

## Table of Contents

### 2016 IEEE International Conference on Communications (ICC)

#### ICC'16 AHSN: IEEE ICC 2016 Ad-hoc and Sensor Networking Symposium

##### Energy-Efficient Networks I

<i>CoSense: Interference Resilient ZigBee Detection in Heterogeneous Wireless Network</i> Sangsoon Lim (Software R&D Center & Samsung Electronics, Korea), Daehyun Ban (Stanford University, USA), Woojin Park (Software R&D Center & Samsung Electronics, Korea), Chong-kwon Kim (Seoul National University, Korea) .....	1
<i>EAFD, a Failure Detector for clustered WSN</i> Haroun Benkaouha (LSI Laboratory & USTHB University, Algeria), Abdelkrim Abdelli (USTHB University- Algiers, Algeria), Guerroumi Mohamed (University of USTHB, Algeria), Jalel Ben-Othman (University of Paris 13, France), Lynda Mokdad (Université de Paris 12 & Laboratoire LACL, France) .....	7
<i>Optimal Beacon Scheduling for Low-duty-cycle Sensor Networks</i> Yongrui Chen (University of Chinese Academy of Sciences, P.R. China), Yulong Xing (University of Chinese Academy of Sciences, P.R. China), Weidong Yi (University of Chinese Academy of Sciences, P.R. China) .....	13
<i>Lifetime Maximization for Sensor Networks with Wireless Energy Transfer</i> Rong Du (KTH Royal Institute of Technology, Sweden), Carlo Fischione (KTH, Sweden), Ming Xiao (Royal Institute of Technology, Sweden) .....	20
<i>Packet Size Optimization for Wireless Nanosensor Networks in the Terahertz Band</i> Pedram Johari (University at Buffalo (SUNY), USA), Josep M Jornet (University at Buffalo, USA) .....	26

##### Distributed Algorithms

<i>CARRE: Cellular Automaton based Redundant Readers Elimination in RFID Networks</i> Nafiul Rashid (Islamic University of Technology, Bangladesh), Salimur Choudhury (Algoma University, Canada), Kai Salomaa (School of Computing Queen's University Canada, Canada) .....	32
<i>An Iterative Method for Strong Barrier Coverage under Practical Constraints</i> Xiaoyun Zhang (Iowa State University, USA), Mathew L. Wymore (Iowa State University, USA), Daji Qiao (Iowa State University, USA) .....	38
<i>Hypergraph Based Resource Allocation for Cross-cell Device-to-Device Communications</i> Hongliang Zhang (Peking University, P.R. China), Yusheng Ji (National Institute of Informatics, Japan), Lingyang Song (Peking University, P.R. China), Zhu Han (University of Houston, USA) .....	45
<i>Graph Colouring Technique for Efficient Channel Allocation in Cognitive Radio Networks</i> Bhagyashri Tushir (NSIT, University of Delhi, India), Sanjay Dhurandher (NSIT, University of Delhi, India), Isaac Woungang (Ryerson University, Canada), Mohammad S. Obaidat (Fordham University, USA), Vinesh Teotia (Jawahar Lal Nehru University, New Delhi, India) .....	51
<i>A Mobility-Based Mode Selection Technique for Fair Spatial Dissemination of Data in Multi-Channel Device-to-Device Communication</i> Hideki Kuribayashi (Tohoku University, Japan), Katsuya Suto (University of Waterloo, Canada), Hiroki Nishiyama (Tohoku University, Japan), Nei Kato (Tohoku University, Japan), Kimihiro Mizutani (NTT Network Innovation Labs., Japan), Takeru Inoue (NTT Network Innovation Labs., Japan), Osamu Akashi (NTT Network Innovation Labs., Japan) .....	56

# ICC'16 CISS: IEEE ICC 2016 Communication and Information Systems Security Symposium

## Security of Cyber-physical Systems

<i>Passive Inference of Attacks on SCADA Communication Protocols</i> Elias Bou-Harb (The National Cyber Forensics and Training Alliance (NCFTA) Canada & Florida Atlantic University, USA) .....	62
<i>Efficient Prevention Technique for False Data Injection Attack in Smart Grid</i> Asmaa R Abdallah (University of Waterloo, Canada), Sherman Shen (University of Waterloo, Canada) .....	68
<i>EDAT: Efficient Data Aggregation without TTP for Privacy-Assured Smart Metering</i> Jianbing Ni (University of Waterloo, Canada), Kuan Zhang (University of Waterloo, Canada), Xiaodong Lin (University of Ontario Institute of Technology, Canada), Sherman Shen (University of Waterloo, Canada) .....	74
<i>Smart Meter Data Aggregation Against Wireless Attacks: A Game-Theoretic Approach</i> Yang Cao (Beijing University of Posts & Telecommunications & Guangdong Electric Power Design Institute (GEDI), P.R. China), Dongliang Duan (University of Wyoming, USA), Liuqing Yang (Colorado State University, USA), Zhi Sun (State University of New York at Buffalo, USA), Haochuan Zhang (Guangdong University of Technology, P.R. China), Rong Yu (Guangdong University of Technology, P.R. China) .....	80
<i>Efficient and Secure Message Authentication in Cooperative Driving: A Game-Theoretic Approach</i> Lei Gao (Shanghai Jiaotong University, P.R. China), Na Ruan (Shanghai Jiao Tong University, P.R. China), Haojin Zhu (Shanghai Jiao Tong University, P.R. China) .....	86

# ICC'16 CQRM: IEEE ICC 2016 - Communication QoS, Reliability and Modeling Symposium

## Networking & Transporting Techniques

<i>Routing, Core and Spectrum Assignment based on Connected Component Labelling for SDM Optical Networks</i> Pedro Moura (State University of Campinas, Brazil), Nelson L. S. da Fonseca (State University of Campinas, Brazil) .....	92
<i>A Transport Layer Approach to Improve Energy Efficiency</i> Muhammad Usman (University of Trento, Italy), Dzmitry Kliazovich (University of Luxembourg, Luxembourg), Fabrizio Granelli (University of Trento, Italy), Pascal Bouvry (University of Luxembourg, Luxembourg), Piero Castoldi (Scuola Superiore Sant'Anna, Italy) .....	98
<i>10 Gbps Optical Burst Mode Receiver with Fast Response and High Stability</i> Adibah Binti Mazwar (Tokyo University of Technology, Japan), Takashi Kuriyama (Tokyo University of Technology, Japan), Hiromi Ueda (Tokyo University of Technology, Japan) .....	104
<i>Impact of Positioning Error on Achievable Spectral Efficiency in Database-aided Networks</i> Oluwakayode Onireti (University of Surrey, United Kingdom), Ali Imran (University of Oklahoma, USA), Muhammad Ali Imran (University of Surrey, United Kingdom), Rahim Tafazolli (University of Surrey, United Kingdom) .....	110
<i>Outage Probability Analysis for Device-to-Device System</i> Kazi Mohammed Saidul Huq (Instituto de Telecomunicações, Portugal), Shahid Mumtaz (Instituto de Telecomunicações, Portugal), Jonathan Rodriguez (Instituto de Telecomunicações, Portugal) .....	116

## Communication QoS, Reliability and Modeling (Interactive)

<i>Network Function Consolidation in Service Function Chaining Orchestration</i>	
Tao Wen (University of Electronic Science and Technology of China, P.R. China), Hongfang Yu (University of Electronic Science and Technology of China, P.R. China), Gang Sun (University of Electronic Science and Technology of China, P.R. China), Liu Liu (University of Electronic Science and Technology of China, P.R. China) .....	121
<i>Handoff Performance Improvements in a Network Virtualization based Integrated Train-Ground Communication System</i>	
Li Zhu (Carleton University, Canada), F. Richard Yu (Carleton University, Canada), Hongwei Wang (Beijing Jiaotong University, P.R. China), Tao Tang (Beijing Jiaotong University, P.R. China), Bin Ning (State Key Laboratory of Rail Traffic Control and Safety, P.R. China) .....	127
<i>Multi-stage Network Recovery considering Traffic Demand After a Large-scale Failure</i>	
Kouichi Genda (Nihon University, Japan), Shohei Kamamura (NTT, Japan) .....	132
<i>A Prediction Approach for Correlated Failures in Distributed Computing Systems</i>	
Weiwei Zheng (Beijing University of Posts and Telecommunications, P.R. China), Wang Zhili (Beijing University of Posts and Telecommunications, P.R. China), Haoqiu Huang (Beijing University of Posts and Telecommunications, P.R. China), Luoming Meng (Beijing University of Posts and Telecommunications, P.R. China), Qiu Xue-song (Beijing University of Posts and Telecommunications, P.R. China) .....	138

## ICC'16 CRN: IEEE ICC 2016 - Cognitive Radio and Networks Symposium

### Spectrum Sensing

<i>A Comprehensive Sensor Selection Method based on Energy Constraints for Cooperative Spectrum Sensing</i>	
Maryam Monemian (Isfahan University of Technology, Iran), Mehdi Mahdavi (Isfahan University of Technology, Iran), Mohammad Javad Omid (Isfahan University of Technology, Iran) .....	144
<i>Multi-centers Cooperative Estimation based Fast Spectrum Sensing</i>	
Sai Huang (Beijing University of Posts and Telecommunications, P.R. China), Zhiyong Feng (Beijing University of Posts and Telecommunications, P.R. China), Yuanyuan Yao (Beijing University of Posts and Telecommunications, P.R. China), Yifan Zhang (Beijing University of Posts and Telecommunications, P.R. China), Ping Zhang (WTI-BUPT, P.R. China) .....	150
<i>Full-duplex Spectrum Sensing and Access in Cognitive Radio Networks with Unknown Primary User Activities</i>	
Mohamed M Hammouda (McMaster University, Canada), Rong Zheng (McMaster University, Canada), Timothy N. Davidson (McMaster University, Canada) .....	156
<i>Energy-efficient Transmission with Imperfect Spectrum Sensing in Cognitive Radio</i>	
Lin Zhang (University of Electronic Science and Technology of China, P.R. China), Ming Xiao (Royal Institute of Technology, Sweden), Gang Wu (University of Electronic Science and Technology of China, P.R. China), Shaoqian Li (University of Electronic Science and Technology of China, P.R. China), Ying-Chang Liang (Institute for Infocomm Research, Singapore) .....	162

# ICC'16 CSSMA: IEEE ICC 2016 - Communications Software, Services and Multimedia Applications Symposium

## Communications Software, Services and Multimedia Applications (Interactive)

<i>k-DLCA: An Efficient Approach for Location Privacy Preservation in Location-Based Services</i> Dan Liao (University of Electronic Science and Technology of China, P.R. China), Xunhui Huang (University of Electronic Science and Technology of China, P.R. China), Vishal Anand (The College at Brockport, State University of New York, USA), Gang Sun (University of Electronic Science and Technology of China, P.R. China), Hongfang Yu (University of Electronic Science and Technology of China, P.R. China) .....	168
<i>Adaptive Packet Scheduling for Scalable Video Streaming with Network Coding</i> Shenglan Huang (Queen Mary University of London, United Kingdom), Ebroul Izquierdo (Queen Mary, University of London, United Kingdom), Pengwei Hao (Queen Mary, University of London, United Kingdom) .....	174
<i>Loss Resilient Multi-view Video Streaming over Multiple Transmission Paths</i> Iori Otomo (Osaka University, Japan), Takuya Fujihashi (Osaka University, Japan), Yusuke Hirota (Osaka University, Japan), Takashi Watanabe (Osaka University, Japan) .....	180
<i>Impact of Tone-mapping Operators and Viewing Devices on Visual Quality of Experience</i> Shaymaa Al-Juboori (Plymouth University, United Kingdom), Is-Haka Mkwawa (University of Plymouth, United Kingdom), Lingfen Sun (University of Plymouth, United Kingdom), Emmanuel Ifeachor (University of Plymouth, United Kingdom) .....	187
<i>MPC-based Delay-Aware Fountain Codes for Live Video Streaming</i> Kairan Sun (University of Florida, USA), Dapeng Oliver Wu (University of Florida, USA) .....	193
<i>Interference Based Virtual Network Embedding</i> Lei Yin (University of Science and Technology of China, P.R. China), Zheng Chen (University of Science and Technology of China, P.R. China), Ling Qiu (University of Science and Technology of China, P.R. China), Yonggang Wen (Nanyang Technological University, Singapore) .....	199

## ICC'16 CT: IEEE ICC 2016 - Communications Theory

### Cellular 5G

<i>Multivariate Fronthaul Quantization for C-RAN Downlink: Channel-Adaptive Joint Quantization in the Cloud</i> Wonju Lee (Korea Advanced Institute of Science and Technology, Korea), Osvaldo Simeone (New Jersey Institute of Technology, USA), Joonhyuk Kang (KAIST, Korea), Shlomo (Shitz) Shamai (The Technion, Israel) .....	205
<i>Alternating Information Bottleneck Optimization for the Compression in the Uplink of C-RAN</i> Di Chen (University of Rostock, Germany), Volker Kuehn (University of Rostock, Germany) .....	210
<i>Compute-Remap-Compress-and-Forward for Limited Backhaul Uplink Multicell Processing</i> Inaki Estella (Huawei Technologies Co., Ltd., France), Abdellatif Zaidi (Université Paris-Est Marne La Vallée, France) .....	217
<i>On the Analysis of Cellular Networks with Caching and Coordinated Device-to-Device Communication</i> Asma Afzal (University of Leeds, United Kingdom), Syed Ali Raza Zaidi (University of Leeds, United Kingdom), Desmond McLernon (The University of Leeds, United Kingdom), Mounir Ghogho (University of Leeds & International University of Rabat, United Kingdom) .....	223
<i>Joint Pushing and Caching with a Finite Receiver Buffer: Optimal Policies and Throughput Analysis</i> Wei Chen (Tsinghua University, P.R. China), H. Vincent Poor (Princeton University, USA) .....	230

# ICC'16 GCSN: IEEE ICC 2016 - Green Communications Systems and Networks

## Green Powered Network (Interactive)

<i>Markovian Models of Solar Power Supply for a LTE Macro BS</i>	
Giuseppe Leonardi (Politecnico di Torino, Italy), Michela Meo (Politecnico di Torino, Italy), Marco G Ajmone Marsan (Politecnico di Torino & IMDEA Networks, Italy) .....	236
<i>Distributed Wireless Energy Scheduling for Wireless Powered Sensor Networks</i>	
Dusit Niyato (Nanyang Technological University, Singapore), Lu Xiao (University of Alberta, Canada), Ping Wang (Nanyang Technological University, Singapore), Dong In Kim (Sungkyunkwan University (SKKU), Korea), Zhu Han (University of Houston, USA) .....	243
<i>Energy Harvesting Small Cell Networks with Full-duplex Self-backhaul and Massive MIMO</i>	
Lei Chen (The University of British Columbia, Canada), F. Richard Yu (Carleton University, Canada), Hong Ji (Beijing University of Posts and Telecommunications, P.R. China), Bo Rong (Communications Research Centre, Canada), Xi Li (Beijing University of Posts and Telecommunications, P.R. China), Victor C.M. Leung (University of British Columbia, Canada) .....	249

# ICC'16 MWN: IEEE ICC 2016 - Mobile and Wireless Networking Symposium

## Resource Allocation

<i>Optimized Uplink-Downlink Decoupling in LTE-U Networks: An Echo State Approach</i>	
Mingzhe Chen (Beijing University of Posts and Telecommunications, P.R. China), Walid Saad (Virginia Tech, USA), Changchuan Yin (Beijing University of Posts and Telecommunications, P.R. China) .....	255
<i>Heuristics for Frequency Assignment Problem with Realistic Interference Constraints</i>	
Bonhong Koo (Yonsei University, Korea), Huseyin Birkan Yilmaz (Yonsei University, Yonsei Institute of Convergence Technology, Korea), Chan-Byoung Chae (Yonsei University, Korea), Hwi-Sung Park (ADD, Korea), Jae-Hyun Ham (ADD, Korea), Sung-Ho Park (OpenSNS, Korea) .....	261
<i>Joint Network Optimization in Cooperative Transmission Networks with Imperfect CSI</i>	
Yong Wang (Harbin Institute of Technology, P.R. China), Lin Ma (Harbin Institute of Technology, P.R. China), Yubin Xu (Harbin Institute of Technology, P.R. China) .....	267
<i>Interference Management with Partial Uplink/Downlink Spectrum Overlap</i>	
Itsikiantsoa Randrianantenaina (King Abdullah University of Science and Technology, Saudi Arabia), Hesham ElSawy (King Abdullah University of Science and Technology (KAUST), Saudi Arabia), Hayssam Dahrouj (Effat University, Canada), Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia) .....	273
<i>An Analysis on Relay Assisted Millimeter Wave Networks</i>	
Sudip Biswas (University of Edinburgh, United Kingdom), Satyanarayana Vuppala (University of Edinburgh, United Kingdom), Jiang Xue (The University of Edinburgh & IDCOM, United Kingdom), Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom) .....	280

## Mobile Networks

<i>Information Diffusion Prediction in Mobile Social Networks with Hydrodynamic Model</i>	
Ying Hu (Huazhong University of Science and Technology, P.R. China), Min Chen (Huazhong University of Science and Technology, P.R. China) .....	286
<i>Crowdsourced Mobility Prediction Based on Spatio-Temporal Contexts</i>	
Haitian Pang (Tsinghua University, P.R. China), Peng Wang (Tsinghua University, P.R. China), Lin Gao (The Chinese University of Hong Kong, Hong Kong), Ming Tang (The Chinese University of Hong Kong, Hong Kong), Jianwei Huang (The Chinese University of Hong Kong, Hong Kong), Lifeng Sun (Tsinghua University, P.R. China) .....	291

*Supporting Mobility in 5G: A comparison between Massive MIMO and Continuous Ultra Dense Networks*

Petteri Kela (Huawei Technologies Oy (Finland) Co., Ltd., Finland), Xavier Gelabert (Huawei Technologies Sweden AB, Sweden), Jussi Turkka (Magister Solutions Ltd., Finland), Mario Costa (Huawei Technologies Oy (Finland) Co., Ltd., Finland), Kari Heiska (Huawei, Finland), Kari Leppanen (Huawei Technologies, Finland), Christer Qvarfordt (Huawei Technologies Sweden AB, Sweden) .....	297
--	-----

*Handover Management in Dense Cellular Networks: A Stochastic Geometry Approach*

Rabe Arshad (King Fahd University of Petroleum and Minerals, Saudi Arabia), Hesham ElSawy (King Abdullah University of Science and Technology (KAUST), Saudi Arabia), Sameh Sorour (King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia), Tareq Y. Al-Naffouri (King Abdullah University of Science and Technology, USA), Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia) .....	303
--	-----

*Exploring Seasonal Human Behavior in Opportunistic Mobile Networks*

Kassio Machado (Federal University of Minas Gerais & University of Ottawa, Brazil), Azzedine Boukerche (University of Ottawa, Canada), Pedro O. S. Vaz de Melo (Federal University of Minas Gerais, Brazil), Eduardo Cerqueira (Federal University of Para & UCLA & UFPA & UCLA, Brazil), Antonio A.F. Loureiro (Federal University of Minas Gerais, Brazil) .....	310
--	-----

## **ICC'16 NGN: IEEE ICC 2016 - Next-Generation Networking and Internet Symposium**

### **Future Internet and Next-generation Networking Architectures I**

*A Software Development Kit to exploit RINA programmability*

Vincenzo Maffione (Nextworks, Italy), Francesco Salvestrini (Nextworks s. r. l., Italy), Eduard Grasa (Fundació i2CAT, Internet i Innovació Digital a Catalunya, Spain), Miquel Tarzan-Lorente (i2Cat Foundation, Spain), Leonardo Bergesio (i2CAT, Spain) .....	316
--	-----

*A Joint Network and Server Load Balancing Algorithm for Chaining Virtualized Network Functions*

Tuan Thai (National Chiao Tung University, Taiwan), Ying-Dar Lin (National Chiao Tung University, Taiwan), Yuan-Cheng Lai (Information Management, NTUST, Taiwan) .....	323
---	-----

*A Scalable Packet-Switch Based on Output-Queued NoCs for Data Centre Networks*

Fadoua Hassen (Leeds University, United Kingdom), Lotfi Mhamdi (University of Leeds, United Kingdom) .....	329
--	-----

*Incentives for Infrastructure Deployment by Over-the-Top Service Providers in a Mobile Network: A Cooperative Game Theory Model*

Jacek Kibiłda (Trinity College Dublin, Ireland), Francesco Malandrino (Politecnico di Torino, Italy), Luiz DaSilva (Trinity College Dublin, Ireland) .....	335
--	-----

*Inter-Domain Routing with Cut-Through Switching for the MobilityFirst Future Internet Architecture*

Adrian Lara (University of Costa Rica, Costa Rica), Shreyasee Mukherjee (WINLAB, Rutgers University, USA), Byrav Ramamurthy (University of Nebraska-Lincoln, USA), Dipankar Raychaudhuri (Rutgers University, USA), K. K. Ramakrishnan (University of California, Riverside, USA) .....	341
---	-----

# ICC'16 ONS: IEEE ICC 2016 - Optical Networks and Systems

## Access Networks

<i>Efficient Accommodation of Mobile Fronthaul and Secondary Services in a TDM-PON System with Wireless TDD Frame Monitor</i>	
Daisuke Hisano (NTT, Japan), Tatsuya Shimada (NTT, Japan), Hiroshi Ou (NTT Corporation, Japan), Takayuki Kobayashi (NTT, Japan), Shigeru Kuwano (NTT Corporation, Japan), Jun Terada (NTT Corporation, Japan), Akihiro Otaka (NTT Corporation, Japan)	347
<i>Energy Performance of C-RAN with 5G-NX Radio Networks and Optical Transport</i>	
Matteo Fiorani (KTH Royal Institute of Technology, Sweden), Sibel Tombaz (Ericsson Research, Sweden), Jonas Mårtensson (Acreo AB, Sweden), Björn Skubic (Ericsson AB, Sweden), Lena Wosinska (KTH Royal Institute of Technology, Sweden), Paolo Monti (KTH Royal Institute of Technology, Sweden)	353
<i>Analytical and Experimental Evaluation of CPRI over Ethernet Dynamic Rate Reconfiguration</i>	
Luca Valcarengi (Scuola Superiore Sant'Anna, Italy), Koteswararao Kondepu (Scuola Superiore Sant'Anna, Italy), Piero Castoldi (Scuola Superiore Sant'Anna, Italy)	359
<i>Survivable Architectures for Power-Savings Capable Converged Access Networks</i>	
Elaine Wong (The University of Melbourne, Australia), Carmen Mas Machuca (Technical University of Munich, Germany), Lena Wosinska (KTH Royal Institute of Technology, Sweden)	365
<i>Multirate IP Traffic Transmission in Flexible Access Networks based on Optical FFH-CDMA</i>	
Thiago R Raddo (Technical University of Denmark & University of Sao Paulo, Denmark), Anderson Sanches (University of the Reconcavo of the Bahia - UFRB, Brazil), Idelfonso Tafur Monroy (Technical University of Denmark & ITMO University, Denmark), Ben-Hur V Borges (Universidade de São Paulo & Escola de Engenharia de São Carlos, Brazil)	372

# ICC'16 SAC-2 CCN: IEEE ICC 2016 SAC Cloud Communications and Networking

## Cloud Communications and Networking (Interactive)

<i>Adaptive Application Offloading Decision and Transmission Scheduling for Mobile Cloud Computing</i>	
Junyi Wang (Guilin University of Electronic Technology, P.R. China), Jie Peng (Guilin University of Electronic Technology, P.R. China), Yanheng Wei (Guilin University of Electronic Technology, P.R. China), Didi Liu (School of Telecommunication Engineering Xidian University, P.R. China), Jieli Fu (Guilin University of Electronic Technology, P.R. China)	378
<i>Supply Chain Efficient Inventory Management as a Service Offered by a Cloud-based Platform</i>	
Abdelmounaim Dahbi (University of Ottawa, Canada), Hussein T. Mouftah (University of Ottawa, Canada)	385
<i>Distributed Private Online Learning for Social Big Data Computing over Data Center Networks</i>	
Chencheng Li (Huazhong University of Science and Technology, P.R. China), Pan Zhou (Huazhong University of Science and Technology, P.R. China), Yingxue Zhou (Huazhong University of Science and Technology, P.R. China), Kaigui Bian (Peking University, P.R. China), Tao Jiang (Huazhong University of Science and Technology, P.R. China), Susanto Rahardja (Northwestern Polytechnical University, P.R. China)	392
<i>A Combinatorial Double Auction Based Resource Allocation Mechanism with Multiple Rounds for Geo-distributed Data Centers</i>	
Yeru Zhao (School of Information Science & Engineering, Central South University, P.R. China), Zhiwu Huang (School of Information Science & Engineering, Central South University, P.R. China), Weirong Liu (School of Information Science & Engineering, Central South University, P.R. China), Jun Peng (School of Information Science & Engineering, Central South University, P.R. China), Qianqian Zhang (School of Information Science & Engineering, Central South University, P.R. China)	398

## ICC'16 SAC-3 DS: IEEE ICC 2016 SAC Data Storage

### Data Storage

<i>Serial Quasi-Primitive BC-BCH Codes for NAND Flash Memories</i>	
Daesung Kim (KAIST, Korea), Jeongseok Ha (KAIST, Korea) .....	404
<i>Towards an Analytical Model of NAND Flash Memory and the Impact on Channel Decoding</i>	
Hachem Yassine (University of Oxford, United Kingdom), Justin P Coon (University of Oxford, United Kingdom), Mohamed Ismail (Toshiba Research Europe Ltd., United Kingdom), Henry Fletcher (University of Oxford, United Kingdom) .....	410
<i>Locally Rewritable Codes for Resistive Memories</i>	
Yongjune Kim (Carnegie Mellon University, USA), Abhishek Sharma (Carnegie Mellon University, USA), Robert Mateescu (WD Research, USA), Seung-Hwan Song (HGST Research, USA), Zvonimir Z Bandic (SJRC Research & HGST, USA), James Bain (Carnegie Mellon University, USA), B. V. K. Vijaya Kumar (Carnegie Mellon University, USA) .....	416
<i>Reducing Repair-Bandwidth Using Codes Based on Factor Graphs</i>	
Dongwon Lee (Korea Advanced Institute of Science and Technology, Korea), Hyegyeong Park (KAIST, Korea), Jaekyun Moon (KAIST, Korea) .....	423
<i>The Rotating-Target Algorithm for Jointly Detecting Asynchronous Tracks</i>	
Elnaz Banan Sadeghian (Georgia Institute of Technology, USA), John Barry (Georgia Institute of Technology, USA) .....	429

## ICC'16 SAC-4 E-HLT: IEEE ICC 2016 SAC E-Health

### E-Health (Interactive)

<i>EQ-AODV: Energy and QoS supported AODV for better performance in WMSNs</i>	
Sofiane Hamrioui (University of Haute Alsace (UHA), France), Pascal Lorenz (University of Haute Alsace, France) .....	435
<i>Contact-less Indoor Activity Analysis using First-reflection Echolocation</i>	
Subir Biswas (Michigan State University, USA), Brandon Harrington (Virginia State University, USA), Faezeh Hajiaghajani (Michigan State University, USA), Rui Wang (Michigan State University, USA) .....	441
<i>Identifying activity boundaries for activity recognition in smart environments</i>	
Yi Wang (Toshiba, United Kingdom), Zhong Fan (Toshiba Research Europe, United Kingdom), Ayomi Bandara (Toshiba Research Europe Ltd., United Kingdom) .....	447

## ICC'16 SAC-7 SSC: IEEE ICC 2016 SAC Satellite and Space Communications

### Networking

<i>Routing Optimization for DTN-Based Space Networks Using a Temporal Graph Model</i>	
Sara El Alaoui (University of Nebraska-Lincoln, USA), Byrav Ramamurthy (University of Nebraska-Lincoln, USA) .....	453
<i>Delay-Bounded and Minimal Transmission Broadcast in LEO Satellite Networks</i>	
Feng He (Harbin Institute of Technology Shenzhen Graduate School, P.R. China), Qin Liu (School of Computer, Wuhan University, P.R. China), Tao Lv (Harbin Institute of Technology Shenzhen Graduate School, P.R. China), ChunYan Liu (Harbin Institute of Technology Shenzhen Graduate School, P.R. China), Hejiao Huang (Harbin Institute of Technology, P.R. China), Xiaohua Jia (City University of Hong Kong, Hong Kong) .....	459



<i>Throughput Maximization for Long-Distance Real-Time Data Transmission over Multiple UAVs</i> Masanori Horiuchi (Tohoku University, Japan), Hiroki Nishiyama (Tohoku University, Japan), Nei Kato (Tohoku University, Japan), Fumie Ono (National Institute of Information and Communications Technology, Japan), Ryu Miura (NICT, Japan) .....	466
<i>Feeder-Link Outage Prediction Algorithms for SDN-based High-Throughput Satellite Systems</i> Maurizio Mongelli (National Research Council of Italy, Italy), Tomaso De Cola (German Aerospace Center (DLR), Germany), Marco Cello (Nokia Bell Labs, Ireland), Mario Marchese (DIST- University of Genoa, Italy), Franco R. Davoli (University of Genoa & National Inter- University Consortium for Telecommunications (CNIT), Italy) .....	472
<i>SAT-GRD: An ID/Loc Split Network Architecture Interconnecting Satellite and Ground Networks</i> Bohao Feng (Beijing Jiaotong University, P.R. China), Huachun Zhou (Beijing Jiaotong University, P.R. China), Guanwen Li (Beijing Jiaotong University, P.R. China), Haifeng Li (University of BeijingJiaoTong, Beijing, P.R. China), Shui Yu (Deakin University, Australia) .....	478

## ICC'16 SPC: IEEE ICC 2016 - Signal Processing for Communications Symposium

### Full Duplex

<i>Optimal Low-Complexity Self-Interference Cancellation for Full-Duplex MIMO Small Cells</i> Italo Atzeni (Mathematical and Algorithmic Sciences Lab, France Research Center, Huawei Technologies Co. Ltd., France), Marco Maso (Mathematical and Algorithmic Sciences Lab, Huawei France Research Center, France), Marios Kountouris (Huawei Technologies, France) .....	484
<i>Exploiting Polarization to Resist Phase Noise for Digital Self-Interference Cancellation in Full-Duplex</i> Fangfang Liu (Beijing University of Posts and Telecommunications, P.R. China), Songlin Jia (Beijing University of Posts and Telecommunications, P.R. China), Caili Guo (Beijing University of Posts and Telecommunications, P.R. China), Chunyan Feng (Beijing University of Posts and Telecommunications, P.R. China) .....	490
<i>Pricing Based Interference Control in Reversed Time Division Duplex Heterogeneous Networks</i> Ye Liu (Loughborough University, United Kingdom), Sangarapillai Lambotharan (Loughborough University, United Kingdom), Arumugam Nallanathan (King's College London, United Kingdom), Kai Kit Wong (University College London, United Kingdom) .....	496
<i>Protocol Design and Performance Analysis for X-Duplex Amplify-and-Forward Relay Networks</i> Shuai Li (Peking University, P.R. China), Mingxin Zhou (Peking University, P.R. China), Jianjun Wu (Peking University, P.R. China), Lingyang Song (Peking University, P.R. China), Yonghui Li (University of Sydney, Australia), Hongbin Li (Peking University, P.R. China) .....	502
<i>Optimal Uplink and Downlink Channel Assignment in a Full-Duplex Multiuser System</i> Duy H. N. Nguyen (University of Texas, Austin, USA), Long Bao Le (INRS, University of Quebec, Canada), Zhu Han (University of Houston, USA) .....	508

## ICC'16 WCS: IEEE ICC 2016 - Wireless Communications Symposium

### Cooperative Networks and Relaying Communications I

<i>Performance Analysis of Paired-RB Proportional fairness in Relay-assisted Multiuser Downlink</i> Irfan Ahmed (Taif University, Saudi Arabia), Fahad AlRadday (Taif University, Saudi Arabia) .....	514
<i>Joint Power Control and Energy Transfer for Energy Harvesting Relay Networks</i> Keshav Singh (The University of Edinburgh, United Kingdom), Meng-Lin Ku (National Central University, Taiwan), Jia-Chin Lin (National Central University, Taiwan) .....	520

<i>Novel Protocol with Improved Outage Probability Performance for the Fading Two-Hop Half-Duplex Relay Channel</i>	
Nikola Zlatanov (Monash University, Australia), Vahid Jamali (Friedrich-Alexander-University Erlangen-Nürnberg, Germany), Derrick Wing Kwan Ng (University of New South Wales, Australia), Robert Schober (University of British Columbia, Canada)	525
<i>Ergodic Capacity Analysis of Correlated MIMO Full-Duplex Relaying</i>	
Ahmed M Almradi (The University of Manchester, United Kingdom), Khairi A. Hamdi (University of Manchester, United Kingdom)	532
<i>RF Energy Harvesting in DF Relay Networks in the Presence of an Interfering Signal</i>	
Lina Elmorshedy (University of British Columbia, Canada), Cyril Leung (The University of British Columbia, Canada), Seyed A Mousavifar (University of British Columbia, Canada)	539

## Small Cells and Heterogeneous Networks I

<i>Spectral Efficiency Analysis in Wireless Heterogeneous Networks</i>	
Bei Xie (Utah State University, USA), Zekun Zhang (Utah State University, USA), Rose Qingyang Hu (Utah State University, USA), Yi Qian (University of Nebraska–Lincoln, USA)	545
<i>Cache-enabled Heterogeneous Cellular Networks: Comparison and Tradeoffs</i>	
Dong Liu (Beihang University, P.R. China), Chenyang Yang (Beihang University, P.R. China)	551
<i>Cooperative Local Caching and File Sharing under Heterogeneous File Preferences</i>	
Yinghao Guo (National University of Singapore, Singapore), Lingjie Duan (Singapore University of Technology and Design (SUTD), Singapore), Rui Zhang (National University of Singapore, Singapore)	557
<i>Outage and Throughput Analysis of Multi-Antenna Transmissions in Heterogeneous Cellular Networks</i>	
Tong-Xing Zheng (Xi'an Jiaotong University, P.R. China), Qian Yang (Xi'an Jiaotong University, P.R. China), Yi Zhang (Xi'an Jiaotong University & Ecole Centrale de Nantes, P.R. China), Ying Ju (Xi'an Jiaotong University & State Radio Monitoring Center, P.R. China), Hui-Ming Wang (Xi'an Jiaotong University, P.R. China), Pengcheng Mu (Xi'an Jiaotong University, P.R. China)	563
<i>Modelling and Performance Analysis of 3-D Heterogeneous Cellular Networks</i>	
Aymen Omri (Qatar University, Qatar), Mazen Omar Hasna (Qatar University, Qatar)	569

## Multiple Access

<i>On the Secrecy Capacity of Multi-Cell Uplink Networks with Opportunistic Scheduling</i>	
Hu Jin (Hanyang University, Korea), Bang Chul Jung (Chungnam National University, Korea), Won-Yong Shin (Dankook University, Korea)	574
<i>An Optimized Superposition Constellation and Region-Restricted MPA Detector for LDS System</i>	
Lining Tian (Zhejiang University, P.R. China), Jie Zhong (Zhejiang University, P.R. China), Minjian Zhao (Zhejiang University, P.R. China), Lei Wen (University of Surrey, United Kingdom)	579
<i>Physical Layer Security for 5G Non-orthogonal Multiple Access in Large-scale Networks</i>	
Zhijin Qin (Queen Mary University of London, United Kingdom), Yuanwei Liu (Queen Mary, University of London, United Kingdom), Zhiguo Ding (Lancaster University, United Kingdom), Yue Gao (Queen Mary University of London, United Kingdom), Maged ElKashlan (Queen Mary, University of London, United Kingdom)	584
<i>Joint Relay Selection and Subcarrier Allocation for Multi-Carrier AF Relay Assisted Multi-Access Networks</i>	
Han Di (Tsinghua University, P.R. China), Bo Bai (Tsinghua University, P.R. China), Wei Chen (Tsinghua University, P.R. China)	590
<i>OFDM for 5G: Cyclic Prefix versus Zero Postfix, and Filtering versus Windowing</i>	
Sivarama Venkatesan (Bell Labs & Alcatel-Lucent, USA), Reinaldo Valenzuela (Bell Labs, Alcatel-Lucent, USA)	596

## Massive MIMO I

<i>Performance Analysis for Single-fed ESPAR in the Presence of Impedance Errors and Imperfect CSI</i>	
Ang Li (University College London, United Kingdom), Christos Masouros (University College London, United Kingdom) .....	601
<i>On the Design of MIMO-NOMA Downlink and Uplink Transmission</i>	
Zhiguo Ding (Lancaster University, United Kingdom), Robert Schober (Universität Erlangen-Nürnberg, Germany), H. Vincent Poor (Princeton University, USA) .....	607
<i>Multi-Objective Resource Allocation in Full-Duplex SWIPT Systems</i>	
Shiyang Leng (The Pennsylvania State University, USA), Derrick Wing Kwan Ng (University of New South Wales, Australia), Nikola Zlatanov (Monash University, Australia), Robert Schober (University of British Columbia, Canada) .....	613
<i>Low-Complexity MIMO Precoding with Discrete Signals and Statistical CSI</i>	
Yongpeng Wu (University of Erlangen-Nuremberg, Germany), Chao-Kai Wen (National Sun Yat-sen University, Taiwan), Derrick Wing Kwan Ng (University of New South Wales, Australia), Robert Schober (Universität Erlangen-Nürnberg, Germany), Angel Lozano (Universitat Pompeu Fabra (UPF), Spain) .....	620
<i>Uplink/Downlink Duality in Massive MIMO Systems with Hardware Impairments</i>	
Shahram Zarei (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany), Wolfgang Gerstacker (University of Erlangen-Nuernberg, Germany), Robert Schober (Universität Erlangen-Nürnberg, Germany) .....	626

## Interference Characterization and Interference Management (Interactive)

<i>Modeling and Analysis of Cellular Networks with Elastic Data Traffic</i>	
Arman Shojaeifard (University College London, United Kingdom), Khairi A. Hamdi (University of Manchester, United Kingdom), Emad Alsusa (Manchester University, United Kingdom), Daniel K. C. So (University of Manchester, United Kingdom), Jie Tang (South China University of Technology, P.R. China) .....	633
<i>Location-Aware Spectrum Sharing for D2D Underlaid LTE-Advanced with Power Control</i>	
Hongguang Sun (Xidian University, P.R. China), Min Sheng (Xidian University, P.R. China), Yan Zhang (Xidian University, P.R. China), Xijun Wang (Xidian University, P.R. China), Jiandong Li (Xidian University, P.R. China), Tony Q. S. Quek (Singapore University of Technology and Design, Singapore) .....	638
<i>Tight Bounds on the Laplace Transform of Interference in a Poisson Hole Process</i>	
Zeinab Yazdanshenasan (Virginia Tech, Singapore), Harpreet S Dhillon (Virginia Tech, USA), Mehrnaz Afshang (Virginia Tech, USA), Peter Han Joo Chong (Auckland University of Technology, New Zealand) .....	645
<i>Access Point Selection and Auction-based Scheduling in Uplink MU-MIMO WLANs</i>	
Mengjie Xie (The Chinese University of Hong Kong, Hong Kong), Tat M. Lok (The Chinese University of Hong Kong, Hong Kong) .....	651

## ICC'16 AHSN: IEEE ICC 2016 Ad-hoc and Sensor Networking Symposium

### Energy-Efficient Networks II

<i>Fuzzy Power Management for Energy Harvesting Wireless Sensor Nodes</i>	
Fayçal Ait Aoudia (University of Rennes 1, IRISA, France), Matthieu Gautier (University of Rennes 1, IRISA, France), Olivier Berder (University of Rennes 1, IRISA, INRIA, France) .....	657

<i>Towards Energy-Balanced Data Transmission for Lifetime Optimization in Wireless Sensor Networks</i>	
Xianjin Xia (Northwestern Polytechnical University, P.R. China), Shi-Ning Li (Northwestern Polytechnical University, P.R. China), Yu Zhang (Northwestern Polytechnical University & RMIT University, P.R. China), Tao Gu (RMIT University, Australia)	663
<i>Starvation Avoidance Mobile Energy Replenishment for Wireless Rechargeable Sensor Networks</i>	
Yong Feng (Kunming University of Science and Technology, P.R. China), Nianbo Liu (University of Electronic Science and Technology of China, P.R. China), Feng Wang (Kunming University of Science and Technology, P.R. China), Qian Qian (Kunming University of Science and Technology, P.R. China), Xiuqi Li (Kunming University of Science and Technology, P.R. China)	670
<i>Energy-Efficient Classification for Anomaly Detection: The Wireless Channel as a Helper</i>	
Kiril Ralinovski (Technical University Berlin, Germany), Mario Goldenbaum (Princeton University, USA), Slawomir Stanczak (Fraunhofer Heinrich Hertz Institute & Technische Universität Berlin, Germany)	676
<i>Optimal Transmission Period for Improved Sink-based Data Collection in Energy Harvesting Wireless Sensor Networks</i>	
Abbas Mehrabi (Gwangju Institute of Science and Technology, Gwangju, Korea), Kiseon Kim (GIST - Gwangju, Republic of Korea, Korea)	682

## Mobile and Vehicular Ad Hoc Networks I

<i>Vehicular Communication Performance in Convoys of Automated Vehicles</i>	
Ignacio Llatser (Technische Universität Dresden, Germany), Andreas Festag (TU Dresden, Germany), Gerhard Fettweis (Technische Universität Dresden, Germany)	688
<i>A Connectivity Analytical Model for a Highway with an Entrance/Exit in Vehicular Ad Hoc Networks</i>	
Yu Wang (Southeast University, P.R. China), Jun Zheng (Southeast University, P.R. China)	694
<i>Pedestrian Dead Reckoning on Smartphones with Varying Walking Speed</i>	
Rui Zhou (University of Electronic Science and Technology of China, P.R. China)	700
<i>Traffic Big Data Analysis Supporting Vehicular Network Access Recommendation</i>	
Yunshu Liu (Shanghai Jiaotong University, P.R. China), Xuanyu Chen (Shanghai Jiaotong University, P.R. China), Cailian Chen (Shanghai Jiao Tong University, P.R. China), Xinping Guan (Shanghai Jiao Tong University, P.R. China)	706
<i>Reinforcement Learning-based Data Storage Scheme in Vehicular Ad Hoc Networks</i>	
Celimuge Wu (The University of Electro-Communications, Japan), Tsutomu Yoshinaga (University of Electro-Communications, Japan), Yusheng Ji (National Institute of Informatics, Japan), Tutomu Murase (Nagoya University, Japan), Yan Zhang (Simula Research Laboratory and University of Oslo, Norway)	712

## ICC'16 CISS: IEEE ICC 2016 Communication and Information Systems Security Symposium

### Internet Security I

<i>QoSE: Quality of SEcurity (A network security module using a distributed NFV)</i>	
Taejune Park (KAIST, Korea), Yeonkeun Kim (KAIST, Korea), Jaehyun Park (KAIST, Korea), Hyunmin Suh (KAIST, Korea), Byeongdo Hong (KAIST, Korea), Seungwon Shin (KAIST, Korea)	718

<i>CookieMiner: Towards Real-Time Reconstruction of Web-Downloading Chains from Network Traces</i>	
Zipeng Chen (Institute of Information Engineering, Chinese Academy of Sciences, P.R. China), Peng Zhang (Institute of Information Engineering, Chinese Academy of Sciences, P.R. China), Chao Zheng (Institute of Information Engineering, Chinese Academy of Sciences, P.R. China), Qingyun Liu (Institute of Information Engineering, Chinese Academy of Sciences, P.R. China)	724
<i>Achieving Secure and Accurate Friend Discovery Based on Friend-of-Friend's Recommendations</i>	
Yuan Yuan He (State Key Laboratory of Information Security, Institute of Information Engineering, CAS, P.R. China), Fenghua Li (State Key Laboratory of Information Security, Institute of Information Engineering, CAS, P.R. China), Ben Niu (State Key Laboratory of Information Security, Institute of Information Engineering, CAS, P.R. China), Jiafeng Hua (Xidian University, P.R. China)	730
<i>From protecting protocols to layers: designing, implementing and experimenting with security policies in RINA</i>	
Eduard Grasa (Fundació i2CAT, Internet i Innovació Digital a Catalunya, Spain), Ondrej Rysavy (Brno University of Technology, Czech Republic), Ondrej Lichner (Brno University of Technology, Czech Republic), Hamid Asgari (Thales UK Research & Technology, United Kingdom), John Day (Boston University, USA), Lou Chitkushev (Boston University, USA)	736

## ICC'16 CQRM: IEEE ICC 2016 - Communication QoS, Reliability and Modeling Symposium

### Network Coding

<i>Network Coding-Aware IEEE 802.11 MAC Protocol Using Batch Transmissions and Multiple Reverse Direction Exchanges</i>	
Raul Palacios-Trujillo (University of Campinas, Brazil), Biniam Hailu Dabi (University of Trento, Italy), Jesus Alonso-Zarate (Centre Tecnologic de Telecomunicacions de Catalunya - CTTC, Spain), Fabrizio Granelli (University of Trento, Italy), Frank H.P. Fitzek (Technische Universität Dresden & ComNets - Communication Networks Group, Germany), Nelson L. S. da Fonseca (State University of Campinas, Brazil)	743
<i>Decoding and File Transfer Delay Balancing in Network Coding Broadcast</i>	
Emmanouil Skevakis (Carleton University, Canada), Ioannis Lambadaris (Carleton University, Canada)	750
<i>Exploiting Sparse Coding: A Sliding Window Enhancement of a Random Linear Network Coding Scheme</i>	
Pablo Garrido (University of Cantabria, Spain), David Gómez (Universidad de Cantabria, Spain), Jorge Lanza (University of Cantabria, Spain), Ramón Agüero (University of Cantabria, Spain)	757
<i>Network Coding-based Content Distribution in Cellular Access Networks</i>	
Claudio Fiandrino (University of Luxembourg, Luxembourg), Dzmitry Kliazovich (University of Luxembourg, Luxembourg), Pascal Bouvry (University of Luxembourg, Luxembourg), Albert Zomaya (The University of Sydney, Australia)	763
<i>On Characteristic Features of the Application Level Delay Distribution of TCP Congestion Avoidance</i>	
Lübben Ralf (Robert-Bosch GmbH, Germany), Markus Fidler (Leibniz Universität Hannover, Germany)	769

## Communication QoS, Reliability and Modeling (Interactive)

<i>LISA: A Linked Slow-Start Algorithm for MPTCP</i> Runa Barik (University of Oslo, Norway), Michael Welzl (University of Oslo, Norway), Simone Ferlin (University of Oslo & Simula Research Laboratory, Norway), Ozgu Alay (Simula Research Laboratory, Norway) .....	776
<i>ReMP TCP: Low Latency Multipath TCP</i> Alexander Frömmgen (TU Darmstadt, Germany), Tobias Erbschäuser (TU Darmstadt, Germany), Torsten Zimmermann (RWTH Aachen University, Germany), Klaus Wehrle (RWTH Aachen University, Germany), Alejandro Buchmann (Technische Universität Darmstadt, Germany) .....	783
<i>How quick is QUIC?</i> Péter Megyesi (Budapest University of Technology and Economics, Hungary), Zsolt Krämer (Budapest University of Technology and Economics, Hungary), Sándor Molnár (Budapest University of Technology and Economics, Hungary) .....	790

## ICC'16 CRN: IEEE ICC 2016 - Cognitive Radio and Networks Symposium

### Resource Management I

<i>GHAR: Graph-based Hybrid Adaptive Routing for Cognitive Radio Based Disaster Response Networks</i> Thuan Ngo (Tohoku University, Japan), Hiroki Nishiyama (Tohoku University, Japan), Nei Kato (Tohoku University, Japan), Satoshi Kotabe (NTT, Japan), Hiroshi Tohjo (NTT, Japan) .....	796
<i>Optimal Allocation of Non-uniformly Partitioned Bandwidth for Cognitive Communications under Fading Conditions</i> Song Huang (South China University of Technology, P.R. China), Anthony Ephremides (University of Maryland at College Park, USA), Di Yuan (Linköping University, Sweden) .....	802
<i>QoE-Driven Resource Allocation Method For Cognitive Radio Networks</i> Jingyi Dai (Nanjing University, P.R. China), Shaowei Wang (Nanjing University, P.R. China) .....	808
<i>Energy-Efficient Resource Allocation in Cognitive D2D Communications: A Game-Theoretical and Matching Approach</i> Zhenyu Zhou (North China Electric Power University & Waseda University, P.R. China), Guifang Ma (North China Electric Power University, P.R. China), Chen Xu (North China Electric Power University, P.R. China), Zheng Chang (University of Jyväskylä, Finland), Tapani Ristaniemi (University of Jyväskylä, Finland) .....	814

## ICC'16 CT: IEEE ICC 2016 - Communications Theory

### Multiple Access I

<i>Random Access Protocol for Massive MIMO: Strongest-User Collision Resolution (SUCR)</i> Emil Björnson (Linköping University, Sweden), Elisabeth de Carvalho (Aalborg University, Denmark), Erik G. Larsson (Linköping University, Sweden), Petar Popovski (Aalborg University, Denmark) .....	820
<i>Coded Slotted ALOHA Schemes for Erasure Channels</i> Zhuo Sun (University of New South Wales, Australia), Yixuan Xie (University of New South Wales, Australia), Jinhong Yuan (University of New South Wales, Australia), Tao Yang (University of Technology Sydney, Australia) .....	826
<i>QoS-Driven Power Control in Fading Multiple-Access Channels with Random Arrivals</i> Deli Qiao (East China Normal University, P.R. China), Mustafa Ozmen (Syracuse University, USA), M. Cenk Gursoy (Syracuse University, USA) .....	832

*Distributed Downlink Power Control for the Non-Orthogonal Multiple Access System with Two Interfering Cells*

Yaru Fu (City University of Hong Kong, Hong Kong), Yi Chen (The Chinese University of Hong Kong, Hong Kong), Chi Wan Sung (City University of Hong Kong, Hong Kong) ..... 838

*The Semantic Communication Game*

Basak Guler (The Pennsylvania State University, USA), Aylin Yener (Pennsylvania State University, USA), Ananthram Swami (Army Research Lab., USA) ..... 844

## Communication Theory (Interactive)

*On the Error Performance Bound of Ordered Statistics Decoding of Linear Block Codes*

Pawan Dhakal (Politecnico di Torino, Italy), Roberto Garello (Politecnico di Torino, Italy), Shree Krishna Sharma (University of Luxembourg, Luxembourg), Symeon Chatzinotas (University of Luxembourg, Luxembourg), Björn Ottersten (University of Luxembourg, Luxembourg) ..... 850

*Estimation of Achievable Rates in Additive Gaussian Mixture Noise Channels*

Duc-Anh Le (University of Akron, USA), Hung Vu (McGill University, Canada), Nghi H Tran (University of Akron, USA), M. Cenk Gursoy (Syracuse University, USA), Tho Le-Ngoc (McGill University, Canada) ..... 856

*Design of Raptor Codes in the Low SNR Regime with Applications in Quantum Key Distribution*

Mahyar Shirvanimoghaddam (University of Newcastle, Australia), Sarah J Johnson (University of Newcastle, Australia), Andrew Lance (QuintessenceLabs Pty. Ltd., Australia) ..... 862

*Capacity-Achieving Iterative LMMSE Detection for MIMO-NOMA Systems*

Lei Liu (Xidian University, P.R. China), Chau Yuen (Singapore University of Technology and Design, Singapore), Yong Liang Guan (Nanyang Technological University, Singapore), Ying Li (University of Xidian, P.R. China) ..... 868

## ICC'16 GCSN: IEEE ICC 2016 - Green Communications Systems and Networks

### Energy Efficiency 1 (Interactive)

*Resource Allocation for Phantom Cellular Networks: Energy Efficiency vs Spectral Efficiency*

Amr Abdelhady (KAUST, Saudi Arabia), Osama Amin (King Abdullah University of Science and Technology (KAUST), Saudi Arabia), Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia) ..... 874

*CrowdAP: Crowdsourcing Driven AP Coordination for Improving Energy Efficiency in Wireless Access Networks*

Gurman Bhalla (Indian Institute of Technology Kharagpur, India), Raja Karmakar (Techno India College of Technology, India), Sandip Chakraborty (Indian Institute of Technology Kharagpur, India), Samiran Chattopadhyay (Jadavpur University, India) ..... 880

*Energy Efficiency of Channels under Additive Gaussian-Mixture Noise in the Low-Power Regime*

Mohammad Ranjbar (University of Akron, USA), Nghi H Tran (University of Akron, USA), M. Cenk Gursoy (Syracuse University, USA), Hamid Reza Bahrami (The University of Akron, USA) ..... 886

*Energy Efficient Resource Allocation for Secure OFDMA Relay Systems with Eavesdropper*

Zheng Chang (University of Jyväskylä, Finland), Xin Hou (Yanshan University, P.R. China), Xijuan Guo (Yan Shan University, P.R. China), Tapani Ristaniemi (University of Jyväskylä, Finland) ..... 892

# ICC'16 MWN: IEEE ICC 2016 - Mobile and Wireless Networking Symposium

## Caching and Offloading

<i>On Optimal Hotspot Selection and Offloading</i>	
Vandana Mittal (IIIT-Delhi, India), Sanjit Kaul (IIIT Delhi, India), Sumit Roy (University of Washington, USA) .....	899
<i>Content Caching at the Wireless Network Edge: A Distributed Algorithm via Belief Propagation</i>	
Juan Liu (HKUST, P.R. China), Bo Bai (Tsinghua University, P.R. China), Jun Zhang (The Hong Kong University of Science and Technology, Hong Kong), Khaled B. Letaief (The Hong Kong University of Science and Technology, Hong Kong) .....	905
<i>Optimal Caching Time for Epidemic Content Dissemination in Mobile Social Networks</i>	
Hsiang Hsu (National Taiwan University, Taiwan), Kwang-Cheng Chen (National Taiwan University, Taiwan) .....	911
<i>Distributed Algorithm for Energy Efficient Multi-Hop Computation Offloading</i>	
Hussein Al-Shatri (TU Darmstadt, Germany), Sabrina Müller (Technische Universität Darmstadt, Germany), Anja Klein (TU Darmstadt, Germany) .....	917
<i>Optimal Caching for Producer Mobility Support in Named Data Networks</i>	
Hesham Farahat (Queen's University, Canada), Hossam S. Hassanein (Queen's University, Canada) .....	923

## IoT and M2M

<i>A Lightweight Anomaly Detection Technique for Low-Resource IoT Devices: A Game-Theoretic Methodology</i>	
Hichem Sedjelmaci (University of Bourgogne, DRIVE Lab, France), Sidi-Mohammed Senouci (University of Bourgogne - ISAT Nevers, France), Mohamad Al Bahri (University of Bourgogne & Institute of Automotive and Transport Engineering (ISAT), France) .....	929
<i>Aggregating Cellular Communication Lines for IoT Devices by Sharing IMSI</i>	
Manabu Ito (National Institute of Information and Communications Technology, Japan), Nozomu Nishinaga (National Institute of Information and Communications Technology, Japan), Yoshinori Kitatsuji (KDDI R&D Laboratories Inc., Japan), Masayuki Murata (Osaka University, Japan) .....	935
<i>Optimistic DRX for Machine-type Communications</i>	
Hui-Ling Chang (National Cheng Kung University, Taiwan), Shang-Lin Lu (National Cheng Kung University, Taiwan), Tsung-Hui Chuang (National Cheng Kung University, Taiwan), Chia-Ying Lin (National Cheng Kung University, Taiwan), Meng-Hsun Tsai (National Cheng Kung University, Taiwan), Sok-Ian Sou (National Cheng Kung University, Taiwan) .....	942
<i>Performance Analysis of Access Class Barring for Handling Massive M2M Traffic in LTE-A Networks</i>	
Israel Leyva-Mayorga (Universitat Politècnica de València, Spain), Luis Tello-Oquendo (Universitat Politècnica de Valencia, Spain), Vicent Pla (Universitat Politècnica de Valencia, Spain), Jorge Martinez-Bauset (Universidad Politècnica de Valencia, Spain), Vicente Casares-Giner (Universidad Politècnica de Valencia, Spain) .....	948
<i>On RACH Preambles Separation Between Human and Machine Type Communication</i>	
Gianluca Foddis (Telecom Italia, Italy), Rosario G. Garroppo (University of Pisa, Italy), Stefano Giordano (University of Pisa, Italy), Gregorio Proccisi (University of Pisa, Italy), Simone Roma (University of Pisa & Telecom Italia, Italy), Simone Topazzi (Telecom Italia Lab, Italy) .....	954



# ICC'16 NGN: IEEE ICC 2016 - Next-Generation Networking and Internet Symposium

## Future Internet and Next-generation Networking Architectures II

<i>Joint MiddleBox Selection and Routing for Software-Defined Networking</i>	
Huawei Huang (The University of Aizu, Japan), Song Guo (The University of Aizu, Japan), Jinsong Wu (Universidad de Chile, Chile), Jie Li (University of Tsukuba, Japan) .....	960
<i>Distributed Association Control and Relaying in MillimeterWave Wireless Networks</i>	
Yuzhe Xu (KTH Royal Institute of Technology, Sweden), George Athanasiou (ICCS - NTUA, Greece), Carlo Fischione (KTH, Sweden), Leandros Tassioulas (Yale University, USA) .....	966
<i>Congestion Control in the Recursive InterNetworking Architecture (RINA)</i>	
Peyman Teymoori (University of Oslo, Norway), Michael Welzl (University of Oslo, Norway), Stein Gjessing (University of Oslo & Simula Research Lab., Norway), Eduard Grasa (Fundació i2CAT, Internet i Innovació Digital a Catalunya, Spain), Roberto Riggio (Create-Net, Italy), Kewin Rausch (CREATE-NET, Italy), Domenico Siracusa (CREATE-NET, Italy) .....	972
<i>Coverage Analysis of Heterogeneous Cellular Networks in Urban Areas</i>	
Bin Yang (Huazhong University of Science & Technology, P.R. China), Guoqiang Mao (The University of Technology, Sydney, Australia), Ge Xiaohu (Huazhong University of Science & Technology, P.R. China), Hsiao-Hwa Chen (National Cheng Kung University, Taiwan), Tao Han (Huazhong University of Science and Technology, P.R. China), Xuefei Zhang (Beijing University of Posts and Telecommunications, P.R. China) .....	979
<i>Efficient 3-D Placement of an Aerial Base Station in Next Generation Cellular Networks</i>	
Irem Bor-Yaliniz (Carleton University, Canada), Amr El-Keyi (Carleton University, Canada), Halim Yanikomeroglu (Carleton University, Canada) .....	985

## ICC'16 ONS: IEEE ICC 2016 - Optical Networks and Systems

### Visible Light and Optical Wireless Communications I

<i>Generalized LED Index Modulation Optical OFDM for MIMO Visible Light Communications Systems</i>	
Ertugrul Basar (Istanbul Technical University, Turkey), Erdal Panayirci (Kadir Has University, Turkey), Murat Uysal (Ozyegin University, Turkey), Harald Haas (The University of Edinburgh, United Kingdom) .....	990
<i>Cramer-Rao Bound for Indoor Visible Light Positioning Using an Aperture-Based Angular-Diversity Receiver</i>	
Heidi Steendam (Ghent University, Belgium), Thomas Wang (Monash University, Australia), Jean Armstrong (Monash University, Australia) .....	995
<i>Fuzzy Logic Based Dynamic Handover Scheme for Indoor Li-Fi and RF Hybrid Network</i>	
Yunlu Wang (The University of Edinburgh, United Kingdom), Xiping Wu (The University of Edinburgh, United Kingdom), Harald Haas (The University of Edinburgh, United Kingdom) .....	1001
<i>Novel Spectral Efficient OFDM for Optical Wireless Communication</i>	
Rui Guan (Southeast University, P.R. China), Nuo Huang (Southeast University, P.R. China), Houyu Wang (Southeast University, P.R. China), Jin-Yuan Wang (Nanjing University of Posts and Telecommunications, P.R. China), Ming Chen (Southeast University, P.R. China) .....	1007
<i>QoS-Aware Joint Power Allocations and Relay Selection for NLOS Coherent Optical Wireless Communications</i>	
Md. Zoheb Hassan (School of Engineering, University of British Columbia, Canada), Victor C.M. Leung (University of British Columbia, Canada), Md. Jahangir Hossain (University of British Columbia, Okanagan, Canada), Julian Cheng (University of British Columbia, Canada) .....	1013

## ICC'16 SAC-3 DS: IEEE ICC 2016 SAC Data Storage

### Distributed Data Storage (Interactive)

#### *Irregular Flat XOR Codes for Reducing Repair Bandwidth of Multi-Point Distributed Storage Systems*

Yui Yoshida (NTT, Japan), Takayuki Nakachi (NTT, Japan), Daisuke Shirai (NTT Network Innovation Laboratories, Japan), Tatsuya Fujii (NTT Network Innovation Laboratories, Japan) ..... 1020

#### *MASC: a Bitmap Index Encoding Algorithm for Fast Data Retrieval*

Yuhao Wen (Duke University, USA), Han Wang (Tsinghua University, P.R. China), Zhen Chen (Tsinghua University & Research Institute of Information Technology and Tsinghua National Lab for Information Science and Technologies, P.R. China), Junwei Cao (Tsinghua University, P.R. China), Guodong Peng (Tsinghua University, P.R. China), Wen-liang Huang (China Unicom, P.R. China), Ziwei Hu (State Grid Smart Grid Research Institute, P.R. China), Jing Zhou (State Grid Smart Grid Research Institute, P.R. China), Jinghong Guo (State Grid Smart Grid Research Institute, P.R. China) ..... 1026

#### *Composite Extension Finite Fields for Distributed Storage Erasure Coding*

Janus Heide (Steinwurf, Denmark) ..... 1032

#### *Extremal Graphic Model in Optimizing Fractional Repetition Codes for Efficient Storage Repair*

Guangping Xu (Tianjin University of Technology, P.R. China), Qunfang Mao (Tianjin University of Technology, P.R. China), Sheng Lin (Tianjin University of Technology, P.R. China), Kai Shi (Tianjin University of Technology, P.R. China), Hua Zhang (Tianjin University of Technology, P.R. China) ..... 1037

## ICC'16 SAC-4 E-HLT: IEEE ICC 2016 SAC E-Health

### E-Health (Interactive)

#### *Personal Health Records as Sources of Productivity Evidence*

Mahesh Fernando (Queensland University of Technology, Australia), Tony R Sahama (Queensland University of Technology & IEEE ACM IBS ACS SSAInc HISA, Australia), Colin Fidge (Queensland University of Technology, Australia), K Hewagamage (University of Colombo, Sri Lanka) ..... 1043

#### *Clinical Decision Support for Alzheimer's Disease based on Deep Learning and Brain Network*

Chenhui Hu (Harvard University, USA), Ronghui Ju (Huazhong University of Science and Technology, P.R. China), Yusong Shen (Rice University, USA), Pan Zhou (Huazhong University of Science and Technology, P.R. China), Quanzheng Li (Massachusetts General Hospital and Harvard Medical School, USA) ..... 1049

#### *A Vision-Based System to Detect Potholes and Uneven Surfaces for Assisting Blind People*

Aravinda S. Rao (The University of Melbourne, Australia), Jayavardhana Gubbi (Tata Consultancy Services & Innovation Labs, India), Marimuthu Palaniswami (University of Melbourne, Australia), Elaine Wong (The University of Melbourne, Australia) ..... 1055

## ICC'16 SAC-5 IoT: IEEE ICC 2016 SAC Internet of Things

### Security and Trust in IoT

#### *A Game Theoretic Model for Enabling Honeypots in IoT Networks*

La Quang Duy (Singapore University of Technology and Design, Singapore), Tony Q. S. Quek (Singapore University of Technology and Design, Singapore), Jemin Lee (Singapore University of Technology and Design (SUTD), Singapore) ..... 1061

<i>A Trust Model for Data Sharing in Smart Cities</i>	
Quyet H. Cao (Telecom SudParis & Orange Labs, France), Imran Khan (Schneider Electric Industries SAS, France), Reza Farahbakhsh (Institut Mines-Telecom, Telecom SudParis, France), Giyyarpuram Madhusudan (Orange Labs, France), Gyu Myoung Lee (Liverpool John Moores University, United Kingdom), Noel Crespi (Institut Mines-Télécom, Télécom SudParis, France)	1067
<i>Quantifying Trust Relationships based on Real-World Social Interactions</i>	
Niklas Palaghias (University of Surrey, United Kingdom), Nikos Loumis (University of Surrey, Guildford, United Kingdom), Stylianos Georgoulas (University of Surrey & Faculty of Engineering and Physical Sciences, United Kingdom), Klaus Moessner (University of Surrey, United Kingdom)	1074
<i>Collaborative KP-ABE for Cloud-Based Internet of Things Applications</i>	
Lyes Touati (University of Technology of Compiègne & UTC, France), Yacine Challal (University of Technology of Compiègne & Heudiasyc lab. UMR CNRS, France)	1081
<i>Smart, Secure and Seamless Access Control Scheme for Mobile Devices</i>	
Yogachandran Rahulamathavan (City University London, United Kingdom), Muttukrishnan Rajarajan (City University London, United Kingdom), Raphael C.-W. Phan (Multimedia University, Malaysia)	1088

## ICC'16 SAC-7 SSC: IEEE ICC 2016 SAC Satellite and Space Communications

### Management

<i>Genetic Inspired Scheduling Algorithm for Cognitive Satellite Systems</i>	
Vincenzo Icolari (University of Bologna, Italy), Daniele Tarchi (University of Bologna, Italy), Alessandro Guidotti (University of Bologna, Italy), Alessandro Vanelli-Coralli (University of Bologna, Italy)	1094
<i>Power and Rate Allocation in Cognitive Satellite Uplink Networks</i>	
Eva Lagunas (University of Luxembourg - SnT, Luxembourg), Sina Maleki (University of Luxembourg, Luxembourg), Symeon Chatzinotas (University of Luxembourg, Luxembourg), Mojtaba Soltanalian (University of Illinois at Chicago, USA), Ana Pérez-Neira (CTTC, Spain), Björn Ottersten (University of Luxembourg, Luxembourg)	1100
<i>On the Ergodic Capacity of Multiple Antenna Cognitive Satellite Terrestrial Networks</i>	
Kang An (College of Communications Engineering, PLA University of Science and Technology, P.R. China), Min Lin (Nanjing Institute of Telecommunication Technology, P.R. China), Tao Liang (Nanjing Telecommunication Technology Institute, P.R. China), Jian Ouyang (Nanjing University of Posts and Telecommunications & Concordia University, P.R. China), Wei-Ping Zhu (Concordia University, Canada)	1106
<i>An Anonymous Distributed Key Management System Based on CL-PKC for Space Information Network</i>	
Yuchen Liu (Shanghai Jiao Tong University, P.R. China), Aixin Zhang (Shanghai Jiao Tong University, P.R. China), Jianhua Li (Shanghai Jiao Tong University, P.R. China), Jun Wu (Shanghai Jiao Tong University, P.R. China)	1111
<i>Trade-off between spectral efficiency increase and PAPR reduction when using FTN Signaling: impact of non linearities</i>	
Jean-Alain Lucciardi (University of Toulouse & IRT Saint Exupery, France), Nathalie Thomas (University of Toulouse, France), Marie-Laure Boucheret (University of Toulouse IRIT Enseeiht, France), Charly Poulliat (INP - ENSEEIHT Toulouse, France), Gilles Mesnager (IRT St Exupery, France)	1118

# ICC'16 SPC: IEEE ICC 2016 - Signal Processing for Communications Symposium

## Millimeter-wave Communications

<i>Max-Min Hybrid Precoding in Millimeter Wave Cooperative MISO Systems</i>	
Chang-Shen Lee (Academia Sinica, Taiwan), Wei-Ho Chung (Academia Sinica, Taiwan) .....	1125
<i>Hybrid MMSE Precoding for mmWave Multiuser MIMO Systems</i>	
Duy H. N. Nguyen (University of Texas, Austin, USA), Long Bao Le (INRS, University of Quebec, Canada), Tho Le-Ngoc (McGill University, Canada) .....	1131
<i>Hybrid Beamforming Design for Millimeter-Wave Multi-User Massive MIMO Downlink</i>	
Zheda Li (University of Southern California, USA), Shengqian Han (Beihang University, P.R. China), Andreas Molisch (University of Southern California, USA) .....	1137
<i>Enabling Low-Resolution ADC with High-Order Modulations for Millimeter-Wave Systems</i>	
Umut Ugurlu (Aalto University, Finland), Risto Wichman (Aalto University School of Electrical Engineering, Finland) .....	1143
<i>Cross-Layer Energy-Efficiency Optimization for Multiuser Full-Duplex Decode-and-Forward Indoor Relay Networks at 60 GHz</i>	
Zhongxiang Wei (University of Liverpool & School of EE and CS, United Kingdom), Xu Zhu (University of Liverpool, United Kingdom), Sumei Sun (Institute for Infocomm Research, Singapore), Yi Huang (University of Liverpool, United Kingdom), Hai Lin (Osaka Prefecture University, Japan) .....	1149

# ICC'16 WCS: IEEE ICC 2016 - Wireless Communications Symposium

## MIMO I

<i>Line-of-Sight Based Statistical 3D Beamforming for Downlink Massive MIMO Systems</i>	
Xiao Li (Southeast University, P.R. China), Shi Jin (Southeast University, P.R. China), Himal A Suraweera (University of Peradeniya, Sri Lanka), Xiqi Gao (Southeast University, P.R. China) .....	1155
<i>The Performance of Wireless Powered MIMO Relaying Systems with Energy Beamforming</i>	
Ahmed M Almradi (The University of Manchester, United Kingdom), Khairi A. Hamdi (University of Manchester, United Kingdom) .....	1161
<i>Performance and Analysis of Downlink Multiuser MIMO Systems With Regularized Zero-Forcing Precoding in Ricean Fading Channels</i>	
Harsh Tataria (Victoria University of Wellington, New Zealand), Peter J Smith (Victoria University of Wellington, New Zealand), Larry J. Greenstein (Rutgers University, USA), Pawel A. Dmochowski (Victoria University of Wellington, New Zealand), Mansoor Shafi (Spark New Zealand Ltd & Victoria University, Wellington, New Zealand) .....	1167
<i>Interference Alignment and Power Allocation for Multi-User MIMO Interference Channels</i>	
Fereidoun H. Panahi (Keio University, Japan), Tomoaki Ohtsuki (Keio University, Japan), Wenjie Jiang (NTT Network Innovation Laboratories, Japan), Yasushi Takatori (NTT Network Innovation Laboratories, Japan), Kazuhiro Uehara (NTT, Japan) .....	1174
<i>A 3-D Wideband Multi-Confocal Ellipsoid Model for Wireless MIMO Communication Channels</i>	
Lu Bai (Shangdong University, P.R. China), Chengxiang Wang (Heriot-Watt University, United Kingdom), Shangbin Wu (Samsung R&D Institute UK, United Kingdom), Haowen Wang (Shanghai Research Center for Wireless Communications, P.R. China), Yang Yang (Shanghai Reserach Center for Wireless Communication, P.R. China) .....	1181

## Device to Device Communications I

<i>Modeling Uplink Coverage and Rate with Aggregation in Machine-to-Machine Communication Networks</i>	
Derya Malak (The University of Texas at Austin, USA), Harpreet S Dhillon (Virginia Tech, USA), Jeffrey Andrews (The University of Texas at Austin, USA) .....	1187
<i>User Access Mode Selection in Fog Computing Based Radio Access Networks</i>	
Shi Yan (Beijing University of Posts and Telecommunications, P.R. China), Mugen Peng (Beijing University of posts & Telecommunications, P.R. China), Wenbo Wang (Beijing University of Posts and Telecommunications, P.R. China) .....	1193
<i>Interference-insensitive Synchronization for MSK in Transmit-only Wireless Sensor Networks</i>	
Qiongjie Lin (Georgia Institute of Technology, USA), Mary Ann Weitnauer (Georgia Tech, USA), Sajith Mohan (Georgia Institute of Technology, USA) .....	1199
<i>Device-to-Device Communication in Cellular Networks under Statistical Queueing Constraints</i>	
Yi Li (Syracuse University, USA), M. Cenk Gursoy (Syracuse University, USA), Senem Velipasalar (Syracuse University, USA) .....	1205
<i>k-Closest Coverage Probability and Area Spectral Efficiency in Clustered D2D Networks</i>	
Mehrnaz Afshang (Virigina Tech, USA), Harpreet S Dhillon (Virginia Tech, USA), Peter Han Joo Chong (Auckland University of Technology, New Zealand) .....	1211

## Cooperative Networks and Relaying Communications II

<i>Power Splitting and Relay Optimization for Two-way Relay SWIPT Systems</i>	
Ruixue Hu (The Chinese University of Hong Kong, Hong Kong), Tat M. Lok (The Chinese University of Hong Kong, Hong Kong) .....	1217
<i>Energy Efficient Design for Non-Orthogonal AF Relaying in Underlay Spectrum Sharing Networks</i>	
Mahmoud Elsaadany (Concordia University, Canada), Walaa Hamouda (Concordia University, Canada) .....	1223
<i>Channel Modelling of Molecular Communications Across Blood Vessels and Nerves</i>	
Peng He (University of Electronic Science and Technology of China, P.R. China), Yuming Mao (SCIE, P.R. China), Qiang Liu (University of Electronic Science and Technology of China, P.R. China), Pietro Lio` (University of Cambridge, United Kingdom), Kun Yang (University of Essex, United Kingdom) .....	1229
<i>Wireless-Powered Cooperative Communications with Buffer-aided Relay</i>	
Sheng Luo (Nanyang Technological University & EEE, Singapore), Kah Chan Teh (Nanyang Technological University, Singapore), Wei Wang (Nanyang Technological University, Singapore) .....	1235
<i>AF Relaying in Underlay Spectrum-Sharing Systems with Outdated CSI</i>	
Jules Merlin Mouatcho Moualeu (University of the Witwatersrand, South Africa), Walaa Hamouda (Concordia University, Canada), Fambirai Takawira (University of the Witwatersrand, South Africa) .....	1241

## Energy Harvesting I

<i>A Multi-Relay Selection Scheme for Time Switching Energy Harvesting Two-Way Relaying Systems</i>	
Hakim Ghazzai (Qatar Mobility Innovations Center & QMIC, Qatar), Ahmad Alsharoa (Iowa State University, USA), Ahmed E. Kamal (Iowa State University, USA), Abdullah Kadri (Qatar Mobility Innovations Center, Qatar) .....	1247

<i>Harvesting Full-Duplex Rate Gains in Cellular Networks with Half-Duplex User Terminals</i> Ahmad M AlAmmouri (King Abdullah University of Science and Technology, Saudi Arabia), Hesham ElSawy (King Abdullah University of Science and Technology (KAUST), Saudi Arabia), Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia) .....	1253
<i>Sparse Beamforming for Real-time Energy Trading in CoMP-SWIPT Networks</i> Wan Nur Suryani Firuz Wan Ariffin (King's College London, United Kingdom), Xinruo Zhang (King's College London, United Kingdom), Mohammad Reza Nakhai (King's College London, United Kingdom) .....	1260
<i>Optimal Design of Non-Orthogonal Multiple Access with Wireless Power Transfer</i> Panagiotis D. Diamantoulakis (Aristotle University of Thessaloniki, Greece), Koralia N. Pappi (Aristotle University of Thessaloniki, Greece), Zhiguo Ding (Lancaster University, United Kingdom), George K. Karagiannidis (Aristotle University of Thessaloniki, Greece) .....	1266
<i>Trade-offs in Analog Sensing and Communication in RF Energy Harvesting Wireless Sensor Networks</i> M. P. Praveen (Indian Institute of Science, India), Neelesh B. Mehta (Indian Institute of Science, India) .....	1272

## Featured Wireless Communications: RFID and UAV (Interactive)

<i>Routing Mobile Data Couriers in Smart-cities</i> Fadi M. Al-Turjman (Middle East Technical University, NCC, Turkey), Mehmet Karakoc (Akdeniz University, Turkey), Melih Gunay (Akdeniz University, Turkey), Aboelmagd Noureldin (RMC Canada, Canada) .....	1278
<i>Transmit Optimization for Secure MIMO RFID Wireless Communication</i> Qian Yang (Xi'an Jiaotong University, P.R. China), Yi Zhang (Xi'an Jiaotong University & Ecole Centrale de Nantes, P.R. China), Hui-Ming Wang (Xi'an Jiaotong University, P.R. China), Zhu Han (University of Houston, USA) .....	1284
<i>Optimal Transport Theory for Power-Efficient Deployment of Unmanned Aerial Vehicles</i> Mohammad Mozaffari (Virginia Tech, USA), Walid Saad (Virginia Tech, USA), Mehdi Bennis (Centre of Wireless Communications, University of Oulu, Finland), Mérouane Debbah (Huawei, France) .....	1290

## ICC'16 AHSN: IEEE ICC 2016 Ad-hoc and Sensor Networking Symposium

### Localization, Tracking and Mobility

<i>MIL: A Mobile Indoor Localization Scheme Based on Matrix Completion</i> Jie Cheng (University of Prince Edward Island, Canada), Zeqi Song (Harbin Institute of Technology Shenzhen Graduate School, P.R. China), Qiang Ye (University of Prince Edward Island, Canada), Hongwei Du (Harbin Institute of Technology Shenzhen Graduate School, P.R. China) .....	1296
<i>Accurate Indoor Localization with Crowd Sensing</i> Yingying Guo (Beijing University of Posts and Telecommunications, P.R. China), Yan Sun (Beijing University of Posts and Telecommunications, P.R. China), Yatao Li (Beijing University of Posts and Telecommunications, P.R. China), Tin-Yu Wu (National Ilan University, Taiwan), Mohammad S. Obaidat (Fordham University, USA) .....	1301
<i>Low-overhead Range-based 3D Localization Technique for Underwater Sensor Networks</i> Md Yusuf Sarwar Uddin (Bangladesh University of Engineering and Technology, Bangladesh) .....	1308
<i>Distributed Vehicle Selection for Non-Range Based Cooperative Positioning in Urban Environments</i> Anas Mahmoud (Queen's University, Canada), Aboelmagd Noureldin (RMC Canada, Canada), Hossam S. Hassanein (Queen's University, Canada) .....	1314

#### *Power Allocation in Asynchronous Location-aware Sensor Networks*

Jiaxiang Li (Harbin Institute of Technology, Shenzhen Graduate School, P.R. China), Tingting Zhang (Harbin Institute of Technology, Shenzhen Graduate School, P.R. China), Andreas Molisch (University of Southern California, USA), Qinyu Zhang (Shenzhen Graduate School, Harbin Institute of Technology, P.R. China) .....	1320
---	------

## **Security and Privacy**

#### *On the Security Region of Best Source Indices in Random Wireless Networks*

Satyanarayana Vuppala (University of Edinburgh, United Kingdom), Sudip Biswas (University of Edinburgh, United Kingdom), Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom), Mathini Sellathurai (Heriot-Watt University, United Kingdom) .....	1326
--	------

#### *Relay Selection for Enhancing Wireless Security-Reliability Tradeoff in the Presence of Channel Estimation Errors*

Xiaojin Ding (Southeast University, P.R. China), Tiecheng Song (National Mobile Communications Research Laboratory, Southeast University, P.R. China), Yulong Zou (Nanjing University of Posts and Telecommunications, P.R. China), Xiaoshu Chen (University of Southeast, P.R. China) .....	1332
--	------

#### *Security/QoS-Aware Route Selection in Multi-hop Wireless Ad Hoc Networks*

Yang Xu (Xidian University, P.R. China), Jia Liu (Future University Hakodate, Japan), Yulong Shen (Xidian University, P.R. China), Xiaohong Jiang (Future University-Hakodate, Japan), Tarik Taleb (Aalto University, Finland) .....	1338
--	------

#### *Multi-objective optimization for Security and QoS adaptation in Wireless Sensor Networks*

Abderrezak Rachedi (University Paris-Est Marne-la-Vallée, France), Abderrahim Benslimane (French University in Egypt - Centre de Recherche en Informatique (CRI), France) .....	1344
---	------

#### *Room-Level Proximity Detection Based on RSS of Dual-Band Wi-Fi Signals*

Agata Yugo (Keio University, Japan), Jihoon Hong (Kanagawa Institute of Technology, Japan), Tomoaki Ohtsuki (Keio University, Japan) .....	1351
--	------

## **ICC'16 CISS: IEEE ICC 2016 Communication and Information Systems Security Symposium**

### **Internet Security II**

#### *A Probabilistic Model to Preprocess Darknet Data for Cyber Threat Intelligence Generation*

Elias Bou-Harb (The National Cyber Forensics and Training Alliance (NCFTA) Canada & Florida Atlantic University, USA) .....	1357
---	------

#### *On Crowd-Retweeting Spamming Campaign in Social Networks*

Bo Liu (Southeast University, P.R. China), Luo Junzhou (Southeast University, P.R. China), Jiuxin Cao (Southeast University, P.R. China), Xudong Ni (Southeast University, P.R. China), Benyuan Liu (University of Massachusetts Lowell, USA), Xinwen Fu (University of Massachusetts Lowell, USA) .....	1363
--	------

#### *Using Anomaly Detection Based Techniques to Detect HTTP-based Botnet C&C Traffic*

Muhammad N Sakib (University of South Carolina, USA), Chin-Tser Huang (University of South Carolina, USA) .....	1369
---	------

#### *Spectral Analysis of Low Rate of Denial of Service Attacks Detection based on Fisher and Siegel Tests*

Paul Cotae (University of the District of Columbia, USA), Myong Kang (Naval Research Lab, USA), Alexander Velazquez (Naval Research Laboratory, USA) .....	1375
--	------

<i>BoobyTrap: On Autonomously Detecting and Characterizing Crawlers in P2P Botnets</i>	
Shankar Karuppayah (Technische Universität Darmstadt & Center for Advanced Security Research Darmstadt & NAV6, Universiti Sains Malaysia, Germany), Emmanouil Vasilomanolakis (Technische Universität Darmstadt, Germany), Steffen Haas (University Muenster, Germany), Max Muehlhaeuser (Technical University Darmstadt, Germany), Mathias Fischer (University Muenster, Germany)	1381

## ICC'16 CQRM: IEEE ICC 2016 - Communication QoS, Reliability and Modeling Symposium

### SDN/NFV

<i>Fast Failover and Switchover for Link Failures and Congestion in Software Defined Networking</i>	
Ying-Dar Lin (National Chiao Tung University, Taiwan), Hung-Yi Teng (National Chiao Tung University, Taiwan), Chia-Rong Hsu (National Chiao Tung University, Taiwan), Chun-Chieh Liao (National Chiao Tung University, Taiwan), Yuan-Cheng Lai (Information Management, NTUST, Taiwan)	1388
<i>A Declarative Failure Recovery System in Software Defined Networks</i>	
Hengtong Li (Graduate School at Shenzhen, Tsinghua University, P.R. China), Qing Li (Graduate School at Shenzhen, Tsinghua University, P.R. China), Yong Jiang (Graduate School at Shenzhen, Tsinghua University, P.R. China), Ting Zhang (Graduate School at Shenzhen, Tsinghua University, P.R. China), Lei Wang (Graduate School at Shenzhen, Tsinghua University, P.R. China)	1394
<i>Bandwidth Calendaring: Dynamic Services Scheduling over Software Defined Networks</i>	
Lazaros Gkatzikis (Mathematical and Algorithmic Sciences Lab, France Research Center, Huawei Technologies Co. Ltd., France), Stefano Paris (Huawei Technologies Co. Ltd. & Université Paris Descartes, France), Ioannis Stiakogiannakis (Mathematical and Algorithmic Sciences Lab, France Research Center, Huawei Technologies Co. Ltd., France), Symeon Chouvardas (University of Athens, Greece)	1400
<i>Lightweight admission control and traffic management with SDN</i>	
Paulo F Pinto (Universidade Nova de Lisboa, Portugal), Rui Cardoso (FCT - Universidade Nova de Lisboa, Portugal), Pedro Amaral (Universidade Nova de Lisboa, Portugal), Luis Bernardo (Universidade Nova de Lisboa, Portugal)	1407
<i>Dynamic Strict Fractional Frequency Reuse for Software-Defined 5G Networks</i>	
Anteneh A. Gebremariam (University of Trento, Italy), Tingnan Bao (University of Trento, Italy), Domenico Siracusa (CREATE-NET, Italy), Tinku Rasheed (Create-Net Research, Italy), Fabrizio Granelli (University of Trento, Italy), Leonardo Goratti (Create-net, Italy)	1414

### Communication QoS, Reliability and Modeling (Interactive)

<i>Significance of Channel Failures on Network Performance in CRNs with Reserved Spectrum</i>	
Indika A. M. Balapuwaduge (University of Agder, Norway), Frank Y. Li (University of Agder, Norway), Vicent Pla (Universitat Politecnica de Valencia, Spain)	1420
<i>Reducing web latency through TCP IW: be smart</i>	
Renaud Sallantin (Thales Alenia Space, France), Cédric Baudoin (Thales Alenia Space, France), Emmanuel Chaput (Irit-Enseeiht, France), Fabrice Arnal (Thales Alenia Space, France), Emmanuel Dubois (CNES, France), André-Luc Beylot (University of Toulouse, France)	1426
<i>A Preeclampsia Diagnosis Approach using Bayesian Networks</i>	
Mário W. L. Moreira (University of Beira Interior, Portugal), Joel J. P. C. Rodrigues (Instituto de Telecomunicações, University of Beira Interior, Portugal), Antonio Oliveira (Federal Institute of Ceara, Brazil), Ronaldo Ramos (Federal Institute of Ceara, Brazil), Kashif Saleem (King Saud University, Saudi Arabia)	1432



<i>FBR: Fleet Based video Retrieval in 3G and 4G enabled Vehicular Ad Hoc Networks</i>	
Muhammad Azfar Yaqub (Kyungpook National University, Korea), Syed Hassan Ahmed (Kyungpook National University, Korea), Safdar Hussain Bouk (Kyungpook National University, Korea), Dongkyun Kim (Kyungpook National University, Korea)	1437

## ICC'16 CRN: IEEE ICC 2016 - Cognitive Radio and Networks Symposium

### Resource Management II

<i>Energy Efficient Optimization for Physical Layer Security in Cognitive Relay Networks</i>	
Jian Ouyang (Nanjing University of Posts and Telecommunications & Concordia University, P.R. China), Wei-Ping Zhu (Concordia University, Canada), Daniel Massicotte (Universite du Quebec a Trois-Rivieres, Canada), Min Lin (Nanjing Institute of Telecommunication Technology, P.R. China)	1443
<i>ASCH: A Novel Asymmetric Synchronous Channel Hopping Algorithm for Cognitive Radio Networks</i>	
Sulagna Mohapatra (Chang Gung University, Taiwan), Prasan Kumar Sahoo (Chang Gung University, Taiwan)	1449
<i>SAMER+: Balancing short term throughput and long term stability in cognitive radio mesh networks</i>	
Li Sun (University at Buffalo, USA), Selvaganesh Dharmeswaran (University at Buffalo, SUNY, USA), Aswin Gokulachandran (University at Buffalo, SUNY, USA), Ashish Kumar (University at Buffalo, SUNY, USA), Dimitrios Koutsonikolas (University at Buffalo, SUNY, USA)	1455
<i>Socially-aware E-Box Deployment Schemes for Joint Data Forwarding and Energy Harvesting</i>	
Bo Fan (University of Electronic Science and Technology of China, P.R. China), Supeng Leng (University of Electronic Science and Technology of China, P.R. China), Kun Yang (University of Essex, United Kingdom), Qin Yu (University of Electronic Science and Technology of China, P.R. China)	1461
<i>Massive MIMO based underlay networks with power control</i>	
Sachitha Kusaladharma (University of Alberta, Canada), Chintla Tellambura (University of Alberta, Canada)	1467

## ICC'16 CT: IEEE ICC 2016 - Communications Theory

### Channel Modeling & Performance

<i>Revisiting the Capacity of Noncoherent Fading Channels in mmWave System</i>	
Guido C. Ferrante (Singapore University of Technology and Design, and Massachusetts Institute of Technology, Singapore), Tony Q. S. Quek (Singapore University of Technology and Design, Singapore), Moe Win (Massachusetts Institute of Technology, USA)	1473
<i>SIR Asymptotics in Poisson Cellular Networks without Fading and with Partial Fading</i>	
Radha Krishna Ganti (Indian Institute of Technology Madras, India), Martin Haenggi (University of Notre Dame, USA)	1479
<i>Tracking Angles of Departure and Arrival in a Mobile Millimeter Wave Channel</i>	
Chuang Zhang (Tsinghua University, P.R. China), Dongning Guo (Northwestern University, USA), Pingyi Fan (Tsinghua University, P.R. China)	1484
<i>Modeling Cellular Networks in Fading Environments with Dominant Specular Components</i>	
Ahmad M Alammouri (King Abdullah University of Science and Technology, Saudi Arabia), Hesham ElSawy (King Abdullah University of Science and Technology (KAUST), Saudi Arabia), Ahmed Sultan (KAUST, Saudi Arabia), Marco Di Renzo (Paris-Saclay University / CNRS, France), Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)	1490

### *On the Accuracy of Interference Models in Wireless Communications*

Hossein Shokri-Ghadikolaei (KTH Royal Institute of Technology, Sweden), Carlo Fischione (KTH, Sweden), Eytan Modiano (MIT, USA) .....	1497
---	------

## **Coding (Interactive)**

### *Quantization for Distributed Binary Detection under Secrecy Constraints*

Maggie Mhanna (CNRS-CentraleSupélec-Université Paris Sud & Laboratoire de Signaux et Systèmes, France), Pierre Duhamel (Lss Supélec & CNRS, France), Pablo Piantanida (CentraleSupélec-CNRS-Université Paris-Sud, France) .....	1503
---	------

### *Optimum Message Mapping LDPC Decoders derived from the Sum-Product Algorithm*

Jan Lewandowsky (Hamburg University of Technology, Germany), Maximilian Stark (Hamburg University of Technology, Germany), Gerhard Bauch (Hamburg University of Technology, Germany) .....	1509
--	------

### *Decoding Network Codes using the Sum-Product Algorithm*

B. Sundar Rajan (Indian Institute of Science, India), Anindya Gupta (Indian Institute of Science, India) .....	1515
--	------

### *Distributed Rateless Codes for Correlated Multi-Source Relay Networks*

Iqbal Hussain (Sweden, Sweden), Markku Juntti (University of Oulu, Finland), Tad Matsumoto (CWC - Oulu, Finland) .....	1522
--	------

## **ICC'16 MWN: IEEE ICC 2016 - Mobile and Wireless Networking Symposium**

### **LTE and Beyond 1**

#### *Multiuser Superposition Transmission (MUST) for LTE-A Systems*

Heunchul Lee (SoC Development, Samsung Electronics, Korea), Sungsoo Kim (Samsung Electronics Co., Ltd, Korea), Jong-Han Lim (Samsung Electronics, Korea) .....	1528
--	------

#### *Unlicensed LTE/WiFi Coexistence: Is LBT Inherently Fairer Than CSAT?*

Cristina Cano (Trinity College Dublin, France), Douglas Leith (Trinity College Dublin, Ireland) .....	1534
---	------

#### *Lightweight Paging based on Location Update Intervals in LTE Network*

Takeshi Hashimoto (KDDI R&D Laboratories, Inc., Japan), Takeshi Kubo (KDDI R&D Laboratories, Inc., Japan), Yoshinori Kitatsuji (KDDI R&D Laboratories Inc., Japan) .....	1540
--	------

#### *Context-Aware Scheduling of Joint Millimeter Wave and Microwave Resources for Dual-Mode Base Stations*

Omid Semiari (Virginia Tech, USA), Walid Saad (Virginia Tech, USA), Mehdi Bennis (Centre of Wireless Communications, University of Oulu, Finland) .....	1546
---	------

#### *Quality of Service Interworking over Heterogeneous Networks in 5G*

Alaa Al-Shaikhli (University of New Haven, USA), Amir Esmailpour (University of New Haven & Ryerson University, USA), Nidal Nasser (Alfaisal University, Saudi Arabia) .....	1552
--	------

## **Multiple Access**

### *Joint User Pairing and Power Allocation for Downlink Non-Orthogonal Multiple Access Systems*

Jie Mei (Beijing University of Posts & Telecommunications, P.R. China), Lei Yao (Beijing University of Posts & Telecommunications, P.R. China), Hang Long (Beijing University of Posts & Telecommunications, P.R. China), Kan Zheng (Beijing University of Posts&Telecommunications, P.R. China) .....	1558
--	------

<i>Transmit Power Optimization for Prioritized Random Access in OFDMA Based Systems</i> Taehoon Kim (Korea Advanced Institute of Science and Technology, Korea), Kab Seok Ko (KAIST, Korea), Dan Keun Sung (Korea Advanced Institute of Science and Technology, Korea) .....	1564
<i>Proportional Fairness-Based Power Allocation and User Set Selection for Downlink NOMA Systems</i> Fei Liu (RWTH Aachen University & Institute for Networked Systems, Germany), Petri Mähönen (RWTH Aachen University, Germany), Marina Petrova (RWTH Aachen University, Germany) .....	1570
<i>Resource allocation in OFDMA networks with half-duplex and imperfect full-duplex users</i> Peyman Tehrani (University of Tehran, Iran), Farshad Lahouti (Caltech Institute of Technology, USA), Michele Zorzi (University of Padova, Italy) .....	1576
<i>Radio Resource Allocation for Non-orthogonal Multiple Access (NOMA) Relay Network Using Matching Game</i> Shuhang Zhang (Peking University, P.R. China), Boya Di (Peking University, P.R. China), Lingyang Song (Peking University, P.R. China), Yonghui Li (University of Sydney, Australia) .....	1582

## ICC'16 NGN: IEEE ICC 2016 - Next-Generation Networking and Internet Symposium

### Content-based Networking

<i>Weighted Network Traffic Offloading in Cache-enabled Heterogeneous Networks</i> Xiuhua Li (The University of British Columbia, Canada), Xiaofei Wang (The University of British Columbia, Canada), Victor C.M. Leung (University of British Columbia, Canada) .....	1588
<i>Reducing The Size of Pending Interest Table for Content-Centric Networks with Hybrid Forwarding</i> Xiong Wang (University of Electronic Science and Technology of China, P.R. China), Wei Wang (State Grid Sichuan Electric Power Corporation, P.R. China), Chunhui Zeng (University of Electronic Science & Technology of China, P.R. China), Rui Dai (State Grid Sichuan Electric Power Corporation, P.R. China), Sheng Wang (University of Electronic Science and Technology of China, P.R. China), Shizhong Xu (University of Electronic Science and Technology of China, P.R. China) .....	1594
<i>An architecture for on-demand service deployment over a telco CDN</i> Pantelis A. Frangoudis (INRIA Rennes-Bretagne Atlantique, France), Louiza Yala (IRISA/ University of Rennes 1, France), Adlen Ksentini (Eurecom, France), Tarik Taleb (Aalto University, Finland) .....	1600
<i>Market Model and Optimal Pricing Scheme of Big Data and Internet of Things (IoT)</i> Dusit Niyato (Nanyang Technological University, Singapore), Mohammad Abu Alsheikh (Nanyang Technological University, Singapore), Ping Wang (Nanyang Technological University, Singapore), Dong In Kim (Sungkyunkwan University (SKKU), Korea), Zhu Han (University of Houston, USA) .....	1606
<i>Revolutionizing the Inter-Domain Business Model by Information-Centric Thinking</i> Zhen Feng (Tsinghua University, P.R. China), Mingwei Xu (Tsinghua University, P.R. China), Yuan Yang (Tsinghua University, P.R. China) .....	1612

## ICC'16 ONS: IEEE ICC 2016 - Optical Networks and Systems

### Coding, Modulation, and Signal Processing in Optical Networks

<i>Power Optimization of Multiple-wavelength Optical Wireless Scattering Communication</i> Beiyuan Liu (University of Science and Technology of China, P.R. China), Chen Gong (USTC, P.R. China), Zhengyuan Xu (University of Science and Technology of China, P.R. China) .....	1618
---	------

<i>Blind Adaptive Transmitter IQ Imbalance Compensation in M-QAM Optical Coherent Systems</i> Trung-Hien Nguyen (CNRS FOTON (UMR 6082), University of Rennes 1, Enssat, France), Pascal Scalart (University of Rennes, France), Mathilde Gay (ENSSAT / Université de Rennes 1, France), Laurent Bramerie (Foton CNRS UMR & ENSSAT / Université de Rennes 1, France), Christophe Peucheret (University of Rennes 1, France), Ti Nguyen-Ti (University of Rennes 1, IRISA, France), Matthieu Gautier (University of Rennes 1, IRISA, France), Olivier Sentieys (University of Rennes 1, IRIA/IRISA, France), Jean-Claude Simon (FOTON Laboratory, CNRS, University of Rennes 1, ENSSAT, France), Michel Joindot (FOTON-ENSSAT / University of Rennes 1/ CNRS, France) .....	1625
<i>On the Channel Capacity of Polarization-Multiplexed Coherent Radio-over-Fiber Transmissions          at Millimeter-wave Bands</i> Yuki Yoshida (National Institute of Information and Communications Technology, Japan), Yukihiro Takami (Osaka University, Japan), Shohei Inudo (Osaka University, Japan), Ken'ichi Kitayama (The Graduate School for the Creation of New Photonics Industries, Japan), Atsushi Kanno (National Institute of Information and Communications Technology, Japan), Naokatsu Yamamoto (National Institute of Information and Communications Technology, Japan), Tetsuya Kawanishi (Waseda University & National Institute of Information and Communications Technology, Japan) .....	1631
<i>Polarization Shift Keying with Pulse Position Modulation over Atmospheric Turbulence Channels</i> Tuğba Özbilgin (Bogazici University & TUBITAK Uekae, Turkey), Mutlu Koca (Bogazici University, Turkey) .....	1637
<i>Quantization and Feedback of Principal Modes for High Speed Multimode Fiber Links</i> Rajesh Mishra (Indian Institute of Technology Bombay, India), Jinesh Jacob (Indian Institute of Technology Bombay, India), Kumar Appaiah (Indian Institute of Technology Bombay, India) .....	1643

## ICC'16 SAC-1 ASN: IEEE ICC 2016 SAC Access Systems and Networks

### Access Systems and Networks (Interactive)

<i>Performance of a Dual Sensor based Interference Cancellation Scheme for Downstream DSL</i> S M Zafaruddin (Ikanos Communications (India) Private Limited, Israel), Laurent Pierrugues (Ikanos Communications, Inc., USA) .....	1649
<i>Dynamics of Two Antiparallel TCP Connections on an Asymmetric Link</i> Tristan Braud (LIG, France), Martin Heusse (Grenoble Informatics Laboratory & Grenoble INP, France), Andrzej Duda (Grenoble Institute of Technology, France) .....	1655
<i>Pricing the fast-lanes: A qualitative study on the implications of paid peering agreements</i> Costas Courcoubetis (Athens University of Economics and Business, Greece), Kostas Sdrolas (Athens University of Economics and Business, Greece), Richard Weber (Cambridge University, United Kingdom) .....	1661
<i>Packet Throughput Performance of Multiservice, Multirate OCDMA in Elastic Networks</i> Thiago R Raddo (Technical University of Denmark & University of Sao Paulo, Denmark), Anderson Sanches (University of the Reconcavo of the Bahia - UFRB, Brazil), Idelfonso Tafur Monroy (Technical University of Denmark & ITMO University, Denmark), Ben-Hur V Borges (Universidade de São Paulo & Escola de Engenharia de São Carlos, Brazil) .....	1667

## ICC'16 SAC-6 CSG: IEEE ICC 2016 SAC Communications for the Smart Grid

### Communications for the Smart Grid

<i>Privacy Aware Distributed Computing of Control Strategy for Smart Grids — A separable function Approach</i>	
Jingchao Bao (The University of Tennessee, USA), Husheng Li (University of Tennessee, USA) .....	1673
<i>Secure and Privacy-Aware Proxy Mobile IPv6 Protocol for Vehicle-to-Grid Networks</i>	
Mahmoud Hashem Eiza (University of Central Lancashire, United Kingdom), Qi Shi (Liverpool John Moores University, United Kingdom), Thomas Owens (Brunel University, United Kingdom), Angelos K. Marnierides (Liverpool John Moores University, United Kingdom) .....	1679
<i>Multiarea State Estimation with Legacy and Synchronized Measurements</i>	
Javier Matamoros (Centre Tecnologic de Telecomunicacions de Catalunya, Spain), Achilleas Tsitsimelis (Centre Tecnologic de Telecomunicacions de Catalunya, Spain), Maria Gregori (CTTC, Spain), Carles Antón-Haro (Centre Tecnologic de Telecomunicacions de Catalunya (CTTC), Spain) .....	1685
<i>Energy-Efficient Gateway On-Off Switching Scheme in Cognitive Radio Based Smart Grid Networks</i>	
Chao Yang (The Hong Kong Polytechnic University, P.R. China), Wei Lou (The Hong Kong Polytechnic University, Hong Kong), Junmei Yao (the HONG KONG Polytechnic University, Hong Kong) .....	1691
<i>Enabling IEC 61850 Communication Services over Public LTE Infrastructure</i>	
Charalampos Kalalas (CTTC, Spain), Lazaros Gkatzikis (Mathematical and Algorithmic Sciences Lab, France Research Center, Huawei Technologies Co. Ltd., France), Carlo Fischione (KTH, Sweden), Per Ljungberg (Ericsson Research, Sweden), Jesus Alonso-Zarate (Centre Tecnologic de Telecomunicacions de Catalunya - CTTC, Spain) .....	1697

## ICC'16 SAC-5 IoT: IEEE ICC 2016 SAC Internet of Things

### Internet of Things (Interactive)

<i>Selective Compressed Sensing: Another Compressed Sensing Approach for Frequency-Domain Analysis</i>	
Fuminori Okuya (The University of Tokyo, Japan), Yoshihiro Kawahara (The University of Tokyo, Japan), Tohru Asami (The University of Tokyo, Japan) .....	1703
<i>Distributed Node Consensus Protocol: Analysis, Evaluation and Performance</i>	
Kaiwen Jin (Ecole Polytechnique, France), Pierre Pfister (Cisco, France), Jiazi Yi (LIX, Ecole Polytechnique, France) .....	1709
<i>A Link-Correlation-Aware Cross-Layer Protocol for IoT Devices</i>	
Fangming Chai (State University of New York at Binghamton, USA), Ting Zhu (University of Maryland, Baltimore County, USA), Kyoung-Don Kang (State University of New York, Binghamton, USA) .....	1715

## ICC'16 SAC-7 SSC: IEEE ICC 2016 SAC Satellite and Space Communications

### Antennas

<i>Adaptive Handoff for Multi-Antenna Mobile Satellite Systems with Ancillary Terrestrial Component</i>	
Gervais N. Kamga (INRS, University of Quebec, Canada), Mirette Sadek (Ain Shams University, Egypt), Sonia Aïssa (INRS, University of Quebec, Canada) .....	1721

<i>An Adaptive Beam Control Technique for Diversity Gain Maximization in LEO Satellite to Ground</i> Shigenori Tani (Mitsubishi Electric, Japan), Katsuyuki Motoyoshi (Mitsubishi Electric Corporation, Japan), Hiroyasu Sano (Mitsubishi Electric Corporation, Japan), Atsushi Okamura (Mitsubishi Electric Corporation, Japan), Hiroki Nishiyama (Tohoku University, Japan), Nei Kato (Tohoku University, Japan) .....	1727
<i>A Novel Multiuser HAP-MIMO Channel Model Based on Birth-Death Process</i> Zhuxian Lian (Shanghai Jiao Tong University, P.R. China), Lingge Jiang (Shanghai Jiao Tong University, P.R. China), Chen He (Shanghai Jiaotong University, P.R. China), Qi Xi (Shanghai Jiaotong University, P.R. China) .....	1732
<i>Joint Predistortion and PAPR Reduction in Multibeam Satellite Systems</i> Alberto Mengali (University of Luxembourg, Luxembourg), Bhavani Shankar Mysore R (Interdisciplinary Centre for Security, Reliability and Trust & University of Luxembourg, Luxembourg), Björn Ottersten (University of Luxembourg, Luxembourg) .....	1737
<i>Spatial MIMO over Satellite: A Proof of Concept</i> Christian A Hofmann (Munich University of the Bundeswehr, Germany), Kai-Uwe Storek (Munich University of the Bundeswehr, Germany), Robert T. Schwarz (Universität der Bundeswehr München, Germany), Andreas Knopp (Munich University of the Bundeswehr, Germany) .....	1744

## ICC'16 SPC: IEEE ICC 2016 - Signal Processing for Communications Symposium

### Massive MIMO

<i>Compressive CSIT Estimation for Multi-user Massive MIMO with Autonomous Adaptation of Pilot and Feedback</i> Feibai Zhu (Hong Kong University of Science and Technology, Hong Kong), An Liu (Hong Kong University of Science and Technology, Hong Kong), Vincent Lau (Hong Kong University of Science and Technology, Hong Kong) .....	1750
<i>Waveform Design for Massive MISO Downlink with Energy-Efficient Receivers Adopting 1-bit ADCs</i> Ahmet Gokceoglu (Tampere University of Technology, Finland), Mikko Valkama (Tampere University of Technology, Finland), Erik G. Larsson (Linköping University, Sweden), Emil Björnson (Linköping University, Sweden) .....	1756
<i>Polynomial Expansion of the Precoder for Power Minimization in Large-Scale MIMO Systems</i> Houssein Sifaou (King Abdullah University of Science and Technology, Saudi Arabia), Abba Kammoun (Kaust, Saudi Arabia), Luca Sanguinetti (University of Pisa & SUPELEC, Italy), Mérouane Debbah (Huawei, France), Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia) .....	1763
<i>High-Throughput Lattice Reduction for Large-Scale MIMO Systems based on Seysen's Algorithm</i> Farhana Sheikh (Intel Corporation, USA), Alexios Balatsoukas-Stimming (Intel Corporation, Switzerland), Chia-Hsiang Chen (Intel Corporation, USA) .....	1769
<i>Downlink Power Control for Massive MIMO Cellular Systems with Optimal User Association</i> Trinh Van Chien (Linköping University, Sweden), Emil Björnson (Linköping University, Sweden), Erik G. Larsson (Linköping University, Sweden) .....	1775

## ICC'16 WCS: IEEE ICC 2016 - Wireless Communications Symposium

### MIMO II

<i>Distributed Coordinated Beamforming for Multi-Cell Multigroup Multicast Systems</i> Harri Pennanen (University of Oulu, Finland), Dimitrios Christopoulos (University of Luxembourg & SnT, Luxembourg), Symeon Chatzinotas (University of Luxembourg, Luxembourg), Björn Ottersten (University of Luxembourg, Luxembourg) .....	1781
---	------

<i>Efficient Channel Estimation for Millimeter Wave MIMO with Limited RF Chains</i>	
Lu Yang (National University of Singapore, Singapore), Yong Zeng (National University of Singapore, Singapore), Rui Zhang (National University of Singapore, Singapore)	1788
<i>Path Loss Channel Models for 5G Cellular Communications in Riyadh City at 60 GHz</i>	
Ahmed Iyanda Sulyman (King Saud University, Saudi Arabia), Abdulmalik Alwarafy (KSU, Saudi Arabia), Hussein E. Seleem (King Saud University & College of Engineering, Saudi Arabia), Khaled Humadi (King Saud University, Saudi Arabia), Abdulhameed Alsanie (King Saud University, Saudi Arabia)	1794
<i>Radio Resource Management for Cloud-RAN Networks with Computing Capability Constraints</i>	
Yun Liao (Peking University, P.R. China), Lingyang Song (Peking University, P.R. China), Yonghui Li (University of Sydney, Australia), Ying Jun (Angela) Zhang (The Chinese University of Hong Kong, Hong Kong)	1800
<i>A Joint Scheduling and Millimeter Wave Hybrid Beamforming System with Partial Side Information</i>	
Girim Kwon (Korea Advanced Institute of Science and Technology (KAIST), Korea), Hyuncheol Park (Korea Advanced Institute of Science and Technology (KAIST), Korea)	1806

## Interference Characterization I

<i>Performance Enhancement via RAT Association Control in Multi-RAT Cellular Networks</i>	
Seong Ho Chae (KAIST, Korea), Jun-Pyo Hong (Pukyong National University, Korea), Wan Choi (KAIST, Korea)	1812
<i>Uplink Performance Analysis of Dense Cellular Networks with LoS and NLoS Transmissions</i>	
Tian Ding (University of Technology Sydney, Australia), Ming Ding (Data 61, Australia), Guoqiang Mao (The University of Technology, Sydney, Australia), Zihuai Lin (University of Sydney, Australia), David López-Pérez (Bell Labs Alcatel-Lucent, Ireland)	1818
<i>Scaling Laws of Coverage and Capacity in Downlink Ultra Dense Cellular Networks</i>	
Van Minh Nguyen (Huawei Technologies, France), Marios Kountouris (Huawei Technologies, France)	1824
<i>Unified Tractable Model for Downlink MIMO Cellular Networks using Stochastic Geometry</i>	
Laila Hesham Afify (King Abdullah University of Science and Technology (KAUST), Saudi Arabia), Hesham ElSawy (King Abdullah University of Science and Technology (KAUST), Saudi Arabia), Tareq Y. Al-Naffouri (King Abdullah University of Science and Technology, USA), Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)	1831
<i>Impact of Mobility on the Sum Rate of an NB-OFDMA Based Mobile IoT Networks</i>	
Chunxu Jiao (Zhejiang University, P.R. China), Zhaoyang Zhang (Zhejiang University, P.R. China), Caijun Zhong (Zhejiang University, P.R. China)	1838

## Wireless Channels and Propagation

<i>Field Testing, Modeling and Comparison of Multi Frequency Band Propagation Characteristics for Cellular Networks</i>	
Hui Xu (Shanghai Research Center for Wireless Communications, P.R. China), Chun Shi (Shanghai Research Center for Wireless Communications, P.R. China), Wuxiong Zhang (Shanghai Research Center for Wireless Communications, P.R. China), Yang Yang (Shanghai Research Center for Wireless Communication, P.R. China)	1844
<i>Increasing Indoor Spectrum Sharing Capacity using Smart Reflect-Array</i>	
Xin Tan (State University of New York at Buffalo, USA), Zhi Sun (State University of New York at Buffalo, USA), Josep M Jornet (University at Buffalo, USA), Dimitris A. Pados (The State University of New York at Buffalo, USA)	1849

<i>Localization Algorithm Design and Performance Analysis in Probabilistic LOS/NLOS Environment</i> Xiufang Shi (Zhejiang University, P.R. China), Guoqiang Mao (The University of Technology, Sydney, Australia), Zaiyue Yang (Zhejiang University, P.R. China), Jiming Chen (Zhejiang University, P.R. China) .....	1855
<i>A Model-Free Localization Method for Sensor Networks with Sparse Anchors</i> Maggie Cheng (Missouri University of Science and Technology, USA), Wei Biao Wu (University of Chicago, USA) .....	1861
<i>Optimal Packet Length for Throughput Maximization in Correlated Multi-User Channels</i> Ahmed Ali (University of Texas at Dallas, USA), Cenk M. Yetis (Mevlana University, Turkey), Murat Torlak (The University of Texas at Dallas, USA) .....	1868

## Estimation and Detection I

<i>Symbol Sequence Detection with Joint Channel Estimation and Carrier Synchronization</i> Hua Fu (National University of Singapore, Singapore), Pooi-Yuen Kam (National University of Singapore, Singapore) .....	1874
<i>Frequency-Domain Equalization Aided Iterative Detection of Faster-than-Nyquist Signaling with Noise Whitening</i> Takumi Ishihara (Tokyo University of Agriculture and Technology, Japan), Shinya Sugiura (Tokyo University of Agriculture and Technology, Japan) .....	1879
<i>Tradeoff between Co-channel Interference and Collision Probability in LAA Systems</i> Rui Yin (Zhejiang Gongshang University & Georgia Institute of Technology, P.R. China), Guanding Yu (Zhejiang University, P.R. China), Geoffrey Li (Georgia Tech, USA), Amine Maaref (Huawei Technologies Canada, Canada) .....	1885
<i>Channel Quality Estimation using Bluetooth for other Standards in the 2.4 GHz ISM Band</i> Woonghee Lee (Korea University, Korea), Albert Chung (Korea University, Korea), Hwangnam Kim (Korea University, Korea) .....	1892
<i>Compressed Sensing-based Pilot Assignment and Reuse for Mobile UEs in mmWave Cellular Systems</i> Weng Chon Ao (University of Southern California, USA), Chenwei Wang (DOCOMO Innovations, Inc., USA), Ozgun Y. Bursalioglu (Docomo Innovations, USA), Haralabos Papadopoulos (DOCOMO Innovations Inc., USA) .....	1898

## Radio Resource Management (Interactive)

<i>A Novel One-Bit Quantization Design for Correlation-based Low-Power Wideband Sensing</i> Abdelmohsen Ali (Concordia University, Canada), Walaa Hamouda (Concordia University, Canada) .....	1905
<i>Massive MIMO Relaying with Hybrid Processing</i> Milad Fozooni (Queen's University Belfast, United Kingdom), Michail Matthaiou (Queen's University Belfast, United Kingdom), Shi Jin (Southeast University, P.R. China), George C. Alexandropoulos (France Research Center, Huawei Technologies Co. Ltd., France) .....	1911
<i>Resource Allocation with Reverse Pricing for Communication Networks</i> Sang Yeob Jung (Yonsei University, Korea), Seong-Lyun Kim (Yonsei University, Korea) .....	1917
<i>User Pair Selection for Distributed-Input Distributed-Output Wireless Systems</i> Yung-Shun Wang (National Tsing Hua University & Academia Sinica, Taiwan), Yao-Win Peter Hong (National Tsing Hua University, Taiwan), Wen-Tsuen Chen (National Tsing Hua University, Taiwan) .....	1923



# ICC'16 AHSN: IEEE ICC 2016 Ad-hoc and Sensor Networking Symposium

## Delay Tolerant Networks and Opportunistic Networking

<i>On the End-to-end Delay of Interference-Limited Mobile Multihop Networks</i>	
Dali Hu (Southwest Jiaotong University, P.R. China), Jingxian Wu (University of Arkansas, USA), Pingzhi Fan (Southwest Jiaotong University, P.R. China)	1929
<i>Set-Covering-based Algorithm for Delay Constrained Relay Node Placement in Wireless Sensor Networks</i>	
Chaofan Ma (Shenyang Institute of Automation Chinese Academy of Sciences, P.R. China), Wei Liang (Shenyang Institute of Automation, Chinese Academy of Sciences, P.R. China), Meng Zheng (Shenyang Institute of Automation, Chinese Academy of Sciences, P.R. China)	1935
<i>Performance Modeling and Analysis of Distributed Multi-hop Wireless Ad Hoc Networks</i>	
Xu Li (Beijing Jiaotong University, P.R. China), He Gao (Beijing Jiaotong University, P.R. China), Yanan Liang (Beijing Jiaotong University, P.R. China), Ke Xiong (Beijing Jiaotong University, P.R. China), Ying Liu (Beijing Jiaotong University, P.R. China)	1941
<i>Information Epidemics Control for Data Delivery in Opportunistic Networks</i>	
Cherry Ye Aung (Nanyang Technological University, Singapore), G. G. Md. Nawaz Ali (Nanyang Technological University, Singapore), Ming Zhao (Nanyang Technological University, Singapore), Ruo Jun Cai (Nanyang Technological University, Singapore), Peter Han Joo Chong (Auckland University of Technology, New Zealand)	1947
<i>A Novel 3D Underwater WSN Deployment Strategy for Full-Coverage and Connectivity in Rivers</i>	
Zakia Khalfallah (UPMC, France), Ilhem Fajjari (Orange labs, France), Nadjib Aitsaadi (LISSI - University of Paris-Est Creteil (UPEC), France), Paul Rubin (Michigan State University, France), Guy Pujolle (University Pierre et Marie Curie - Paris 6 & DNAC, France)	1953

## Wireless Network Applications I (Interactive)

<i>Information Recovery via Block Compressed Sensing in Wireless Sensor Networks</i>	
Hao Cui (Shanghai Jiao Tong University, P.R. China), Su Zhang (Shanghai Jiao Tong University, P.R. China), Xiaoying Gan (Shanghai Jiao Tong University, P.R. China), Manyuan Shen (Shanghai Jiao Tong University, P.R. China), Xinbing Wang (Shanghai Jiao Tong University, P.R. China), Xiaohua Tian (Shanghai Jiao Tong University, P.R. China)	1960
<i>Carrier Frequency Offset Estimation Scheme for IEEE 802.15.4g Based Wide Area Wi-SUN Systems</i>	
Kentaro Obata (Kyoto University, Japan), Keiichi Mizutani (Kyoto University, Japan), Hiroshi Harada (Kyoto University & Graduate School of Informatics, Japan)	1966
<i>Connectivity of Cooperative Ad hoc Networks</i>	
Orestis Georgiou (Toshiba Telecommunications Research Laboratory, United Kingdom), Georgios Kalogridis (Toshiba Research Europe Ltd, United Kingdom), Hachem Yassine (University of Oxford, United Kingdom), Stojan Denic (Telecommunications Research Lab Toshiba, United Kingdom)	1972
<i>Performance Modeling of the Sleep Interval Effects in Duty-Cycled Underwater Sensor Networks</i>	
Rodolfo W. L. Coutinho (Federal University of Minas Gerais & University of Ottawa, Brazil), Azzedine Boukerche (University of Ottawa, Canada), Luiz F. M. Vieira (Universidade Federal de Minas Gerais, Brazil), Antonio A.F. Loureiro (Federal University of Minas Gerais, Brazil)	1979
<i>On Resilient Event-driven Partial Barriers in Mobile Sensor Networks</i>	
Hyunbum Kim (University of North Carolina at Wilmington, USA), Jalel Ben-Othman (University of Paris 13, France)	1985

# ICC'16 CISS: IEEE ICC 2016 Communication and Information Systems Security Symposium

## Mobile and Wireless Network Security I

<i>Single Controller Stochastic Games for Optimized Moving Target Defense</i> AbdelRahman Eldosouky (Virginia Tech, USA), Walid Saad (Virginia Tech, USA), Dusit Niyato (Nanyang Technological University, Singapore) .....	1991
<i>Pinball Attacks: Exploiting Channel Allocation in Wireless Networks</i> Janiece Kelly (Texas State University, USA), Mina Guirguis (Texas State University, USA), George Atia (University of Central Florida, USA) .....	1997
<i>Zero Reconciliation Secret Key Extraction in MIMO Backscatter Wireless Systems</i> Shichao Lv (Institute of Information Engineering, Chinese Academy of Sciences, P.R. China), Xiang Lu (Institute of Information Engineering, CAS, P.R. China), Zhuo Lu (University of Memphis, USA), Xiaoshan Wang (Institute of Information Engineering, Chinese Academy of Sciences, P.R. China), Ning Wang (Beijing University of Posts and Telecommunications, P.R. China), Limin Sun (Institute of Information Engineering, China Academy of Science, Beijing, P.R. China) .....	2003
<i>Combating Full-Duplex Active Eavesdropper: A Game-Theoretic Perspective</i> Xiao Tang (Xi'an Jiaotong University, P.R. China), Pinyi Ren (Xi'an Jiaotong University, P.R. China), Zhu Han (University of Houston, USA) .....	2009
<i>In-Band Wormhole Detection in Wireless Ad Hoc Networks Using Change Point Detection Method</i> Maggie Cheng (Missouri University of Science and Technology, USA), Yi Ling (Missouri University of Science and Technology, USA), Wei Biao Wu (University of Chicago, USA) .....	2015

## Security of Large-Scale Systems and SDN

<i>FADE: Detecting Forwarding Anomaly in Software-Defined Networks</i> Chunhui Pang (Tsinghua University, P.R. China), Yong Jiang (Graduate School at Shenzhen, Tsinghua University, P.R. China), Qi Li (Tsinghua University, P.R. China) .....	2021
<i>Efficient, Secure and Non-iterative Outsourcing of Large-Scale Systems of Linear Equations</i> Yunpeng Yu (National University of Defense Technology, P.R. China), Yuchuan Luo (National University of Defense Technology, P.R. China), Dongsheng Wang (National University of Defense Technology, P.R. China), Shaojing Fu (National University of Defense Technology, P.R. China), Ming Xu (National University of Defense Technology, P.R. China) .....	2027
<i>A Detection Method for a Novel DDoS Attack against SDN Controllers by Vast New Low-Traffic Flows</i> Ping Dong (Beijing Jiaotong University, P.R. China), Xiaojiang Du (Temple University, USA), Hongke Zhang (Beijing Jiaotong University, P.R. China), Tong Xu (Beijing Jiaotong University, P.R. China) .....	2033
<i>Privacy-Preserving Deep Packet Filtering over Encrypted Traffic in Software-Defined Networks</i> Yi-Hui Lin (Academia Sinica, Taiwan), Shan-Hsiang Shen (Academia Sinica, Taiwan), Ming-Hong Yang (Academia Sinica, Taiwan), De-Nian Yang (Academia Sinica, Taiwan), Wen-Tsuen Chen (Academia Sinica, Taiwan) .....	2039
<i>Fast Authentication in 5G HetNet through SDN Enabled Weighted Secure-Context-Information Transfer</i> Xiaoyu Duan (Western University, Canada), Xianbin Wang (University of Western Ontario, Canada) .....	2046

# ICC'16 CQRM: IEEE ICC 2016 - Communication QoS, Reliability and Modeling Symposium

## Virtualization and Cloud

<i>Quantifying and Evaluating the Technical Debt on Mobile Cloud-Based Service Level</i>	
Georgios Skourletopoulos (University of Nicosia, Cyprus), Constandinos X. Mavromoustakis (University of Nicosia, Cyprus), George Mastorakis (Technological Educational Institute of Crete, Greece), Evangelos Pallis (Technological Educational Institute of Crete, Greece), Jordi Mongay Batalla (Warsaw University of Technology & National Institute of Telecommunications, Poland), Georgios Kormentzas (University of the Aegean, Greece)	2052
<i>Towards Optimal Outsourcing of Service Function Chain Across Multiple Clouds</i>	
Huan Chen (University of Electronic Science and Technology of China, P.R. China), Shizhong Xu (University of Electronic Science and Technology of China, P.R. China), Xiong Wang (University of Electronic Science and Technology of China, P.R. China), Yangming Zhao (State University of New York at Buffalo, USA), Ke Li (Southwest Jiao Tong University, P.R. China), Yang Wang (University of Electronic Science and Technology of China, P.R. China), Wei Wang (State Grid Sichuan Electric Power Corporation, P.R. China), Le Min Li (University of Electronic Science and Technology of China, P.R. China)	2059
<i>Low Latency Virtual Network Embedding for Mobile Networks</i>	
Giorgos Chochlidakis (King's College London, United Kingdom), Vasilis Friderikos (King's College London, United Kingdom)	2066
<i>Power Comparison of Cloud Data Center Architectures</i>	
Pietro Ruii (Istituto Superiore Mario Boella, Italy), Andrea Bianco (Politecnico di Torino, Italy), Claudio Fiandrino (University of Luxembourg, Luxembourg), Paolo Giaccone (Politecnico di Torino, Italy), Dzmitry Kliazovich (University of Luxembourg, Luxembourg)	2072
<i>Joint Offloading Decision and Resource Allocation for Multi-user Multi-task Mobile Cloud</i>	
Meng-Hsi Chen (University of Toronto, Canada), Ben Liang (University of Toronto, Canada), Min Dong (University of Ontario Institute of Technology, Canada)	2078

# ICC'16 CRN: IEEE ICC 2016 - Cognitive Radio and Networks Symposium

## Spectrum Access

<i>Multi-Channel MAC Protocol for Full-Duplex Cognitive Radio Networks with Optimized Access Control and Load Balancing</i>	
Tan Thanh Le (Arizona State University, USA), Long Bao Le (INRS, University of Quebec, Canada)	2084
<i>On Optimality of Myopic Policy in multichannel Opportunistic Access</i>	
Kehao Wang (WHUT, P.R. China), Lin Chen (The University of Paris-Sud, France), Jihong Yu (The University of Paris-Sud, France)	2090
<i>Decentralized Heuristic Access Policy Design for Two Cognitive Secondary Users under a Primary Type-I HARQ Process</i>	
Roghayeh Joda (Iran Telecommunication Research Center, Iran), Michele Zorzi (University of Padova, Italy)	2096
<i>Decentralized Power Allocation for Secondary Random Access in Cognitive Radio Networks with Successive Interference Cancellation</i>	
Huifa Lin (Dankook University, Korea), Koji Ishibashi (The University of Electro-Communications, Japan), Won-Yong Shin (Dankook University, Korea), Takeo Fujii (The University of Electro-Communications, Japan)	2102
<i>Tradeoff in Delay, Cost, and Quality in Data Transmission Over TV White Spaces</i>	
Naveed Ul Hassan (Lahore University of Management Sciences, Pakistan), Chau Yuen (Singapore University of Technology and Design, Singapore), Muhammad Bershgal Atique (Lahore University of Management Sciences, Pakistan)	2108

## ICC'16 CT: IEEE ICC 2016 - Communications Theory

### Multiple Access II

<i>Real Interference Alignment for the MIMO Multiple Access Wiretap Channel</i> Pritam Mukherjee (University of Maryland, USA), Sennur Ulukus (University of Maryland, USA) .....	2114
<i>Simplified Han-Kobayashi Region for One-Sided and Mixed Gaussian Interference Channels</i> Mojtaba Vaezi (Princeton University, USA), H. Vincent Poor (Princeton University, USA) .....	2120
<i>An Asymptotically Capacity-Achieving Scheme for the Gaussian Multiple-Access Relay Channel</i> Ahmad Abu Al Haija (University of Alberta, Canada), Chintla Tellambura (University of Alberta, Canada) .....	2126
<i>Stability Region of Two-user Full-duplex Broadcast Channel with Secrecy Constraint</i> Parthajit Mohapatra (Singapore University of Technology and Design, Singapore), Nikolaos Pappas (Linköping University, Sweden), Jemin Lee (Singapore University of Technology and Design (SUTD), Singapore), Tony Q. S. Quek (Singapore University of Technology and Design, Singapore), Vangelis Angelakis (Linköping University, Sweden) .....	2132
<i>Improper Gaussian Signaling in Full-Duplex Relay Channels with Residual Self-Interference</i> Mohamed Gaafar (King Abdullah University of Science and Technology (KAUST), Saudi Arabia), Mohammad Galal Khafagy (King Abdullah University of Science and Technology (KAUST), Saudi Arabia), Osama Amin (King Abdullah University of Science and Technology (KAUST), Saudi Arabia), Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia) .....	2138

## ICC'16 GCSN: IEEE ICC 2016 - Green Communications Systems and Networks

### Energy Harvesting 1

<i>Energy Efficient Switching between Data Transmission and Energy Harvesting for Cooperative Cognitive Relaying Systems</i> Nikolaos I. Miridakis (University of Piraeus, Greece), Theodoros Tsiftsis (Nazarbayev University & Technological Educational Institute of Central Greece, Kazakhstan), George C. Alexandropoulos (France Research Center, Huawei Technologies Co. Ltd., France), Mérouane Debbah (Huawei, France) .....	2145
<i>Online Ski Rental for Scheduling Self-Powered, Energy Harvesting Small Base Stations</i> Gilsoo Lee (Virginia Tech, USA), Walid Saad (Virginia Tech, USA), Mehdi Bennis (Centre of Wireless Communications, University of Oulu, Finland), Abolfazl Mehdodniya (Tohoku University, Japan), Fumiyuki Adachi (Tohoku University, Japan) .....	2151
<i>On the Performance of Wireless Energy Harvesting Networks in a Boolean-Poisson Model</i> Han-Bae Kong (Nanyang Technological University, Singapore), Ian Flint (Nanyang Technological University, Singapore), Dusit Niyato (Nanyang Technological University, Singapore), Nicolas Privault (Nanyang Technological University, Singapore) .....	2157
<i>Energy Harvesting Two-Way Channel with Decoding Costs</i> Ahmed Arafa (University of Maryland College Park, USA), Abdulrahman Baknina (University of Maryland, College Park, USA), Sennur Ulukus (University of Maryland, USA) .....	2163
<i>Online learning algorithms for wireless energy harvesting nodes</i> Maria Gregori (CTTC, Spain), Jesús Gómez-Vilardebò (CTTC, Spain) .....	2169

# ICC'16 MWN: IEEE ICC 2016 - Mobile and Wireless Networking Symposium

## LTE and Beyond 2

<i>A Pareto-optimal Approach for Resource Allocation on the LTE downlink</i>	
Fan Huang (University of Paris Sud, France), Véronique Vèque (University of Paris-Sud 11, France), Joanna Tomasik (CentraleSupélec, Université Paris-Saclay, France) .....	2175
<i>Studying the Performance and Robustness of Frequency Allocation Schemes for LTE HetNets</i>	
Sepideh Ebrahimi (RWTH Aachen University, Germany), Janne Riihijärvi (RWTH Aachen University, Germany), Marina Petrova (RWTH Aachen University, Germany) .....	2182
<i>Energy Efficiency of Combined DPS and JT CoMP Technique in Downlink LTE-A Cellular Networks</i>	
Md. Farhad Hossain (Bangladesh University of Engineering and Technology (BUET), Bangladesh), Md Jamiul Huque (Bangladesh University of Engineering and Technology, Bangladesh), Ahnaf Sakib Ahmad (Bangladesh University of Engineering and Technology, Bangladesh), Kumudu S Munasinghe (University of Canberra, Australia), Abbas Jamalipour (University of Sydney, Australia) .....	2188
<i>A Software-Defined Architecture for Next-Generation Cellular Networks</i>	
Vassilios G. Vassilakis (University of West London, United Kingdom), Ioannis Moscholios (University of Peloponnese, Greece), Bander A Alzahrani (King Abdulaziz University, Saudi Arabia), Michael D. Logothetis (University of Patras, Greece) .....	2194
<i>Flexible Call Admission Control with Preemption in LTE Networks</i>	
Aymen Belghith (University of Sfax, Tunisia), Nesrine Turki (University ENET'COM, Tunisia), Bernard Cousin (University of Rennes 1 & IRISA Research Laboratory, France), Mohammad S. Obaidat (Fordham University, USA) .....	2200

## Mobile Wireless Networks (Interactive)

<i>A Three-Tier SDN Based Distributed Mobility Management Architecture for DenseNets</i>	
Ibrahim Elgendi (Canberra University, Australia), Kumudu S Munasinghe (University of Canberra, Australia), Abbas Jamalipour (University of Sydney, Australia) .....	2207
<i>Optimising Rateless Codes With Delayed Feedback to Minimise In-order Delivery Delay</i>	
Douglas Leith (Trinity College Dublin, Ireland), Mohammad Karzand (Trinity College Dublin, Ireland) .....	2213
<i>Analysis of Guard-band-aware Spectrum Bonding and Aggregation in Multi-Channel Access Cognitive Radio Networks</i>	
MohammadJavad NoroozOliaee (Oregon State University, USA), Bechir Hamdaoui (Oregon State University, USA) .....	2219
<i>A Ring-based Bidirectional Routing Protocol for Wireless Sensor Network with Mobile Sinks</i>	
Dezhong Shang (University of the Chinese Academy of Sciences, P.R. China), Xiulian Liu (Astronaut Center of China, P.R. China), Yan Yan (University of Chinese Academy of Sciences, P.R. China), Baoxian Zhang (University of Chinese Academy of Sciences, P.R. China), Cheng Li (Memorial University of Newfoundland, Canada) .....	2225
<i>On Joint Power Allocation and Multipath Routing in Femto-Relay Networks</i>	
Sahar Hoteit (INRIA Saclay, France), Pierre Duhamel (Lss Supélec & CNRS, France), Samson E Lasaulce (CNRS - Supélec, France) .....	2231
<i>Dynamic Sensitivity Control of Access Points for IEEE 802.11ax</i>	
M. Shahwaiz Afaqui (Technical University of Catalonia (UPC), Spain), Eduard Garcia-Villegas (Technical University of Catalonia (UPC), Spain), Elena Lopez-Aguilera (Technical University of Catalonia (UPC), Spain), Daniel Camps (i2CAT, Spain) .....	2237
<i>A Game Theoretic Approach for an Hybrid Overlay-Underlay Spectrum Access Mode</i>	
Sara Gmira (ENSIAS, Mohammed V University of Rabat, Morocco), Abdellatif Kobbane (ENSIAS, Mohammed V University of Rabat, Morocco), Essaid Sabir (Hassan II University of Casablanca & ENSEM, Morocco), Jalel Ben-Othman (University of Paris 13, France) .....	2244

# ICC'16 NGN: IEEE ICC 2016 - Next-Generation Networking and Internet Symposium

## Mobile/Wireless Content Distribution I

<i>Maximizing Coding Gain in Wireless Networks with Decodable Network Coding</i>	
Maggie Cheng (Missouri University of Science and Technology, USA), Quanmin Ye (Nokia Networks, USA), Xiaochun Cheng (Middlesex University, United Kingdom), Lin Cai (University of Victoria, Canada) .....	2250
<i>Automatic Construction of Garage Maps for Future Vehicle Navigation Service</i>	
Qian Zhou (Stony Brook University, USA), Fan Ye (Stony Brook University, USA), Xiaoge Wang (Tsinghua University, P.R. China), Yuanyuan Yang (Stony Brook University, USA) .....	2256
<i>Enhancing Software-Defined RAN with Collaborative Caching and Scalable Video Coding</i>	
Ruozhou Yu (Arizona State University, USA), Shuang Qin (University of Electronic Science and Technology of China, P.R. China), Mehdi Bennis (Centre of Wireless Communications, University of Oulu, Finland), Xianfu Chen (VTT Technical Research Centre of Finland, Finland), Gang Feng (University of Electronic Science and Technology of China, P.R. China), Zhu Han (University of Houston, USA), Guoliang Xue (Arizona State University, USA) .....	2263
<i>Search Based Software Engineering on Evolutionary Multi-Objective Approach</i>	
Abdusy Syarif (University of Haute Alsace, France), Abdelhafid Abouaissa (University of Haute Alsace, France), Lhassane Idoumghar (University of Haute Alsace, France), Achmad Kodar (Mercu Buana University, Indonesia), Pascal Lorenz (University of Haute Alsace, France) .....	2269
<i>Multi-Gigabit Indoor WLANs: Looking Beyond 2.4/5 GHz</i>	
Swetank Kumar Saha (University at Buffalo, SUNY, USA), Viral Vijay Vira (University at Buffalo, SUNY, USA), Anuj Garg (University at Buffalo, SUNY, USA), Dimitrios Koutsonikolas (University at Buffalo, SUNY, USA) .....	2275

## Software Defined Networking I

<i>A Resilient Distributed Controller for Software Defined Networking</i>	
Diogo Mattos (Universidade Federal do Rio de Janeiro & GTA, Brazil), Otto Carlos M. B. Duarte (Universidade Federal do Rio de Janeiro, Brazil), Guy Pujolle (University Pierre et Marie Curie - Paris 6 & DNAC, France) .....	2281
<i>Software-Defined Inter-Domain Routing Revisited</i>	
Chen Chen (Hong Kong University of Science and Technology, Hong Kong), Bo Li (Hong Kong University of Science and Technology, Hong Kong), Dong Lin (Hong Kong University of Science & Technology, Hong Kong), Baochun Li (University of Toronto, Canada) .....	2287
<i>Inter-controller traffic in ONOS clusters for SDN networks</i>	
Abubakar Siddique Muqaddas (Politecnico di Torino, Italy), Paolo Giaccone (Politecnico di Torino, Italy), Andrea Bianco (Politecnico di Torino, Italy), Guido Maier (Politecnico di Milano, Italy) .....	2293
<i>Header Length Reduction for Bloom Filter Multicast using Stochastic Overlay Networks</i>	
Alexander Craig (Carleton University, Canada), Biswajit Nandy (Solana Networks & Carleton University, Canada), Ioannis Lambadaris (Carleton University, Canada) .....	2299
<i>Stateless multicast switching in software defined networks</i>	
Martin J Reed (University of Essex, United Kingdom), Mays F AL-Naday (University of Essex, United Kingdom), Nikolaos Thomos (University of Essex, United Kingdom), Dirk Trossen (InterDigital Europe, United Kingdom), George Petropoulos (Intracom SA Telecom Solutions, Greece), Spiros Spirou (Intracom Telecom, Greece) .....	2306

# ICC'16 ONS: IEEE ICC 2016 - Optical Networks and Systems

## Optical Networks for Data Centers

<i>Providing Line-of-Sight in a Free-Space-Optics Based Data Center Architecture</i>	
Max Curran (Stony Brook, USA), Himanshu Gupta (Stony Brook University, USA) .....	2313
<i>PODCA: A Passive Optical Data Center Architecture</i>	
Maotong Xu (George Washington University, USA), Chong Liu (George Washington University, USA), Suresh Subramaniam (The George Washington University, USA) .....	2320
<i>DOSE: Double Optics Single Electronics Data-Center using a Switchless Optical Frontplane and Backplane</i>	
Ashwin A Gumaste (Indian Institute of Technology, Bombay, India), Aniruddha Singh Kushwaha (IIT-Bombay, India), Tamal Dinesh Das (Indian Institute of Technology, Bombay, India) .....	2326
<i>Scalable Architecture and Low-Latency Scheduling Schemes for Next Generation Photonic Datacenters</i>	
Mohammad Kiaei (Huawei Technologies, Canada), Hamid Mehrvar (Huawei Technology, Canada), Eric Bernier (Huawei Technology, Canada) .....	2333
<i>Revenue-Oriented Bandwidth Allocation in Optical OFDM Intra Data Center Networks</i>	
Yan Li (Nanjing University of Finance and Economics, P.R. China), Shifang Dai (Nanjing University of Finance and Economics, P.R. China), Jingjing You (Nanjing University of Finance and Economics, P.R. China) .....	2338

# ICC'16 SAC-2 CCN: IEEE ICC 2016 SAC Cloud Communications and Networking

## Future Cellular Networks and Mobile Cloud Computing

<i>A Capacity Broker Architecture and Framework for Multi-tenant support in LTE-A Networks</i>	
Georgia Tseliou (Open University of Catalonia (UOC), Spain), Konstantinos Samdanis (NEC Europe Ltd., Germany), Ferran Adelantado (Universitat Oberta de Catalunya, Spain), Xavier Costa Pérez (NEC Europe Ltd, Germany), Christos Verikoukis (Telecommunications Technological Centre of Catalonia, Spain) .....	2344
<i>Resource Allocation for Uplink OFDMA C-RANs with Limited Computation and Fronthaul Capacity</i>	
Vu Nguyen Ha (INRS, University of Quebec, Canada), Long Bao Le (INRS, University of Quebec, Canada) .....	2350
<i>Cost-Effective Resource Allocation in C-RAN with Mobile Cloud</i>	
Kezhi Wang (University of Essex, United Kingdom), Kun Yang (University of Essex, United Kingdom), Xinhou Wang (Huazhong University of Science and Technology, P.R. China), Chathura Sarathchandra Magurawalage (University of Essex, United Kingdom) .....	2356
<i>Energy Efficient Cloud Radio Access Network with a Single RF Antenna</i>	
Lin Zhou (University of Edinburgh, United Kingdom), Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom), Jiang Xue (The University of Edinburgh & IDCOM, United Kingdom), Faheem A. Khan (University of Edinburgh, United Kingdom) .....	2362
<i>Distributed Mobile Cloud Computing: A multi-user Clustering Solution</i>	
Jessica Oueis (CEA-LETI & University of Grenoble, France), Emilio Calvanese Strinati (CEA-LETI, France), Sergio Barbarossa (Sapienza University of Rome, Italy) .....	2368

## ICC'16 SAC-6 CSG: IEEE ICC 2016 SAC Communications for the Smart Grid

### Communications for the Smart Grid (Interactive)

<i>On Homomorphic Encryption for Privacy-preserving Distributed Load Adaption in Smart Grids</i> Daniel Brettschneider (University of Applied Sciences Osnabrück, Germany), Daniel Hölker (University of Applied Sciences Osnabrück, Germany), Ralf Tönjes (University of Applied Sciences Osnabrück, Germany), Alfred Scheerhorn (University of Applied Sciences Osnabrück, Germany) .....	2374
<i>Dominoes with Communications: On Characterizing the Progress of Cascading Failures in Smart Grid</i> Mingkui Wei (North Carolina State University, USA), Zhuo Lu (University of Memphis, USA), Wenye Wang (NC State University, USA) .....	2380
<i>Software Defined Networking for Resilient Communications in Smart Grid Active Distribution Networks</i> Abdullah Aydeger (Florida International University, USA), Kemal Akkaya (Florida International University, USA), Mehmet Cintuglu (Florida International University, USA), A. Selcuk Uluagac (Florida International University, USA), Osama Mohammed (Florida International University, USA) .....	2386

## ICC'16 SAC-5 IoT: IEEE ICC 2016 SAC Internet of Things

### Cloud, Edge Computing and IoT

<i>High Scalability for Cloud-Based IoT/M2M Systems</i> Eduardo Cerritos (National ChiaoTung University, Taiwan), Fuchun Joseph Lin (National Chiao Tung University, Taiwan), José de la Bastida Castillo (National Chiao Tung University, Taiwan) .....	2392
<i>IoT Cloud-based Distribution System State Estimation: Virtual Objects and Context-Awareness</i> Alessio Meloni (University of Cagliari, Italy), Paolo Attilio Pegoraro (University of Cagliari, Italy), Luigi Atzori (University of Cagliari, Italy), Paolo Castello (University of Cagliari, Italy), Sara Sulis (University of Cagliari, Italy) .....	2398
<i>\$C^2\$: Truthful Incentive Mechanism for Multiple Collaborative Tasks in Mobile Cloud</i> Shuyun Luo (Beijing University of Posts and Telecommunications, P.R. China), Yongmei Sun (Beijing University of Posts and Telecommunications, P.R. China), Zhenyun Wen (Center for Intelligent Systems and their Applications, University of Edinburgh, United Kingdom), Ji Yuefeng (Beijing University of Posts and Telecommunications, P.R. China) .....	2404
<i>A SDN-based Architecture for Horizontal Internet of Things Services</i> Yuhong Li (Beijing University of Posts and Telecommunications, P.R. China), Xiang Su (University of Oulu, Finland), Jukka Riekk (University of Oulu, Finland), Theo G. Kanter (Stockholm University, Sweden), Rahim Rahmani (Stockholm University, Sweden) .....	2410
<i>A Cluster Based Computation Offloading Technique for Mobile Cloud Computing in Smart Cities</i> Daniela Mazza (University of Bologna, Italy), Daniele Tarchi (University of Bologna, Italy), Giovanni Emanuele Corazza (University of Bologna, Italy) .....	2417

## ICC'16 SPC: IEEE ICC 2016 - Signal Processing for Communications Symposium

### MIMO

<i>Beyond Fixed Neighborhood Search in the Likelihood Ascent Algorithm for MIMO Systems</i> Abhay Kumar Sah (IIT Kanpur, India), Ajit K. Chaturvedi (Indian Institute of Technology Kanpur, India) .....	2423
--	------



<i>Interference-Aware Multi-Iterative Equalization and Detection for Frequency-Selective MIMO Channels</i>	
Tobias Seifert (Technische Universität Dresden, Germany), Xiaohang Song (TU Dresden, Germany), Gerhard Fettweis (Technische Universität Dresden, Germany) .....	2429
<i>A Practical Complex BKZ Reduction Algorithm for Near-Optimal MIMO SIC Detection</i>	
Liqin Ding (Harbin Institute of Technology, P.R. China), Wang Yang (Harbin Institute of Technology, P.R. China), Jiliang Zhang (Harbin Institute of Technology, P.R. China) .....	2435
<i>Analog and Successive Channel Equalization in Strong Line-of-Sight MIMO Communication</i>	
Xiaohang Song (TU Dresden, Germany), Wolfgang Rave (Dresden University of Technology, Germany), Gerhard Fettweis (Technische Universität Dresden, Germany) .....	2441
<i>Enhanced Low-Complexity Layer-Ordering for MIMO Sphere Detectors</i>	
Hadi Sarieddeen (American University of Beirut, Lebanon), Mohammad Mansour (American University of Beirut, Lebanon) .....	2448

## Advanced Receiving Techniques (Interactive)

<i>Multiuser Detection by MAP Estimation with Sum-of-Absolute-Values Relaxation</i>	
Hampei Sasahara (Tokyo Institute of Technology, Japan), Kazunori Hayashi (Kyoto University, Japan), Masaaki Nagahara (The University of Kitakyushu, Japan) .....	2454
<i>Bayesian Learning For The Type-3 Joint Sparse Signal Recovery</i>	
Wei Chen (Beijing Jiaotong University, P.R. China), Ian James Wassell (University of Cambridge, United Kingdom) .....	2460
<i>Iterative Decoding Techniques for Ring-type Magnitude Modulated Signals</i>	
Mário Castanheira (Instituto de Telecomunicações & University of Coimbra, Portugal), António Simões (Instituto de Telecomunicações & University of Coimbra, Portugal), Marco A. C. Gomes (University of Coimbra, Portugal), Rui Dinis (Faculdade de Ciências e Tecnologia, University Nova de Lisboa, Portugal), Vitor Silva (Institute of Telecommunications, Portugal) .....	2466
<i>A Fast Receiver Sensitivity Identification Method for Wireless Systems</i>	
Zhi Quan (Southern University of Science and Technology, P.R. China), Minghe Zhu (ShanghaiTech University, P.R. China), Shuguang Cui (Texas A&M University, USA) .....	2472
<i>Enhanced Single Carrier Iterative Interference Cancellation Frequency Domain Equalization</i>	
Martin Fritz (Sony, Germany), Rana Ahmed (Nokia DE & Bell Labs, Germany), Ben Eitel (Sony, Germany) .....	2478

## ICC'16 WCS: IEEE ICC 2016 - Wireless Communications Symposium

### Small Cells and Heterogeneous Networks II

<i>QoS-aware Scheduling for Small Cell Millimeter Wave Mesh Backhaul</i>	
Yun Zhu (University of Florida, USA), Yong Niu (Tsinghua University, P.R. China), Jiade Li (University of Florida, USA), Dapeng Oliver Wu (University of Florida, USA), Yong Li (Tsinghua University, P.R. China), Depeng Jin (Tsinghua University, P.R. China) .....	2484
<i>Cluster-Centric Cache Utilization Design in Cooperative Small Cell Networks</i>	
Zheng Chen (CentraleSupélec - CNRS - Université Paris Sud, France), Jemin Lee (Singapore University of Technology and Design (SUTD), Singapore), Tony Q. S. Quek (Singapore University of Technology and Design, Singapore), Marios Kountouris (Huawei Technologies, France) .....	2490
<i>Performance Analysis of SDMA with Inter-tier Interference Nulling in HetNets</i>	
Yamuna Dhungana (University of Alberta, Canada), Chintha Tellambura (University of Alberta, Canada) .....	2496
<i>Distributed Downlink User Association in Small Cell Networks with Energy Harvesting</i>	
Setareh Maghsudi (University of Manitoba, Canada), Ekram Hossain (University of Manitoba, Canada) .....	2502

<i>On the Performance of Advanced Receivers in Unsynchronized Small Cell LTE Networks</i> Stanislaus Iwelski (University of Duisburg-Essen, Germany), Erfan Majeed (University of Duisburg-Essen, Germany), Guido Bruck (University of Duisburg Essen, Germany), Peter Jung (Universität Duisburg-Essen, Germany) .....	2508
--	------

## Smart Antennas

<i>Two-Step Transmit Antenna Selection Algorithms for Massive MIMO</i> Jingon Joung (Chung-Ang University, Korea), Sumei Sun (Institute for Infocomm Research, Singapore) .....	2515
<i>M2I Communication: From Theoretical Modeling to Practical Design</i> Hongzhi Guo (State University of New York at Buffalo, USA), Zhi Sun (State University of New York at Buffalo, USA) .....	2521
<i>Tunable Generation and Angular Steering of a Millimeter-Wave Orbital-Angular-Momentum Beam using Differential Time Delays in a Circular Antenna Array</i> Guodong Xie (University of Southern California, USA), Yan Yan (University of Southern California, USA), Zhe Zhao (University of Southern California, USA), Long Li (University of Southern California, USA), Yongxiong Ren (University of Southern California, USA), Nisar Ahmed (University of Southern California, USA), Asher Willner (University of Southern California, USA), Changjing Bao (University of Southern California, USA), Zhe Wang (University of Southern California, USA), Cong Liu (University of Southern California, USA), Nima Ashrafi (University of Texas at Dallas & NxGen Partners, USA), Solyman Ashrafi (NxGen Partners, USA), Shilpa Talwar (Intel, USA), Soji Sajuyigbe (Intel Labs, Intel Corporation, USA), Moshe Tur (Tel Aviv University, Israel), Andreas Molisch (University of Southern California, USA), Alan Willner (University of Southern California, USA) .....	2527
<i>Simultaneous Transmission Opportunities for LTE-LAA Smallcells Coexisting with WiFi in Unlicensed Spectrum</i> Long Li (University of Sheffield, United Kingdom), Amir H Jafari (University of Sheffield, Bell Labs Nokia, United Kingdom), Xiaoli Chu (University of Sheffield, United Kingdom), Jie Zhang (University of Sheffield, Dept. of Electronic and Electrical Engineering, United Kingdom) .....	2533
<i>Reconfigurable Antenna-Based Space-Shift Keying for Spectrum Sharing Systems</i> Zied Bouida (Texas A&M University at Qatar, Qatar), Hassan El-Sallabi (TAMUQ, Qatar), Mohamed M. Abdallah (Texas A&M University at Qatar, Qatar), Ali Ghrayeb (Texas A&M University at Qatar, Qatar), Khalid A. Qaraqe (Texas A&M University at Qatar, USA) .....	2540

## Massive MIMO II

<i>Joint Burst LASSO for Sparse Channel Estimation in Multi-user Massive MIMO</i> An Liu (Hong Kong University of Science and Technology, Hong Kong), Vincent Lau (Hong Kong University of Science and Technology, Hong Kong), Wei Dai (Imperial College, United Kingdom) .....	2546
<i>Random Beamforming for Multiuser Multiplexing in Downlink Correlated Rician Channel</i> Wenbin Sun (Harbin Institute of Technology, P.R. China), Qiyue Yu (Harbin Institute of Technology, P.R. China), Weixiao Meng (Harbin Institute of Technology, P.R. China), Cheng Li (Memorial University of Newfoundland, Canada) .....	2552
<i>A Blind Interference Alignment scheme for practical channels</i> Máximo Morales-Céspedes (Université Catholique de Louvain, Spain), Jorge Plata-Chaves (Katholieke Universiteit Leuven (KU Leuven), Belgium), Ana Garcia Armada (Universidad Carlos III de Madrid, Spain), Luc Vandendorpe (Université catholique de Louvain, Belgium) .....	2558
<i>General Analysis of Multiuser MIMO Systems With Regularized Zero-Forcing Precoding Under Spatially Correlated Rayleigh Fading Channels</i> Harsh Tataria (Victoria University of Wellington, New Zealand), Peter J Smith (Victoria University of Wellington, New Zealand), Pawel A. Dmochowski (Victoria University of Wellington, New Zealand), Mansoor Shafi (Spark New Zealand Ltd & Victoria University, Wellington, New Zealand) .....	2564

*Error Probability and Mutual Information Analysis on Generalized Precoded Spatial Modulation System*

Zhecheng An (Tsinghua University, P.R. China), Jun Wang (Tsinghua University, Beijing, P.R. China), Jintao Wang (Tsinghua University, P.R. China), Jian Song (Tsinghua University, P.R. China) .....	2571
--	------

## **OFDM and Multi-carrier Systems (Interactive)**

*Performance Analysis of power allocation and Relay assignment in OFDM Systems*

Anahid Attarkashani (Concordia University, Canada), Walaa Hamouda (Concordia University, Canada) .....	2577
--	------

*BER Performance Study of HF Band FB-MC-SS*

Stephen Andrew Laraway (University of Utah, USA), Hussein Moradi (Idaho National Laboratory, USA), Behrouz Farhang-Boroujeny (University of Utah, USA) .....	2583
--	------

*QoS-Aware Channel-Width Adaptation in Wireless Mesh Networks*

Hao Li (University of Sheffield, United Kingdom), Jiliang Zhang (Harbin Institute of Technology, P.R. China), Qi Hong (University of Sheffield, United Kingdom), Hui Zheng (The University of Sheffield, United Kingdom), Wang Yang (Harbin institute of Technology, P.R. China), Jie Zhang (University of Sheffield, Dept. of Electronic and Electrical Engineering, United Kingdom) .....	2590
---	------

*Joint Uplink and Downlink Resource Allocation in Full-duplex OFDMA Networks*

Sa Xiao (University of Electronic Science and Technology of China, P.R. China), Shengjie Guo (Louisiana State University, USA), Xiangwei Zhou (Louisiana State University, USA), Daquan Feng (Singapore University of Technology and Design, Singapore), Yi Yuan-Wu (Orange Labs, France), Geoffrey Li (Georgia Tech, USA), Guo Wei (National Communication Technology Key LAB, P.R. China) .....	2596
---	------

## **ICC'16 AHSN: IEEE ICC 2016 Ad-hoc and Sensor Networking Symposium**

### **Mobile and Vehicular Ad Hoc Networks II**

*Multi-Hop Reliability for Broadcast-based VANET in City Environments*

Wiem Benrhaïem (University of Montreal, Canada), Abdelhakim Hafid (University of Montreal, Canada), Pratap Kumar Sahu (University of Montreal, Canada) .....	2602
--	------

*On the Impact of Adjacent Channel Interference in Multi-Channel VANETs*

Claudia Campolo (University Mediterranea of Reggio Calabria, Italy), Christoph Sommer (Paderborn University, Germany), Falko Dressler (University of Paderborn, Germany), Antonella Molinaro (University Mediterranea of Reggio Calabria, Italy) .....	2608
--	------

*An efficient SCH utilization scheme for IEEE 1609.4 multi-channel environments in VANETs*

Deuk Lee (Georgia Institute of Technology, USA), Syed Hassan Ahmed (Kyungpook National University, Korea), Dongkyun Kim (Kyungpook National University, ? ), John A. Copeland (Georgia Institute of Technology, USA), Yusun Chang (Kennesaw State University & The Georgia Institute of Technology, USA) .....	2615
--	------

*Team Communication Strategy for Collaborative Exploration by Autonomous Vehicles*

Akhila Rao (Swedish Institute of Computer Science & Luleå University of Technology, Sweden), Fehmi Ben Abdesslem (Swedish Institute of Computer Science, Sweden), Anders Lindgren (Swedish Institute of Computer Science, Sweden), Artur Ziviani (LNCC, Brazil) .....	2621
---	------

*Multiwave: A Novel Vehicle Steering Pattern Detection Method based on Smartphones*

Zhenchao Ouyang (BUAA, P.R. China), Jianwei Niu (Beihang University, P.R. China), Yu Liu (Beihang University, P.R. China), Joel J. P. C. Rodrigues (Instituto de Telecomunicações, University of Beira Interior, Portugal) .....	2627
--	------

# ICC'16 CISS: IEEE ICC 2016 Communication and Information Systems Security Symposium

## Mobile and Wireless Network Security II

<i>Proactive Eavesdropping via Cognitive Jamming in Fading Channels</i> Jie Xu (Singapore University of Technology and Design, Singapore), Lingjie Duan (Singapore University of Technology and Design (SUTD), Singapore), Rui Zhang (National University of Singapore, Singapore) .....	2634
<i>An Error Probability Analysis of Jamming Against Wireless Networks</i> SaiDhiraj Amuru (Samsung, India), Harpreet S Dhillon (Virginia Tech, USA), Michael Buehrer (Virginia Tech, USA) .....	2640
<i>On Achievable Secrecy Rate by Noise Aggregation over Wireless Fading Channels</i> Qian Xu (Xi'an Jiaotong University, P.R. China), Pinyi Ren (Xi'an Jiaotong University, P.R. China), Qinghe Du (Xi'an Jiaotong University, P.R. China), Li Sun (Xi'an Jiaotong University, P.R. China), Yichen Wang (Xi'an Jiaotong University, P.R. China) .....	2646
<i>Information Sharing in Cooperative Networks: a Generic Trustworthy Issue</i> Chunxiao Jiang (Tsinghua University, Beijing, P.R. China), Yong Ren (Tsinghua University, Beijing, P.R. China), Hsiao-Hwa Chen (National Cheng Kung University, Taiwan), Mohsen Guizani (QU, USA) .....	2652
<i>Building Suspiciousness Cascading Graph over Multiple Hosts for Detecting Targeted Attacks</i> Nobutaka Kawaguchi (Hitachi, Ltd., Japan), Hideyuki Tomimura (Hitachi, Ltd., Japan), Mamoru Tsuichihara (Hitachi Advanced Systems Corporation, Japan) .....	2658

## Application Security (Interactive)

<i>Whole Home Proxies: Bringing Enterprise-Grade Security to Residential Networks</i> Curtis Taylor (Worcester Polytechnic Institute, USA), Craig A. Shue (Worcester Polytechnic Institute, USA), Mohamed E. Najd (Worcester Polytechnic Institute, USA) .....	2664
<i>Content based Image Authentication with Error Correction</i> Obaid Ur-Rehman (University of Siegen, Germany), Natasa Zivic (University of Siegen, Germany), Christoph Ruland (University of Siegen, Germany) .....	2670
<i>Protocol-independent Identification of Encrypted Video Traffic Sources Using Traffic Analysis</i> Yan Shi (Michigan State University, USA), Subir Biswas (Michigan State University, USA) .....	2675
<i>Polarization based secure AES key transmission over optical fiber</i> Shweta Bhosale (University of Oklahoma, USA), Bhagyashri Darunkar (University of Oklahoma, USA), Nikhil Puneekar (University of Oklahoma, USA), Gregory MacDonald (University of Oklahoma, USA), Pramode K. Verma (The University of Oklahoma, USA) .....	2681
<i>A Simple Intrusion Detection Method for CAN</i> Ayman Boudguiga (IRT SystemX, France), Witold Klaudel (Renault, France), Antoine Boulanger (PSA, France), Pascal Chiron (PSA, France) .....	2687

# ICC'16 CQRM: IEEE ICC 2016 - Communication QoS, Reliability and Modeling Symposium

## Multimedia Communications

<i>Anticipatory Radio Resource Management for Mobile Video Streaming with Linear Programming</i> Dimitrios Tsilimantos (France Research Center, Huawei Technologies Co. Ltd., France), Amaya Nogales-Gomez (Huawei Technologies, France), Stefan Valentin (Huawei Technologies, France) .....	2694
--	------

<i>Understanding the Relationships between Performance Metrics and QoE for Over-The-Top Video</i>	
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) .....	2700
<i>Towards Reduced Reference Parametric Models for Estimating Audiovisual Quality in Multimedia Services</i>	
Edip Demirbilek (Institut National de la Recherche Scientifique, Canada), Jean-Charles Grégoire (University of Quebec, INRS, Canada) .....	2706
<i>H.265 Video Capacity over beyond-4G networks</i>	
Aman Jassal (University of British Columbia, Canada), Cyril Leung (The University of British Columbia, Canada) .....	2712
<i>Non-Conforming Behavior Detection for VoIP-Based Network Systems</i>	
Panagiotis Galiotos (University of Patras, Greece), Christos Anagnostopoulos (University of Piraeus, Greece), Tasos Dagiuklas (Hellenic Open University & University of Patras, Greece), Stavros Kotsopoulos (University of Patras, Greece) .....	2718

## ICC'16 CRN: IEEE ICC 2016 - Cognitive Radio and Networks Symposium

### Spectrum Sharing I

<i>Licensed-Assisted Access for LTE in Unlicensed Spectrum: A MAC Protocol Design</i>	
Shiying Han (Nanyang Technological University, Singapore), Ying-Chang Liang (Institute for Infocomm Research, Singapore), Qian Chen (Institute for Infocomm Research, Singapore), Boon Hee Soong (Nanyang Technological University, Singapore) .....	2725
<i>Optimizing Outdoor White-Fi Networks in TV White Spaces</i>	
Sneihil Gopal (IIIT Delhi, India), Sanjit Kaul (IIIT Delhi, India), Sumit Roy (University of Washington, USA) .....	2731
<i>Aggregation in TV White Space and Assessment of an Aggregation-Capable IEEE 802.11 White Space Device</i>	
Oliver Holland (King's College London, United Kingdom), Adnan Aijaz (Toshiba Research Europe Ltd, United Kingdom), Shuyu Ping (King's College London, United Kingdom), Stan Wong (King's College London, United Kingdom), Jane Mack (InterDigital Communications, Inc., USA), Lisa Lam (InterDigital Communications, Inc., USA), Alejandro de la Fuente (Universidad Carlos III de Madrid, Spain) .....	2737
<i>Distributed Design for Fair Coexistence in TVWS</i>	
Vito Trianni (National Research Council - CNR, Italy), Angela Sara Cacciapuoti (University of Naples Federico II, Italy), Marcello Caleffi (University of Naples "Federico II", Italy) .....	2742
<i>New LSA-based Approach for Spectral Coexistence of MIMO Radars and Wireless Communications Systems</i>	
Ebtihal H. G. Yousif (University of Edinburgh, United Kingdom), Miltiades C. Filippou (Intel Germany GmbH, Germany), Faheem A. Khan (University of Edinburgh, United Kingdom), Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom), Mathini Sellathurai (Heriot-Watt University, United Kingdom) .....	2748

## ICC'16 CT: IEEE ICC 2016 - Communications Theory

### Coding I

<i>An Improved Design of Overlapped Chunked Codes</i>	
Bin Tang (Nanjing University, P.R. China), Shenghao Yang (The Chinese University of Hong Kong, Shenzhen, P.R. China) .....	2754

<i>Interpolation Based Progressive Algebraic Chase Decoding of Reed-Solomon Codes</i> Jiancheng Zhao (Sun Yat-sen University, P.R. China), Li Chen (Sun Yat-sen University, P.R. China), Xiao Ma (Sun Yat-sen University, P.R. China), Martin Johnston (Newcastle University, United Kingdom) .....	2760
<i>Non-Surjective Finite Alphabet Iterative Decoders</i> Thien Truong Nguyen-Ly (CEA-LETI, France), Khoa Le Trung (University of Cergy-Pontoise, ENSEA, CNRS, France), Valentin Savin (CEA LETI, France), David Declercq (ETIS ENSEA/univ. of Cergy-Pontoise/CNRS, France), Fakhreddine Ghaffari (ENSEA, France), Oana Boncalo (University Politehnica Timisoara, Romania) .....	2766
<i>Efficient Transmission Schemes for Correcting Insertions/Deletions in DPPM</i> Weigang Chen (Tianjin University, P.R. China), Yuan Liu (Tianjin University, P.R. China) .....	2772
<i>Physical-Layer Network-Coding over Block Fading Channels with Root-LDA Lattice Codes</i> Ping-Chung Wang (Texas A&M University, USA), Yu-Chih Huang (National Taipei University, Taiwan), Krishna Narayanan (Texas A&M University, USA), Joseph Jean Boutros (Texas A&M University at Qatar, Qatar) .....	2778

## ICC'16 GCSN: IEEE ICC 2016 - Green Communications Systems and Networks

### Wireless Power 1

<i>Resource Allocation in Wireless Powered Relay Networks Through A Nash Bargaining Game</i> Zijie Zheng (Peking University, P.R. China), Lingyang Song (Peking University, P.R. China), Dusit Niyato (Nanyang Technological University, Singapore), Zhu Han (University of Houston, USA) .....	2784
<i>K-tier Heterogeneous Cellular Networks with Wireless Power Transfer</i> Yansha Deng (King's College London, United Kingdom), Lifeng Wang (University College London, United Kingdom), Maged El Kashlan (Queen Mary, University of London, United Kingdom), Marco Di Renzo (Paris-Saclay University / CNRS, France), Jinhong Yuan (University of New South Wales, Australia) .....	2790
<i>Optimal Multiuser Scheduling for Wireless Powered Communication Systems</i> Yang Li (Xi'an Jiaotong University, P.R. China), Rui Wang (The South University of Science and Technology of China, P.R. China), Xuwen Liao (Xi'an Jiaotong University, P.R. China), Shihua Zhu (Xi'an Jiaotong University, P.R. China) .....	2796
<i>Optimal Power Allocation and Relay Placement for Wireless Information and RF Power Transfer</i> Deepak Mishra (Indian Institute of Technology Delhi, India), Swades De (Indian Institute of Technology Delhi, India) .....	2802
<i>Simultaneous Information and Energy Transfer in Large-Scale Cellular Networks with Sleep Mode</i> Kun Chen (Beijing University of Posts and Telecommunications, P.R. China), Xiangming Wen (Beijing University of Posts and Telecommunications, P.R. China), Wenpeng Jing (Beijing University of Posts and Telecommunications, P.R. China), Zhaoming Lu (BUPT, P.R. China), Hua Shao (Beijing University of Posts and Telecommunications, P.R. China), Heng Xu (Beijing University of Posts and Telecommunications, P.R. China) .....	2808

## ICC'16 MWN: IEEE ICC 2016 - Mobile and Wireless Networking Symposium

### Cellular Networks

<i>Switch-off Strategy of Base Stations in HCPP Random Cellular Networks</i> Haoming Jia (Huazhong University of Science and Technology, P.R. China), Jiaqi Chen (Huazhong University of Science and Technology, P.R. China), Ge Xiaohu (Huazhong University of Science & Technology, P.R. China), Qiang Li (Huazhong University of Science and Technology, P.R. China) .....	2814
--	------

<i>Modelling and Performance Evaluation of Non-Uniform Two-tier Cellular Networks through Stienen Model</i>	
Raul Hernandez-Aquino (University of Leeds, United Kingdom), Syed Ali Raza Zaidi (University of Leeds, United Kingdom), Desmond McLernon (The University of Leeds, United Kingdom), Mounir Ghogho (University of Leeds & International University of Rabat, United Kingdom) .....	2820
<i>Performance Analysis Of Full Duplex Self-Backhauling Cellular Network</i>	
Ankit Sharma (Indian Institute of Technology - Madras, India), Radha Krishna Ganti (Indian Institute of Technology Madras, India), Klutto Milleth (Centre of Excellence in Wireless Technology, India) .....	2826
<i>Dynamic User Association and eICIC Management in Heterogeneous Cellular Networks</i>	
Jeongsik Choi (Seoul National University, Korea), Woong-hee Lee (Seoul National University, Korea), YoungJoon Kim (Seoul National University, Korea), Seong-Cheol Kim (Seoul National University, Korea) .....	2832
<i>Green Energy Driven User Association in Cellular Networks with Dual Battery System</i>	
Xilong Liu (New Jersey Institute of Technology, USA), Xueqing Huang (New Jersey Institute of Technology, USA), Nirwan Ansari (New Jersey Institute of Technology, USA) .....	2838

## **Vehicular Networks**

<i>On the Achievable Throughput of Cooperative Vehicular Networks</i>	
Jieqiong Chen (University of Technology Sydney, Australia), Ammar Zafar (University of Technology Sydney (UTS), Australia), Guoqiang Mao (The University of Technology, Sydney, Australia), Changle Li (Xidian University, P.R. China) .....	2844
<i>Offloading Cellular Networks Through V2V Communications - How to Select the Seed-Vehicles?</i>	
Farouk Mezghani (University of Toulouse, France), Riadh Dhaou (IRIT/ENSEEIH, University of Toulouse, France), Michele Nogueira (Federal University of Parana (UFPR) & Carnegie Mellon University (CMU), Brazil), André-Luc Beylot (University of Toulouse, France) .....	2851
<i>Coupled Simulation of Mobile Cellular Networks, Road Traffic and V2X applications using Traces</i>	
Norbert Goebel (Heinrich Heine University Düsseldorf, Germany), Raphael Bialon (Heinrich Heine University Düsseldorf, Germany), Martin Mauve (Heinrich Heine University Düsseldorf, Germany), Kalman Graffi (Heinrich Heine University Düsseldorf, Germany) .....	2857
<i>An Experimentation of VANETs for Traffic Management</i>	
Guillaume Blot (Université Paris-Sorbonne, France), Hacene Fouchal (Université de Reims Champagne-Ardenne, France), Francis Rousseaux (Ircam, France), Pierre Saurel (Paris 4, France) .....	2864
<i>Power Control for Broadcast V2V Communications with Adjacent Carrier Interference Effects</i>	
Anver Hisham (Chalmers University of Technology, Sweden), Wanlu Sun (Chalmers University of Technology, Sweden), Erik G Ström (Chalmers University of Technology, Sweden), Fredrik Brännström (Chalmers University of Technology, Sweden) .....	2870

## **ICC'16 NGN: IEEE ICC 2016 - Next-Generation Networking and Internet Symposium**

### **Mobile/Wireless Content Distribution II**

<i>Applicability assessment of terahertz information showers for next-generation wireless networks</i>	
Vitaly Petrov (Tampere University of Technology, Finland), Dmitri Moltchanov (Tampere University of Technology, Finland), Yevgeni Koucheryavy (Tampere University of Technology, Finland) .....	2876
<i>Mobility Increases Throughput of Wireless Device-to-Device Networks with Coded Caching</i>	
Ahmad Shabani Baghani (University of Tehran, Iran), Seyed Pooya Shariatpanahi (Institute for Research in Fundamental Sciences (IPM), Iran), Vahid Shah-Mansouri (University of Tehran, Iran), Ahmad Khonsari (University of Tehran, Iran) .....	2883

<i>PRIMAL: PProfit Maximization Avatar pPlacement for Mobile Edge Computing</i>	
Xiang Sun (New Jersey Institute of Technology, USA), Nirwan Ansari (New Jersey Institute of Technology, USA) .....	2889
<i>Context-Aware Data Caching for 5G Heterogeneous Small Cells Networks</i>	
Zheng Chang (University of Jyväskylä, Finland), Yunan Gu (University of Houston, USA), Zhu Han (University of Houston, USA), Xianfu Chen (VTT Technical Research Centre of Finland, Finland), Tapani Ristaniemi (University of Jyväskylä, Finland) .....	2895
<i>Complex Network Theoretical Analysis on Information Dissemination over Vehicular Networks</i>	
Jingjing Wang (Tsinghua University, Beijing, P.R. China), Chunxiao Jiang (Tsinghua University, Beijing, P.R. China), Longxiang Gao (Deakin University, Australia), Shui Yu (Deakin University, Australia), Zhu Han (University of Houston, USA), Yong Ren (Tsinghua University, Beijing, P.R. China) .....	2901

## Software Defined Networking II

<i>Design and Implementation of Device-to-Device Software-Defined Networks</i>	
Mingxin Zhou (Peking University, P.R. China), HuanYu Zhang (Peking University, P.R. China), Shengli Zhang (Shenzhen University, P.R. China), Lingyang Song (Peking University, P.R. China), Yonghui Li (University of Sydney, Australia), Zhu Han (University of Houston, USA) .....	2907
<i>SDN-Driven Multicast Streams with Adaptive Bitrates for VoIP Conferences</i>	
Christelle Al Hasrouty (University of Bordeaux, France), Vincent Autefage (LaBRI, University of Bordeaux, France), Cristian Olariu (University College Dublin, Ireland), Damien Magoni (University of Bordeaux, France), John Murphy (University College Dublin, Ireland) .....	2913
<i>On using bargaining game for Optimal Placement of SDN controllers</i>	
Adlen Ksentini (Eurecom, France), Miloud Bagaa (Aalto University, Finland), Tarik Taleb (Aalto University, Finland), Ilanko Balasingham (Norwegian University of Science & Technology & Oslo University Hospital, Norway) .....	2920
<i>A Novel Neuro-Optimization Method for Multi-Operator Scheduling in Cloud-RANs</i>	
Hazem Soliman (University of Toronto, Canada), Alberto Leon-Garcia (University of Toronto, Canada) .....	2926
<i>Towards a Cognitive Routing Engine for Software Defined Networks</i>	
Frederic Francois (Imperial College London, United Kingdom), Erol Gelenbe (Imperial College London, United Kingdom) .....	2932

## ICC'16 ONS: IEEE ICC 2016 - Optical Networks and Systems

### Visible Light and Optical Wireless Communications II

<i>Analysis of Area Data Rate with Shadowing Effects in Li-Fi and RF Hybrid Network</i>	
Yunlu Wang (The University of Edinburgh, United Kingdom), Xiping Wu (The University of Edinburgh, United Kingdom), Harald Haas (The University of Edinburgh, United Kingdom) .....	2938
<i>Optical Wireless Scattering Channel Estimation for Photon-Counting Receiver</i>	
Chen Gong (USTC, P.R. China), Xiaoke Zhang (University of Science and Technology of China, P.R. China), Zhengyuan Xu (University of Science and Technology of China, P.R. China), Lajos Hanzo (University of Southampton, United Kingdom) .....	2943
<i>Adaptive Relay Selection Protocol for the Parallel Hybrid RF/FSO Relay Channel</i>	
Marzieh Najafi (K. N. Toosi University of Technology, Iran), Vahid Jamali (Friedrich-Alexander-University Erlangen-Nürnberg, Germany), Robert Schober (University of British Columbia, Canada) .....	2950



<i>QoS-Aware and Energy-Aware Adaptive Power Allocations for Coherent Optical Wireless Communications</i>	
Md. Zoheb Hassan (School of Engineering, University of British Columbia, Canada), Victor C.M. Leung (University of British Columbia, Canada), Md. Jahangir Hossain (University of British Columbia, Okanagan, Canada), Julian Cheng (University of British Columbia, Canada) .....	2957
<i>Resilient Backhaul Network Design Using Hybrid Radio/Free-Space Optical Technology</i>	
Ahmed Douik (California Institute of Technology, USA), Hayssam Dahrouj (Effat University, Canada), Tareq Y. Al-Naffouri (King Abdullah University of Science and Technology, USA), Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia) .....	2964

## ICC'16 SAC-2 CCN: IEEE ICC 2016 SAC Cloud Communications and Networking

### Cloud Networks and Data Centers

<i>Design and Evaluation of SDN-based Orchestration System for Cloud Data Centers</i>	
Barbara Martini (CNIT, Italy), Davide Adami (CNIT Pisa Research Unit, University of Pisa, Italy), Molka Gharbaoui (Scuola Superiore Sant'Anna, Italy), Lisa Donatini (University of Pisa, Italy), Piero Castoldi (Scuola Superiore Sant'Anna, Italy), Stefano Giordano (University of Pisa, Italy) .....	2971
<i>Game Theory Based Reliable Virtual Network Mapping for Cloud Infrastructure</i>	
Yi Zhu (Hawaii Pacific University, USA), Jiru Xu (Hawaii Pacific University, USA), Qiong Zhang (Fujitsu Laboratories of America, USA), Xi Wang (Fujitsu Laboratories of America, USA), Paparao Palacharla (FLA, USA), Tadashi Ikeuchi (Fujitsu Laboratories of America, Inc., USA) .....	2977
<i>Fog Computing in Multi-Tier Data Center Networks: A Hierarchical Game Approach</i>	
Huaqing Zhang (University of Houston, USA), Yong Xiao (University of Houston, USA), Shengrong Bu (University of Glasgow, United Kingdom), Dusit Niyato (Nanyang Technological University, Singapore), F. Richard Yu (Carleton University, Canada), Zhu Han (University of Houston, USA) .....	2984
<i>An Index Based Task Assignment Policy for Achieving Optimal Power-Delay Tradeoff in Edge Cloud Systems</i>	
Xueying Guo (Tsinghua University, P.R. China), Rahul Singh (Massachusetts Institute of Technology, USA), Tianchu Zhao (Tsinghua University, P.R. China), Zhisheng Niu (Tsinghua University, P.R. China) .....	2990
<i>Mobility Prediction Model-based Service Migration Procedure for Follow Me Cloud to support QoS and QoE</i>	
Apollinaire Nadembega (University of Montreal, Canada), Abdelhakim Hafid (University of Montreal, Canada), Ronald Brisebois (Bibliomondo, Canada) .....	2997

## ICC'16 SAC-6 CSG: IEEE ICC 2016 SAC Communications for the Smart Grid

### Communications for the Smart Grid (Interactive)

<i>NBI Cancellation for Smart Grid Communications: A Block Sparse Bayesian Learning Perspective</i>	
Sicong Liu (Tsinghua University & Research Institute of Information Technology, Tsinghua National Laboratory of Information Science and Technology, P.R. China), Fang Yang (Tsinghua University, P.R. China), Wenbo Ding (Tsinghua University, P.R. China), Jian Song (Tsinghua University, P.R. China) .....	3003

<i>On the Dynamics of the RPL Protocol in AMI Networks under Jamming Attacks</i>	
João Renóbio (Pontifical Catholic University of Parana, Brazil), Marcelo Eduardo Pellenz (Pontifical Catholic University of Paraná, Brazil), Edgard Jamhour (PPGIA, Pontificia Universidade Catolica do Parana, Brazil), Altair O. Santin (Pontifical Catholic University of Parana (PUCPR), Brazil), Manoel Camillo Penna (Pontifical Catholic University of Parana, Brazil), Richard Demo Souza (Federal University of Technology - Paraná (UTFPR), Brazil)	3009

## ICC'16 SAC-5 IoT: IEEE ICC 2016 SAC Internet of Things

### Location, Management and Infrastructure Services for IoT

<i>A Deployable Routing System for Nanonetworks</i>	
Christos Liaskos (Institute of Computer Science, Foundation of Research and Technology, Hellas, Greece), Angeliki Tsioliaridou (Foundation for Research and Technology, Greece), Sotiris Ioannidis (Foundation for Research and Technology - Hellas, Greece), Nikolaos V. Kantartzis (Aristotle University of Thessaloniki, Greece), Andreas Pitsillides (University of Cyprus, Cyprus)	3015
<i>Locating User Equipments and Access Points using RSSI Fingerprints: A Gaussian Process Approach</i>	
Simon Yiu (Bell Labs, Alcatel-Lucent, USA), Marzieh Dashti (Bell Labs, Nokia, Ireland), Holger Claussen (Bell Labs, Alcatel-Lucent, Ireland), Fernando Perez-Cruz (Bell Labs, Alcatel-Lucent, USA)	3021
<i>Dynamic M2M Device Attachment and Redirection in Virtual Home Gateway Environments</i>	
Apostolos Papageorgiou (NEC Laboratories Europe, Germany), Roberto Bifulco (NEC Laboratories Europe, Germany), Ernő Kovacs (NEC Europe Ltd., Germany), Hans-Jörg Kolbe (Deutsche Telekom, Germany)	3027
<i>Topology Maps and Distance-Free Localization from Partial Virtual Coordinates for IoT</i>	
Anura P Jayasumana (Colorado State University, USA), Randy Paffenroth (Worcester Polytechnic Institute, USA), Sridhar Ramasamy (Colorado State University, USA)	3033
<i>One More Hash is Enough: Efficient Tag Stocktaking in Highly Dynamic RFID Systems</i>	
Xuan Liu (Hunan University, P.R. China), Bin Xiao (The Hong Kong Polytechnic University, Hong Kong), Shigeng Zhang (Central South University, P.R. China), Kai Bu (Zhejiang University, P.R. China)	3039

## ICC'16 SAC-8 SN: IEEE ICC 2016 SAC Social Networking

### Social Networking (Interactive)

<i>Accelerating Graph Mining Algorithms via Uniform Random Edge Sampling</i>	
Ruohan Gao (The Chinese University of Hong Kong, Hong Kong), Huanle Xu (The Chinese University of Hong Kong, Hong Kong), Pili Hu (The Chinese University of Hong Kong, Hong Kong), Wing Cheong Lau (The Chinese University of Hong Kong, Hong Kong)	3045
<i>A Probabilistic Framework for Structural Analysis in Directed Networks</i>	
Cheng-Shang Chang (National Tsing Hua University, Taiwan), Duan-Shin Lee (National Tsing Hua University, Taiwan), Li-Heng Liou (National Tsing Hua University, Taiwan), Sheng-Min Lu (National Tsing Hua University, Taiwan), Mu-Huan Wu (National Tsing Hua University, Taiwan)	3051

# ICC'16 SPC: IEEE ICC 2016 - Signal Processing for Communications Symposium

## Localization

<i>Single Snapshot Joint Estimation of Angles and Times of Arrival: A 2D Matrix Pencil Approach</i> Ahmad Bazzi (EURECOM & RivieraWaves-A CEVA COMPANY, France), Dirk Slock (EURECOM, France), Lisa Meilhac (CEVA-RivieraWaves, France) .....	3057
<i>On the Performance of Map-Aware Cooperative Localization</i> Kaiqing Zhang (University of Illinois at Urbana-Champaign, USA), Yuan Shen (Tsinghua University, P.R. China), Moe Win (Massachusetts Institute of Technology, USA) .....	3063
<i>Compressive Sensing-Based 3D Signal Extraction for MIMO Passive Radar Using OFDM Waveforms</i> Watcharapong Ketpan (Heriot-Watt University, United Kingdom), Mathini Sellathurai (Heriot-Watt University, United Kingdom) .....	3069
<i>Positioning Third-Party Receiver via TDOA Estimation in Frequency Duplex Division Systems</i> Bo Chang (University of Electronic Science and Technology of China (UESTC), P.R. China), Guodong Zhao (University of Electronic Science and Technology of China (UESTC), P.R. China), Zhi Chen (University of Electronic Science and Technology of China & University of California, Riverside, P.R. China), Liying Li (University of Electronic Science and Technology of China, P.R. China) .....	3075
<i>Fine-grained Indoor Tracking by Fusing Inertial Sensor and Physical Layer Information in WLANs</i> Zan Li (University of Bern, Switzerland), Marco Danilo Burbano Acuña (University of Bern, Ecuador), Zhongliang Zhao (University of Bern, Switzerland), Jose Carrera (University of Bern, Switzerland), Torsten Ingo Braun (University of Bern, Switzerland) .....	3081

## Multicarrier Communications (Interactive)

<i>Secure Multicarrier DS/SS with Induced Random Flipping</i> Jinho Choi (Gwangju Institute of Science and Technology (GIST), Korea), Euseok Hwang (Gwangju Institute of Science and Technology, Korea) .....	3088
<i>Minimum-EVM N-continuous OFDM</i> Medhat Mohamad (Luleå Technical University, Sweden), Rickard Nilsson (Luleå University of Technology, Sweden), Jaap van de Beek (Luleå University of Technology, Sweden) .....	3093
<i>Semi-Blind Precoding aided ML CFO Estimation for ICA based MIMO OFDM Systems</i> Yufei Jiang (University of Liverpool, United Kingdom), Xu Zhu (University of Liverpool, United Kingdom), Eng Gee Lim (Xi'an Jiaotong-Liverpool University, P.R. China), Yi Huang (University of Liverpool, United Kingdom), Zhongxiang Wei (University of Liverpool & School of EE and CS, United Kingdom), Hai Lin (Osaka Prefecture University, Japan) .....	3098
<i>A Novel FPGA Implementation of Trellis Shaping for PAPR Reduction of OFDM Signals</i> Jiajia Song (Yokohama National University, Japan), Hideki Ochiai (Yokohama National University, Japan) .....	3103
<i>Novel MC-CDMA System Using Fourier Duals of Sparse Perfect Gaussian Integer Sequences</i> Sen-Hung Wang (National Sun Yat-sen University, Taiwan), Chih-Peng Li (National Sun Yat-sen University, Taiwan) .....	3109
<i>Tone Reservation for PAPR Reduction: an Optimal Approach through Sphere Encoding</i> Filippo Tosato (Toshiba Research Europe, United Kingdom), Magnus Sandell (Toshiba TRL, United Kingdom), Makoto Tanahashi (Toshiba Corporation, Japan) .....	3115

# ICC'16 WCS: IEEE ICC 2016 - Wireless Communications Symposium

## Energy Harvesting II

<i>Wireless Information and Power Transfer in Full-Duplex Communication Systems</i> Alexander Okandeji (University College London, United Kingdom), Muhammad R. A. Khandaker (University College London, United Kingdom), Kai Kit Wong (University College London, United Kingdom) .....	3121
<i>Beamformer Design for Wireless Energy Transfer with Fairness</i> Amanthi Ratnayake Thudugalage (University of Melbourne, Australia), Saman Atapattu (University of Melbourne, Australia), Jamie S Evans (University of Melbourne, Australia) .....	3127
<i>Energy Harvesting Cooperative Multiple Access Channel with Data Arrivals</i> Berk Gurakan (University of Maryland, USA), Onur Kaya (Isik University, Turkey), Sennur Ulukus (University of Maryland, USA) .....	3133
<i>Wireless-Powered Communication Under Statistical Quality of Service Constraints</i> Tewodros Zewde (Syracuse University, USA), M. Cenk Gursoy (Syracuse University, USA) .....	3139
<i>Energy-Transferring Approach to Power Allocation with Energy Harvesting Constraints</i> Fan Wu (University of Electronic Science and Technology of China, P.R. China), Supeng Leng (University of Electronic Science and Technology of China, P.R. China), Xiaoyan Huang (University of Electronic Science and Technology of China, P.R. China), Qin Yu (University of Electronic Science and Technology of China, P.R. China), Kun Yang (University of Essex, United Kingdom) .....	3145

## Cooperative Networks and Relaying Communications III

<i>Distributed Multi-Relay Selection in Wireless-Powered Cooperative Networks with Energy Accumulation</i> Yifan Gu (The University of Sydney, Australia), He Chen (The University of Sydney, Australia), Yonghui Li (University of Sydney, Australia), Branka Vucetic (University of Sydney, Australia) .....	3152
<i>BICM-ID in Two-Way Relaying Communications</i> Hongzhong Yan (University Of Saskatchewan, Canada), Ha Nguyen (University of Saskatchewan, Canada) .....	3158
<i>Two-Way All-Optical AF Relaying FSO Systems over Malaga (M) Channels with Pointing Errors</i> Phuc V. Trinh (The University of Aizu, Japan), Truong Cong Thang (The University of Aizu, Japan), Anh T. Pham (The University of Aizu, Japan) .....	3164
<i>Capacity of the Two-Hop Full-Duplex Relay Channel with Wireless Power Transfer from Relay to Battery-less Source</i> Nikola Zlatanov (Monash University, Australia), Derrick Wing Kwan Ng (University of New South Wales, Australia), Robert Schober (University of British Columbia, Canada) .....	3171
<i>High Dense Multiway Relay Networks Exploiting Direct Links as Side Information</i> Khoirul Anwar (Japan Advanced Institute of Science and Technology & Telkom University, Japan) .....	3178

## Energy Efficient Communications

<i>Massive MIMO versus Small-Cell Systems: Spectral and Energy Efficiency Comparison</i> Hieu Duy Nguyen (Institute for Infocomm Research (I2R), The Agency for Science, Technology and Research (ASTAR), Singapore), Sumei Sun (Institute for Infocomm Research, Singapore) .....	3184
---	------

<i>MIMO HetNets with Wireless Backhaul: An Energy-Efficient Design</i> Howard Yang (Singapore University of Technology and Design, Singapore), Giovanni Geraci (Bell Labs, Ireland), Tony Q. S. Quek (Singapore University of Technology and Design, Singapore) .....	3190
<i>Achieving Energy-Efficiency in Two-Tiers Wireless Backhaul HetNets</i> Tri Nguyen (ETS, Canada), Animesh Yadav (Memorial University of Newfoundland, Canada), Wessam Ajib (Université du Québec à Montréal, Canada), Chadi Assi (Concordia University, Canada) .....	3196
<i>Energy Saving of Base Stations Sleep Scheduling for Multi-Hop Vehicular Networks</i> Tao Han (Huazhong University of Science and Technology, P.R. China), Xiong Liu (Huazhong University of Science and Technology, P.R. China), Lijun Wang (Wenhua College, P.R. China), Jiang Wang (Shanghai Research Center for Wireless Communication, P.R. China), Kyung Sup Kwak (Inha University, Korea), Qiang Li (Huazhong University of Science and Technology, P.R. China) .....	3202
<i>On the Energy Efficiency of Massive MIMO with Space-Constrained 2D Antenna Arrays</i> Sudip Biswas (University of Edinburgh, United Kingdom), Christos Masouros (University College London, United Kingdom), Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom) .....	3207

## **MIMO, Multi-user MIMO and Massive MIMO (Interactive)**

<i>Polarization Signaling for Wireless Communication</i> Xiaobin Wu (University of Notre Dame, USA), Thomas Pratt (University of Notre Dame, USA), Thomas E Fuja (University of Notre Dame, USA) .....	3213
<i>Joint MSE-Based Hybrid Precoder and Equalizer Design for Full-Duplex Massive MIMO Systems</i> Ruikai Mai (McGill University, Canada), Duy H. N. Nguyen (University of Texas, Austin, USA), Tho Le-Ngoc (McGill University, Canada) .....	3219
<i>Optimal Precoder Design for MIMO-OFDM: Understanding the Role of Power Amplifiers and Nonlinear Distortion Noise</i> Zijian Wang (Université Catholique de Louvain, Belgium), Ivan Stupia (Université Catholique de Louvain, Belgium), Luc Vandendorpe (Université catholique de Louvain, Belgium) .....	3225

## **ICC'16 AHSN: IEEE ICC 2016 Ad-hoc and Sensor Networking Symposium**

### **Mobile and Vehicular Ad Hoc Networks III**

<i>Cooperative Sensing Data Collecting Framework by using Unmanned Aircraft Vehicle in Wireless Sensor Network</i> Shintaro Mori (Fukuoka University, Japan) .....	3231
<i>Studying the Impact of DSRC Penetration Rate on Lane Changing Advisory Application</i> Omar Chakroun (Université de Sherbrooke, Canada), Soumaya Cherkaoui (Université de Sherbrooke, Canada) .....	3237
<i>HBA- Histogram Based Algorithm for Real Time Route Forecasting in Urban Area</i> Hesham Elsayed (United Arab Emirates University, United Arab Emirates (UAE)), Liren Zhang (United Arab Emirates University, United Arab Emirates (UAE)), Gokulnath Thandavarayan (United Arab Emirates University, United Arab Emirates (UAE)), Yasser Hawas (United Arab Emirates University, United Arab Emirates (UAE)) .....	3243
<i>Development of Mobile Ad-hoc Networks over Wi-Fi Direct with Off-the-Shelf Android Phones</i> Kecheng Liu (Illinois Institute of Technology, USA), Wenlong Shen (Illinois Institute of Technology, USA), Bo Yin (Illinois Institute of Technology, USA), Xianghui Cao (Southeast University, P.R. China), Lin X. Cai (Illinois Institute of Technology, USA), Yu Cheng (Illinois Institute of Technology, USA) .....	3249

*A Novel Warning/Avoidance Algorithm for Intersection Collision based on Dynamic Bayesian Networks*

Yuchuan Fu (Xidian University, P.R. China), Changle Li (Xidian University, P.R. China), Bing Xia (Xidian University, P.R. China), Weiwei Dong (Xidian University, P.R. China), Yulong Duan (Xidian University, P.R. China), Xiong Lei (Beijing Jiaotong University, P.R. China) ..... 3255

## **ICC'16 CISS: IEEE ICC 2016 Communication and Information Systems Security Symposium**

### **Privacy and Privacy Enhancing Technologies**

*Privacy-Preserving Publish/Subscribe Service in Untrusted Third-party Platform*

Tracy Yingying Cheng (City University of Hong Kong, Hong Kong), Wei Gao (City University of Hong Kong, Hong Kong), Xiaohua Jia (City University of Hong Kong, Hong Kong), Jianfei He (Huawei Technologies, Co., Ltd., P.R. China), Shucheng Liu (Huawei Technologies, P.R. China) ..... 3261

*PROTECTOR: Privacy-Preserving Information Lookup in Content-Centric Networks*

Muhammad Rizwan Asghar (The University of Auckland, New Zealand), César Bernardini (University of Trento, Italy), Bruno Crispo (Universita di Trento, Italy) ..... 3267

*EPPD: Efficient and Privacy-Preserving Proximity Testing with Differential Privacy Techniques*

Cheng Huang (Nanyang Technological University, Singapore), Rongxing Lu (Nanyang Technological University, Singapore), Hui Zhu (Xidian University, P.R. China), Jun Shao (Zhejiang Gongshang University, P.R. China), Abdulrahman Alamer (UOIT, Canada), Xiaodong Lin (University of Ontario Institute of Technology, Canada) ..... 3274

*Security and Experimental performance analysis of a Matrix ORAM*

Karin Sumongkayothin (Japan Advance Institute of Science and Tehcnology & Sirindhorn International Institute of Technology, Thammasat University, Japan), Atsuko Miyaji (Japan Advanced Institute of Science and Technology, Japan), Chunhua Su (Japan Advanced Institute of Science and Technology, Japan), Steven Gordon (Central Queensland University, Australia) ..... 3280

*AMA: Anonymous Mutual Authentication with Traceability in Carpooling Systems*

Jianbing Ni (University of Waterloo, Canada), Kuan Zhang (University of Waterloo, Canada), Xiaodong Lin (University of Ontario Institute of Technology, Canada), Haomiao Yang (University of Electronic Science and Technology of China & Center for Cyber Security, UESTC & Big Data Research Center ' UESTC, P.R. China), Sherman Shen (University of Waterloo, Canada) ..... 3286

### **Authentication, Access Control, and Other Topics (Interactive)**

*Detection of Command and Control in Advanced Persistent Threat based on Independent Access*

Xu Wang (Beijing University of Posts and Telecommunications, P.R. China), Kangfeng Zheng (Beijing University of Posts and Telecommunications, P.R. China), Xinxin Niu (Electronic Engineer School Beijing University of Posts and Telecommunications, P.R. China), Bin Wu (Information Security Center, Beijing University of Posts and Telecommunications, P.R. China), Chunhua Wu (Beijing University of Posts and Telecommunications, P.R. China) ..... 3292

*DACPI: A Decentralized Access Control Protocol for Information Centric Networking*

Eslam AbdAllah (Queen's University, Canada), Mohammad Zulkernine (Queen's University, Canada), Hossam S. Hassanein (Queen's University, Canada) ..... 3298

*PiDFA: A Practical Multi-stride Regular Expression Matching Engine Based On FPGA*

Jia Jia Yang (University of Chinese Academy of Sciences, P.R. China), Lei Jiang (Institute of Information Engineering, Chinese Academy of Sciences, P.R. China), Qiu Tang (Institute of Information Engineering, Chinese Academy of Sciences, P.R. China), Qiong Dai (Institute of Information Engineering, Chinese Academy of Sciences, P.R. China), Jianlong Tan (Institute of Information Engineering, Chinese Academy of Sciences, Beijing, P.R. China) ..... 3304

<i>CFWatcher: A Novel Target-based Real-time Approach to Monitor Critical Files using VMI</i> Dongyang Zhan (Harbin Institute of Technology, P.R. China), Lin Ye (Harbin Institute of Technology, P.R. China), Binxing Fang (Harbin Institute of Technology, P.R. China), Xiaojiang Du (Temple University, USA), Shen Su (Harbin Institute of Technology, P.R. China) .....	3311
<i>User Capacity of Wireless Physical-layer Identification: An Information-theoretic Perspective</i> Wenhao Wang (Peking University, P.R. China), Zhi Sun (State University of New York at Buffalo, USA), Kui Ren (State University of New York at Buffalo, USA), Bocheng Zhu (Peking University, P.R. China) .....	3317

## ICC'16 CQRM: IEEE ICC 2016 - Communication QoS, Reliability and Modeling Symposium

### QoE

<i>Bayesian Structural Equation Modeling of Multidimensional QoE in Haptic-Audiovisual Interactive Communications</i> Shuji Tasaka (Nagoya Industrial Science Research Institute, Japan) .....	3323
<i>When To Take What: QoE-Aware Resource Redistribution among Web Browsing Users and the Potential of Prioritizing QoE Sensitive Content</i> Géza Szabó (Ericsson Research, Hungary), Sandor Rácz (Ericsson Research, Hungary), Szabolcs Malomsoky (Ericsson, Poland), Aldo Bolle (Ericsson, Sweden) .....	3329
<i>User Spectral Efficiency: Combining Spectral Efficiency with User Experience</i> Hung Xuan Nguyen (University of Adelaide, Australia), Bruce Northcote (University of Adelaide, Australia) .....	3335
<i>Multiple Description-DASH: Pragmatic video streaming maximizing End-Users' Quality of Experience</i> Joachim Bruneau-Queyreix (LaBRI - Bordeaux University & Viotech Communications, France), Daniel Négru (University of Bordeaux, France), Jordi Mongay Batalla (Warsaw University of Technology & National Institute of Telecommunications, Poland), Eugen Borcoci (University POLITEHNICA of Bucharest (CCSRST), Romania) .....	3341
<i>Enriching HTTP Adaptive Streaming with Context Awareness: A Tunnel Case Study</i> Eirini Liotou (University of Athens, Greece), Tobias Hoßfeld (University of Duisburg-Essen, Germany), Christian Moldovan (University of Duisburg-Essen, Germany), Florian Metzger (University of Duisburg-Essen, Germany), Dimitris Tsolkas (University of Athens, Greece), Nikos Passas (University of Athens, Greece) .....	3348

## ICC'16 CRN: IEEE ICC 2016 - Cognitive Radio and Networks Symposium

### Spectrum Sharing II

<i>Sequential Detection and Average Sample Number for Cognitive Radio with Multiple Primary Transmit Power Levels</i> Shuijun Cheng (Xidian University, P.R. China), Zan Li (Xidian University, P.R. China), Mohammad S. Obaidat (Fordham University, USA), Bo Ai (Beijing Jiaotong University & State Key Lab of Rail Traffic Control and Safety, P.R. China), Gongpu Wang (Beijing Jiaotong University, P.R. China) .....	3354
<i>Average Interference-Constrained Cognitive Two-Way Relaying with Efficient Link Utilization</i> Sourabh Solanki (Indian Institute of Technology Indore, India), Pankaj Kumar Sharma (Indian Institute of Technology Indore, India), Prabhat Kumar Upadhyay (Indian Institute of Technology Indore, India) .....	3360

<i>Robust Transceiver Design in Full-Duplex MIMO Cognitive Radios</i> Ali Cagatay Cirik (University of British Columbia, Canada), Sudip Biswas (University of Edinburgh, United Kingdom), Omid Taghizadeh (RWTH Aachen University, Germany), An Liu (Hong Kong University of Science and Technology, Hong Kong), Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom) .....	3366
<i>Cognitive Two-Way Relay Beamforming: Design with Resilience to Channel State Uncertainties</i> P Ubaidulla (International Institute of Information Technology, India), Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia), Sonia Aïssa (INRS, University of Quebec, Canada) .....	3373
<i>Energy Efficiency of Sensing-Based Spectrum Sharing Technique for Cognitive Radio Systems</i> Hyunsung Park (Yonsei University, Korea), Taewon Hwang (Yonsei University, Korea) .....	3378

## ICC'16 CT: IEEE ICC 2016 - Communications Theory

### MIMO

<i>Receive Beamforming Optimization for MIMO System with Constant Envelope Precoding</i> Shuowen Zhang (National University of Singapore, Singapore), Rui Zhang (National University of Singapore, Singapore), Teng Joon Lim (National University of Singapore, Singapore) .....	3384
<i>Transmit Beamforming in Rayleigh Product MIMO Channels: Ergodic Mutual Information and Symbol Error Rate</i> Zhong Zheng (University of Texas at Dallas, USA), Lu Wei (Harvard University, USA), Zygmunt Haas (University of Texas at Dallas, USA), Vahid Tarokh (Harvard University, USA) .....	3390
<i>Selective Uplink Training for Massive MIMO Systems</i> Changming Li (Hong Kong University of Science and Technology, Hong Kong), Jun Zhang (The Hong Kong University of Science and Technology, Hong Kong), Shenghui Song (The Hong Kong University of Science and Technology, Hong Kong), Khaled B. Letaief (The Hong Kong University of Science and Technology, Hong Kong) .....	3395
<i>Mutual Information Approximation of CSI-T MIMO Precoders based on minimal distance probability</i> Baptiste Vrigneau (University of Rennes 1 & IRISA Granit, France), Olivier Berder (University of Rennes 1, IRISA, INRIA, France) .....	3401
<i>On the Sum DoF of the Asymmetric Four-User MIMO Y Channel</i> Kangqi Liu (Shanghai Jiao Tong University, P.R. China), Meixia Tao (Shanghai Jiao Tong University, P.R. China) .....	3406

## ICC'16 GCSN: IEEE ICC 2016 - Green Communications Systems and Networks

### Energy Efficiency 2

<i>Adaptive Measurement for Energy Efficient Mobility Management in Ultra-Dense Small Cell Networks</i> Hsu Kao (National Taiwan University, Taiwan), Chen-Yu Wei (National Taiwan University, Taiwan), Hsiao-Ching Lin (National Taiwan University, Taiwan), Yi-Han Chiang (National Taiwan University, Taiwan), Wanjiun Liao (National Taiwan University, Taiwan) .....	3412
<i>Energy efficient heterogeneous network deployment with Cell DTX</i> Göran Andersson (Royal Institute of Technology (KTH), Sweden), Anders Vastberg (Royal Institute of Technology (KTH), Sweden), Alisa Devlic (Telecom Bretagne, France), Cicek Cavdar (KTH Royal Institute of Technology, Sweden) .....	3418



<i>Spectral- and Energy- Efficient Analysis for Multi-cell Downlink MU-MIMO Systems</i> Jiancun Fan (Xi'an Jiaotong University, P.R. China), Zhikun Xu (China Mobile Research Institute, P.R. China), Chih-Lin I (China Mobile Research Institute, P.R. China), Geoffrey Li (Georgia Tech, USA) .....	3424
<i>Joint Optimization of Content Caching and Push in Renewable Energy Powered Small Cells</i> Jie Gong (Sun Yat-sen University, P.R. China), Sheng Zhou (Tsinghua University, P.R. China), Zhenyu Zhou (North China Electric Power University & Waseda University, P.R. China), Zhisheng Niu (Tsinghua University, P.R. China) .....	3429
<i>Backhaul-Aware Small Cell DTX based on Fuzzy Q-Learning in Heterogeneous Cellular Networks</i> Antonio De Domenico (CEA-LETI Minatec, France), Valentin Savin (CEA LETI, France), Dimitri Kténas (CEA, France), Andreas Maeder (Nokia Networks, Germany) .....	3435

## ICC'16 MWN: IEEE ICC 2016 - Mobile and Wireless Networking Symposium

### Multimedia Transmission

<i>Multi-path Routing for Video Streaming in Multi-radio Multi-channel Wireless Mesh Networks</i> Chenlei Pan (Shanghai Jiao Tong University, P.R. China), Bo Liu (Deakin University, Australia), Haibo Zhou (University of Waterloo, Canada), Gui Lin (Shanghai JiaoTong University, P.R. China) .....	3441
<i>Scalable Video Multicast Using Flexible Multicast Service over IEEE 802.11 WLAN</i> Yeonchul Shin (Seoul National University, Korea), Seungkyu Baek (Agency for Defense Development, Korea), Sunghyun Choi (Seoul National University, Korea), Byeong Gi Lee (Seoul National University, Korea) .....	3447
<i>Perceived Video Quality Evaluation based on Interactive/Repulsive relation between the QoE IFs</i> Lamine Amour (Paris Est Creteil University, France), Sami Souihi (University Paris Est UPEC, France), Muhammad Sajid Mushtaq (University of Paris-Est Creteil (UPEC) & Image, Signal and Intelligent Systems Laboratory-LISSI, France), Said Hoceini (UPEC, University Paris-Est Creteil Val de Marne, France), Abdelhamid Mellouk (UPEC, University Paris-Est Creteil Val de Marne, France) .....	3453
<i>Joint User Association and Rate Allocation for HTTP Adaptive Streaming in Heterogeneous Cellular Networks</i> Renchao Xie (Beijing University of Posts and Telecommunications, P.R. China), F. Richard Yu (Carleton University, Canada), Tao Huang (Beijing University of Posts and Telecommunications, P.R. China), Jiang Liu (Beijing University of Posts and Telecommunications, P.R. China), Yunjie Liu (China Unicom, P.R. China) .....	3460
<i>Implementation and Evaluation of Adaptive Video Streaming based on Markov Decision Process</i> Ayub Bokani (University of New South Wales & Nation ICT Australia (NICTA), Australia), Sayed Hoseini (University of New South Wales, Australia), Mahbub Hassan (University of New South Wales, Australia), Salil S Kanhere (The University of New South Wales, Australia) .....	3466

### Mobile Wireless Networks (Interactive)

<i>Democratic Privacy: A Protocol-hidden Perturbation Scheme for Pervasive Computing</i> Shunsuke Aoki (University of Tokyo, Japan), Kaoru Sezaki (University of Tokyo, Japan) .....	3472
<i>A Centralized Method for PCI Assignment with Common Reference Signal Frequency Shift Control</i> Anna Wielgoszewska (Bell Labs & Nokia, Ireland), David López-Pérez (Bell Labs Alcatel-Lucent, Ireland), Holger Claussen (Bell Labs, Alcatel-Lucent, Ireland), Haris Gacanin (Nokia, Belgium) .....	3478
<i>The Synergic Enhancement of Coexistence Performance in Wireless Mobile Combo-Chips</i> Daehyun Ban (Stanford University, USA), Sangsoon Lim (Software R&D Center & Samsung Electronics, Korea), Woojin Park (Software R&D Center & Samsung Electronics, Korea), Chong-kwon Kim (Seoul National University, Korea) .....	3484

<i>Protocol Stack Mapping of Software Defined Protocol for Next Generation Mobile Networks</i>	
Ruihan Wen (University of Electronic Science and Technology of China & National Key Laboratory of Science and Technology on Communications, P.R. China), Gang Feng (University of Electronic Science and Technology of China, P.R. China), Wei Tan (Huawei Technologies, P.R. China), Rui Ni (Huawei Technologies Co., LTD., P.R. China), Wei Cao (University of Electronic Science and Technology of China, P.R. China), Shuang Qin (University of Electronic Science and Technology of China, P.R. China) .....	3490
<i>Unlocking the Smartphone's Senses for Smart City Parking</i>	
Jean-Gabriel Krieg (University of Toulouse & ALSETT, France), Gentian Jakllari (University of Toulouse, France), Hadrien Toma (ALSETT, France), André-Luc Beylot (University of Toulouse, France) .....	3496
<i>Topology control by controlling mobility for coverage in wireless sensor networks</i>	
Fatiha Djemili Tolba (Badji Mokhtar Annaba University, Algeria), Cherif Tolba (University Badji Mokhtar, Algeria), Pascal Lorenz (University of Haute Alsace, France) .....	3503
<i>Cross Layer Optimization for Routing Based on Link Layer Delay Analysis</i>	
Hengheng Xie (Paradise Research Lab, Canada), Robson De Grande (University of Ottawa, Canada), Azzedine Boukerche (University of Ottawa, Canada) .....	3509

## ICC'16 NGN: IEEE ICC 2016 - Next-Generation Networking and Internet Symposium

### Machine-to-Machine, Device-to-Device, Machine-Type-Communications in Next Generation Internet

<i>A Novel Dynamic Network Architecture Model Based on Stochastic Geometry and Game Theory</i>	
Alireza Shams Shafigh (University of Oulu & CWC, Finland), Panayotis Mertikopoulos (French National Center for Scientific Research (CNRS) & Laboratoire d'Informatique de Grenoble, France), Savo Glisic (University of Oulu, Finland) .....	3515
<i>Massive Machine Type Communication in Cellular System: A Distributed Queue Approach</i>	
Fredrick M Awuor (Academia Sinica, Taiwan), Chih-Yu Wang (Academia Sinica, Taiwan) .....	3522
<i>Random-Access Latency Optimization and Stability of Highly-Populated LTE-based M2M Deployments</i>	
Olga Galinina (Tampere University of Technology, Finland), Andrey Turlikov (Saint-Petersburg State University of Aerospace Instrumentation, Russia), Tuomas Tirronen (Ericsson Research, Finland), Johan Torsner (Ericsson Research, Finland), Sergey Andreev (Tampere University of Technology, Finland), Yevgeni Koucheryavy (Tampere University of Technology, Finland) .....	3529
<i>A Flexible M2M Radio Resource Sharing Scheme in LTE Networks within an M2M/H2H Coexistence Scenario</i>	
Safa Hamdoun (University Paris-Est, France), Abderrezak Rachedi (University Paris-Est Marne-la-Vallée, France), Yacine Ghamri-Doudane (University of la Rochelle, France) .....	3535
<i>Rate-Aware Network Codes for Completion Time Reduction in Device-to-Device Communications</i>	
Mohammad S. Karim (The Australian National University, Australia), Ahmed Douik (California Institute of Technology, USA), Sameh Sorour (King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia), Parastoo Sadeghi (The Australian National University, Australia) .....	3542

### Next-generation Network Management and Control

<i>Energy Efficiency of Resource Scheduling for Non-Orthogonal Multiple Access (NOMA) Wireless Network</i>	
Fang Fang (The University of British Columbia, Canada), Haijun Zhang (The University of British Columbia, Canada), Julian Cheng (University of British Columbia, Canada), Victor C.M. Leung (University of British Columbia, Canada) .....	3549

<i>Relay Selection and Outage Analysis in Cooperative Cognitive Radio Networks with Energy Harvesting</i>	
Jing He (Southwest University, P.R. China), Songtao Guo (Southwest University, P.R. China), Fei Wang (Southwest University, P.R. China), Yuanyuan Yang (Stony Brook University, USA) .....	3554
<i>Information-agnostic Coflow Scheduling with Optimal Demotion Thresholds</i>	
Yuanxiang Gao (University of Electronic Science and Technology of China, P.R. China), Hongfang Yu (University of Electronic Science and Technology of China, P.R. China), Shouxi Luo (University of Electronic Science and Technology of China, P.R. China), Shui Yu (Deakin University, Australia) .....	3560
<i>Peak Shaving Through Optimal Energy Storage Control for Data Centers</i>	
Mehiar Dabbagh (Oregon State University, USA), Ammar Rayes (Cisco / San Jose State University, USA), Bechir Hamdaoui (Oregon State University, USA), Mohsen Guizani (QU, USA) .....	3566
<i>Deployment of 5G Networking Infrastructure with Machine Type Communication Considerations</i>	
Xiangxiang Xu (Tsinghua University, P.R. China), Walid Saad (Virginia Tech, USA), XiuJun Zhang (Tsinghua University, P.R. China), Limin Xiao (Tsinghua University, P.R. China), Shidong Zhou (Tsinghua University, P.R. China) .....	3572

## ICC'16 ONS: IEEE ICC 2016 - Optical Networks and Systems

### Optical Network Planning and Optimization

<i>Planning Network Migration</i>	
Brigitte Jaumard (Concordia University, Canada), Hamed Pouya (Concordia University, Canada), Rami Fahim (CIENA, Canada), Andres Barrios (CIENA, Canada) .....	3578
<i>OTN Switching in Protected Transport Networks: Spectral, Cost and Energy Efficiency Evaluation</i>	
Jorge López Vizcaíno (Huawei Technologies Duesseldorf GmbH, Germany), Yabin Ye (Huawei Technologies Duesseldorf GmbH, Germany), Tamara Jimenez (Bapsys Consulting, Spain), Victor Lopez (Telefonica, Spain) .....	3584
<i>Approaches to Maximize the Open Capacity of Elastic Optical Networks</i>	
Karcius Assis (Federal University of Bahia, Brazil), Ali Hammad (Bristol University, United Kingdom), Raul C. Almeida, Jr (Federal University of Pernambuco, Brazil), Dimitra Simeonidou (University of Bristol, United Kingdom) .....	3590
<i>Multiple Traveling Repairmen Problem with Virtual Networks for Post-Disaster Resilience</i>	
Chen Ma (Beijing University of Posts and Telecommunications, P.R. China), Carlos Colman- Meixner (University of California, Davis, USA), Massimo Tornatore (Politecnico di Milano & University of California, Davis, Italy), Yongli Zhao (Beijing University of Posts and Telecommunications, P.R. China), Jie Zhang (Beijing University of Posts and Telecommunications, P.R. China), Biswanath Mukherjee (University of California, Davis, USA) .....	3596
<i>Energy aware optimization of mobile metro-core network under predictable aggregated traffic patterns</i>	
Rodolfo Alvizu (Politecnico di Milano, Italy), Xingyu Zhao (Politecnico di Milano, Italy), Guido Maier (Politecnico di Milano, Italy), Yajing Xu (Beijing University of Posts & Telecommunications, P.R. China), Achille Pattavina (Politecnico di Milano, Italy) .....	3602

# ICC'16 SAC-2 CCN: IEEE ICC 2016 SAC Cloud Communications and Networking

## Resource Allocation and Flow Scheduling in Data Centers

### *Chronos: Meeting Coflow Deadlines in Data Center Networks*

Shiyao Ma (Hong Kong University of Science and Technology, Hong Kong), Jingjie Jiang (Hong Kong University of Science and Technology, Hong Kong), Bo Li (Hong Kong University of Science and Technology, Hong Kong), Baochun Li (University of Toronto, Canada) ..... 3609

### *Distributed and Dynamic Multicast Scheduling in Fat-tree Data Center Networks*

Fujie Fan (Zhejiang University, P.R. China), Bing Hu (Zhejiang University, P.R. China), Lawrence Kwan Yeung (The University of Hong Kong, Hong Kong) ..... 3615

### *Decentralized Deadline-Aware Coflow Scheduling for Datacenter Networks*

Shouxi Luo (University of Electronic Science and Technology of China, P.R. China), Hongfang Yu (University of Electronic Science and Technology of China, P.R. China), Le Min Li (University of Electronic Science and Technology of China, P.R. China) ..... 3621

### *Scheduling for response time in Hadoop MapReduce*

Xiangming Dai (The Hong Kong University of Science and Technology, Hong Kong), Brahim Bensaou (The Hong Kong University of Science and Technology, Hong Kong) ..... 3627

### *Queueing Model based Analysis on Flow Scheduling in Information-agnostic Datacenter Networks*

Chao Hu (College of Command Information System, PLA University of Science and Technology, P.R. China), Bo Liu (PLA University of Science & Technology, P.R. China), Changyou Xing (PLA University of Science and Technology, P.R. China), Zhenjun Yue (College of Communications Engineering, PLA University Of Science And Technology, P.R. China), Lihua Song (PLA University of Science and Technology, P.R. China), Ming Chen (PLA University of Science and Technology, P.R. China) ..... 3633

# ICC'16 SAC-5 IoT: IEEE ICC 2016 SAC Internet of Things

## Crowdsensing and IoT Enabling Services

### *Towards Efficient Publish-Subscribe Middleware in the IoT with IPv6 Multicast*

Sven Akkermans (KU Leuven, iMinds-DistriNet, Belgium), Rafael Bachiller (iMinds-DistriNet, KU Leuven, Belgium), Nelson Matthys (KU Leuven & iMinds-DistriNet, Belgium), Wouter I Joosen (University of Leuven, Belgium), Mališa Vučinić (University of Grenoble, France), Danny Hughes (Katholieke Universiteit Leuven, Belgium) ..... 3639

### *Data Correlation based Crowdsensing Enhancement for Environment Monitoring*

Xu Kang (Beijing University of Posts and Telecommunications, P.R. China), Liang Liu (Beijing University of Posts and Telecommunications, P.R. China), Huadong Ma (Beijing University of Posts and Telecommunications, P.R. China) ..... 3645

### *OnTac: Online Task Assignment for Crowdsourcing*

Zhe Yang (Shanghai Jiao Tong University, P.R. China), Zhehui Zhang (Shanghai Jiaotong University, P.R. China), Yuting Bao (Shanghai Jiao Tong University, P.R. China), Xiaoying Gan (Shanghai Jiao Tong University, P.R. China), Xiaohua Tian (Shanghai Jiao Tong University, P.R. China), Xinbing Wang (Shanghai Jiaotong University, P.R. China) ..... 3651

### *Crowdclustering Items into Overlapping Clusters*

You Wu (Shanghai Jiao Tong University, P.R. China), Xiong Wang (Shanghai Jiao Tong University, P.R. China), Zhe Yang (Shanghai Jiao Tong University, P.R. China), Xiaoying Gan (Shanghai Jiao Tong University, P.R. China), Xiaohua Tian (Shanghai Jiao Tong University, P.R. China), Xinbing Wang (Shanghai Jiaotong University, P.R. China) ..... 3657

### *Opportunistic Smart Object Aggregation based on Clustering and Event Processing*

Fernando Terroso-Saenz (University of Murcia, Spain), José Luis Hernandez Ramos (University of Murcia, Spain), Jorge Bernal Bernabé (University of Murcia, Spain), Antonio Fernando Skarmeta Gomez (University of Murcia, Spain) ..... 3663

# ICC'16 SAC-7 SSC: IEEE ICC 2016 SAC Satellite and Space Communications

## Analysis (Interactive)

### *Time Cumulative Complexity Modeling and Analysis for Space-based Networks*

Jun Du (Tsinghua University, Beijing, P.R. China), Chunxiao Jiang (Tsinghua University, Beijing, P.R. China), Shui Yu (Deakin University, Australia), Yong Ren (Tsinghua University, Beijing, P.R. China) ..... 3669

### *Spreading and Repetitions in Satellite MAC Protocols*

Alessandro Bion (University of Padova, Italy), Andrea Dittadi (University of Padova, Italy), Michele Zorzi (Università degli Studi di Padova, Italy) ..... 3675

# ICC'16 SPC: IEEE ICC 2016 - Signal Processing for Communications Symposium

## Cloud Radio Access Networks

### *D2D Enhanced Cloud Radio Access Networks with Coordinated Multi-Point*

Junyu Liu (Xidian University, P.R. China), Min Sheng (Xidian University, P.R. China), Tony Q. S. Quek (Singapore University of Technology and Design, Singapore), Jiandong Li (Xidian University, P.R. China) ..... 3681

### *Cooperative Transmission Meets Computation Provisioning in Downlink C-RAN*

Kun Guo (Xidian University, P.R. China), Min Sheng (Xidian University, P.R. China), Jianhua Tang (Singapore University of Technology and Design, Singapore), Tony Q. S. Quek (Singapore University of Technology and Design, Singapore), Xijun Wang (Xidian University, P.R. China), Zhiliang Qiu (State key lab of ISN, P.R. China) ..... 3687

### *Fronthaul Compression and Optimization for Cloud Radio Access Networks*

Thang Xuan Vu (Singapore University of Technology and Design, Singapore), Hieu Duy Nguyen (Institute for Infocomm Research (I2R), The Agency for Science, Technology and Research (ASTAR), Singapore), Tony Q. S. Quek (Singapore University of Technology and Design, Singapore), Sumei Sun (Institute for Infocomm Research, Singapore) ..... 3693

### *Coordination and Antenna Domain Formation in Cloud-RAN systems*

Hadi Ghauch (Royal Institute of Technology (KTH), Sweden), Muhammad Mahboob Ur Rahman (KTH, Sweden), Sahar Imtiaz (KTH Royal Institute of Technology, Sweden), James Gross (KTH Royal Institute of Technology, Sweden) ..... 3699

### *Space-Time Fronthaul Compression of Complex Baseband Uplink LTE Signals*

Jinseok Choi (The University of Texas at Austin, USA), Brian L Evans (The University of Texas at Austin, USA), Alan Gatherer (Huawei Technologies, USA) ..... 3706

## Distributed Signal Processing

### *Distributed Energy Efficiency Fairness Optimization by ADMM in Multicell MISO Downlink*

Kien-Giang Nguyen (University of Oulu, Finland), Le-Nam Tran (Maynooth University, Ireland), Quang-Doanh Vu (University of Oulu, Finland), Markku Juntti (University of Oulu, Finland) ..... 3712

### *Robust Chance-Constrained Distributed Beamforming for Multicell Interference Networks*

Xinruo Zhang (King's College London, United Kingdom), Mohammad Reza Nakhai (King's College London, United Kingdom) ..... 3718

### *Multi-Layer Distributed Bayesian Compressive Sensing Based Blind Carrier-Frequency Offset Estimation in Uplink OFDMA Systems*

Jinnian Zhang (Beijing University of Posts and Telecommunications, P.R. China), Kai Niu (Beijing University of Posts and Telecommunications, P.R. China), Zhiqiang He (Beijing University of Posts and Telecommunications, P.R. China) ..... 3724

<i>On Weighting/Reweighting Schemes for Approximate Message Passing Algorithms</i>	
Zeinab Zeinalkhani (Carleton University, Canada), Neda Haghighatpanah (Carleton University, Canada), Amir Banihashemi (Carleton University, Canada) .....	3729
<i>A Pipelined Synchronization Approach for Satellite-based Automatic Identification System</i>	
Weitao Lan (Shanghai Jiao Tong University, P.R. China), Taosheng Zhang (Shanghai Jiao Tong University, P.R. China), Moran Guo (Shanghai Jiao Tong University, P.R. China), Wei Huang (Shanghai Jiao Tong University, P.R. China), Lianghai Ding (Shanghai Jiao Tong University, P.R. China), Feng Yang (Shanghai Jiaotong University, P.R. China), Liang Qian (Shanghai Jiao Tong University, P.R. China) .....	3734

## ICC'16 WCS: IEEE ICC 2016 - Wireless Communications Symposium

### Modulation and Coding

<i>Jointly Optimized Quadrature Amplitude Modulation</i>	
Sung-Joon Park (Gangneung-Wonju National University, Korea) .....	3740
<i>A Tractable Analytical Framework for Evaluating Opportunistic Selection in Time-Varying Channels</i>	
Rupesh K. Kona (Indian Institute of Science, India), Neelesh B. Mehta (Indian Institute of Science, India), Jobin Francis (Indian Institute of Science, India) .....	3745
<i>Media-Based MIMO: Outperforming Known Limits in Wireless</i>	
Ehsan Seifi (University of Waterloo, Canada), Mehran Atamanesh (University of Waterloo, Canada), Amir K. Khandani (University of Waterloo, Canada) .....	3751
<i>Enhanced Spatial Multiplexing - A Novel Approach to MIMO Signal Design</i>	
Chien-Chun Cheng (National Chiao Tung University, Taiwan), Hikmet Sari (École Supérieure d'Électricité (SUPELEC), France), Serdar Sezginer (Sequans, France), Yu T. Su (National Chiao Tung University, Taiwan) .....	3758
<i>Data Rate Maximization for Terahertz Communication Systems using Finite Alphabets</i>	
Anamaria Moldovan (University of Erlangen-Nürnberg, Germany), Steven Kisseleff (Friedrich-Alexander-University Erlangen-Nürnberg (FAU), Germany), Ian F. Akyildiz (Georgia Institute of Technology, USA), Wolfgang Gerstacker (University of Erlangen-Nuernberg, Germany) .....	3764

### Millimeter Wave and Terahertz Communications I

<i>Measurement-based Massive MIMO Channel Modeling in 13-17GHz for Indoor Hall Scenarios</i>	
Jiajing Chen (Tongji University, P.R. China), Xuefeng Yin (Tongji University, P.R. China), Stephen Lingfeng Wang (Toshiba Research Europe Limited, United Kingdom) .....	3771
<i>32-Gbit/s 60-GHz Millimeter-Wave Wireless Communication using Orbital Angular Momentum and Polarization Multiplexing</i>	
Yan Yan (University of Southern California, USA), Long Li (University of Southern California, USA), Zhe Zhao (University of Southern California, USA), Guodong Xie (University of Southern California, USA), Zhe Wang (University of Southern California, USA), Yongxiong Ren (University of Southern California, USA), Nisar Ahmed (University of Southern California, USA), Soji Sajuyigbe (Intel Labs, Intel Corporation, USA), Shilpa Talwar (Intel, USA), Moshe Tur (Tel Aviv University, Israel), Nima Ashrafi (University of Texas at Dallas & NxGen Partners, USA), Solyman Ashrafi (NxGen Partners, USA), Andreas Molisch (University of Southern California, USA), Alan Willner (University of Southern California, USA) .....	3776
<i>Performance Analysis of Hybrid 5G Cellular Networks Exploiting mmWave Capabilities in Suburban Areas</i>	
Muhammad Shahmeer Omar (National University of Sciences and Technology, Pakistan), Muhammad Ali Anjum (National University of Sciences and Technology, Pakistan), Syed Ali Hassan (National University of Sciences and Technology, Pakistan), Haris Bin Pervaiz (Lancaster University, United Kingdom), Qiang Ni (Lancaster University, United Kingdom) .....	3782

<i>Location Based Performance Model for Indoor MmWave Wearable Communication</i>	
Kiran Venugopal (The University of Texas at Austin & Wireless Networking and Communications Group, USA), Robert Heath (The University of Texas at Austin, USA) .....	3788
<i>Wideband THz Communication Channel Measurements for 5G Indoor Wireless Networks</i>	
Nabil Khalid (Koc University, Turkey), Ozgur B. Akan (Koc University, Turkey) .....	3794

## Device to Device Communications II

<i>D2D Communication Underlay in Uplink Cellular Networks with Distance Based Power Control</i>	
Zekun Zhang (Utah State University, USA), Rose Qingyang Hu (Utah State University, USA), Yi Qian (University of Nebraska-Lincoln, USA) .....	3800
<i>Pareto-Efficient Cross-Layer Repeated Game for Device-to-Device (D2D) Communications</i>	
Nicole Sawyer (National ICT Australia (NICTA) & Australian National University, Australia), David B Smith (National ICT Australia, Australia) .....	3806
<i>QoS-Aware Joint Mode Selection and Channel Assignment for D2D Communications</i>	
Rui Wang (The Hong Kong University of Science and Technology, Hong Kong), Jun Zhang (The Hong Kong University of Science and Technology, Hong Kong), Shenghui Song (The Hong Kong University of Science and Technology, Hong Kong), Khaled B. Letaief (The Hong Kong University of Science and Technology, Hong Kong) .....	3812
<i>Caching Incentive Design in Wireless D2D Networks: A Stackelberg Game Approach</i>	
Zhuoqun Chen (Shanghai Jiao Tong University, P.R. China), Yangyang Liu (Shanghai Jiao Tong University, P.R. China), Bo Zhou (Shanghai Jiao Tong University, P.R. China), Meixia Tao (Shanghai Jiao Tong University, P.R. China) .....	3818
<i>5G Waveforms for Overlay D2D Communications: Effects of Time-Frequency Misalignment</i>	
Quentin Bodinier (CentraleSupélec/IETR, France), Arman Farhang (CONNECT, Trinity College Dublin, Ireland), Faouzi Bader (CentraleSupélec, France), Hamed Ahmadi (University College Dublin, Ireland), Jacques Palicot (CentraleSupélec/IETR, France), Luiz DaSilva (Trinity College & Trinity College Dublin, Ireland) .....	3824

## Physical-layer Based Network Issues (Interactive)

<i>Joint Probabilistic Scheduling and Adaptive Modulation for Queue and Channel Aware Links</i>	
Xiang Chen (Tsinghua University, P.R. China), Wei Chen (Tsinghua University, P.R. China) .....	3831
<i>Beamforming Design for Secure Downlink Transmission of MU-MIMO systems with Multi-Antenna Eavesdropper</i>	
Ronghong Mo (Institute for Infocomm Research, Singapore), Chau Yuen (Singapore University of Technology and Design, Singapore), Jun Zhang (Nanjing University of Posts and Telecommunications, P.R. China), Xiaoming Chen (Nanjing University of Aeronautics and Astronautics, P.R. China) .....	3837
<i>Cache Size Allocation in Backhaul Limited Wireless Networks</i>	
Xi Peng (The Hong Kong University of Science and Technology, Hong Kong), Jun Zhang (The Hong Kong University of Science and Technology, Hong Kong), Shenghui Song (The Hong Kong University of Science and Technology, Hong Kong), Khaled B. Letaief (The Hong Kong University of Science and Technology, Hong Kong) .....	3843
<i>Secure Multiple-Users Transmission Using Multi-Path Directional Modulation</i>	
Mohammed A. Hafez (University of South Florida, USA), Tamer Khattab (Qatar University, Qatar), Tarek M. Elfouly (Qatar University, Qatar), Huseyin Arslan (University of South Florida, USA) .....	3849
<i>Polar Codes for Noncoherent MIMO Signalling</i>	
Philip R Balogun (Carleton University, Canada), Ian D. Marsland (Carleton University, Canada), Ramy Gohary (Carleton University, Canada), Halim Yanikomeroglu (Carleton University, Canada) .....	3854

### *On Edge Caching with Secrecy Constraints*

- Frederic Gabry (Huawei Technologies, France Research Center, France), Valerio Bioglio (France Research Center, Huawei Technologies Co. Ltd., Italy), Ingmar Land (Huawei Technologies, French Research Centre, France) ..... 3860

## **ICC'16 AHSN: IEEE ICC 2016 Ad-hoc and Sensor Networking Symposium**

### **Routing**

#### *Simulation Study of Routing Attacks Under Network Coding Environment*

- Ruo Jun Cai (Nanyang Technological University, Singapore), G. G. Md. Nawaz Ali (Nanyang Technological University, Singapore), Cherry Ye Aung (Nanyang Technological University, Singapore), Ming Zhao (Nanyang Technological University, Singapore), Peter Han Joo Chong (Auckland University of Technology, New Zealand) ..... 3866

#### *Comparing inter-domain routing protocol assessment tools for MANET*

- Florian Grandhomme (University of Rennes 1 - IRISA Laboratory, France), Gilles Gueffe (IRISA, France), Adlen Ksentini (Eurecom, France), Thierry Plesse (DGA MI, France) ..... 3872

#### *Cooperative Rotational Sweep Schemes for Geographic Routing*

- Jung-Tsung Tsai (National Taiwan Normal University, Taiwan), Yunghsiang Sam Han (National Taiwan University of Science and Technology, Taiwan) ..... 3878

#### *Multipath Routing Approach to Enhance Resiliency and Scalability in Ad-hoc Networks*

- Alexandros Ladas (Kingston University, United Kingdom), Nikolaos Pavlatos (Kingston University London, United Kingdom), Nuwan S Weerasinghe (Kingston University & iScientia Limited, United Kingdom), Christos Politis (Kingston University, United Kingdom) ..... 3885

#### *A Low Energy Consumption Routing Protocol for Mobile Sensor Networks with a Path-Constrained Mobile Sink*

- M Taufiq Nuruzzaman (National Taiwan University of Science and Technology & Sunan Kalijaga State Islamic University, Taiwan), Huei-Wen Ferng (National Taiwan University of Science and Technology, Taiwan) ..... 3891

### **Wireless Network Applications II (Interactive)**

#### *Constructing a Reliable and Fast Recoverable Network for Drones*

- Jiyeon Lee (Korea University, Korea), Kangho Kim (Korea University, Korea), Seungho Yoo (Korea University, Korea), Albert Chung (Korea University, Korea), Joon Yeop Lee (Korea University, Korea), Seongjoon Park (Korea University, Korea), Hwangnam Kim (Korea University, Korea) ..... 3897

#### *Protocol Options for Low Power Sensor Network MAC using Wake-up Receivers with Duty Cycling*

- Johannes Blobel (University of Paderborn, Germany), Christoph Sommer (Paderborn University, Germany), Falko Dressler (University of Paderborn, Germany) ..... 3903

#### *Communication Analysis of Real Vehicular Calibrated Traces*

- Felipe Cunha (Federal University of Minas Gerais, Brazil), Fabrício Aguiar Silva (Federal University of Minas Gerais, Brazil), Clayson Celes (Federal University of Minas Gerais, Brazil), Guilherme Maia (Federal University of Minas Gerais, Brazil), Linnyer Beatrys Ruiz (State University of Maringá & INCT NAMITEC, Brazil), Rossana Maria de Castro Andrade (Federal University of Ceará, Brazil), Raquel A. F. Mini (PUC Minas, Brazil), Azzedine Boukerche (University of Ottawa, Canada), Antonio A.F. Loureiro (Federal University of Minas Gerais, Brazil) ..... 3909

#### *Video Compression in the Neighborhood: An Opportunistic Approach*

- Dimitris Chatzopoulos (Hong Kong University of Science and Technology, Hong Kong), Kathleen Sucipto (Hong Kong University of Science and Technology, Hong Kong), Sokol Kosta (Sapienza University of Rome, Italy), Pan Hui (Hong Kong University of Science and Technology & Telekom Innovation Laboratories, Hong Kong) ..... 3915



*Multi-Hop Data Dissemination with Selfish Nodes: Optimal Decision and Fair Cost Allocation Based on the Shapley Value*

Mahdi Mousavi (TU Darmstadt, Germany), Sabrina Müller (Technische Universität Darmstadt, Germany), Hussein Al-Shatri (TU Darmstadt, Germany), Bernd Freisleben (Philipps-Universität Marburg, Germany), Anja Klein (TU Darmstadt, Germany) ..... 3921

*History-Based Multi-Node Collaborative Localization in Mobile Wireless Ad Hoc Networks*

Wenyuan Chen (College of Electronic and Information Engineering, Southwest University, P.R. China), Songtao Guo (Southwest University, P.R. China), Yan Wu (Southwest University, P.R. China), Yuanyuan Yang (Stony Brook University, USA) ..... 3927

## **ICC'16 CISS: IEEE ICC 2016 Communication and Information Systems Security Symposium**

### **Cloud Security**

*Efficient Privacy-Preserving Circular Range Search on Outsourced Spatial Data*

Hao Ren (University of Electronic Science and Technology of China, P.R. China), Hongwei Li (University of Electronic Science and Technology of China, P.R. China), Hao Chen (University of Electronic Science and Technology of China, P.R. China), Michael Kpiebaareh (University of Electronic Science and Technology of China, P.R. China), Lian Zhao (Ryerson University, Canada) ..... 3933

*PSS: Achieving High-efficiency and Privacy-preserving Similarity Search in Multiple Clouds*

Jinguo Li (Shanghai University of Electric Power, P.R. China), Mi Wen (Shanghai University of Electric Power, P.R. China), Chunhua Gu (East China University of Science and Technology, P.R. China), Hongwei Li (University of Electronic Science and Technology of China, P.R. China) ..... 3940

*Secure Outsourcing of Scalar Multiplication on Elliptic Curves*

Kai Zhou (MSU, USA), Jian Ren (Michigan State University, USA) ..... 3946

*Structured Queries with Generalized Pattern Matching on Encrypted Cloud Data*

Nan Jia (National University of Defense Technology & College of Computer, P.R. China), Xiaohua Jia (City University of Hong Kong, Hong Kong), Dongsheng Wang (National University of Defense Technology, P.R. China), Shaojing Fu (National University of Defense Technology, P.R. China), Ming Xu (National University of Defense Technology, P.R. China) ..... 3951

*Attribute-Based Encryption Scheme Based on SIFF*

Tianyu Zhao (University of Science and Technology of China, P.R. China), Lingbo Wei (University of Science and Technology of China, P.R. China), Chi Zhang (University of Science and Technology of China, P.R. China) ..... 3958

## **ICC'16 CQRM: IEEE ICC 2016 - Communication QoS, Reliability and Modeling Symposium**

### **Resource Allocation I**

*Joint Prioritized Link Scheduling and Resource Allocation for OFDMA-based Wireless Networks*

Tuong Duc Hoang (University of Quebec, Canada), Long Bao Le (INRS, University of Quebec, Canada), Tho Le-Ngoc (McGill University, Canada) ..... 3964

*Joint Optimization for Social Content Delivery in Wireless Networks*

Xiangnan Weng (University of Maryland, USA), John Baras (University of Maryland, College Park, USA) ..... 3970

*Caching strategies in Heterogeneous Networks with D2D, small BS and macro BS communications*

Irene Pappalardo (University of Padova, Italy), Giorgio Quer (University of California San Diego, USA), Bhaskar Rao (University of California, San Diego, USA), Michele Zorzi (University of Padova, Italy) .....	3977
<i>On Optimal Link Scheduling with Min-Max Peak Age of Information in Wireless Systems</i>	
Qing He (Linköping University, Sweden), Di Yuan (Linköping University, Sweden), Anthony Ephremides (University of Maryland at College Park, USA) .....	3983
<i>Statistical QoS Analysis of Full Duplex and Half Duplex Heterogeneous Cellular Networks</i>	
Alireza Sadeghi (University of Minnesota, USA), Michele Luvisotto (University of Padova, Italy), Farshad Lahouti (Caltech Institute of Technology, USA), Stefano Vitturi (CNR, Italy), Michele Zorzi (University of Padova, Italy) .....	3990

## **ICC'16 CRN: IEEE ICC 2016 - Cognitive Radio and Networks Symposium**

### **Privacy and Security**

*Secrecy Rate Maximization in a Cognitive Radio Network with Artificial Noise Aided for MISO Multi-Eves*

Dinh Van Nguyen (Soongsil University, Korea), Trung Q. Duong (Queen's University Belfast, United Kingdom), Octavia A. Dobre (Memorial University, Canada), Oh-Soon Shin (Soongsil University, Korea) .....	3996
<i>Using Game Theory to Battle Jammer in Control Channels of Cognitive Radio Ad hoc Networks</i>	
Jawad Salehi (Sharif University of Technology, Iran), MohammadReza Oskoui (Sharif University of Technology, Iran), Pirazh Khorramshahi (Sharif University of Technology, Iran) .....	4002
<i>Linear Precoding for Cognitive Multiple Access Wiretap Channel with Finite-Alphabet Inputs</i>	
Juening Jin (Shanghai Jiao Tong University, P.R. China), Chengshan Xiao (Missouri University of Science and Technology, USA), Meixia Tao (Shanghai Jiao Tong University, P.R. China), Wen Chen (Shanghai Jiao Tong University, P.R. China) .....	4007
<i>A Virtual MIMO based Anti-Jamming Strategy for Cognitive Radio Networks</i>	
Lei Li (University of Massachusetts Lowell, USA), Chunxiao (Tricia) Chigan (University of Massachusetts Lowell, USA) .....	4013
<i>Protecting Cognitive Radio Networks Against Poisson Distributed Eavesdroppers</i>	
Yueming Cai (Institute of Communications Engineering, PLAUST, P.R. China), Xiaoming Xu (College of Communications Engineering, PLAUST, P.R. China), Biao He (Hong Kong University of Science and Technology, Hong Kong), Weiwei Yang (Institute of Communications Engineering, PLAUST, P.R. China), Xiangyun Zhou (The Australian National University, Australia) .....	4019

## **ICC'16 CSSMA: IEEE ICC 2016 - Communications Software, Services and Multimedia Applications Symposium**

### **Mobile Network Services**

*A QoE Indicator and a Transmission Control Method for VoIP on Mobile Networks Considering Delay Spikes*

Koichi Nihei (NEC Corporation, Japan), Kozo Satoda (NEC Corporation, Japan), Hiroshi Yoshida (NEC Corporation, Japan) .....	4026
<i>Traffic Scheduling and Power Allocations for Mobile Data Offloading via Dual-Connectivity</i>	
Yuan Wu (Zhejiang University of Technology, P.R. China), Yanfei He (Zhejiang University of Technology, P.R. China), Liping Qian (Zhejiang University of Technology, P.R. China), Sherman Shen (University of Waterloo, Canada) .....	4032

*Cournot Equilibrium in the Mobile Virtual Network Operator Oriented Oligopoly Offloading Market*

Fei Sun (Shanghai Jiao Tong University, P.R. China), Bo Liu (Deakin University, Australia), Fen Hou (University of Macau, Macao), Haibo Zhou (University of Waterloo, Canada), Gui Lin (Shanghai Jiao Tong University, P.R. China), Jiacheng Chen (Shanghai Jiao Tong University, P.R. China) ..... 4038

*Optimizing the Throughput of Millimeter Wave Wireless Communications*

Chao Li (Zhejiang University, P.R. China), Shibo He (Zhejiang University, P.R. China), Zhiguo Shi (Zhejiang University, P.R. China), Jiming Chen (Zhejiang University, P.R. China) ..... 4044

*Device-to-device Assisted Video Frame Recovery for Picocell Edge Users in Heterogeneous Networks*

Zhi Liu (Waseda University, Japan), Mianxiong Dong (Muroran Institute of Technology, Japan), Hao Zhou (University of Science and Technology of China, P.R. China), Xiaoyan Wang (Ibaraki University, Japan), Yusheng Ji (National Institute of Informatics, Japan), Yoshiaki Tanaka (Waseda University, Japan) ..... 4050

## **ICC'16 CT: IEEE ICC 2016 - Communications Theory**

### **RRM**

*Energy Efficiency-Rate Multiobjective Game: Tradeoffs, Scalarisation Techniques and Distributed Implementation*

Ivan Stupia (Université Catholique de Louvain, Belgium), Luc Vandendorpe (Université catholique de Louvain, Belgium) ..... 4056

*Universally Near-Optimal Online Power Control for Energy Harvesting Nodes*

Dor Shaviv (Stanford University, USA), Ayfer Özgür (Stanford University, USA) ..... 4062

*Joint Power and Rate Optimization for Co-Channel Small Cells Using Frank-Wolfe Algorithm*

Haining Wang (University of California, Davis, USA), Zhi Ding (University of California at Davis, USA) ..... 4068

*Delay Minimal Policies in Energy Harvesting Broadcast Channels*

Minghan Fu (Tsinghua University, P.R. China), Ahmed Arafa (University of Maryland College Park, USA), Sennur Ulukus (University of Maryland, USA), Wei Chen (Tsinghua University, P.R. China) ..... 4074

*Throughput-Optimal Rate Adaptation for Best-M Feedback in OFDM Systems*

Jobin Francis (Indian Institute of Science, India), Neelesh B. Mehta (Indian Institute of Science, India) ..... 4080

## **ICC'16 GCSN: IEEE ICC 2016 - Green Communications Systems and Networks**

### **Energy Harvesting 2**

*Joint Admission Control and Content Caching Policy for Energy Harvesting Access Points*

Dusit Niyato (Nanyang Technological University, Singapore), Dong In Kim (Sungkyunkwan University (SKKU), Korea), Ping Wang (Nanyang Technological University, Singapore), Mehdi Bennis (Centre of Wireless Communications, University of Oulu, Finland) ..... 4086

*Performance Limits of Energy Harvesting Communications under Imperfect Channel State Information*

Mohamed Ridha Zenaidi (KAUST, Saudi Arabia), Zouheir Rezki (King Abdullah University of Science and Technology (KAUST), Saudi Arabia), Hamidou Tembine (New York University & Learning and Game Theory Lab, USA), Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia) ..... 4092

<i>Double-Auction-Based Energy Trading for Small Cell Networks with Energy Harvesting</i> Navid Reyhanian (University of Tehran, Iran), Behrouz Maham (Nazarbayev University, Kazakhstan), Vahid Shah-Mansouri (University of Tehran, Iran), Chau Yuen (Singapore University of Technology and Design, Singapore) .....	4098
<i>Transmission Schemes and Performance Analysis for Time-Switching Energy Harvesting Receivers</i> Zhengwei Ni (National University of Singapore, Singapore), Mehul Motani (National University of Singapore, Singapore) .....	4104
<i>Distortion Minimization in Energy Harvesting Sensor Nodes with Compression Power Constraints</i> Rajshekhar Vishweshwar Bhat (National University Singapore, Singapore), Mehul Motani (National University of Singapore, Singapore), Teng Joon Lim (National University of Singapore, Singapore) .....	4110

## Power/Energy Minimization

<i>Optimal Design of Wireless Networks for Broadband Access with Minimum Power Consumption</i> Daniel Verenzuela (Linköping University, Sweden), Emil Björnson (Linköping University, Sweden), Luca Sanguinetti (University of Pisa & SUPELEC, Italy) .....	4116
<i>Data and Energy Cooperation in Relay-enhanced OFDM systems</i> Xueqing Huang (New Jersey Institute of Technology, USA), Nirwan Ansari (New Jersey Institute of Technology, USA) .....	4122
<i>Achieving Energy Saving with QoS Guarantee for WLAN using SDN</i> Yu-Jia Chen (National Chiao Tung University, Taiwan), Yi Hsin Shen (National Chiao Tung University, Taiwan), Li-Chun Wang (National Chiao Tung University, Taiwan) .....	4128
<i>Energy Consumption for Data Distribution in Content Delivery Networks</i> Andrea Bianco (Politecnico di Torino, Italy), Reza Mashayekhi (Politecnico di Torino, Italy), Michela Meo (Politecnico di Torino, Italy) .....	4135
<i>On the Optimization of User-Centric Energy-Efficient C-RAN</i> Jhe-Yi Lin (Academia Sinica, Taiwan), Chia-Han Lee (Academia Sinica, Taiwan), Hen-Wai Tsao (National Taiwan University, ? ) .....	4141

## ICC'16 MWN: IEEE ICC 2016 - Mobile and Wireless Networking Symposium

### Wireless Networks

<i>User admission Maximization Based On Ressource Allocation in Wireless Networks</i> Faouzi Zarai (Sfax University, Tunisia), Mohammad S. Obaidat (Fordham University, USA), Kais Mnif (ENET'COM, University of Sfax, Tunisia), Hekma Chaari (LETI, Tunisia), Lotfi Kammoun (Proffessor, Tunisia) .....	4147
<i>Wireless Power Controlled TCP with Holdover</i> Kevin Schubert (Stanford University, USA), Nicholas Bambos (Stanford University, USA) .....	4153
<i>An Efficient Sub-Frame Based Tag Identification Algorithm for UHF RFID Systems</i> Jian Su (University of Electronic Science and Technology of China, P.R. China), Zhengguo Sheng (University of Sussex, United Kingdom), Danfeng Hong (Technical University Munich, Germany), Victor C.M. Leung (University of British Columbia, Canada) .....	4159
<i>RCFD: A Frequency-based Channel Access Scheme for Full-Duplex Wireless Networks</i> Michele Luvisotto (University of Padova, Italy), Alireza Sadeghi (University of Minnesota, USA), Farshad Lahouti (Caltech Institute of Techlonogy, USA), Stefano Vitturi (CNR, Italy), Michele Zorzi (University of Padova, Italy) .....	4165
<i>ExOR Compact: Reliable Opportunistic Data Forwarding for Wireless Mesh Networks</i> Chen Zhang (Memorial University of Newfoundland, Canada), Yuanzhu Chen (Memorial University of Newfoundland, Canada), Cheng Li (Memorial University of Newfoundland, Canada) .....	4172

## Radio Access Networks

<i>Hierarchical Cooperation in Heterogeneous Cloud Radio Access Networks</i>	
Po-Han Huang (National Taiwan University, Taiwan), Hsu Kao (National Taiwan University, Taiwan), Wanjiun Liao (National Taiwan University, Taiwan) .....	4177
<i>Transmit Beamforming for QoE Improvement in C-RAN with Mobile Virtual Network Operators</i>	
Zehua Wang (University of British Columbia, Canada), Derrick Wing Kwan Ng (University of New South Wales, Australia), Vincent W.S. Wong (University of British Columbia, Canada), Robert Schober (University of British Columbia, Canada) .....	4183
<i>Identifying a Volunteer-like Dilemma in Cooperative Sensing-Empowered Cognitive Radio Network</i>	
Hajar El Hammouti (INPT, Morocco), Essaid Sabir (Hassan II University of Casablanca & ENSEM, Morocco), Loubna Echabbi (INPT, Morocco), Rachid El-Azouzi (University of Avignon, France) .....	4189
<i>Fast Algorithm for Utility Maximization in C-RAN with Joint QoS and Fronthaul Rate Constraints</i>	
Jian Zhao (Nanjing University, P.R. China), Tony Q. S. Quek (Singapore University of Technology and Design, Singapore), Zander (Zhongding) Lei (Institute for Infocomm Research, Singapore) .....	4196
<i>Computation Offloading in Cloud-RAN Based Mobile Cloud Computing System</i>	
Jinkun Cheng (Tsinghua University, P.R. China), Yuanming Shi (ShanghaiTech University, P.R. China), Bo Bai (Tsinghua University, P.R. China), Wei Chen (Tsinghua University, P.R. China) .....	4202

## ICC'16 NGN: IEEE ICC 2016 - Next-Generation Networking and Internet Symposium

### Next-generation Flow Management

<i>Traffic Prediction Based Resource Configuration in Space-based Systems</i>	
Jun Du (Tsinghua University, Beijing, P.R. China), Chunxiao Jiang (Tsinghua University, Beijing, P.R. China), Yi Qian (University of Nebraska-Lincoln, USA), Zhu Han (University of Houston, USA), Yong Ren (Tsinghua University, Beijing, P.R. China) .....	4208
<i>Flow-based NDN Architecture</i>	
Xiaobin Tan (University of Science and Technology of China, P.R. China), Zhifan Zhao (University of Science and Technology of China, P.R. China), Yujiao Cheng (University of Science and Technology of China, P.R. China), Junxiang Su (USTC, P.R. China) .....	4214
<i>Proportional Bandwidth Sharing Using Bayesian Inference in SDN-based Data Centers</i>	
Purnima Murali Mohan (National University of Singapore, Singapore), Dinil Mon Divakaran (Institute for Infocomm Research, Singapore), Mohan Gurusamy (National University of Singapore, Singapore) .....	4220
<i>Separating Predictable and Unpredictable Flows via Dynamic Flow Mining for Effective Traffic Engineering</i>	
Yousuke Takahashi (NTT, Japan), Keisuke Ishibashi (NTT, Japan), Masayuki Tsujino (NTT, Japan), Noriaki Kamiyama (Osaka University & NTT Network Technology Laboratories, Japan), Kohei Shiimoto (NTT, Japan), Tatsuya Otoshi (Osaka University, Japan), Yuichi Ohsita (Osaka University, Japan), Masayuki Murata (Osaka University, Japan) .....	4226
<i>A Markov Model of CCN Pending Interest Table Occupancy with Interest Timeout and Retries</i>	
Amuda James Abu (The Hong Kong University of Science and Technology, Hong Kong), Brahim Bensaou (The Hong Kong University of Science and Technology, Hong Kong), Ahmed M. Abdelmoniem (The Hong Kong University of Science and Technology, Hong Kong) .....	4233

## Future Internet and Next-generation Networking Architectures III (Interactive)

<i>Downlink Coverage Analysis of Two-Tier Heterogeneous Networks with Asynchronous Slots</i> Vahid Naghshin (University of New South Wales, Australia), Mark C Reed (University of New South Wales, Australia), Stephen Hanly (Macquarie University, Australia), Neda Aboutorab (University of New South Wales, Australia) .....	4239
<i>Formulation of Path Selection by means of maximum flow and minimum delay on a Free Space Optical Topology</i> Scott Fowler (Linköping University, Sweden), George Baravdish (Linköping University, Sweden) .....	4245
<i>Joint Multi-RATs and Cloud-Service Matching Scheme in Wireless Heterogeneous Networks</i> Guanhua Qiao (University Of Electronic Science And Technology Of China, P.R. China), Supeng Leng (University of Electronic Science and Technology of China, P.R. China), Yan Zhang (Simula Research Laboratory and University of Oslo, Norway), Liang Xu (University of Electronic Science and Technology of China, P.R. China) .....	4251
<i>A Matching Game for Data Trading in Operator-Supervised User-Provided Networks</i> Beatriz Lorenzo (University of Vigo, Spain), Francisco J. González-Castaño (Universidad de Vigo, Spain) .....	4257
<i>QoE-aware Elasticity Support in Cloud-Native 5G Systems</i> Sunny Dutta (Aalto University, Finland), Tarik Taleb (Aalto University, Finland), Adlen Ksentini (Eurecom, France) .....	4264
<i>QoS-FS: a new forwarding strategy with QoS for routing in Named Data Networking</i> Kerrouche Abdelali (University of Paris-Est, France), Mustapha Reda Senouci (EMP, Algeria), Abdelhamid Mellouk (UPEC, University Paris-Est Creteil Val de Marne, France) .....	4270

## ICC'16 ONS: IEEE ICC 2016 - Optical Networks and Systems

### Optical Networks and Systems (Interactive)

<i>Performance Comparison Between Spatial Multiplexing and Spatial Modulation in Indoor MIMO Visible Light Communication Systems</i> Cuiwei He (Monash University, Australia), Thomas Wang (Monash University, Australia), Jean Armstrong (Monash University, Australia) .....	4277
<i>Capacity Bounds for Parallel IM-DD Optical Wireless Channels</i> Anas Chaaban (King Abdullah University of Science and Technology, Saudi Arabia), Zouheir Rezeki (King Abdullah University of Science and Technologie (KAUST), Saudi Arabia), Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia) .....	4283
<i>Analysis and Design of Amplitude Modulation for Optical Wireless Communication with Shot Noise</i> Chen Gong (USTC, P.R. China), Qian Gao (University of Science and Technology of China, P.R. China), Zhengyuan Xu (University of Science and Technology of China, P.R. China) .....	4289
<i>Non-line-of-sight Channel Impulse Response Characterisation in Visible Light Communications</i> Cheng Chen (University of Edinburgh, United Kingdom), Dushyantha Basnayaka (The University of Edinburgh, United Kingdom), Harald Haas (The University of Edinburgh, United Kingdom) .....	4295

## ICC'16 SAC-2 CCN: IEEE ICC 2016 SAC Cloud Communications and Networking

### Cloud Communications and Networking (Interactive)

<i>LinSOS: Secure Outsourcing of Linear Computations Based on Affine Mapping</i> Kai Zhou (MSU, USA), Jian Ren (Michigan State University, USA) .....	4301
<i>Power-Efficient Virtual Machine Replication in Data Centers</i> Payman Khani (CSUDH, USA), Bin Tang (California State University Dominguez Hills, USA), Jianchao Han (CSUDH, USA), Mohsen Beheshti (CSUDH, USA) .....	4306

## ICC'16 SAC-4 E-HLT: IEEE ICC 2016 SAC E-Health

### e-Health Networks

<i>Source Routing with Protocol-oblivious Forwarding (POF) to Enable Efficient e-Health Data Transfers</i> Shengru Li (University of Science and Technology of China, P.R. China), Daoyun Hu (University of Science and Technology of China, P.R. China), Wenjian Fang (University of Science and Technology of China, P.R. China), Zuqing Zhu (University of Science and Technology of China, P.R. China) .....	4313
<i>An Incremental Learning Classification Algorithm based on Forgetting Factor for eHealth Networks</i> Li Yang (Nanjing University of Posts and Telecommunications, P.R. China), Kun Wang (Nanjing University of Posts and Telecommunications, P.R. China), Chenhan Xu (Nanjing University of Posts and Telecommunications, P.R. China), Chunsheng Zhu (The University of British Columbia, Canada), Yanfei Sun (Nanjing University of Posts and Telecommunications, P.R. China) .....	4319
<i>Tissue Safety Analysis and Duty Cycle Planning for Galvanic Coupled Intra-body Communication</i> Meenupriya Swaminathan (Northeastern University, USA), Ufuk Muncuk (Northeastern University, USA), Kaushik Chowdhury (Northeastern University, USA) .....	4325
<i>On Design of Interference Self-Coordination (ISC) Solution to Enable mHealth Services in HetNets</i> Yaxing Qiu (Peking University, P.R. China), Hemin Yang (Peking University, P.R. China), Anpeng Huang (Peking University, P.R. China), Bingli Jiao (Peking University, P.R. China) .....	4331
<i>Non-Contact Breathing Detection Using Passive Radar</i> Wenda Li (University of Bristol, United Kingdom), Bo Tan (University Of Bristol, United Kingdom), Robert J Piechocki (University of Bristol, United Kingdom) .....	4337

## ICC'16 SAC-8 SN: IEEE ICC 2016 SAC Social Networking

### Social Media

<i>Where Are We Visiting? Measurement and Analysis of Venues in Dianping</i> Yue Huang (Fudan University, P.R. China), Yang Chen (Fudan University, P.R. China), Qian Zhou (Fudan University, P.R. China), Jin Zhao (Fudan University, P.R. China), Xin Wang (Fudan University, P.R. China) .....	4343
--	------

### *Sentiment Classification of Tweets using Hierarchical Classification*

Afroze Baqapuri (Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland), Saad Saleh (National University of Sciences and Technology (NUST), Islamabad, Pakistan), Muhammad Usman Ilyas (National University of Sciences and Technology & School of Electrical Engineering and Computer Science (SEECS), Pakistan), Muhammad Murtaza Khan (National University of Sciences & Technology (NUST), Pakistan), Ali Qamar (Qassim University, Buraydah, Pakistan) ..... 4349

### *Sentiment Analysis: from Binary to Multi-Class Classification - A Pattern-Based Approach for Multi-Class Sentiment Analysis in Twitter*

Mondher Bouazizi (Keio University, Japan), Tomoaki Ohtsuki (Keio University, Japan) ..... 4356

### *Detecting National Political Unrest on Twitter*

Haroon Raja (Rutgers University, USA), Muhammad Usman Ilyas (National University of Sciences and Technology & School of Electrical Engineering and Computer Science (SEECS), Pakistan), Saad Saleh (National University of Sciences and Technology (NUST), Islamabad, Pakistan), Alex X. Liu (Michigan State University, USA), Hayder Radha (Michigan State University, USA) ..... 4362

### *On Diffusion-restricted Social Network: A Measurement Study of WeChat Moments*

Zhuqi Li (Peking University, P.R. China), Lin Chen (Yale University, USA), Yichong Bai (Peking University, P.R. China), Kaigui Bian (Peking University, P.R. China), Pan Zhou (Huazhong University of Science and Technology, P.R. China) ..... 4369

## **Social Networking (Interactive)**

### *Contrastive Topic Evolution Discovery via Nonnegative Matrix Factorization*

Qianru Li (Shanghai Jiao Tong University, P.R. China), Bo Chen (Shanghai Jiao Tong University, P.R. China), Songjun Ma (Shanghai Jiao Tong University, P.R. China), Luoyi Fu (Shanghai Jiao Tong University, P.R. China), Xinbing Wang (Shanghai Jiaotong University, P.R. China) ..... 4375

### *Pricing Game of Celebrities in Sponsored Viral Marketing in Online Social Networks with a Greedy Advertising Platform*

Zhiyi Lu (The University of Hong Kong, Hong Kong), Haojie Zhou (The University of Hong Kong, P.R. China), Victor O. K. Li (University of Hong Kong, P.R. China), Yi Long (The University of Hong Kong, P.R. China) ..... 4381

## **ICC'16 SPC: IEEE ICC 2016 - Signal Processing for Communications Symposium**

### **Spatial Modulation**

#### *Power-Efficient Space Shift Keying Transmission via Semidefinite Programming*

Adrian Garcia-Rodriguez (University College London, United Kingdom), Christos Masouros (University College London, United Kingdom), Lajos Hanzo (University of Southampton, United Kingdom) ..... 4387

#### *Bandwidth Efficient Spatial Modulation Signalling in the Power Domain*

Christos Masouros (University College London, United Kingdom), Lajos Hanzo (University of Southampton, United Kingdom) ..... 4393

#### *Low-Complexity Tree Search-based Detection Algorithms for Generalized Spatial Modulation Aided Single Carrier Systems*

Lixia Xiao (University of Electronic Science and Technology of China, P.R. China), Ping Yang (University of Electronic Science and Technology of China, P.R. China), Yan Zhao (UESTC, P.R. China), Yue Xiao (University of Electronic Science and Technology of China, P.R. China), Jiang Liu (UESTC, P.R. China), Shaoqian Li (University of Electronic Science and Technology of China, P.R. China) ..... 4399



<i>Optimal Energy Efficient Level Set Estimation of Spatially-Temporally Correlated Random Fields</i>	
Zuoen Wang (University of Arkansas, USA), Jingxian Wu (University of Arkansas, USA), Jing Yang (University of Arkansas, USA), Hai Lin (Osaka Prefecture University, Japan) .....	4405
<i>Artificial-Noise Aided Transmit Design for Outage Constrained Service Integration</i>	
Weidong Mei (University of Electronic Science and Technology of China, P.R. China), Lingxiang Li (University of Electronic Science and Technology of China, P.R. China), Zhi Chen (University of Electronic Science and Technology of China & University of California, Riverside, P.R. China), Chuan Huang (University of Electronic Science and Technology of China, P.R. China) .....	4411

## ICC'16 WCS: IEEE ICC 2016 - Wireless Communications Symposium

### Energy Harvesting III

<i>Resource Allocation Techniques for Wireless Powered Communication Networks</i>	
Hoon Lee (Korea University, Korea), Kyoung-Jae Lee (Hanbat National University, Korea), Hanjin Kim (Korea Univvrsity, Korea), Bruno Clerckx (Imperial College London, United Kingdom), Inkyu Lee (Korea University, Korea) .....	4418
<i>Power Allocation and Scheduling for SWIPT Systems with Non-linear Energy Harvesting Model</i>	
Elena Boshkovska (University of Erlangen-Nuremberg, Germany), Rania Morsi (Friedrich-Alexander-University Erlangen-Nuremberg, Germany), Derrick Wing Kwan Ng (University of New South Wales, Australia), Robert Schober (University of British Columbia, Canada) .....	4424
<i>SWIPT with Practical Modulation and RF Energy Harvesting Sensitivity</i>	
Wanchun Liu (The Australian National University, Australia), Xiangyun Zhou (The Australian National University, Australia), Salman Durrani (The Australian National University, Australia), Petar Popovski (Aalborg University, Denmark) .....	4430
<i>Reinforcement Learning for Energy Harvesting Point-to-Point Communications</i>	
Andrea Ortiz (TU Darmstadt, Germany), Hussein Al-Shatri (TU Darmstadt, Germany), Xiang Li (University of Rostock, Germany), Tobias Weber (Uni Rostock, Germany), Anja Klein (TU Darmstadt, Germany) .....	4437
<i>Battery Size Optimization for Energy Harvesting Wireless Nodes</i>	
Remun Koirala (Jacobs University Bremen, Germany), Stefano Severi (Jacobs University Bremen, Germany), Giuseppe Abreu (Jacobs University Bremen, Germany) .....	4443

### Cooperative Networks and Relaying Communications IV

<i>Interference-Free Probing for Relay-Assisted Cross-Channel Gain Estimation in Two-Tier Networks</i>	
Bijia Huang (University of Electronic Science and Technology of China (UESTC), P.R. China), Liying Li (University of Electronic Science and Technology of China, P.R. China), Guodong Zhao (University of Electronic Science and Technology of China (UESTC), P.R. China), Zhi Chen (University of Electronic Science and Technology of China & University of California, Riverside, P.R. China) .....	4448
<i>Two-Level Game for Relay-Based Throughput Enhancement via D2D Communications in LTE Networks</i>	
Jingjing Zhao (Queen Mary University of London, United Kingdom), Kok Keong Chai (Queen Mary University of London, United Kingdom), Yue Chen (Queen Mary University of London, United Kingdom), John Schormans (Queen Mary, University of London, United Kingdom), Jesus Alonso-Zarate (Centre Tecnologic de Telecomunicacions de Catalunya - CTTC, Spain) .....	4454
<i>Radio Resource Allocation for Uplink Sparse Code Multiple Access (SCMA) Networks using Matching Game</i>	
Boya Di (Peking University, P.R. China), Lingyang Song (Peking University, P.R. China), Yonghui Li (University of Sydney, Australia) .....	4460

<i>Optimal Caching Placement for D2D Assisted Wireless Caching Networks</i>	
Jun Rao (Shanghai Jiao Tong University, P.R. China), Hao Feng (Shanghai Jiao Tong University, P.R. China), Chenchen Yang (Shanghai Jiao Tong University, P.R. China), Zhiyong Chen (Shanghai Jiao Tong University, P.R. China), Bin Xia (Shanghai Jiao Tong University, P.R. China)	4466
<i>Novel Pilot-Based Estimators for AF Relaying Channels Using Energy Harvesting</i>	
Yunfei Chen (University of Warwick, United Kingdom), Wei Feng (Tsinghua University, P.R. China), Rui Shi (Tsinghua University, P.R. China), Ning Ge (Tsinghua University, P.R. China)	4472

## Millimeter Wave and Terahertz Communications II

<i>Rate Analysis and Feasibility of Dynamic TDD in 5G Cellular Systems</i>	
Abhishek Kumar Gupta (The University of Texas at Austin, USA), Mandar N. Kulkarni (The University of Texas at Austin, USA), Eugene Visotsky (Nokia Siemens Networks, USA), Frederick W. Vook (Nokia Networks, USA), Amitava Ghosh (Nokia Networks, USA), Jeffrey Andrews (The University of Texas at Austin, USA), Robert Heath Jr. (University of Texas at Austin, USA)	4478
<i>A Dual-Channel 60 GHz Communications Link using Patch Antenna Arrays to Generate Data-Carrying Orbital-Angular-Momentum Beams</i>	
Zhe Zhao (University of Southern California, USA), Yan Yan (University of Southern California, USA), Long Li (University of Southern California, USA), Guodong Xie (University of Southern California, USA), Yongxiong Ren (University of Southern California, USA), Nisar Ahmed (University of Southern California, USA), Zhe Wang (University of Southern California, USA), Cong Liu (University of Southern California, USA), Asher Willner (University of Southern California, USA), Pingyue Song (University of Southern California, USA), Hossein Hashemi (University of Southern California, USA), Haohan Yao (University of Texas at Dallas, USA), Duncan MacFarlane (University of Texas at Dallas, USA), Rashaunda Henderson (University of Texas at Dallas, USA), Nima Ashrafi (University of Texas at Dallas & NxGen Partners, USA), Solymen Ashrafi (NxGen Partners, USA), Shilpa Talwar (Intel, USA), Soji Sajuyigbe (Intel Labs, Intel Corporation, USA), Moshe Tur (Tel Aviv University, Israel), Andreas Molisch (University of Southern California, USA), Alan Willner (University of Southern California, USA)	4484
<i>Beam Design for Beam Switching Based Millimeter Wave Vehicle-to-Infrastructure Communications</i>	
Vutha Va (University of Texas at Austin, USA), Takayuki Shimizu (TOYOTA InfoTechnology Center USA, USA), Gaurav Bansal (Toyota InfoTechnology Center, USA), Robert Heath (The University of Texas at Austin, USA)	4490
<i>Distance Dependence of Path Loss Models with Weighted Fitting</i>	
Aki Karttunen (University of Southern California, USA), Andreas Molisch (University of Southern California, USA), Rui Wang (University of Southern California, USA), Sooyoung Hur (Samsung Electronics Co., Korea), Jianzhong Zhang (Samsung, USA), Jeongho Park (Samsung Electronics, Korea)	4496
<i>Millimeter-Wave Device-to-Device Multi-Hop Routing for Multimedia Applications</i>	
Nima Eshraghi (University of Tehran, Iran), Behrouz Maham (Nazarbayev University, Kazakhstan), Vahid Shah-Mansouri (University of Tehran, Iran)	4502

## ICC'16 AHSN: IEEE ICC 2016 Ad-hoc and Sensor Networking Symposium

### Performance Evaluation

<i>Packing of Cutsets for a Breach Path Detection Problem</i>	
Mohammed Elmorsy (University of Alberta, Canada), Ehab S. Elmallah (University of Alberta, Canada)	4508

<i>On the Optimum Number of Cooperating Nodes in Interfered Cluster-Based Sensor Networks</i>	
Stefan Mijovic (University of Bologna, Italy), Luca Sanguinetti (University of Pisa & SUPELEC, Italy), Chiara Buratti (University of Bologna, Italy), Mérouane Debbah (Huawei, France)	4515
<i>A Novel R-PCA based Multivariate Fault-tolerant Data Aggregation Algorithm in WSNs</i>	
Tianqi Yu (The University of Western Ontario, Canada), Xianbin Wang (University of Western Ontario, Canada), Abdallah Shami (University of Western Ontario, Canada)	4521
<i>A Primal-Dual Algorithm for Data Gathering Based on Matrix Completion for Wireless Sensor Networks</i>	
Mohamed-Ali Moussa (Universite Paris-Est, France), Yosra Marnissi (Université Paris-Est Marne-la-Vallée, France), Yacine Ghamri-Doudane (University of La Rochelle, France)	4526
<i>Coverage-based Node Placement Optimization in Wireless Sensor Network with Linear Topology</i>	
Fahad Alduraibi (University of Maryland Baltimore County, USA), Nouredine Lasla (Research Center on Scientific and Technical Information (CERIST), Algeria), Mohamed Younis (University of Maryland Baltimore County, USA)	4531

## ICC'16 CISS: IEEE ICC 2016 Communication and Information Systems Security Symposium

### Security of Smart Device Systems

<i>LPPS: Location Privacy Protection for Smartphones</i>	
Hongli Zhang (Harbin Institute of Technology, P.R. China), Zhikai Xu (Harbin Institute of Technology, P.R. China), Xiangzhan Yu (Harbin Institute of Technology, P.R. China), Xiaojiang Du (Temple University, USA)	4537
<i>Secure and Energy Efficient Prefetching Design for Smartphones</i>	
Shang Gao (The Hong Kong Polytechnic University, Hong Kong), Zhe Peng (The Hong Kong Polytechnic University, Hong Kong), Bin Xiao (The Hong Kong Polytechnic University, Hong Kong), Song Yubo (Southeast University, P.R. China)	4543
<i>Behavior Grouping of Android Malware Family</i>	
Shun-Wen Hsiao (Academia Sinica, Taiwan), Yeali S. Sun (National Taiwan University, Taiwan), Meng Chang Chen (Academia Sinica, Taiwan)	4549
<i>NomadiKey: User Authentication for Smart Devices based on Nomadic Keys</i>	
Leonardo Cotta (Universidade Federal de Minas Gerais, Brazil), Artur Luis de Souza (Universidade Federal de Minas Gerais, Brazil), Leandro Melo (Universidade Federal de Minas Gerais, Brazil), Luiz Felipe Saggioro (Universidade Federal de Minas Gerais, Brazil), Frederico Sampaio (Federal University of Minas Gerais (UFMG), Brazil), Antonio Maia (Universidade Federal de Minas Gerais, Brazil), Antonio A.F. Loureiro (Federal University of Minas Gerais, Brazil), Italo Cunha (Universidade Federal de Minas Gerais, Brazil), Leonardo Oliveira (Federal University of Minas Gerais, Brazil)	4555
<i>Identification of Visible Industrial Control Devices at Internet Scale</i>	
Xuan Feng (University of Chinese Academy of Sciences, P.R. China), Qiang Li (Beijing Jiaotong University, P.R. China), Qi Han (Colorado School of Mines, USA), Hongsong Zhu (Institute of Information Engineering, Chinese Academy of Sciences, P.R. China), Yan Liu (Peking University, P.R. China), Limin Sun (Institute of Information Engineering, China Academy of Science, Beijing, P.R. China)	4561

# ICC'16 CQRM: IEEE ICC 2016 - Communication QoS, Reliability and Modeling Symposium

## Resource Allocation II

<i>Performance Evaluation of Multi-Core, Multi-Threaded SIP Proxy Servers (SPS)</i> Ramesh Krishnamurthy (North Carolina State University, USA), George N. Rouskas (North Carolina State University, USA) .....	4567
<i>Achieving High Availability in Wireless Networks by Inter-Frequency Multi-Connectivity</i> David Oehmann (Technische Universität Dresden, Germany), Ahmad Awada (Nokia Bell Labs, Germany), Ingo Viering (Nomor Research GmbH, Germany), Meryem Simsek (Technische Universität Dresden, Germany), Gerhard P. Fettweis (Dresden University of Technology, Germany) .....	4573
<i>Link Adaptation Design for Ultra-Reliable Communications</i> Hamidreza Shariatmadari (Aalto University, Finland), Zexian Li (Nokia Bell Labs, Finland), Mikko A Uusitalo (Nokia Technologies, Finland), Sassan Iraji (Aalto University, Finland), Riku Jäntti (Aalto University School of Electrical Engineering, Finland) .....	4580
<i>M2M Massive Access in LTE: RACH Performance Evaluation in a Smart City Scenario</i> Michele Polese (University of Padova, Italy), Marco Centenaro (University of Padova, Italy), Andrea Zanella (University of Padova, Italy), Michele Zorzi (University of Padova, Italy) .....	4585
<i>Energy Harvesting-aware Contention Tree-based Access for Wireless Machine-to-Machine Networks</i> Francisco Vázquez-Gallego (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain), Luis Alonso (Universidad Politecnica de Catalunya-BarcelonaTECH & Telecommunications and Aerospace Engineering School of Castelldefels, Spain), Jesus Alonso-Zarate (Centre Tecnològic de Telecomunicacions de Catalunya - CTTC, Spain) .....	4591

# ICC'16 CRN: IEEE ICC 2016 - Cognitive Radio and Networks Symposium

## Emerging Topics, Services, and Applications I (Interactive)

<i>Active Interference Constraint Learning with Uncertain Feedback for Cognitive Radio Networks</i> Anestis Tsakmalis (University of Luxembourg & SnT, Luxembourg), Symeon Chatzinotas (University of Luxembourg, Luxembourg), Björn Ottersten (University of Luxembourg, Luxembourg) .....	4597
<i>Cooperation for Optimal Demand Response in Cognitive Radio Enabled Smart Grid</i> Ke Zhang (University of Electronic Science and Technology of China, P.R. China), Yuming Mao (SCIE, P.R. China), Supeng Leng (University of Electronic Science and Technology of China, P.R. China), Hanna Bogucka (Poznan University of Technology, Poland), Stein Gjessing (University of Oslo & Simula Research Lab., Norway), Yan Zhang (Simula Research Laboratory and University of Oslo, Norway) .....	4603
<i>Many-to-Many Matching for Combinatorial Spectrum Trading</i> Jiang Linshan (South University of Science and Technology of China, P.R. China), Haofan Cai (South University of Science and Technology of China, P.R. China), Yanjiao Chen (University of Toronto, Canada), Jin Zhang (South University of Science and Technology of China, P.R. China), Baochun Li (University of Toronto, Canada) .....	4609
<i>Cooperative Signal Classification using Spectral Correlation Function in Cognitive Radio Networks</i> Zhi Quan (Southern University of Science and Technology, P.R. China), Dong Li (Macau University of Science and Technology, Macao), Yi Gong (South University of Science and Technology of China, P.R. China) .....	4615

<i>On the Outage Probability of Information Sharing in Cognitive Vehicular Networks</i> Chunxiao Jiang (Tsinghua University, Beijing, P.R. China), Haijun Zhang (The University of British Columbia, Canada), Zhu Han (University of Houston, USA), Julian Cheng (University of British Columbia, Canada), Yong Ren (Tsinghua University, Beijing, P.R. China), Lajos Hanzo (University of Southampton, United Kingdom) .....	4621
<i>Dynamic Rendezvous Algorithms For Cognitive Radio Networks</i> Haosen Pu (Tsinghua University, P.R. China), Zhaoquan Gu (Tsinghua University, P.R. China), Xiao Lin (Tsinghua University, P.R. China), Qiang-Sheng Hua (Huazhong University of Science and Technology, P.R. China), Hai Jin (Huazhong University of Science and Technology, P.R. China) .....	4627

## ICC'16 CSSMA: IEEE ICC 2016 - Communications Software, Services and Multimedia Applications Symposium

### Future Networking Services and Technologies

<i>A Game Theoretic Scheme for Relay Service in Heterogeneous Content Centric Networks</i> Chen Li (Shanghai University, P.R. China), Qichao Xu (Shanghai University, P.R. China), Zhou Su (Shanghai University, P.R. China), Qifan Qi (Shanghai University, P.R. China) .....	4633
<i>Retrieving Information with Autonomously-Flying Routers in Information-Centric Network</i> Taku Kitagawa (Osaka University, Japan), Shingo Ata (Osaka City University, Japan), Masayuki Murata (Osaka University, Japan) .....	4638
<i>A Novel Caching Mechanism for Internet of Things (IoT) Sensing Service with Energy Harvesting</i> Dusit Niyato (Nanyang Technological University, Singapore), Dong In Kim (Sungkyunkwan University (SKKU), Korea), Ping Wang (Nanyang Technological University, Singapore), Lingyang Song (Peking University, P.R. China) .....	4644
<i>A K-means-based Network Partition Algorithm for Controller Placement in Software Defined Network</i> Guodong Wang (South Dakota School of Mines and Technology, USA), Yanxiao Zhao (South Dakota School of Mines and Technology, USA), Jun Huang (Chongqing University of Posts and Telecomm, P.R. China), Qiang Duan (The Pennsylvania State University, USA), Jun Li (Computer Network Information Center, Chinese Academy of Sciences, P.R. China) .....	4650
<i>Towards Cost-Efficient Workload Scheduling For a Tango between Geo-Distributed Data Center and Power Grid</i> Han Hu (Nanyang Technological University, Singapore), Yonggang Wen (Nanyang Technological University, Singapore), Lei Yin (University of Science and Technology of China, P.R. China), Ling Qiu (University of Science and Technology of China, P.R. China) .....	4656

## ICC'16 CT: IEEE ICC 2016 - Communications Theory

### Molecular Communication

<i>Molecular Communication with a Reversible Adsorption Receiver</i> Yansha Deng (King's College London, United Kingdom), Adam Noel (University of Ottawa, Canada), Maged El Kashlan (Queen Mary, University of London, United Kingdom), Arumugam Nallanathan (King's College London, United Kingdom), Karen C Cheung (University of British Columbia, Canada) .....	4663
<i>Receiver Design for Diffusion-based Molecular Communication: Gaussian Mixture Modeling</i> Yeganeh Zamiri-Jafarian (Queen's University, Canada), Saeed Gazor (Queen's University, Canada) .....	4670

<i>Reactive Receiver Modeling for Diffusive Molecular Communication Systems with Molecule Degradation</i>	
Arman Ahmadzadeh (University of Erlangen-Nuremberg, Germany), Hamidreza Arjmandi (Sharif University of Technology, Iran), Andreas Burkovski (University of Erlangen-Nuremberg, Germany), Robert Schober (University of British Columbia, Canada)	4676
<i>Diversity in Diffusion-Based Molecular Communication Channel with Drift</i>	
Derya Malak (The University of Texas at Austin, USA), Hamideh Ramezani (Koç University, Turkey), Murat Kocaoglu (The University of Texas at Austin, USA), Ozgur B. Akan (Koc University, Turkey)	4683
<i>Energy Model for Vesicle-Based Active Transport Molecular Communication</i>	
Nariman Farsad (Stanford University, USA), Huseyin Birkan Yilmaz (Yonsei University, Yonsei Institute of Convergence Technology, Korea), Chan-Byoung Chae (Yonsei University, Korea), Andrea Goldsmith (Stanford University, USA)	4689

## ICC'16 GCSN: IEEE ICC 2016 - Green Communications Systems and Networks

### Energy Management 1

<i>Combinatorial Multi-armed Bandit Algorithms for Real-time Energy Trading in Green C-RAN</i>	
Wan Nur Suryani Firuz Wan Ariffin (King's College London, United Kingdom), Xinruo Zhang (King's College London, United Kingdom), Mohammad Reza Nakhai (King's College London, United Kingdom)	4695
<i>Green Scheduling for Cloud Data Centers Using ESDs to Store Renewable Energy</i>	
Chonglin Gu (Harbin Institute of Technology Shenzhen Graduate School, P.R. China), Hejiao Huang (Harbin Institute of Technology, P.R. China), Xiaohua Jia (City University of Hong Kong, Hong Kong)	4701
<i>Learning-Based Joint Power and Channel Assignment for Hyper Dense 5G Networks</i>	
Atefeh Hajijamali Arani (Isfahan University of Technology, Iran), Abolfazl Mehdodniya (Tohoku University, Japan), Mohammad Javad Omid (Isfahan University of Technology, Iran), Fumiyuki Adachi (Tohoku University, Japan)	4708
<i>Energy-Aware Fog and Cloud Interplay Supported by Wide Area Software Defined Networking</i>	
Piotr Boryło (AGH University of Science and Technology, Poland), Artur Lason (AGH University of Science and Technology, Poland), Jacek Rzasa (AGH University of Science and Technology, Poland), Andrzej Szymanski (AGH University of Science and Technology, Poland), Andrzej Jajszczyk (AGH University of Science and Technology, Poland)	4715
<i>Exploiting Energy Cooperation in Opportunistic Wireless Information and Energy Transfer for Sustainable Cooperative Relaying</i>	
Hengzhi Wang (Zhejiang University, P.R. China), Wei Wang (Zhejiang University, P.R. China), Zhaoyang Zhang (Zhejiang University, P.R. China), Aiping Huang (Zhejiang University, P.R. China)	4722

## ICC'16 MWN: IEEE ICC 2016 - Mobile and Wireless Networking Symposium

### IEEE 802.11 Networks

<i>Analysis of the Downlink Saturation Throughput of an Asymmetric IEEE 802.11n-based WLAN</i>	
Mohammad Soleymani (University of Tehran, Iran), Behrouz Maham (Nazarbayev University, Kazakhstan), Farid Ashtiani (Sharif University of Technology, Iran)	4728
<i>Throughput Analysis of the IEEE802.11p EDCA Considering Transmission Opportunity For Non-Safety Applications</i>	
Mohammed Amine Togou (University of Technology of Troyes, France), Lyes Khoukhi (University of Technology of Troyes, France), Abdelhakim Hafid (University of Montreal, Canada)	4734

<i>Managing Channel Bonding with Clear Channel Assessment in 802.11 Networks</i>	
Wei Wang (Hong Kong University of Science and Technology, Hong Kong), Fan Zhang (HKUST Fok Ying Tung Graduate School (FYTGS), Hong Kong), Qian Zhang (Hong Kong University of Science and Technology, Hong Kong) .....	4740
<i>Throughput-fairness Tradeoff Evaluation for Next-generation WLANs with Adaptive Clear Channel Assessment</i>	
Wessam Afifi (University of Arizona, USA), Enrico Rantala (Nokia Technologies, USA, Finland), Esa Tuomaala (Nokia Technologies, USA, Finland), Sayantan Choudhury (Nokia Technologies, USA, USA), Marwan Krunz (University of Arizona, USA) .....	4746
<i>An Adaptive Tail Time Adjustment Scheme Based on Inter-Packet Arrival Time for IEEE 802.11 WLAN</i>	
Si Young Jang (KAIST, Korea), Byoungheon Shin (KAIST, Korea), Dongman Lee (Korea Advanced Institute of Science and Technology, Korea) .....	4752

## Device to Device (D2D) Communications

<i>Potential games for subcarrier allocation in multi-cell networks with D2D communications</i>	
Demia Della Penda (KTH Royal Institute of Technology, Sweden), Andrea Abrardo (University of Siena, Italy), Marco Moretti (Università di Pisa, Italy), Mikael Johansson (Royal Institute of Technology, Sweden) .....	4758
<i>A Stable Matching Algorithm for Resource Allocation for Underlying Device-to-Device Communications</i>	
Mohammad Tauhidul Islam (Queen's University, Canada), Abd-Elhamid M. Taha (Alfaisal University, Saudi Arabia), Selim G. Akl (Queen's University, Canada), Mervat Abu-Elkheir (Mansoura University, Egypt) .....	4764
<i>A Two-Phase Auction-Based Fair Resource Allocation for Underlying D2D Communications</i>	
Mohammad Tauhidul Islam (Queen's University, Canada), Abd-Elhamid M. Taha (Alfaisal University, Saudi Arabia), Selim G. Akl (Queen's University, Canada), Salimur Choudhury (Algoma University, Canada) .....	4770
<i>Interference Aware Approach for D2D Communications</i>	
Francesco Chiti (Università degli Studi di Firenze, Italy), Dario Di Giacomo (University of Florence, Italy), Romano Fantacci (University of Florence, Italy), Laura Pierucci (University of Florence, Italy) .....	4776
<i>A Matching Approach for Power Efficient Relay Selection in Full Duplex D2D Networks</i>	
Bojiang Ma (University of British Columbia, Canada), Hamed Shah-Mansouri (University of British Columbia, Canada), Vincent W.S. Wong (University of British Columbia, Canada) .....	4782

## ICC'16 NGN: IEEE ICC 2016 - Next-Generation Networking and Internet Symposium

### QoS and QoE in Next-generation Networks

<i>Joint Optimization on Switch Activation and Flow Routing towards Energy Efficient Software Defined Data Center Networks</i>	
Deze Zeng (China University of Geosciences, P.R. China), Guang Yang (China University of Geosciences, P.R. China), Lin Gu (The University of Aizu, Japan), Song Guo (The University of Aizu, Japan), Hong Yao (China University of Geosciences, P.R. China) .....	4788
<i>Optimal Proactive Cache Management in Mobile Networks</i>	
Gao Zheng (King's College London, United Kingdom), Vasilis Friderikos (King's College London, United Kingdom) .....	4794

#### *Handling Service Allocation in Combined Fog-Cloud Scenarios*

Vitor B Souza (Universidade Federal de Viçosa & Universitat Politècnica de Catalunya, Brazil), Wilson Ramirez (Technical University of Catalonia (UPC) & CRAAX, Networking and Information Technology Lab, Spain), Xavier Masip-Bruin (Universitat Politècnica de Catalunya & Advanced Network Architectures Lab (CRAAX), Spain), Eva Marín-Tordera (Technical University of Catalonia UPC, Spain), Guang-Jie Ren (IBM, USA), Ghazal Tashakor (UPC. Universitat Politècnica de Catalunya & Advanced Network Architectures Lab (CRAAX), Spain) ..... 4800

#### *Reservation and Contention Reduced Channel Access Method with effective Quality of Service for Wireless Mesh Networks*

P. Venkata Krishna (Sri Padmavati Mahila University, India), Pounambal M (VIT University, India), V Saritha (VIT University, India), Sudip Misra (Indian Institute of Technology-Kharagpur, India), Mohammad S. Obaidat (Fordham University, USA) ..... 4805

#### *Power Control Based Time-Domain Inter-Cell Interference Coordination Scheme in DSCNs*

Wenjuan Lu (University of Science and Technology of China, P.R. China), Qiang Fan (University of Science and Technology of China, P.R. China), Zexue Li (University of Science and Technology of China, P.R. China), Hancheng Lu (University of Science and Technology of China, P.R. China) ..... 4812

### **Next-generation Access Networking and Mobile Security (Interactive)**

#### *Embracing Adjacent Channel Interference in Next Generation Wi-Fi Networks*

Lu Wang (Shenzhen University, P.R. China), Xiaoke Qi (Institute of Automation, Chinese Academy of Sciences, P.R. China), Kaishun Wu (Shenzhen University, P.R. China) ..... 4818

#### *On Cooperative Jamming in Wireless Networks with Eavesdroppers at Arbitrary Locations*

Zhihong Liu (Xidian University, P.R. China), Jiajia Liu (Xidian University, P.R. China), Jian-feng Ma (Xidian University, P.R. China), Qiping Huang (Xidian University, P.R. China) ..... 4824

#### *A Fuzzy Logic-Based Communication Medium Selection for QoS Preservation in Vehicular Networks*

Tarek Bouali (DRIVE Lab, ISAT Nevers, France), Sidi-Mohammed Senouci (University of Bourgogne - ISAT Nevers, France) ..... 4830

#### *Toward Designing an Adaptive Communication Security for the Next-generation Mobile Computing*

Abdulmonem Mohammad Rashwan (Queen's University, Canada), Abd-Elhamid M. Taha (Alfaisal University, Saudi Arabia), Hossam S. Hassanein (Queen's University, Canada), Ayman Radwan (Instituto de Telecomunicações, Portugal) ..... 4836

#### *Wi-Metal: Detecting Metal by Using Wireless Networks*

Kaishun Wu (Shenzhen University, P.R. China) ..... 4842

#### *An Adaptive Channel Access Mechanism for LTE-U and WiFi Coexistence in an Unlicensed Spectrum*

Jie Xiao (Southeast University, P.R. China), Jun Zheng (Southeast University, P.R. China) ..... 4848

### **ICC'16 ONS: IEEE ICC 2016 - Optical Networks and Systems**

#### **Optical Networks and Systems (Interactive)**

#### *Data Center Optical Data Link Layer Architecture Design and Analysis*

Henna Huang (MIT, USA), Vincent Chan (Massachusetts Institute of Technology, USA) ..... 4854

#### *Downlink Cooperation with Fractional Frequency Reuse in DCO-OFDMA Optical Attocell Networks*

Hossein Kazemi (The University of Edinburgh, United Kingdom), Harald Haas (The University of Edinburgh, United Kingdom) ..... 4861



<i>A Spectral Efficient Optical CDMA Transmission Scheme with Energy Alternation and Single-User Soft-Decision Demodulation</i>	
Aminata Garba (Carnegie Mellon University, USA) .....	4867
<i>Load Balancing and Latency Reduction in Multi-User CoMP over TWDM-VPONs</i>	
Gustavo Bittencourt Figueiredo (Federal University of Bahia, Brazil), Xinbo Wang (University of California, Davis, USA), Carlos Colman-Meixner (University of California, Davis, USA), Massimo Tornatore (Politecnico di Milano & University of California, Davis, Italy), Biswanath Mukherjee (University of California, Davis, USA) .....	4873

## ICC'16 SAC-1 ASN: IEEE ICC 2016 SAC Access Systems and Networks

### Integrated Wired/Wireless Access

<i>Multi-Stratum Resources Optimization for Cloud-based Radio over Optical Fiber Networks</i>	
Hui Yang (Beijing University of Posts and Telecommunications (BUPT), P.R. China), Jie Zhang (Beijing University of Posts and Telecommunications, P.R. China), Yongli Zhao (Beijing University of Posts and Telecommunications, P.R. China), Ji Yuefeng (Beijing University of Posts and Telecommunications, P.R. China), Young Lee (Huawei Technologies Co., Ltd, USA) .....	4879
<i>Time-Domain Precoding for LTE-over-Copper Systems</i>	
Yezi Huang (Lund University, Sweden), Eduardo Medeiros (Lund University, Sweden), Thomas Magesacher (Lund University, Sweden), Stefan Höst (Lund University, Sweden), Chenguang Lu (Ericsson Research, Sweden), Per-Erik Eriksson (Ericsson Research, Sweden), Per Ödling (Lund University, Sweden), Per Ola Börjesson (Dept. of Electrical and Information Technology Lund University, Sweden) .....	4884
<i>A New Virtual Network Embedding Framework based on QoS Satisfaction and Network Reconfiguration for Fiber-Wireless Access Network</i>	
Pengchao Han (Northeastern University, P.R. China), Lei Guo (Northeastern University, P.R. China), Yejun Liu (Northeastern University, P.R. China), Xuetao Wei (University of Cincinnati, USA), Jian Hou (Northeastern University, P.R. China), Xu Han (Northeastern University, P.R. China) .....	4890
<i>A Performance Study of Proxy-based TCP Rate Control Design for Mobile Video Streaming Services</i>	
Joohyung Lee (Samsung Electronics, Korea), Hyungho Lee (Samsung Electronics, Korea), Jinsung Lee (Samsung Electronics, Korea), Hanna Lim (Digital Media & Communication R&D Center & Samsung Electronics, Korea), Jungshin Park (Samsung Electronics, Korea), Jicheol Lee (Samsung Electronics, Korea) .....	4897
<i>Passive Optical Network Range Applicable to Cost-effective Mobile Fronthaul</i>	
Hiroshi Ou (NTT Corporation, Japan), Takayuki Kobayashi (NTT, Japan), Tatsuya Shimada (NTT, Japan), Daisuke Hisano (NTT, Japan), Jun Terada (NTT Corporation, Japan), Akihiro Otaka (NTT Corporation, Japan) .....	4903

## ICC'16 SAC-4 E-HLT: IEEE ICC 2016 SAC E-Health

### Healthcare Sensor Networks

<i>An Intra-body Linear Channel Model Based on Neuronal Subthreshold Stimulation</i>	
Alireza Khodaei (University of Nebraska-Lincoln, USA), Massimiliano Pierobon (University of Nebraska-Lincoln, USA) .....	4909
<i>A Hybrid Key Management Scheme for Healthcare Sensor Networks</i>	
Pallavi Meharia (University of Cincinnati, USA), Dharma P Agrawal (University of Cincinnati, USA) .....	4916

<i>A Physiological Information Extraction Method Based on Wearable PPG Sensors with Motion Artifact Removal</i>	
Wei-Jheng Lin (National Tsing Hua University, Taiwan), Hsi-Pin Ma (National Tsing Hua University, Taiwan) .....	4922
<i>Real Time Non-Contact Remote Cardiac Monitoring</i>	
Md Shaad Mahmud (University of Massachusetts Dartmouth, USA), Honggang Wang (University of Massachusetts, Dartmouth & College of Engineering, USA), Yong Kim (University of Massachusetts Dartmouth, USA) .....	4928
<i>A Two-layer and Multi-strategy Framework for Human Activity Recognition using smartphone</i>	
Qian Guo (University of Science and Technology of China, P.R. China), Bin Liu (University of Science and Technology of China, P.R. China), Chang Wen Chen (State University of New York at Buffalo, USA) .....	4934

## ICC'16 SAC-8 SN: IEEE ICC 2016 SAC Social Networking

### Social Dynamics

<i>Group Mobility: Detection, Tracking and Characterization</i>	
Ivan Nunes (Federal University of Minas Gerais, Brazil), Pedro O. S. Vaz de Melo (Federal University of Minas Gerais, Brazil), Antonio A.F. Loureiro (Federal University of Minas Gerais, Brazil) .....	4940
<i>Resource Allocation for Wireless Caching in Socially-Enabled D2D Communications</i>	
Huaqing Wu (Beijing University of Posts and Telecommunications, P.R. China), Li Wang (Beijing University of Posts and Telecommunications, P.R. China), Tommy Svensson (Chalmers University of Technology, Sweden), Zhu Han (University of Houston, USA) .....	4946
<i>Steering Information Cascades in a Social System by Selective Rewiring and Incentive Seeding</i>	
Jen-Hao Hsiao (Graduate Institute of Communication Engineering, National Taiwan University, Taiwan), Kwang-Cheng Chen (National Taiwan University, Taiwan) .....	4952
<i>Modeling and Estimating the Structure of D2D-Based Mobile Social Networks</i>	
Sigit Pambudi (North Carolina State University, USA), Wenye Wang (NC State University, USA), Cliff Wang (Army Research Office, USA) .....	4958
<i>How the Anti-Rumor Kills the Rumor: Conflicting Information Propagation in Networks</i>	
Jie Wang (North Carolina State University, USA), Wenye Wang (NC State University, USA), Cliff Wang (Army Research Office, USA) .....	4964

## ICC'16 SAC-7 SSC: IEEE ICC 2016 SAC Satellite and Space Communications

### Communications (Interactive)

<i>Four-Dimensional Constellations for Dual-Polarized Satellite Communications</i>	
Nicolò Mazzali (University of Luxembourg, Luxembourg), Farbod Kayhan (University of Luxembourg, Luxembourg), Bhavani Shankar Mysore R (Interdisciplinary Centre for Security, Reliability and Trust & University of Luxembourg, Luxembourg) .....	4970
<i>Non-linear Distortion Noise Cancellation for Satellite Return Links</i>	
Svilen Dimitrov (German Aerospace Center (DLR), Germany) .....	4976

# ICC'16 SPC: IEEE ICC 2016 - Signal Processing for Communications Symposium

## Channel Identification and Shortening

<i>Exploiting Spectral Regrowth for Joint PA Characteristics Estimation and Channel Identification</i> Kuang Cai (Stevens Institute of Technology, USA), Khaled Amleh (Penn State Mont Alto, USA), Hongbin Li (Stevens Institute of Technology, USA) .....	4982
<i>Channel Estimation Techniques for Diffusion-Based Molecular Communications</i> Vahid Jamali (Friedrich-Alexander-University Erlangen-Nürnberg, Germany), Arman Ahmadzadeh (University of Erlangen-Nuremberg, Germany), Christophe Jardin (Bioinformatics, Germany), Heinrich Sticht (Bioinformatics, Germany), Robert Schober (University of British Columbia, Canada) .....	4987
<i>Design and Analysis Framework for Sparse FIR Channel Shortening</i> Abubakr O. Al-Abbasi (Qatar University, Qatar), Ridha Hamila (Qatar University, Qatar), Waheed U. Bajwa (Rutgers University, USA), Naofal Al-Dhahir (University of Texas at Dallas, USA) .....	4994
<i>A Low-complexity Channel Shortening Receiver with Diversity Support for Evolved 2G Devices</i> Sha Hu (Lund University, Sweden), Harald Kröll (ETH Zurich, Switzerland), Qiuting Huang (ETH Zurich, Switzerland), Fredrik Rusek (Lund University, Sweden) .....	5001
<i>Characterization of HPA Using Two Dimensional General Memory Polynomial for Dual Band Carrier Aggregated MIMO-OFDM Systems</i> Parag Aggarwal (Indraprastha Institute of Information Technology, Delhi (IIIT-Delhi), India), Vivek A Bohara (Indraprastha Institute of Information Technology, Delhi (IIIT-Delhi), India) .....	5008

# ICC'16 WCS: IEEE ICC 2016 - Wireless Communications Symposium

## Network Coding

<i>Network coding efficiency in the presence of an intermittent backhaul network</i> Stefan Achleitner (Pennsylvania State University, USA), Tom La Porta (Pennsylvania State University, USA), Srikanth V. Krishnamurthy (University of California, Riverside, USA), Victor Quizhpi (US Army CERDEC, USA) .....	5015
<i>An Efficient Network Coding Scheme for Two-way Communication with ARQ Feedback</i> Hongyi Zhu (Purdue University, USA), Besma Smida (University of Illinois at Chicago, USA), David Love (Purdue University, USA) .....	5021
<i>Physical-layer Network Coding: A High Performance PHY-layer Decoder</i> Shakeel Salamat Ullah (The Chinese University of Hong Kong, Hong Kong), Soung Chang Liew (The Chinese University of Hong Kong, Hong Kong), Lu Lu (The Chinese University of Hong Kong, Hong Kong), Lizhao You (The Chinese University of Hong Kong, Hong Kong) .....	5027
<i>On the Impact of Lossy Channels in Wireless Edge Caching</i> Angela Sara Cacciapuoti (University of Naples Federico II, Italy), Marcello Caleffi (University of Naples "Federico II", Italy), Mingyue Ji (University of Southern California, USA), Jaime Llorca (Bell Labs, Alcatel-Lucent, USA), Antonia Tulino (Bell Laboratories & Università degli studi di Napoli, USA) .....	5033
<i>Rate Aware Network Codes For Coordinated Multi Base-Station Networks</i> Mohammed Saif (King Fahd University of Petroleum and Minerals, Saudi Arabia), Ahmed Douik (California Institute of Technology, USA), Sameh Sorour (King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia) .....	5040

## Interference Characterization II

<i>Full-Duplex Cloud-RAN with Uplink/Downlink Remote Radio Head Association</i> Mohammadali Mohammadi (Shahrekord University, Iran), Himal A Suraweera (University of Peradeniya, Sri Lanka), Chintla Tellambura (University of Alberta, Canada) .....	5047
<i>Impact of LOS/NLOS Propagation and Path Loss in Ultra-Dense Cellular Networks</i> Jesús Arnau (Huawei Technologies Co. Ltd. & Mathematical and Algorithmic Sciences Lab, France Research Center, France), Italo Atzeni (Mathematical and Algorithmic Sciences Lab, France Research Center, Huawei Technologies Co. Ltd., France), Marios Kountouris (Huawei Technologies, France) .....	5053
<i>Multi-Operator Spectrum Sharing using Matching Game in Small Cells Network</i> Tachporn Sanguanpuak (University of Oulu, Finland), Sudarshan Guruacharya (University of Manitoba, Canada), Nandana Rajatheva (University of Oulu, Finland), Mehdi Bennis (Centre of Wireless Communications, University of Oulu, Finland), Dusit Niyato (Nanyang Technological University, Singapore), Matti Latva-aho (UoOulu, Finland) .....	5059
<i>Throughput and Coverage for a Mixed Full and Half Duplex Small Cell Network</i> Sanjay Goyal (New York University, USA), Carlo Galiotto (CTVR, Trinity College Dublin, Ireland), Nicola Marchetti (CTVR Trinity College, Ireland), Shivendra Panwar (Polytechnic Institute of New York University, USA) .....	5065
<i>Downlink Coverage Probability of K-Tier HetNets with General Non-Uniform User Distributions</i> Chiranjib Saha (Virginia Polytechnic Institute and State University, USA), Harpreet S Dhillon (Virginia Tech, USA) .....	5072

## Interference Management I

<i>Interference Alignment with Physical-Layer Network Coding in MIMO Relay Channels</i> Tse-Tin Chan (The Chinese University of Hong Kong, Hong Kong), Tat M. Lok (The Chinese University of Hong Kong, Hong Kong) .....	5078
<i>Inter-User Interference Coordination in Full-Duplex Systems Based on Geographical Context Information</i> Melissa Duarte (Huawei Technologies, France), Afef Feki (France Research Center, Huawei Technologies, France), Stefan Valentin (Huawei Technologies, France) .....	5084
<i>A Two-Stage Rank Selection Scheme in Downlink CoMP Transmission Networks</i> Yong Wang (Harbin Institute of Technology, P.R. China), Ben Liang (University of Toronto, Canada), Yubin Xu (Harbin Institute of Technology, P.R. China) .....	5091
<i>A New Energy Efficient Beamforming Strategy for MISO IFBC based on Large Systems Analysis</i> Sang-Rim Lee (Korea University, Korea), Jaehoon Jung (Korea University, Korea), Haewook Park (Korea University, Korea), Inkyu Lee (Korea University, Korea) .....	5097
<i>Analog Spatial Decoupling for Tackling the Near-Far Problem in Wirelessly Powered Communications</i> Guangxu Zhu (The University of Hong Kong, P.R. China), Kaibin Huang (Dept. of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong) .....	5103

## Massive MIMO III

<i>Downlink Multiuser Massive MIMO in Rician Channels under Pilot Contamination</i> Lou Zhao (University of New South Wales, Australia), Tao Yang (University of Technology Sydney, Australia), Giovanni Geraci (Bell Labs, Ireland), Jinhong Yuan (University of New South Wales, Australia) .....	5109
<i>Modelling Interference in High Altitude Platforms with 3D LoS Massive MIMO</i> Yeqing Hu (Monash University, Australia), Yi Hong (Monash University, Australia), Jamie S Evans (University of Melbourne, Australia) .....	5115

<i>Massive MIMO Two-Way Relay Networks with Channel Imperfections</i> Shashindra Silva (University of Alberta, Canada), Gayan Amarasuriya (Southern Illinois University, USA), Chintha Tellambura (University of Alberta, Canada), Masoud Ardakani (University of Alberta, Canada) .....	5121
<i>On the Spectral Efficiency of Space-Constrained Massive MIMO with Linear Receivers</i> Jiayi Zhang (Beijing Jiaotong University, P.R. China), Linglong Dai (Tsinghua University, P.R. China), Michail Matthaiou (Queen's University Belfast, United Kingdom), Christos Masouros (University College London, United Kingdom), Shi Jin (Southeast University, P.R. China) .....	5128
<i>Exploiting Dominant Eigendirections for Feedback Compression for FDD-based Massive MIMO Systems</i> Byungju Lee (Purdue University, USA), Hyoungho Ji (Seoul National University & Samsung Electronics. Co., Ltd, Korea), David Love (Purdue University, USA), Byonghyo Shim (Seoul National University, Korea) .....	5134

## Interference Management and Coordination (Interactive)

<i>Multiple Association in Ultra-Dense Networks</i> Mahmoud I Kamel (Concordia University, Canada), Walaa Hamouda (Concordia University, Canada), Amr Youssef (Concordia University, Canada) .....	5140
<i>Tradeoff between PHY Caching and Core Network Caching in Cellular Networks</i> Wei Han (Hong Kong University of Science and Technology, Hong Kong), An Liu (Hong Kong University of Science and Technology, Hong Kong), Vincent Lau (Hong Kong University of Science and Technology, Hong Kong) .....	5146
<i>RRH based Massive MIMO with "on the Fly" Pilot Contamination Control</i> Ozgun Y. Bursalioglu (Docomo Innovations, USA), Chenwei Wang (DOCOMO Innovations, Inc., USA), Haralabos Papadopoulos (DOCOMO Innovations Inc., USA), Giuseppe Caire (Technische Universität Berlin, Germany) .....	5152
<i>Oblique Projection-Based Interference Cancellation in Full-Duplex MIMO Systems</i> Chun-Hao Fang (National Chiao Tung University, Taiwan), Pei-Rong Li (National Chiao Tung University, Taiwan), Kai-Ten Feng (National Chiao Tung University, Taiwan) .....	5159
<i>Randomized Gaussian Message Passing for Scalable Uplink Signal Processing in C-RANs</i> Congmin Fan (The Chinese University of Hong Kong, Hong Kong), Xiaojun Yuan (ShanghaiTech University, P.R. China), Ying Jun (Angela) Zhang (The Chinese University of Hong Kong, Hong Kong) .....	5164
<i>Optimizing Power and User Association for Energy Saving in Load-Coupled Cooperative LTE</i> Lei You (Linköping University, Sweden), Lei Lei (Linköping University, Sweden), Di Yuan (Linköping University, Sweden) .....	5170

## ICC'16 AHSN: IEEE ICC 2016 Ad-hoc and Sensor Networking Symposium

### Power Control

<i>A Relay Subset Selection Scheme for Wireless Sensor Networks Based on Channel State Information</i> Seyed Hamed Mousavi (Shiraz University of Technology, Iran), Javad Haghighat (Shiraz University of Technology, Iran), Walaa Hamouda (Concordia University, Canada) .....	5176
<i>Wireless Power Transfer for Access Limited Wireless Underground Sensor Networks</i> Steven Kisseleff (Friedrich-Alexander-University Erlangen-Nürnberg (FAU), Germany), Xiaoyang Chen (University of Erlangen-Nuremberg, Germany), Ian F. Akyildiz (Georgia Institute of Technology, USA), Wolfgang Gerstacker (University of Erlangen-Nuernberg, Germany) .....	5182

<i>Dynamic Power Control and Optimization Scheme for QoS-Constrained Cooperative Wireless Sensor Networks</i>	
Ziqiang Feng (University of Cambridge, United Kingdom), Ian James Wassell (University of Cambridge, United Kingdom) .....	5189
<i>Maximum Likelihood Estimation of Clock Skew in Sparse One-Way Packet Transmissions for Machine Type Communication Applications</i>	
Atanu Guchhait (Samsung R&D Institute India - Bangalore, India) .....	5195
<i>Dynamic Sensing Scheduling to Prolong Network Lifetime under Practical Requirements</i>	
Yang Peng (University of Washington Bothell, USA), Zi Li (Iowa State University, USA), Wensheng Zhang (Iowa State University, USA), Daji Qiao (Iowa State University, USA) .....	5201

## ICC'16 CISS: IEEE ICC 2016 Communication and Information Systems Security Symposium

### Physical Layer Security

<i>Joint Power and Access Control for Physical Layer Security in D2D Communications Underlying Cellular Networks</i>	
Rongqing Zhang (Colorado State University, USA), Xiang Cheng (Peking University, P.R. China), Liuqing Yang (Colorado State University, USA) .....	5208
<i>Ergodic Secrecy Capacity Analysis for Cooperative Communication with Relay Selection Under Non-Identical Distribution</i>	
Esa R. Alotaibi (University of Manchester, United Kingdom), Khairi A. Hamdi (University of Manchester, United Kingdom) .....	5214
<i>Conditional Constellation Based-Distinct Native Attribute (CB-DNA) Fingerprinting for Network Device Authentication</i>	
Timothy J Carbino (Air Force Institute of Technology, USA), Michael A Temple (Air Force Institute of Technology, USA), Juan Lopez, Jr. (Air Force Institute of Technology, USA) .....	5220
<i>Secrecy Performance of the Artificial Noise Assisted Broadcast Channel with Confidential Messages and External Eavesdroppers</i>	
Hui Chen (Beijing University of Posts and Telecommunications (BUPT), P.R. China), Xiaofeng Tao (Beijing University of Posts and Telecommunications, P.R. China), Na Li (Beijing University of Posts and Telecommunications, P.R. China), Xiangling Li (Beijing University of Post and Telecommunications, P.R. China) .....	5226
<i>Outage Constrained Secrecy Rate Maximization Using Artificial-Noise Aided Beamforming and Cooperative Jamming</i>	
Lin Hu (University of Electronic Science and Technology of China, P.R. China), Bin Wu (Tian jin University, P.R. China), Tang Jie (UESTC in China, P.R. China), Fei Pan (University of Electronic Science and Technology of China, P.R. China), Hong Wen (UESTC, P.R. China) .....	5232

## ICC'16 CQRM: IEEE ICC 2016 - Communication QoS, Reliability and Modeling Symposium

### Tools and Methods

<i>Stochastic Geometry Analysis and Optimization of Uplink Cellular Networks with Fractional Power Control and Optimum Combining</i>	
Peng Guan (Huawei Technologies, P.R. China), Marco Di Renzo (Paris-Saclay University / CNRS, France) .....	5237
<i>Wired and Wireless Network Cooperation for Quick Recovery</i>	
Yu Nakayama (The University of Tokyo, Japan), Kazuki Maruta (Kyushu University, Japan), Takuya Tsutsumi (Neco9 Laboratories, Japan), Kaoru Sezaki (University of Tokyo, Japan) .....	5243

<i>Delay-Bounded Transport using Rateless Codes for I/O Bus over Wireless Ethernet</i> Yuki Hayashi (NEC Corporation, Japan), Jun Suzuki (NEC Corporation, Japan), Masaki Kan (NEC Corporation, Japan), Takashi Yoshikawa (NEC Corporation, Japan), Shinya Miyakawa (NEC Corporation, Japan) .....	5249
<i>The Stability Region of the Two-User Broadcast Channel</i> Nikolaos Pappas (Linköping University, Sweden), Marios Kountouris (Huawei Technologies, France) .....	5255
<i>Intervehicular Communication Systems under Co-Channel Interference and Outdated Channel Estimates</i> Petros S. Bithas (University of Piraeus, Greece), George Efthymoglou (University of Piraeus, Greece), Athanasios G. Kanatas (University of Piraeus, Greece) .....	5261

## ICC'16 CRN: IEEE ICC 2016 - Cognitive Radio and Networks Symposium

### Emerging Topics, Services, and Applications II (Interactive)

<i>Performance Analysis of Hybrid Cognitive Radio Systems with Imperfect Channel Knowledge</i> Ankit Kaushik (Karlsruhe Institute of Technology, Germany), Shree Krishna Sharma (University of Luxembourg, Luxembourg), Symeon Chatzinotas (University of Luxembourg, Luxembourg), Björn Ottersten (University of Luxembourg, Luxembourg), Friedrich K. Jondral (Karlsruhe Institute of Technology, Germany) .....	5267
<i>Analysis of an Interruption-Based Priority for Multi-Class Secondary Users in Cognitive Radio Networks</i> Ahmed Zakariya (Faculty of Engineering, Alexandria University, Alexandria, Egypt), Sherif Rabia (Faculty of Engineering, Alexandria University, Egypt) .....	5274
<i>Impact of Hardware Impairment on Spectrum Underlay Cognitive Multiple Relays Network</i> HaiYan Huang (XiDian University, P.R. China), Zan Li (Xidian University, P.R. China), Bo Ai (Beijing Jiaotong University & State Key Lab of Rail Traffic Control and Safety, P.R. China), Gongpu Wang (Beijing Jiaotong University, P.R. China), Mohammad S. Obaidat (Fordham University, USA) .....	5280
<i>The Achievable Capacity Scaling Laws of 3D Cognitive Radio Networks</i> Zhiqing Wei (Beijing University of Posts and Telecommunications, P.R. China), Zhiyong Feng (Beijing University of Posts and Telecommunications, P.R. China), Xin Yuan (Beijing University of Post and Telecommunications, P.R. China), Xinyu Feng (Beijing University of Post and Telecommunication, P.R. China), Qixun Zhang (Beijing University of Posts and Telecommunications, P.R. China), Xin Wang (Stony Brook University, USA) .....	5286
<i>Reconstruction of a Gaussian Random Field with Application to Spectrum Cartography</i> Geethu Joseph (Indian Institute of Science, India), Chandra R Murthy (Indian Institute of Science, India) .....	5292

## ICC'16 CSSMA: IEEE ICC 2016 - Communications Software, Services and Multimedia Applications Symposium

### Multimedia Streaming and Video Delivery

<i>Large-scale Characterization of Comprehensive Online Video Service in Mobile Network</i> Chenyu Li (Beijing University of Posts and Telecommunications, P.R. China), Jun Liu, Dr. (Beijing University of Posts and Telecommunications, P.R. China) .....	5298
<i>Energy-Aware Concurrent Multipath Transfer for Real-Time Video Streaming to Multihomed Terminals</i> Jiyan Wu (Singapore University of Technology and Design, Singapore), Ming Wang (Beijing University of Posts and Telecommunications, P.R. China), Chau Yuen (Singapore University of Technology and Design, Singapore) .....	5305

<i>Quality Improvement and Overhead Reduction for Soft Video Delivery</i>	
Takuya Fujihashi (Osaka University, Japan), Toshiaki Koike-Akino (Mitsubishi Electric Research Laboratories (MERL), USA), Takashi Watanabe (Osaka University, Japan), Philip Orlik (Mitsubishi Electric Research Laboratories, USA) .....	5311
<i>Provisioning Cost-effective Mobile Video Caching</i>	
Seyed Ehsan Ghoreishi (King's College London, United Kingdom), Vasilis Friderikos (King's College London, United Kingdom), Dmytro Karamshuk (King's College London, United Kingdom), Nishanth Sastry (King's College London & Kings College London, United Kingdom), Hamid Aghvami (King's College London, United Kingdom) .....	5317
<i>Applicative-Layer Multipath for Low-Latency Adaptive Live Streaming</i>	
Patrice Houzé (Orange Labs, France), Emmanuel Mory (Orange Labs, France), Geraldine Texier (IRISA/TELECOM Bretagne/ReOP & Institut Mines-Telecom/Telecom Bretagne/RSM, France), Gwendal Simon (Institut Mines Telecom - Telecom Bretagne, France) .....	5324

## ICC'16 CT: IEEE ICC 2016 - Communications Theory

### Coding II

<i>An Efficient Exhaustive Search Algorithm for Elementary Trapping Sets of Variable-Regular LDPC Codes</i>	
Yoonas Hashemi Toroghi (Carleton University, Canada), Amir Banihashemi (Carleton University, Canada) .....	5331
<i>Practical LDPC Encoders Robust to Hardware Errors</i>	
Elsa Dupraz (Telecom Bretagne, France), Valentin Savin (CEA LETI, France), Satish Grandhi (University College Cork, Ireland), Emanuel M. Popovici (University College Cork, Ireland), David Declercq (ETIS ENSEA/univ. of Cergy-Pontoise/CNRS, France) .....	5338
<i>Fully Parallel Window Decoder Architecture for Spatially-Coupled LDPC Codes</i>	
Najeeb Ul Hassan (Dresden University of Technology, Germany), Martin Schlüter (Vodafone Chair Mobile Communications System TU Dresden, Germany), Gerhard P. Fettweis (Dresden University of Technology, Germany) .....	5344
<i>Performance Analysis and Optimization of LT Codes with Unequal Recovery Time and Intermediate Feedback</i>	
Rana Abbas (The University of Sydney, Australia), Mahyar Shirvanimoghaddam (University of Newcastle, Australia), Yonghui Li (University of Sydney, Australia), Branka Vucetic (University of Sydney, Australia) .....	5350
<i>Error-Correcting Functional Index Codes, Generalized Exclusive Laws and Graph Coloring</i>	
Anindya Gupta (Indian Institute of Science, India), B. Sundar Rajan (Indian Institute of Science, India) .....	5356

## ICC'16 GCSN: IEEE ICC 2016 - Green Communications Systems and Networks

### Energy Management 2

<i>Full-Duplex Machine-to-Machine Communication for Wireless-Powered Internet-of-Things</i>	
Yong Xiao (University of Houston, USA), Zixiang Xiong (Texas A&M University, USA), Dusit Niyato (Nanyang Technological University, Singapore), Zhu Han (University of Houston, USA), Luiz DaSilva (Trinity College & Trinity College Dublin, Ireland) .....	5363
<i>Responsive Algorithms for Handling Load Surges and Switching Links On in Green Networks</i>	
Radu Carpa (ENS de Lyon, France), Marcos Dias de Assuncao (Inria, France), Olivier Gluck (LIP, Ens Lyon, France), Laurent Lefevre (INRIA, France), Jean-Christophe Mignot (ENS Lyon, France) .....	5369



<i>Joint Optimization of AN-aided Beamforming and Power Splitting Designs for MISO Secrecy Channel with SWIPT</i>	
Zheng-yu Zhu (Zhengzhou University, P.R. China), Zheng Chu (Newcastle University, United Kingdom), Zhong-yong Wang (Zhengzhou University, P.R. China), Inkyu Lee (Korea University, Korea)	5376
<i>Energy-Harvesting in Cooperative AF Relaying Networks Over Log-Normal Fading Channels</i>	
Khaled M. Rabie (Manchester Metropolitan University, United Kingdom), Abdelhamid Salem (University of Manchester, United Kingdom), Emad Alsusa (Manchester University, United Kingdom), Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)	5382
<i>Coordinated Power Reduction in Multi-Tenant Colocation Datacenter: An Emergency Demand Response Study</i>	
Nguyen H. Tran (Kyung Hee University, Korea), Chuan Pham (Kyung Hee University, Korea), Shaolei Ren (University of California, Riverside, USA), Zhu Han (University of Houston, USA), Choong Seon Hong (Kyung Hee University, Korea)	5389

## ICC'16 MWN: IEEE ICC 2016 - Mobile and Wireless Networking Symposium

### Heterogeneous Wireless Networks

<i>Self-Organizing Radio Resource Management for Next Generation Heterogeneous Wireless Networks</i>	
Mary Adedoyin (University of Cape Town, South Africa), Olabisi Emmanuel Falowo (University of Cape Town, South Africa)	5395
<i>Solidarity-based Cooperative Games for Resource Allocation with Macro-users Protection in HetNets</i>	
Mouna Hajir (Ecole de Technologie Superieure, Canada), Rami Langar (UPMC - University of Paris 6, France), Francois Gagnon (Ecole de Technologie Superieure, Canada)	5401
<i>Utility function-Based TOPSIS for Network Interface Selection in Heterogeneous Wireless Networks</i>	
Mohamed Abdelkrim Senouci (UPEC, France), Said Hoceini (UPEC, University Paris-Est Creteil Val de Marne, France), Abdelhamid Mellouk (UPEC, University Paris-Est Creteil Val de Marne, France)	5408
<i>An Analytical Approach to Coexisting Evaluation in Multi-RAT Heterogeneous Networks with Opportunistic CSMA/CA</i>	
Hong-Cheng Tsai (National Chiao Tung University, Taiwan), Chun-Hung Liu (National Chiao Tung University, Taiwan), Li-Chun Wang (National Chiao Tung University, Taiwan)	5414
<i>Dynamic Range Aware LTE Uplink P0 Optimization in HetNet</i>	
Henrik M J Martikainen (Magister Solutions Ltd. & Nokia, Finland), Ingo Viering (Nomor Research GmbH, Germany), Bernhard Wegmann (Nokia, Germany)	5420

### Small Cell Networks

<i>Offloading traffic hotspots using moving small cells</i>	
Aymen Jaziri (Orange Labs & Telecom Sudparis and UPMC, France), Ridha Nasri (Orange Labs, France), Tijani Chahed (Telecom SudParis, France)	5426
<i>A Full-Duplex Self-backhaul Scheme for Small Cell Networks with Massive MIMO</i>	
Lei Chen (The University of British Columbia, Canada), F. Richard Yu (Carleton University, Canada), Hong Ji (Beijing University of Posts and Telecommunications, P.R. China), Victor C.M. Leung (University of British Columbia, Canada), Xi Li (Beijing University of Posts and Telecommunications, P.R. China), Bo Rong (Communications Research Centre, Canada)	5432
<i>A Cheat-Proof Power Control Policy for Self-Organizing Full-Duplex Small Cells</i>	
Prabodini Semasinghe (University of Manitoba, Canada), Ekram Hossain (University of Manitoba, Canada)	5438

<i>Energy Efficient Power Allocation and Backhaul Design in Heterogeneous Small Cell Networks</i> Hao Liu (University of British Columbia, Canada), Haijun Zhang (The University of British Columbia, Canada), Julian Cheng (University of British Columbia, Canada), Victor C.M. Leung (University of British Columbia, Canada) .....	5444
<i>Smart Caching in Wireless Small Cell Networks via Contextual Multi-Armed Bandits</i> Sabrina Müller (Technische Universität Darmstadt, Germany), Onur Atan (University of California Los Angeles, USA), Mihaela van der Schaar (UCLA, USA), Anja Klein (TU Darmstadt, Germany) .....	5449

## Mobile Wireless Networks (Interactive)

<i>Space Division Full-duplex Scheme with Joint Scheduling and Precoding Design</i> Weiwei Wang (Fujitsu Research & Development Center, P.R. China), Lei Song (Fujitsu R&D Center China, P.R. China), Wang Xin (Fujitsu Research and Development Center, Beijing, P.R. China), Tsuyoshi Hasegawa (Fujitsu Laboratories Ltd., Japan), Yoshinori Tanaka (Fujitsu Laboratories Ltd., Japan), Tokuro Kubo (Fujitsu Laboratories Limited, Japan) .....	5456
<i>Analysis of Human-Body Blockage in Urban Millimeter-Wave Cellular Communications</i> Margarita Gapeyenko (Tampere University of Technology, Finland), Andrey Samuylov (Tampere University of Technology, Finland), Mikhail Gerasimenko (Tampere University of Technology, Finland), Dmitri Moltchanov (Tampere University of Technology, Finland), Sarabjot Singh (Intel Corporation, USA), Ehsan Aryafar (Intel Labs, USA), Shu-ping Yeh (Intel Corporation, USA), Nageen Himayat (Intel Corporation, USA), Sergey Andreev (Tampere University of Technology, Finland), Yevgeni Koucheryavy (Tampere University of Technology, Finland) .....	5463
<i>Behavioral Malware Detection Approaches for Android</i> Mohammad Rakib Amin (Bangladesh University of Engineering and Technology, Bangladesh), Mehedee Zaman (Bangladesh University of Engineering and Technology, Bangladesh), Md Shohrab Hossain (Bangladesh University of Engineering and Technology, Bangladesh), Mohammed Atiquzzaman (University of Oklahoma, USA) .....	5470
<i>A Distributed Cluster Based Transmission Scheduling in VANET</i> Meysam Azizian (Université de Sherbrooke, Quebec, Canada), Soumaya Cherkaoui (Université de Sherbrooke, Canada), Abdelhakim Hafid (University of Montreal, Canada) .....	5476
<i>A Flooding-Based Solution to Improve Location Services in VANETs</i> Selma Boumerdassi (Conservatoire National des Arts et Métiers, France), Eric Renault (Institut Mines-Telecom -- Telecom SudParis & Samovar UMR CNRS 5157, France) .....	5482

## ICC'16 NGN: IEEE ICC 2016 - Next-Generation Networking and Internet Symposium

### Centralized-RAN and Cloud-RAN Architectures

<i>Cost-Constrained Delay Minimization of C-RAN and its Multiplexing Gain</i> Jian Wu (University of California, Davis, USA), Dipak Ghosal (University of California, Davis, USA) .....	5488
<i>Multicast Beamforming for Wireless Backhaul with User-centric Clustering in Cloud-RANs</i> Bin Hu (Shanghai Jiao Tong University, P.R. China), Cunqing Hua (Shanghai Jiao Tong University, P.R. China), Cailian Chen (Shanghai Jiao Tong University, P.R. China), Xinping Guan (Shanghai Jiao Tong University, P.R. China) .....	5494
<i>Channel Estimation for mmWave Massive MIMO Based Access and Backhaul in Ultra-Dense Network</i> Zhen Gao (Tsinghua University, P.R. China), Linglong Dai (Tsinghua University, P.R. China), Zhaocheng Wang (Tsinghua University, P.R. China) .....	5500

<i>Impact of Packetization and Functional Split on C-RAN Fronthaul Performance</i> Chia-Yu Chang (EURECOM, France), Ruggero Schiavi (EURECOM, France), Navid Nikaein (Eurecom, France), Thrasyvoulos Spyropoulos (EURECOM, France), Christian Bonnet (Institut Eurecom, France) .....	5506
<i>Dynamic Resource Allocation for Cloud-RAN in LTE with Real-Time BBU/RRH Assignment</i> Mohammed Yazid Lyazidi (Université Pierre et Marie Curie & LIP6, France), Nadjib Aitsaadi (LiSSI - University of Paris-Est Creteil (UPEC), France), Rami Langar (UPMC - University of Paris 6, France) .....	5513

## Next-generation Internet Applications and Services (Interactive)

<i>Coalition-based Energy Efficient Offloading Strategy for Immersive Collaborative Applications in Femto-Cloud</i> Shuai Yu (UPMC - Sorbonne Universite, France), Rami Langar (UPMC - University of Paris 6, France), Wenzhong Li (Nanjing University, P.R. China), Xu Chen (University of Goettingen, Germany) .....	5519
<i>On Routing Algorithms for Open Marketplaces of Path Services</i> Shireesh Bhat (North Carolina State University, USA), George N. Rouskas (North Carolina State University, USA) .....	5525
<i>StreamCache: Popularity-based Caching for Adaptive Streaming over Information-Centric Networks</i> Wenjie Li (Queen's University, Canada), Sharief M.A. Oteafy (Queen's University, Canada), Hossam S. Hassanein (Queen's University, Canada) .....	5531
<i>Platoon-based Electric Vehicles Charging with Renewable Energy Supply: A Queuing Analytical Model</i> Ke Zhang (University of Electronic Science and Technology of China, P.R. China), Yuming Mao (SCIE, P.R. China), Supeng Leng (University of Electronic Science and Technology of China, P.R. China), Yan Zhang (Simula Research Laboratory and University of Oslo, Norway), Stein Gjessing (University of Oslo & Simula Research Lab., Norway), Danny H. K. Tsang (Hong Kong University of Science and Technology, Hong Kong) .....	5537
<i>Hop-by-hop Adaptive Video Streaming in Content Centric Network</i> Zhengyang Liu (Beijing University of Posts and Telecommunications, P.R. China), Yiran Wei (Beijing University of Posts and Telecommunications, P.R. China) .....	5543

## ICC'16 ONS: IEEE ICC 2016 - Optical Networks and Systems

### Next Generation Optical Networks

<i>Optical Flow-Switched Transport Layer Protocol Simulation and Analysis</i> Andrew Song (MIT, USA), Henna Huang (MIT, USA), Vincent Chan (Massachusetts Institute of Technology, USA) .....	5550
<i>Green and Low-Risk Content Placement in Optical Content Delivery Networks</i> Yu Wu (University of California, Davis, USA), Massimo Tornatore (Politecnico di Milano & University of California, Davis, Italy), Charles Martel (University of California, Davis, USA), Biswanath Mukherjee (University of California, Davis, USA) .....	5557
<i>Orchestrating Multicast-Oriented NFV Trees in Inter-DC Elastic Optical Networks</i> Menglu Zeng (University of Science and Technology of China, P.R. China), Wenjian Fang (University of Science and Technology of China, P.R. China), Joel J. P. C. Rodrigues (Instituto de Telecomunicações, University of Beira Interior, Portugal), Zuqing Zhu (University of Science and Technology of China, P.R. China) .....	5563

<i>Exploiting the Transmission Layer in Logical Topology Design of Flexible-Grid Optical Networks</i> Arsalan Ahmad (National University of Science and Technology (NUST), Pakistan), Andrea Bianco (Politecnico di Torino, Italy), Hussein Chouman (Telcom Paristech, France), Vittorio Curri (Politecnico di Torino, Italy), Guido Marchetto (Politecnico di Torino, Italy), Sarosh Tahir (Politecnico Di Torino, Italy) .....	5569
<i>Balancing the Demands of Reliability and Security with Linear Network Coding in Optical Networks</i> Anna Engelmann (Technische Universität Carolo-Wilhelmina zu Braunschweig, Germany), Admela Jukan (Technische Universität Carolo-Wilhelmina zu Braunschweig, Germany) .....	5575

## ICC'16 SAC-2 CCN: IEEE ICC 2016 SAC Cloud Communications and Networking

### Cloud Network Optimization and Flow Control

<i>Optimal Dynamic Cloud Network Control</i> Hao Feng (University of Southern California, USA), Jaime Llorca (Bell Labs, Alcatel-Lucent, USA), Antonia Tulino (Bell Laboratories & Università degli studi di Napoli, USA), Andreas Molisch (University of Southern California, USA) .....	5582
<i>HyGenICC: Hypervisor-based Generic IP Congestion Control for Virtualized Data Centers</i> Ahmed M. Abdelmoniem (The Hong Kong University of Science and Technology, Hong Kong), Brahim Bensaou (The Hong Kong University of Science and Technology, Hong Kong), Amuda James Abu (The Hong Kong University of Science and Technology, Hong Kong) .....	5589
<i>Minimizing Cost of Provisioning in Fault-tolerant Distributed Data Centers with Durability Constraints</i> Rakesh Tripathi (Indian Institute of Technology Guwahati, India), Vignesh S. (IIT Guwahati, India), Venkatesh Tamarapalli (Indian Institute of Technology Guwahati, India) .....	5595
<i>Reduce Completion Time and Guarantee Throughput by Transport with Slight Congestion</i> Zongyi Zhao (Tsinghua University, P.R. China), Qing Li (Graduate School at Shenzhen, Tsinghua University, P.R. China), Mingwei Xu (Tsinghua University, P.R. China), Xingang Shi (Tsinghua University, P.R. China), Han Zhang (Tsinghua University, Beijing, P.R. China) .....	5601
<i>Improving TCP Responsiveness with Connection History in Data Center Networks</i> Dagang Li (Peking University, P.R. China), Jiaxiang Wang (Peking University, P.R. China), Fuxing Chen (Peking University, P.R. China) .....	5607

## ICC'16 SAC-4 E-HLT: IEEE ICC 2016 SAC E-Health

### e-Health Applications

<i>Enabling Smartphone-centric Platforms for In-Home Rehabilitation: a Comparison among Movement Recognition Approaches</i> Igor Bisio (University of Genoa, Italy), Alessandro Delfino (University of Genoa, Italy), Fabio Lavagetto (University of Genoa, Italy), Andrea Sciarrone (University of Genoa, Italy) .....	5613
<i>WSN4QoL: WSNs for Remote Patient Monitoring in e-Health Applications</i> Stefano Tennina (WEST Aquila & University of L'Aquila, Italy), Manuel Joaquim Pereira Dos Santos (WEST Aquila srl, Portugal), Agapi Mesodiakaki (Karlstad University, Sweden), Prodromos-Vasileios Mekikis (Universitat Politècnica de Catalunya (UPC), Spain), Elli Kartsakli (IQUADRAT, Spain), Angelos Antonopoulos (Telecommunications Technological Centre of Catalonia (CTTC), Spain), Marco Di Renzo (Paris-Saclay University / CNRS, France), Alkis Stavridis (Vidavo S.A., Greece), Fabio Graziosi (University of L'Aquila, Italy), Luis Alonso (Universidad Politécnica de Catalunya-BarcelonaTECH & Telecommunications and Aerospace Engineering School of Castelldefels, Spain), Christos Verikoukis (Telecommunications Technological Centre of Catalonia, Spain) .....	5619

*An OAuth2-based Protocol with Strong User Privacy Preservation for Smart City Mobile e-Health Apps*

Victor Sucasas (Instituto de Telecomunicacoes, Portugal), Georgios Mantas (Instituto de Telecomunicações - Pólo de Aveiro, Portugal), Ayman Radwan (Instituto de Telecomunicações, Portugal), Jonathan Rodriguez (Instituto de Telecomunicações, Portugal) .....	5625
<i>Blood Pressure Estimation from Photoplethysmogram using Latent Parameters</i>	
Shreyasi Datta (TCS Innovation Labs, India), Rohan Banerjee (Tata Consultancy Services, India), Anirban Dutta Choudhury (Tata Consultancy Services, India), Aniruddha Sinha (Tata Consultancy Services, India), Arpan Pal (Tata Consultancy Services, India) .....	5631
<i>WiLD: Widening View Angle for Lesion Detection with Gastroscopic Images</i>	
Soo Yeon Sohn (Korea University, Korea), DongKyu Roy Lee (Korea University, Korea), Suk Kyu Lee (LG Electronics Inc., Korea), Hwangnam Kim (Korea University, Korea), Yun Suhk Suh (Seoul National University Hospital, Korea), Seong Ho Kong (Seoul National University Hospital, Korea), Hyuk Joon Lee (Seoul National University Hospital, Korea), Han Kwang Yang (Seoul National University Hospital, Korea) .....	5638

## ICC'16 SAC-8 SN: IEEE ICC 2016 SAC Social Networking

### Privacy and Security

<i>Effective Social Network Quarantine with Minimal Isolation Costs</i>	
Huanyang Zheng (Temple University, USA), Jie Wu (Temple University, USA) .....	5644
<i>Privacy-aware Social Music Playlist Generation</i>	
Felix Beierle (Telekom Innovation Laboratories / Technische Universität Berlin, Germany), Kai Grunert (Telekom Innovation Laboratories / Technische Universität Berlin, Germany), Sebastian Göndör (Telekom Innovation Laboratories / Technische Universität Berlin, Germany), Axel Küpper (Telekom Innovation Laboratories / Technische Universität Berlin, Germany) .....	5650
<i>SybilExposer: An Effective Scheme to Detect Sybil Communities in Online Social Networks</i>	
Satyajayant Misra (New Mexico State University, USA), Abu Saleh Md Tayeen (New Mexico State University, USA), Wen Xu (New Mexico State University, USA) .....	5657
<i>Algorithm to Trade Off between Utility and Privacy Cost of Online Social Search</i>	
Yan Li (The University of Hong Kong, Hong Kong), Zhiyi Lu (The University of Hong Kong, Hong Kong), Victor O. K. Li (University of Hong Kong, P.R. China) .....	5663
<i>Detecting Spam Comments Posted in Micro-Blogs Using the Self-Extensible Spam Dictionary</i>	
Chenwei Liu (Shenzhen Graduate School of Peking University, P.R. China), Jiawei Wang (Peking University, P.R. China), Kai Lei (Peking University, P.R. China) .....	5669

## ICC'16 SPC: IEEE ICC 2016 - Signal Processing for Communications Symposium

### Cooperative and Heterogeneous Networks

<i>Low-Complexity Relay Precoder Designs for Two-Way AF MIMO Relay Systems</i>	
Chin-Liang Wang (National Tsing Hua University, Taiwan), Jyun-Yu Chen (National Tsing Hua University, Taiwan), Yi-Hsuan Peng (National Tsing Hua University, Taiwan) .....	5676
<i>A Load-Balancing Semi-Matching Approach for Resource Allocation in Cognitive Radio Networks</i>	
Georgios I Tsiropoulos (National Technical University of Athens, Greece), Ming Zeng (Beijing University of Posts and Telecommunications, P.R. China), Octavia A. Dobre (Memorial University, Canada), Mohamed Hossam Ahmed (Memorial University, Canada) .....	5682
<i>Adaptive Variable-Length Feedback using Wireless Power Transfer for Opportunistic Beamforming</i>	
Constantinos Psomas (University of Cyprus, Cyprus), Ioannis Krikidis (University of Cyprus, Cyprus) .....	5688

<i>Interference-Aware D2D Mode Selection in Hybrid MIMO Cellular Networks</i>	
Hsin-Jui Chou (Academia Sinica, Taiwan), Ronald Y. Chang (Academia Sinica, Taiwan) .....	5694
<i>Communication Theoretic Inference on Heterogeneous Data</i>	
Kwang-Cheng Chen (National Taiwan University, Taiwan), Baturalp Mankır (National Taiwan University, Taiwan), Shao-Lun Huang (Massachusetts Institute of Technology, USA), Lizhong Zheng (Massachusetts Institute of Technology, USA), H. Vincent Poor (Princeton University, USA) .....	5701

## ICC'16 WCS: IEEE ICC 2016 - Wireless Communications Symposium

### Estimation and Detection II

<i>Multi Detector Fusion of Dynamic TOA Estimation using Kalman Filter</i>	
Vijaya Yajnanarayana (KTH Royal Institute of Technology, Sweden), Satyam Dwivedi (KTH Royal Institute of Technology, Sweden), Peter Händel (Royal Institute of Technology, Sweden) .....	5707
<i>Bit Error Probability for Pilot-Symbol Aided Channel Estimation in FBMC-OQAM</i>	
Ronald Nissel (TU Wien, Austria), Markus Rupp (TU Wien, Austria) .....	5713
<i>Low-complexity Direction Estimation Techniques for Fast Beamforming Training in Millimeter Wave Multiantenna Systems</i>	
Chandrashekhara Thejaswi Pataguppe Suryanarayan Bhat (Samsung R&D Institute India, Bangalore, India), Kiran Bynam (Samsung, India), Jinesh P Nair (Samsung India Software Operations & Samsung Advanced Institute of Technology India Lab, India), Sujit Jos (Samsung Advanced Institute of Technology India Labs & Samsung R&D Institute Bangalore, India), Ashutosh Deepak Gore (Samsung Advanced Institute of Technology, India) .....	5719
<i>A Design of Multiuser Detection and Decoding for Subcarrier Hopping Multiple Access based on Coded OFDM</i>	
Yuta Hori (Yokohama National University, Japan), Hideki Ochiai (Yokohama National University, Japan) .....	5725
<i>Reduced Complexity MMSE Beamforming for Two-way AF Relaying Systems with Multiple Antennas</i>	
Changick Song (Korea National University of Transportation, Korea), Haewook Park (Korea University, Korea), Hoon Lee (Korea University, Korea), Inkyu Lee (Korea University, Korea) .....	5731

### Interference Management II

<i>Index modulated OFDM with Inter-carrier Interference Cancellation</i>	
Yuke Li (Institute of Automation, Chinese Academy of Sciences, P.R. China), Meng Zhang (Peking University, P.R. China), Xiang Cheng (Peking University, P.R. China), Miaowen Wen (South China University of Technology, P.R. China), Liuqing Yang (Colorado State University, USA) .....	5737
<i>A Cooperative Online Learning Scheme for Resource Allocation in 5G Systems</i>	
Ismail AlQerm (KAUST, Saudi Arabia), Basem Shihada (KAUST, Saudi Arabia) .....	5743
<i>DNA-GA: A New Approach of Network Performance Analysis</i>	
Ming Ding (Data 61, Australia), David López-Pérez (Bell Labs Alcatel-Lucent, Ireland), Guoqiang Mao (The University of Technology, Sydney, Australia), Zihuai Lin (University of Sydney, Australia) .....	5750
<i>Monotonic Optimization for Power Control of D2D Underlay with Partial CSI</i>	
Huan Tang (University of California, Davis, USA), Zhi Ding (UC Davis, USA) .....	5757
<i>User Pairing Algorithm with SIC in Non-Orthogonal Multiple Access System</i>	
Han Zhang (Harbin Institute of Technology, P.R. China), Dekun Zhang (Harbin Institute of Technology & Harbin Institute of Technology, P.R. China), Weixiao Meng (Harbin Institute of Technology, P.R. China), Cheng Li (Memorial University of Newfoundland, Canada) .....	5763

## Physical Layer Security

<i>Secrecy Multiuser Diversity for Distributed Antenna Systems from the Perspective of User-Scaling Law</i>	
Inkyu Bang (Korea Advanced Institute of Science and Technology, Korea), Su Min Kim (Korea Polytechnic University, Korea), Dan Keun Sung (Korea Advanced Institute of Science and Technology, Korea) .....	5769
<i>Secret Key Exchange under Physical Layer Security using MIMO Private Random Precoding in FDD systems</i>	
Hasan Taha (University of Manchester, United Kingdom), Emad Alsusa (Manchester University, United Kingdom) .....	5775
<i>RF Beamforming for Secrecy Millimeter Wave MISO-OFDM Systems</i>	
Yahia R. Ramadan (University of Texas at Dallas, USA), Ahmed S. Ibrahim (Florida International University, USA), Mohamed Khairy (Elec. and Comm. Dept., Faculty of Eng., Cairo Univ, Egypt) .....	5781
<i>Energy-Based Anchor Node Selection for IoT Physical Layer Authentication</i>	
Gianluca Caparra (University of Padova, Italy), Marco Centenaro (University of Padova, Italy), Nicola Laurenti (University of Padova & CNIT, Italy), Stefano Tomasin (University of Padova, Italy), Lorenzo Vangelista (University of Padova, Italy) .....	5787
<i>A Novel Nonlinear Secure Transmission Design for MU-MISO Systems with Limited Feedback</i>	
Liang Sun (Beihang University, P.R. China), Rui Wang (The South University of Science and Technology of China, P.R. China), Victor C.M. Leung (University of British Columbia, Canada) .....	5793

## Recent Advances in MIMO and OFDM (Interactive)

<i>Generalized Spatial Modulation with Transmit Antenna Grouping for Correlated Channels</i>	
Peizhong Ju (Peking University, P.R. China), Meng Zhang (Peking University, P.R. China), Xiang Cheng (Peking University, P.R. China), Chengxiang Wang (Heriot-Watt University, United Kingdom), Liuqing Yang (Colorado State University, USA) .....	5800
<i>Analog Equalization and Low Resolution Quantization in Strong Line-of-Sight MIMO Communication</i>	
Xiaohang Song (TU Dresden, Germany), Tim Hälsig (Universität der Bundeswehr München, Germany), Wolfgang Rave (Dresden University of Technology, Germany), Berthold Lankl (University of Federal Armed Forces Munich, Germany), Gerhard Fettweis (Technische Universität Dresden, Germany) .....	5806
<i>QoS-Constrained Transceiver Design and Power Splitting for Downlink Multiuser MIMO SWIPT Systems</i>	
Anming Dong (Shandong University, P.R. China), Haixia Zhang (Shandong University, P.R. China), Dalei Wu (The University of Tennessee at Chattanooga, USA), Dongfeng Yuan (Shandong University, P.R. China) .....	5813
<i>Out-of-Band Radiation Measure for MIMO Arrays with Beamformed Transmission</i>	
Christopher Mollén (Linköpings Universitet, Sweden), Ulf Gustavsson (Ericsson AB, Sweden), Thomas Eriksson (Chalmers University of Technology, Sweden), Erik G. Larsson (Linköping University, Sweden) .....	5819
<i>End-to-End Outage Probability Analysis for Multi-Source Multi-Relay Systems</i>	
Jiguang He (University of Oulu, Finland), Iqbal Hussain (Sweden, Sweden), Markku Juntti (University of Oulu, Finland), Tad Matsumoto (Japan Advanced Institute of Science and Technology, Japan) .....	5825
<i>Phase Noise Scaling and Tracking in OFDM Multi-user Beamforming Arrays</i>	
Antonio Puglielli (Berkeley Wireless Research Center, USA), Greg LaCaille (UC Berkeley, USA), Ali Niknejad (UC Berkeley, USA), Gregory Wright (Alcatel-Lucent Bell Labs, USA), Borivoje Nikolić (UC Berkeley, USA), Elad Alon (UC Berkeley, USA) .....	5831
<i>Joint Transmit and Receive Beamforming for Multi-Relay MIMO-OFDMA Cellular Networks</i>	
Kent Tsz Kan Cheung (University of Southampton & Mobile Virtual Centre of Excellence, United Kingdom), Shaoshi Yang (University of Southampton, United Kingdom), Lajos Hanzo (University of Southampton, United Kingdom) .....	5837

*Global Optimization of Precoder for Multi-Antenna Secure Cognitive Radios with Finite-Alphabet Inputs and Statistical CSI*

Weiliang Zeng (Qualcomm Research, USA), Yahong Rosa Zheng (Missouri University of Science and Technology, USA), Chengshan Xiao (Missouri University of Science and Technology, USA) .....

5843