust to Transit Through Low-latency Anonymous Networks

Yang Xue (Kansas State University, USA), Eugene Y. Vasserman (Kansas State University, USA) 765

Poster Session II

- P2P-based Ultra High Definition Multi-view Video Distribution System with Best-effort and Bandwidth Guaranteed Networks

Yusuke Hirota (Osaka University, Japan), Kazuya Takahashi (Graduate School of Information Science and Technology, Osaka University, Japan), Hideki Tode (Osaka Prefecture University, Japan), Koso Murakami (Osaka University, Japan) 774

- A probabilistic convergecast protocol for vehicle to infrastructure communication in ITS architecture

Arslane Hamza Cherif (University of Tlemcen, Algeria), Khaled Boussetta (University of Paris 13, France), Gladys Diaz (University of Paris 13 & L2TI, Institut Galilee, France), Fedoua Didi (Abou Bekr Belkaid University, Algeria) 776

- Piece Distribution Scheduling for Streaming Content Delivery with Pseudo-Multicast over Wireless LAN

Akihiro Kanayama (University of Electro-Communication, Japan), Satoshi Ohzahata (The University of Electro-Communications & Graduate School of Information Systems, Japan), Toshihiko Kato (University of Electro-Communications, Japan) 778

- AGC and DCOC Algorithms for Sliding IF Non-Coherent ULP Wireless Receiver

Ashutosh Deepak Gore (Samsung Advanced Institute of Technology, India), Jinesh P Nair (Samsung India Software Operations & Samsung Advanced Institute of Technology India Lab, India), Kiran Bynam (Samsung, India), Young-Jun Hong (Samsung Electronics & Samsung Advanced Institute of Technology, Korea), Chang Soon Park (SAIT, Korea) 780

- High Performance Phase Rotated FD-MC-CDMA To Exploit Full Diversity

Zhiping Zhang (Wright State University, USA), Lin Zhang (Sun Yat-sen University & SYSU-CMU Shunde International Joint Research Institute, P.R. China), Yang Qu (Wright State University, USA), John Ellinger (Air Force Research Laboratory, USA), Zhiqiang Wu (Wright State University, USA) 785

- Relay-assisted RF Harvesting Sensor Networks

Deepak Mishra (Indian Institute of Technology Delhi, India), Swades De (Indian Institute of Technology Delhi, India) 791

- Opportunistic Spectrum Access Enabled Heterogeneous Wireless Networking for Smart Grid

Chandra Bajracharya (Georgia Southern University, USA), Danda B. Rawat (Georgia Southern University, USA) 793

- PLR-Delay Aware downlink Scheduler (PDADS): A Novel Scheme Based On Packet Prediction Mechanism

Saloua Hendaoui (High School of Communication of Tunis (SUPCOM) & Multimedia Mobile Radio Networks Research Unit-Tunis, Tunisia), Nawel Zangar (Université of El MANAR & MEDIATRON Laboratory, Tunisia), Sami Tabbane (Sup Telecom, Tunisia) 798

- Assisted network discovery for next generation wireless networks

Andrés Arcia-Moret (University of Cambridge, United Kingdom), Arjuna Sathiseelan (University of Cambridge, United Kingdom), Antonio Araujo (CENDITEL, Venezuela), Jose Aguilar (Universidad de Los Andes & PROMETEO Resarcher, Universidad Tecnica Particular

de Loja, Venezuela), Laudin Molina (Telecom Bretagne & Université Européene de Bretagne, France) 800

- Design and Performance Analysis of a GFDM-DCSK Communication System

Shuying Li (Harbin Institute of Technology, P.R. China), Yaqin Zhao (Harbin Institute of Technology, P.R. China), Liang He (HIT, P.R. China), Zhilu Wu (Harbin Institute of Technology, P.R. China), Yuanyuan Li (China Academy of Launch Vehicle Technology R\&D Center, Beijing, P.R. China) 802

- Efficient Power Allocation in LTE-A Based on Ordering Mechanism

Bilal Rabah Al-Doori (University of Arkansas at Little Rock, USA), Xian Liu (University of Arkansas at Little Rock, USA) 804

- Work in Progress: A Novel Range-Queryable Distributed Data Structure

Charles Noyes (Villa Park High School, USA) 806

- M-Parking: Vehicle Parking Guidance System using Hierarchical Wireless Sensor Networks

Sarang Deshpande (Indian Institute of Technology Madras, India) 808

- A Secure IoT Architecture for Smart Cities

Shaibal Chakrabarty (US-Ignite, USA), Daniel W Engels (Southern Methodist University, USA) 812

- Hybrid Location Tracking in BLE Beacon Systems with In-Network Coordination

Arzad Kherani (Samsung R&D Institute Bangalore India, India), Suleep Kumar (Samsung, India), Bongjhin Shin (Samsung Electronics Co. Ltd., Korea) 814

Mini Conference: Wireless Communications II

- Rate Adaptation for Terahertz Communications

Farnoosh Moshir (Portland State University, USA), Suresh Singh (Portland State University, USA) 816

- Cooperative Spectrum Sensing in Non-Time-Slotted Full Duplex Cognitive Radio Networks

Sukjong Ha (Korea Advanced Institute of Science and Technology, Korea), Wonju Lee (Korea Advanced Institute of Science and Technology, Korea), Jinkyu Kang (Korea Advanced Institute of Science and Technology, Korea), Joonhyuk Kang (KAIST, Korea) 820

- Effect of CSI Quantization on the Average Rate in MU-MIMO WLANs

Sanjeeb Shrestha (Macquarie University, Australia), Gengfa Fang (Macquarie University, Australia), Eryk Dutkiewicz (University of Technology Sydney, Australia), Xiaojing Huang (University of Technology, Sydney, Australia) 824

- Decentralized Channel Assignment and Power Allocation in a Full-Duplex Cognitive Radio Network

Chamara N Devanarayana (University of Manitoba, Canada), Attahiru Alfa (University of Manitoba, Canada) 829

- A Low Complexity Algorithm for Sampling Clock-Offset Compensation in Low Power WPAN Receivers

Sujit Jos (Samsung Advanced Institute of Technology India Labs & Samsung R&D Institute Bangalore, India), Kiran Bynam (Samsung, India), Chandrashekhara Thejaswi (Indian Institute of Science, India), Ashutosh Deepak Gore (Samsung Advanced Institute of Technology, India), Young-Jun Hong (Samsung Electronics & Samsung Advanced Institute of Technology, Korea), Chang Soon Park (SAIT, Korea), Jinesh P Nair (Samsung India Software Operations & Samsung Advanced Institute of Technology India Lab, India), Manoj Choudhary (Samsung India Software Operations, India) 833

Mini Conference: Security, Privacy and Content Protection

- A New Security Games Based Reaction Algorithm Against DOS Attacks in VANETs

Mohamed Nidhal Mejri (University of Paris 13 & Paris, France), Nadjib Achir (University of Paris 13 & L2TI - University of Paris 13, France), Mohamed Hamdi (University of Carthage, Tunisia) 837

- Average Secrecy Capacity of the Weibull Fading Channel

Xian Liu (University of Arkansas at Little Rock, USA) 841

- A Novel Storage Covert Channel on Wearable Devices Using Status Bar Notifications

Kyle Denney (Florida International University, USA), A. Selcuk Uluagac (Florida International University, USA), Kemal Akkaya (Florida International University, USA), Shekhar Bhansali (Florida International University, USA) 845

- Analyzing the Producer-Consumer Collusion Attack in Content-Centric Networks

Andre Luiz Pires (Universidade Federal Fluminense, Brazil), Igor Monteiro Moraes (Universidade Federal Fluminense, Brazil) 849

- Using Stackelberg Game to Enhance Node Protection in WSNs

Mohamed AbdALzaher (Egypt Japan University of Science and Technology & National Research Institute of Astronomy and Geophysics, Egypt), Karim G Seddik (American University in Cairo, Egypt), Osamu Muta (Kyushu University, Japan), Adel Bedair (Egypt-Japan University of Science and Technology, Egypt) 853

Indoor positioning systems: from research prototype to real-world deployment

- A Pairing Algorithm of Range Information Between Multiple IR-UWB Radar Sensors

Jeong Woo Choi (Hanyang University, Korea), Sung Ho Cho (Hanyang University, Korea) 857

- Indoor Localization using FM and DVB-T Signals

Roberto Carvalho (Academia Sinica, Taiwan), Ling-Jyh Chen (Academia Sinica, Taiwan), Shan-Ho Yang (National Taiwan Normal University & Academia Sinica, Taiwan), Yao-Hua Ho (National Taiwan Normal University, Taiwan) 862

- Human Indoor Localization Based on Ceiling Mounted PIR Sensor Nodes

Xiaomu Luo (Guangzhou University of Chinese Medicine, P.R. China), Tong Liu (Huizhou University, P.R. China), Baihua Shen (Guangdong University of Technology, P.R. China), Qinqun Chen (Guangzhou University of Chinese Medicine, P.R. China), Liwen Gao (Guangzhou University of Chinese Medicine, P.R. China), Xiaoyan Luo (Guangzhou University of Chinese Medicine, P.R. China) 868

- Enriched Training Database for Improving the WiFi RSSI-based Indoor Fingerprinting Performance

Filip Lemic (Technische Universität Berlin, Germany), Vlado Handziski (Technische Universität Berlin, Germany), Giuseppe Caso (Sapienza University of Rome, Italy), Luca De Nardis (Sapienza University of Rome, Italy), Adam Wolisz (TUB, Germany) 875

Sensing, Smart Spaces, and IoT II

- Design Choices for the IoT in Information-Centric Networks

Anders Lindgren (Swedish Institute of Computer Science, Sweden), Fehmi Ben Abdesslem (Swedish Institute of Computer Science, Sweden), Bengt Ahlgren (SICS, Sweden), Olov Schelén (Luleå University of Technology & Xarepo, Sweden), Adeel Mohammad Malik (Ericsson, Sweden) 882

- An Analysis and Improvement of Congestion Control in the CoAP Internet-of-Things Protocol

Rahul Bhalerao (University of California, San Diego, USA), Sridhar Srinivasasubramanian (University of California, San Diego, USA), Joseph Pasquale (University of California, San Diego, USA) 889

- Adaptive Duty Cycling Based Multi-hop PSMP for Internet of Multimedia Things

Bilal Afzal (University of Engineering and Technology, Pakistan), Sheeraz A. Alvi (University of Engineering and Technology, Lahore & Al-Khawarizmi Institute of Computer Science, Pakistan), Ghalib A. Shah (University of Engineering and Technology, Pakistan) 895

- Applying nonlinear optimal control strategy for the access management of MTC devices

Meriam Bouzouita (Sup'com, Tunisia), Yassine Hadjadj-Aoul (University of Rennes 1, France), Nawel Zangar (Université of El MANAR & MEDIATRON Laboratory, Tunisia), Gerardo Rubino (INRIA, France), Sami Tabbane (Sup Telecom, Tunisia) 901

QoE and Human Centered Communications and Applications

- QoE-aware Inter-stream Synchronization in Open N-Screens Cloud

Mu Mu (The University of Northampton, United Kingdom), Steven Simpson (Lancaster University, United Kingdom), Hans Stokking (TNO, The Netherlands), Nicholas Race (Lancaster University, United Kingdom) 907

- Simulation Based Comparative Performance Analysis of QoS Traffic Scheduling using Fair and Delay Adaptive Scheduler (FDAS) versus WFQ and EDF

Abdelwahab Elnaka (University of Guelph, Canada), Qusay Mahmoud (University of Ontario Institute of Technology, Canada), Xining Li (University of Guelph, Canada) 916

- Visual User Experience Difference: Image Compression Impacts on the Quality of Experience in Augmented Binocular Vision

Patrick Seeling (Central Michigan University, USA) 924

- Impact of Technical and Content Quality on Overall Experience of OTT video

Weiwei Li (University of Toronto, Canada), Petros Spachos (University of Guelph, Canada), Mark Chignell (University of Toronto, Canada), Alberto Leon-Garcia (University of Toronto, Canada), Leon Zucherman (TELUS, Canada), Jie Jiang (TELUS, Canada) 930

Consumer Communications and Networking

- ROAR: An Architecture for Real-time Opportunistic Spectrum Access in Cloud-assisted Cognitive Radio Networks

Danda B. Rawat (Georgia Southern University, USA) 936

- Secure Proximity-Based Identity Pairing using an Untrusted Signalling Service

Tim Panton (Westhawk Ltd, United Kingdom), David Llewellyn-Jones (University of Cambridge, United Kingdom), Nathan Shone (Liverpool John Moores University, United Kingdom), Mahmoud Hashem Eiza (Liverpool John Moores University, United Kingdom) 942

- A Survey of Network Function Placement

Xin Li (University of Kentucky, USA), Chen Qian (University of Kentucky, USA) 948

- A Bloom Filter Approach for Scalable CCN-based Discovery of Missing Physical Objects

Cedric Westphal (Huawei Innovation Center, USA), Bertrand Mathieu (Orange Labs, France), Syed Obaid Amin (Huawei, USA) 954

Mini Conference: Mobile, Sensing and Positioning Systems

- Finding the Optimal Number of Aggregators in Machine-to-Machine Advanced Metering Infrastructure Architecture of Smart Grid based on Cost, Delay, and Energy Consumption

Alireza Ghasempour (Utah State University, USA), Jake Gunther (Utah State University, USA) 960

- On the Performance of Wireless Source-Location Using TDOA Measurements under Poor Geometry

Tong Zhang (Tsinghua University, P.R. China), Chun Zhang (Tsinghua University, P.R. China), Zhang Sheng (Tsinghua University, P.R. China), Zhihua Wang (Tsinghua University, P.R. China) 964

- LIPS: Learning Based Indoor Positioning System Using Mobile Phone-Based Sensors

David Mascharka (Drake University, USA), Eric D. Manley (Drake University, USA) 968

- Mobile Cyber Physical Systems for Health Care: Functions, Ambient Ontology and e-Diagnostics

Alberto Faro (University of Catania, Italy) 972

- Intelligent Dashboard for Augmented Reality based Incident Command Response Co-ordination

Mark Vassell (University of Missouri-Columbia, USA), Olivia Apperson (University of Missouri-Columbia, USA), Prasad Calyam (University of Missouri-Columbia, USA), John Gillis (University of Missouri-Columbia, USA), Salman Ahmad (University of Missouri-Columbia, USA) 976

Mini Conference: Emerging Consumer Communications and Networking

- Dynamic Cache Optimization for DASH Clients in Content Delivery Networks

Antti Heikkinen (VTT Technical Research Centre of Finland, Finland), Tiia Ojanperä (VTT Technical Research Centre of Finland, Finland), Janne Vehkaperä (VTT Technical Research Centre of Finland, Finland) 980

- A Low Complex Spread Spectrum Scheme for ZigBee based Smart Home Networks

Chatura Wickrema Seneviratne (University of Calgary, Canada), Henry Leung (University of Calgary, Canada) 984

- AC3N: Anonymous Communication in Content-Centric Networking

Christopher Wood (University of California, Irvine, USA), Ersin Uzun (PARC, USA), Gene Tsudik (University of CA, Irvine, USA) 988

- A New Group Diffie-Hellman Key Generation Proposal for Secure VANET Communications

Mohamed Nidhal Mejri (University of Paris 13 & Paris, France), Nadjib Achir (University of Paris 13 & L2TI - University of Paris 13, France), Mohamed Hamdi (University of Carthage, Tunisia) 992

- Farthest Destination Selection and Shortest Path Connection Strategy for Efficient Multicasting in Vehicular Ad Hoc Networks

Euisin Lee (Chungbuk National University, Korea), Soochang Park (Hong Kong University of Science and Technology & NIE Social Media Lab, Hong Kong), Sang-Ha Kim (Chungnam National University, Korea), Mario Gerla (University of California at Los Angeles, USA) 996

Wireless Communications IV

- Highway and Rate Prediction Downlink Scheduler (HRPDS) for LTE-A Real Time Applications

Saloua Hendaoui (High School of Communication of Tunis (SUPCOM) & Multimedia Mobile Radio Networks Research Unit-Tunis, Tunisia), Nawel Zangar (Université of El MANAR & MEDIATRON Laboratory, Tunisia), Sami Tabbane (Sup Telecom, Tunisia) 1000

- A control theoretic strategy for intelligent interface selection in heterogeneous network environments

Yue LI (University of Rennes 1 & Orange Labs, France), Yassine Hadjadj-Aoul (University of Rennes 1, France), Philippe Bertin (Orange Labs, France), Gerardo Rubino (INRIA, France) 1006

- E-NC:PSO based Enforced Network Coding in Vehicular Networks

Pratap Kumar Sahu (University of Montreal, Canada), Abdelhakim Hafid (University of Montreal, Canada), Jagruti Sahoo (Concordia University, Canada), Soumaya Cherkaoui (Université de Sherbrooke, Canada) 1012

- Heuristic Procedure to Optimize SFN with BDM-Aided Local Service Insertion

Haining Duan (Tsinghua University, P.R. China), Kewu Peng (Tsinghua University, P.R. China), Yu Zhang (Tsinghua University, P.R. China), Jian Song (Tsinghua University, P.R. China) 1018

- Machine Learning-Based Spectrum Decision Algorithms for Wireless Sensor Networks

Vinicius F. Silva (Universidade Federal de Minas Gerais, Brazil), Daniel Fernandes Macedo (Federal University of Minas Gerais, Brazil), Jesse Leoni (Universidade Federal de Minas Gerais, Brazil) 1024

Wireless Networking and Mobility III

- A Non Destructive Interference Based Receiver-Initiated MAC Protocol for Wireless Sensor Networks

Ye Liu (Southeast University, P.R. China), Qi Chen (Montana State University, USA), Liu Hao (Southeast University, P.R. China), Chen Hu (Southeast University, P.R. China), Qing Yang (Montana State University, USA) 1030

- OA-DVFA: A Distributed Virtual Forces-based Algorithm to Monitor an Area with Unknown Obstacles

Ines Khoufi (Inria, France), Pascale Minet (INRIA, France), Anis Laouiti (TELECOM SudParis, France) 1036

- Dimensioning Virtualized Wireless Access Networks from a Common Pool of Resources

Mohammad J. Abdel-Rahman (Virginia Tech, USA), Kleber V Cardoso (Universidade Federal de Goiás, Brazil), Allen B. MacKenzie (Virginia Tech, USA), Luiz DaSilva (Trinity College & Trinity College Dublin, Ireland) 1042

- Resisting Blackhole Attacks on MANETs

Mohamed Abdelshafy (Heriot-Watt University, United Kingdom), Peter King (Heriot Watt University at Edinburgh UK, United Kingdom) 1048

- Choose Wisely: Topology Control in Energy-Harvesting Wireless Sensor Networks

Xin Wang (Delft University of Technology, The Netherlands), Vijay S Rao (Delft University of Technology, The Netherlands), Venkatesha Prasad (Delft University of Technology, The Netherlands), Ignas Niemegeers (Delft University of Technology, The Netherlands) 1054

Security, Privacy and Content Protection II

- A First-Hop Traffic Analysis Attack Against a Femtocell

Saman Feghhi (Trinity College Dublin, Ireland), Douglas Leith (Trinity College Dublin, Ireland) 1060

- Design and Performance Analysis of Secure and Dependable Cybercars: A Steer-by-Wire Case Study

Arslan Munir (University of Nevada, Reno, USA), Farinaz Koushanfar (Rice University, USA) 1066

- The Robustness of Microsoft Windows and Apple Mac OS X against ARP Cache Poisoning based Network Attacks

Zouheir Trabelsi (UAE University, UAE) 1074

- Hey, I Know You Are Moving: Producer Movement Status Privacy in Information-Centric Networking

Qingji Zheng (Huawei Research, USA), Qi Li (Tsinghua University, P.R. China), Aytac Azgin (Huawei Research, USA), Syed Obaid Amin (Huawei, USA) 1080

- Smartphone Reconnaissance: Operating System Identification

Nicholas Ruffing (Cleveland State University, USA), Ye Zhu (Cleveland State University, USA), Rudy Libertini (Cleveland State University, USA), Yong Guan (Iowa State University, USA), Riccardo Bettati (Texas A&M University, USA) 1086

Social, P2P and Multimedia Networking, Services and Applications II

- Exploiting Network Awareness to Enhance DASH Over Wireless

Francesco Bronzino (Rutgers University & WINLAB, USA), Dragoslav Stojadinovic (WINLAB Rutgers University, USA), Cedric Westphal (Huawei Innovation Center, USA), Dipankar Raychaudhuri (Rutgers University, USA) 1092

- A Wi-Fi P2P Communication Platform between Wireless LAN Memory Cards: Prototype Implementation and Performance Evaluation

Masato Yasuda (NEC Corporation, Japan), Prakash Chaki (NEC Corporation, Japan), Gen Motoyoshi (NEC Corporation, Japan) 1101

- Leaky Streams: Identifying Variable Bitrate DASH Videos Streamed over Encrypted 802.11n Connections

Andrew Reed (United States Military Academy at West Point, USA), Benjamin Klimkowski (United States Military Academy at West Point, USA) 1107

- Approach to Optimal WRR Weight Assignment Method in Delay-Limited Environment

Sho Noda (Tokyo Institute of Technology, Japan), Katsunori Yamaoka (Tokyo Institute of Technology, Japan) 1113

Workshop - ADS

- Personalizing Pedestrian Accessible Way-finding with mPASS

Catia Prandi (University of Bologna, Italy), Silvia Mirri (University of Bologna, Italy), Paola Salomoni (University of Bologna, Italy) 1119

- Portable 3D Visual Sensor Based Indoor Localization on Mobile Device

Xiang He (Oakland University, USA), Daniel Aloï (Oakland University, USA), Jia Li (Oakland University, USA) 1125

- Employing Semantic Analysis for Enhanced Accessibility Features in MathJax

Volker Sorge (University of Birmingham, United Kingdom), Davide Cervone (Union College, USA), Peter Krautzberger (MathJax Consortium, Germany) 1129

- The utility of tables for screen reader users

Steven Gardiner (Carnegie Mellon University, USA), Anthony Tomasic (Carnegie Mellon University, USA), John Zimmerman (Carnegie Mellon University, USA) 1135

- Fostering Accessible Urban Mobility through Smart Mobile Applications

Claudio E. Palazzi (University of Padua, Italy), Armir Bujari (University of Padua, Italy) 1141