

ICNC 2017 Technical Program

Silicon Valley, California, USA
Jan. 26-29, 2017
<http://www.conf-icnc.org>



Thursday, January 26

Thursday, January 26, 08:20 - 08:30

Opening Remarks

Room: Grand Ballroom A

Thursday, January 26, 08:30 - 09:30

Keynote: Transition of the Automobile to a Computer Controlled Mechanical Device

Prof. Linos Jacovides (Michigan State University)

Room: Grand Ballroom A

Chair: Liuqing Yang (Colorado State University, USA)

Thursday, January 26, 10:00 - 12:00

Industry Forum I – The Future of Media Coding and Streaming

James Bankoski (Director, Google, USA); Jill M. Boyce (Media Architect, Intel, USA); José Roberto Alvarez (Director, FutureWei Technologies, USA); Anne Aaron (Director, Netflix, USA); Shan Liu (Director, MediaTek, USA)

Room: Grand Ballroom A

Chair: Shan Liu (MediaTek, USA)

WN: Wireless Network

Room: Grand Ballroom B

Chairs: Kai-Ten Feng (National Chiao Tung University, Taiwan), Ian G. Harris (University of California Irvine, USA)

An Efficient Approach to Prevent Battery Exhaustion Attack on BLE-based Mesh Networks

Zonglin Guo and Ian G. Harris (University of California Irvine, USA); Yutong Jiang (Northeastern University, USA); Lih-feng Tsaur (University of Southern California, USA)

Auction-based Resource Negotiation for Flexible Video Traffic Offloading over Wireless Networks

Donghyeok Ho and Giseok Park (POSTECH, Korea); Hwangjun Song (POSTECH (Pohang University of Science and Technology), Korea)

Decentralized AP Selection in Large-Scale Wireless LANs Considering Multi-AP Interference

Phillip B Oni and Steven D Blostein (Queen's University, Canada)

Duet: An Adaptive Algorithm for the Coexistence of LTE-U and WiFi in Unlicensed Spectrum

Yubing Jian (Georgia Institute of Technology, USA); Uma Parthavi Moravapalle (Georgia Institute Of Technology, USA); Chao-Fang Shih and Raghupathy Sivakumar (Georgia Institute of Technology, USA)

Ensuring k-coverage in low-power wide area networks for Internet of Things

Zhuocheng LI and Tuong-Bach Nguyen (University Grenoble Alpes, France); Quentin Lampin (Orange Labs, France); Isabelle Sivignon (University Grenoble Alpes, France); Steeve Zozor (GIPSA-Lab, France)

Outage-based Cooperative Resource Competition Game in LTE-A Small Cell Networks
Chia-Lin Tsai, Pei-Rong Li and Kai-Ten Feng (National Chiao Tung University, Taiwan)

WCS I: Wireless Communication Symposium I

Room: Grand Ballroom C

Chair: Julian Cheng (University of British Columbia, Canada)

A Novel MAC Protocol for Wireless Network using Multi-Beam Directional Antennas

Gang Wang (University of Connecticut, USA); Wenming Li (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China)

Arbitrarily Tight Bounds on Cumulative Distribution Function of Beckmann Distribution

Bingcheng Zhu (Nanjing University of Posts and Telecommunications, P.R. China); Zhaoquan Zeng (The University of British Columbia, Canada); Julian Cheng (University of British Columbia, Canada)

Cooperative Spectrum Sharing with Energy Harvesting Best Secondary User Selection and Non-orthogonal Multiple Access

Md Fazlul Kader, Muhammad Basit Shahab and Soo Young Shin (Kumoh National Institute of Technology, Korea)

IP Packet Header Compression and User Grouping for LTE Multimedia Broadcast Multicast Services

Chen Jiang and Wenhao Wu (University of California, Davis, USA); Zhi Ding (University of California at Davis, USA)

Low-Complexity Energy-Efficient Subcarrier Assignment in Uplink OFDMA Systems

Chen Chen, Xunan Li and Xiang Cheng (Peking University, P.R. China); Na Yi (Peking University)

Capacity Gains of Buffer-Aided Moving Relays

Ammar Zafar (University of Technology Sydney (UTS), Australia); Mohammad Shaqfeh (Texas A&M University at Qatar, Qatar); Hussein Alnuweiri (Texas

A&M University, Qatar); Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia)

OGN I: Optical and Grid Computing I

Room: Grand Ballroom D

Chair: Byrav Ramamurthy (University of Nebraska-Lincoln, USA)

Carrier-Grade Performance Evaluation in Reliable Metro Networks Based on Optical Packet Switching

Ahmed Triki (Insitut mines Télécom, Télécom Bretagne, France); Ion Popescu (KDDI R&D Laboratories, Inc., Japan); Annie Gravey (Institut Mines Telecom - Telecom Bretagne & UMR CNRS 6074 IRISA, France); Philippe Gravey (Télécom Bretagne, France); Takehiro Tsuritani (KDDI R&D Laboratories, Inc., Japan)

Computing Blocking Probabilities in Survivable Elastic Optical OFDM Networks

Anwar Alyatama (Kuwait University, Kuwait)

Dynamic Provisioning in Virtualized Cloud Infrastructure in IP/MPLS-over-WDM Networks

Mohammad Alhowaidi (University of Nebraska-Lincoln, USA); Pan Yi (UNL, USA); Byrav Ramamurthy (University of Nebraska-Lincoln, USA)

Error Rate Analysis of Subcarrier QPSK With Receiver I/Q Imbalances Over Gamma-Gamma Fading Channels

Changle Zhu and Julian Cheng (University of British Columbia, Canada); Naofal Al-Dhahir (University of Texas at Dallas, USA)

Leaf-Spine Architecture for OTN Switching

Sheldon Walklin (Optelion, Canada)

CIS I: Communications and Information Security I

Room: Grand Ballroom E

Chair: Di Tang (The Third Research Institute of Ministry of Public Security, P.R. China)

A Game-Theoretic Analysis of Energy-Depleting Jamming Attacks

Chiara Pielli, Federico Chiariotti and Nicola Laurenti (University of Padova); Andrea Zanella and Michele Zorzi (University of Padova, Italy)

A Novel Secure Forwarding Scheme for Location Based Service

Di Tang and Jian Gu (The Third Research Institute of Ministry of Public Security, P.R. China); Weijia Han (Shaanxi Normal University); Xiao Ma (Shaanxi Normal University, P.R. China)

Assessment of the Impact of CFO on RF-DNA Fingerprint Classification Performance

Donald R Reising and Charles Wheeler (University of Tennessee at Chattanooga, USA)

Cost-Sensitive Security Risk Management for Large-Scale Computing Infrastructures

Neal Master and Nicholas Bambos (Stanford University, USA)

Distributed Adaptive Beam Nulling to Mitigate Jamming in 3D UAV Mesh Networks

Suman Bhunia and Shamik Sengupta (University of Nevada, Reno, USA)

A Novel Single Agent Quantum Bit Commitment Scheme

Nan Zhao, Linxi Zhang, Changxing Pei and Long Wang (Xidian University, P.R. China)

Thursday, January 26, 13:30 - 14:30

Plenary Talk I: Future Infrastructure Support in Big Data Era

Prof. David Du (University of Minnesota)
Room: Grand Ballroom A
Chair: Jian Ren (Michigan State University, USA)

Thursday, January 26, 14:30 - 15:30

Plenary Talk: Spectrum sharing in 5G mmWave cellular networks

Prof. Michele Zorzi (University of Padova - Italy)
Room: Grand Ballroom A
Chair: Jian Ren (Michigan State University, USA)

Thursday, January 26, 16:00 - 18:00

Industry Forum II – The Future of Automobiles

Nick Sugimoto (Sr. Director, Honda Silicon Valley Lab, USA); Louay Eldada (CEO and Co-Founder, Quanergy Systems, USA); YC Chao (Co-Founder and CTO, Telenav, USA); Jason Creadore (Co-Founder, Civil Maps, USA); Tim Wong (Technical Marketing for Autonomous Vehicles, NVIDIA, USA); Annie Guan (NextEV, USA)
Room: Grand Ballroom A
Chair: Annie Guan (NIO, USA)

COG: Cognitive Computing and Network

Room: Grand Ballroom B
Chair: Marco Levorato (University of California, Irvine, USA)

An Intrinsic Mode Function Based Energy Detector for Spectrum Sensing in Cognitive Radio

Mahdi Al-Badrawi and Nicholas J. Kirsch (University of New Hampshire, USA);
Bassam Al-Jewad (Advanced Technology Systems-Iraq LLC, Iraq)

On the Role of Finite Queues in Cooperative Cognitive Radio Networks with Energy Harvesting

Mohamed Abd-Elmagid (Nile University, Egypt); Tamer ElBatt (Faculty of Engineering, Cairo University & WINC, Nile University, Egypt); Karim G Seddik (American University in Cairo, Egypt)

Content-Based Interference Management for Video Transmission in D2D Communications Underlying LTE

Sabur Hassan Baidya and Marco Levorato (University of California, Irvine, USA)

Disruption Aware Routing and Link Scheduling for Cognitive Radio Networks

Peng Jiang and ChunSheng Xin (Old Dominion University, USA); Min Song (Michigan Technological University, USA)

Game Theoretical Analysis of Coexistence in MIMO-Empowered Cognitive Radio Networks

Yantian Hou (Boise State University, USA); Ming Li (University of Arizona, USA); Dejun Yang (Colorado School of Mines, USA)

Learning methods for long-term channel gain prediction in wireless networks

Federico Chiariotti (Università di Padova, Italy); Davide Del Testa, Michele Polese, Andrea Zanella and Giorgio Maria Di Nunzio (University of Padova, Italy); Michele Zorzi (Università degli Studi di Padova, Italy)

NAPE: Network Algorithms and Performance Evaluation

Room: Grand Ballroom C

Chair: Brigitte Jaumard (Concordia University, Canada)

Dynamic Traffic Diversion in SDN: Testbed vs Mininet

Robert Barrett, Andre Facey, Welile Nxumalo, Josh Rogers, Phil Vatcher and Marc St-Hilaire (Carleton University, Canada)

Efficient Multicasting in Content-Centric Networks Using Locator-based Forwarding State

JJ Garcia-Luna-Aceves (University of California at Santa Cruz & Palo Alto Research Center, USA); Maziar Mirzazad Barijough (University of California, Santa Cruz, USA)

How clustering affects epidemics in complex networks

Bo Song, Yurong Song and Guoping Jiang (Nanjing University of Posts and Telecommunications, P.R. China)

Impact of Beacon Coverage on Clustering Strategies for Fingerprinting Localization System

Pampa Sadhukhan (Jadavpur University, India); Keshav Dahal and Zeeshan Pervez (University of the West of Scotland, United Kingdom)

Real-Time Attack and Failure Detection for Next Generation Networks

Christopher Mansour and Danai Chasaki (Villanova University, USA)

Topology Discovery of Synchronous Optical Networks

Brigitte Jaumard and Ali Muhammad (Concordia University, Canada)

MCVC: Mobile Computing and Vehicle Communications

Room: Grand Ballroom D

Chair: Minkeun Ha (KTH Royal Institute of Technology, Sweden)

Fast Distributed Agreements and Safety-Critical Scenarios in VANETs

Gerard Le Lann (INRIA, France)

On-demand Cache Placement Protocol for Content Delivery Sensor Networks

Minkeun Ha (KTH Royal Institute of Technology, Sweden); Daeyoung Kim (KAIST, Korea)

Socio-Geo: Social Network Routing Protocol in Delay Tolerant Networks

Seungbae Kim (University of California, Los Angeles, USA); Mario Gerla (University of California at Los Angeles, USA)

Spatio-Tempo-Socio-Semantic-Aware Model For Destination Prediction

Nardine Basta (University of Ulm, Germany); Amal Elnahas (The British University in Egypt, Egypt); Hans Peter Großmann (Ulm University, Germany); Slim Abdennadher (GUC, Egypt)

Time Slotted Scheduling for outdoor mmWave mesh networks with Performance Guarantee

Xili Wan (Nanjing Tech University, P.R. China); Xinjie Guan (Nanjing Tech University); Jun-Bo Wang (Southeast University, P.R. China); Miao Zhao (The Hong Kong Polytechnic University)

ISA: Internet Services and Applications

Room: Grand Ballroom E

Chair: Eiji Oki (The University of Electro-Communications, Japan)

A Large-Scale Data Collection Scheme for Distributed Topic-based Pub/Sub

Yuuichi Teranishi (NICT & Osaka University, Japan); Tomoya Kawakami (Nara Institute of Science and Technology, Japan); Yoshimasa Ishi and Tomoki Yoshihisa (Osaka University, Japan)

An Extension of Information-Centric Networking for IoT Applications

Toshihiko Kurita (Fujitsu Laboratories Ltd., Japan); Izuru Sato (Fujitsu Labs. LTD., Japan); Ken-ichi Fukuda (Fujitsu Laboratories Ltd., Japan); Toshitaka Tsuda (Waseda University & Formerly Fujitsu, Japan)

Cloud Provider Selection Models for Cloud Storage Services to Meet Availability Requirements

Eiji Oki, Ryoma Kaneko and Nattapong Kitsuwon (The University of Electro-Communications, Japan); Takashi Kurimoto (NII, Japan); Shigeo Urushidani (National Institute of Informatics, Japan)

Effective Controller Placement in Controller-based Named Data Networks

Narjes Aloulou (ENSI, Tunisia); Mouna Ayari (ENSI & LIP6 - UPMC- Paris 6 - France, Tunisia); Mohamed Faten Zhani (École de Technologie Supérieure, University of Quebec, Canada); Leila Azouz Saidane (ENSI, Tunisia); Guy Pujolle (University Pierre et Marie Curie - Paris 6 & DNAC, France)

Thursday, January 26, 19:00 - 21:00

Welcome Reception

Room: Hall of Cities

Friday, January 27

Friday, January 27, 08:30 - 09:30

Keynote Talk: Privacy-Utility Tradeoffs in the Smart Grid

Prof. Vincent Poor (Princeton University)

Room: Grand Ballroom A

Chair: Jian Ren (Michigan State University, USA)

Friday, January 27, 10:00 - 12:00

Invited Talks I

Room: Grand Ballroom A

Chair: Sanjeev Mehrotra (Microsoft Research, USA)

Software Define Networks to improve the efficiency and flexibility of Packet IP and Optical Networks

Gagan Choudhury (AT&T Labs - Research, USA)

Future Mobile World without Apps

Haohong Wang (TCL Research America, USA)

AI, Native Supercomputing and the Revival of Moore's Law

Chien-Ping Lu (NovuMind, USA)

Data Scarcity of Artificial Intelligence

Xiaoxu Ma (Yttro Mobile, USA)

WN & COG: Wireless Network and Cognitive Computing and Networking

Room: Grand Ballroom B

Chair: Takeo Fujii (The University of Electro-Communications, Japan)

Overlapping User Grouping in IoT Oriented Massive MIMO Systems

Run Tian (Michigan State University, USA & Harbin Institute of Technology, P.R. China); Yuan Liang and Tongtong Li (Michigan State University, USA)

Robust Indoor Localization with Smartphones through Statistical Filtering

Tong Guan (The State University of New York at Buffalo, USA); Le Fang (State University of New York at Buffalo, USA); Wen Dong (University at Buffalo, SUNY, USA); Chunming Qiao (State University of New York at Buffalo, USA)

Towards Zero Packet Loss with LISP Mobile Node

Musab Muhammad Isah and Steven Simpson (Lancaster University, United Kingdom); Yusuf Sani (Lancaster University & Lancaster University, United Kingdom); Christopher Edwards (Lancaster University, United Kingdom)

Radio Environment Map Construction Using Hidden Markov Model in Multiple Primary User Environment

Koji Ichikawa and Takeo Fujii (The University of Electro-Communications, Japan)

WCS II: Wireless Communication Symposium II

Room: Grand Ballroom C

Chair: Nan Zhang (Xidian university, P.R. China)

Modeling Indoor-Outdoor Propagation in Wooden Residential Area at 2.5 GHz and 3.5 GHz Bands

Hideki Fukudome, Kohei Akimoto, Suguru Kameda, Noriharu Suematsu, Tadashi Takagi and Kazuo Tsubouchi (Tohoku University, Japan)

Optimization of Resource Allocation in Relay Assisted Multi-user SCMA Uplink Network

Lin Luo and Lihua Li (Beijing University of Posts and Telecommunications, P.R. China); Xin Su (Beijing University of Posts and Telecommunications, P.R. China)

Performance evaluation of PCC OFDM on a Software Defined Radio platform

Gayathri Kongara and Jean Armstrong (Monash University, Australia)

Physical Gate based Preamble Obfuscation for Securing Wireless Communication

James Chacko, Kyle Juretus, Marko Jacovic, Cem Sahin, Nagarajan Kandasamy, Ioannis Savidis and Kapil Dandekar (Drexel University, USA)

Pilot Hopping in Massive MIMO Systems with MMSE Channel Estimation

Ahmed Al Wakeel, Eng (Gust University, Kuwait); Ahmed Hesham Mehana (Cairo University, Egypt); Atef Ghuniem (Suez Canal University, Egypt)

OGN II: Optical and Grid Computing II

Room: Grand Ballroom D

Chair: Haiying Shen (University of Virginia, USA)

Load-aware and Congestion-free State Management in Network Function Virtualization

Jinwei Liu (Clemson University, USA); Haiying Shen (University of Virginia, USA); Hongxin Hu (Clemson University, USA)

Multicast Scheduling for Optical Data Center Switches with Tunability Constraints

Kamran Keykhosravi, Houman Rastegarfar and Erik Agrell (Chalmers University of Technology, Sweden)

Network-aware virtual data center resource orchestration in an optical data center

Pan Yi (UNL, USA); Byrav Ramamurthy (University of Nebraska-Lincoln, USA)

Optical Circuit Granularity Impact in TCP-Dominant Hybrid Data Center Networks

Houman Rastegarfar, Kamran Keykhosravi, Krzysztof Szczierba and Erik Agrell (Chalmers University of Technology, Sweden); Lloyd LaComb and Madeleine Glick (University of Arizona, USA)

Optical Onion Routing

Anna Engelmann and Admela Jukan (Technische Universität Carolo-Wilhelmina zu Braunschweig, Germany)

SPread: Exploiting Fractal Social Community For Efficient Multi-copy Routing in VDTNs

Bo Wu (Clemson University, USA); Kang Chen (Southern Illinois University Carbondale, USA); Haiying Shen (University of Virginia, USA)

CIS II: Communications and Information Security II

Room: Grand Ballroom E

Chair: Donald R Reising (University of Tennessee at Chattanooga, USA)

Entropy-based Network Anomaly Detection

Christian Callegari (RaSS National Laboratory - CNIT & University of Pisa, Italy); Stefano Giordano and Michele Pagano (University of Pisa, Italy)

Physical-Layer Discrimination of Power Line Communications

Brady P Ross and Timothy J Carbino (Air Force Institute of Technology, USA); Samuel Stone (US Air Force, USA)

Physical Layer Security of Multiband Communications Under Hostile Jamming

Tianlong Song, Yuan Liang and Tongtong Li (Michigan State University, USA)

PPVC: Privacy Preserving Voronoi Cell for Location-Based Services

Abdur Rahman Bin Shahid (Florida International University, USA); Jeukeng Liz (University of Florida, USA); Maite Varela-Conover (TERRA Environmental Research Institute, USA); Sartaj Sahni (University of Florida, USA); Wei Zeng, Niki Pissinou and S. s. Iyengar (Florida International University, USA)

Locally Operated Cooperative Key Sharing (LOCKS)

Michael Bierma and Aaron Brown (Sandia National Labs, USA); Thomas Kroeger (Sandia National Laboratories, USA); Howard Poston and Troy DeLano (Sandia National Labs, USA)

Friday, January 27, 13:30 - 14:30

Plenary Talk III: Algorithmic Crowdsourcing and Applications in Big Data

Prof. Jie Wu (Temple University)

Room: Grand Ballroom A

Chair: Liuqing Yang (Colorado State University, USA)

Friday, January 27, 14:30 - 15:30

Plenary Talk IV

Prof. Majid Sarrafzadeh (University of California - Los Angeles)

Room: Grand Ballroom A

Chair: Liuqing Yang (Colorado State University, USA)

Friday, January 27, 16:00 - 18:00

Plenary Forum - Future Trends of Technology Innovations

John Apostolopoulos (VP and CTO, Cisco, USA); Bo Begole (VP and Global Head of the Media Technologies Lab, Huawei, USA); Achin Bhowmik (VP and General Manager, Intel, USA); Liu Qiao (Technical Director, Software Electronics & Mechanical Systems Laboratory, 3M Company, USA)

Room: Grand Ballroom A

Chair: Haohong Wang (TCL Research America, USA)

Friday, January 27, 19:00 - 21:00

Banquet & Award Ceremony

Room: Hall of Cities

Saturday, January 28

Saturday, January 28, 08:30 - 09:30

Keynote Talk: Research Challenges and Directions for the Internet of Things

Prof. Jack Stankovic (University of Virginia)

Room: Grand Ballroom A

Chair: Honggang Wang (University of Massachusetts, Dartmouth & College of Engineering, USA)

Saturday, January 28, 10:00 - 12:00

Distinguished Lecture: Smart-Sensing using Smartphones

Prof. Prasant Mohapatra (University of California - Davis)

Room: Grand Ballroom A

Chair: Jian Ren (Michigan State University, USA)

Invited Talks II

Room: Grand Ballroom B

Chair: Fumiyuki Adachi (Tohoku University, Japan)

Virtual User-Centric Small Cell and Cooperative Signal Transmission for 5G

Fumiyuki Adachi (Tohoku University, Japan)

On Spectrum Sharing: Some Case Studies

Sumit Roy (University of Washington, USA)

Fingerprinting based Indoor Localization Revisited: When Deep Learning Meets CSI

Shiwen Mao (Auburn University, USA)

OFDM for Optical Communications

Jean Armstrong (Monash University, Australia)

WCS & GCNC: Wireless Communications & Green Computing, Networking, and Communications

Room: Grand Ballroom C

Chairs: Xiang Cheng (Peking University, P.R. China), Nan Zhao (Xidian University, P.R. China)

Relation Discovery of Mobile Network Alarms with Sequential Pattern Mining

Mihaela Lozovanu, Martha Vlachou-Konchylaki and Vincent Huang (Ericsson AB, Sweden)

Understanding Spatial Related Network Challenges from Physical and Network Layers

Cheng Leong Lim and Cindy Goh (University of Glasgow, Singapore); Asiya Khan (University of Plymouth, United Kingdom); Yun Li (University of Glasgow, United Kingdom)

Dynamic Control of Data Center Network and Computation Resources

Daniel Miller (Stanford University, USA); Li Xia (Tsinghua University, P.R. China); Zhengyuan Zhou and Nicholas Bambos (Stanford University, USA)

Electricity Cost and Emissions Reduction in Optical Networks

Arash Deylamsalehi, Dylan A.P. Davis and Vinod M. Vokkarane (University of Massachusetts Lowell, USA)

Secure Coded Caching in Wireless Ad Hoc Networks

Mohsen Karimzadeh Kiskani and Hamid Sadjadpour (University of California, Santa Cruz, USA)

OGN & ISA: Optical and Grid Computing & Internet Services and Applications

Room: Grand Ballroom D

Chair: Brad Smith (University of California, Santa Cruz, USA)

Performance of Route Partitioning Scheme for Hitless Defragmentation in Elastic Optical Networks

Seydou Ba, Bijoy Chand Chatterjee and Eiji Oki (The University of Electro-Communications, Japan)

PON Bandwidth Resource Sharing Schemes in a Multi-Operator Scenario

Chengjun Li, Wei Guo, Wei Wang and Weisheng Hu (Shanghai Jiao Tong University, P.R. China); Ming Xia (Ericsson Research US, USA)

Reverse Multicast Data Retrieval in Elastic Optical Networks

Juzi Zhao and Vinod M. Vokkarane (University of Massachusetts Lowell, USA)

Herding Packets: Properties Needed of Metrics for Loop-Free & Best Forwarding Paths

Brad Smith (University of California, Santa Cruz, USA); Judith Samson (University of California Santa Cruz, USA)

Secure Function Chaining Enabled by Information-Centric Networking

Mehdi Bahrami and Liguang Xie (Fujitsu Laboratory of America Inc., USA); Lei Liu (Fujitsu Laboratories of America, Inc., USA); Akira Itoh (Fujitsu Laboratories Limited, Japan); Yang Peng (Fujitsu Laboratories of America, Inc., USA); Sevak Mnatsakanyan and Zilong Ye (California State University, Los Angeles, USA); Huiping Guo (California State University at Los Angeles, USA)

CLD & CIS: Cloud Computing and Big Data

Room: Grand Ballroom E

Chair: Chuanyi Liu (Harbin Institute of Technology (Shenzhen), P.R. China)

A Cloud Access Security Broker Based Approach for Encrypted Data Search and Sharing

Chuanyi Liu (Harbin Institute of Technology (Shenzhen), P.R. China); Guofeng Wang, Peiyi Han and Hezhong Pan (Beijing University of Posts and Telecommunications, P.R. China); Binxing Fang (Harbin Institute of Technology (Shenzhen))

An Erasure Code With Reduced Average Locality for Distributed Storage Systems

Mostafa Shahabinejad, Masoud Ardakani and Majid Khabbazi (University of Alberta, Canada)

An Improved SDN-Based Fabric for Flexible Data Center Networks

Wei Hou and Linda Shi (University of Ottawa, Canada); Yingzhe Wang (Carleton University, Canada); Fan Wang and Hui Lyu (University of Ottawa, Canada); Marc St-Hilaire (Carleton University, Canada)

Cloud Bursting Approach Based on Predicting Requests for Business-Critical Web Systems

Yukio Ogawa (Muroran Institute of Technology, Japan); Go Hasegawa and Masayuki Murata (Osaka University, Japan)

Towards Proactive SDN-controller Attack and Failure Resilience

Mohamed Azab (Advanced Computing and Information Systems Laboratory, ECE, University of Florida & Virginia Tech, USA); José Fortes (University of Florida, USA)

Saturday, January 28, 13:30 - 15:30

Invited Talks III

Room: Grand Ballroom A

Chair: Shiwen Mao (Auburn University, USA)

Coded Content Caching: A New Paradigm for Wireless Cellular Networks

Hamid Sadjadpour (University of California, Santa Cruz, USA)

Beamformer Design for Massive MIMO Systems in Millimeter-Wave Channels

Ender Ayanoglu (University of California, Irvine, USA)

Unmanned Aerial Vehicle Networking for Wide-Area Deployment

Kenichi Mase (Niigata University, Japan)

On the Use of Network Coding to Realize Proactive Shared Backup Path Protection in Optical Networks

Ahmed E. Kamal (Iowa State University, USA)

Invited Talks IV

Room: Grand Ballroom B

Chair: Jean Armstrong (Monash University, Australia)

Technology and Architectural Approaches to Address Continued Explosive Growth in Network Traffic

Jane Simmons (Monarch Network Architects, USA)

Mesh Networking in 5G

Ivana Marić (Ericsson Research, USA)

Cyber-Physical-Social Convergence in Smart Living: Challenges and Opportunities

Sajal K. Das (Missouri University of Science and Technology, USA)

Deep Reinforcement Learning for Dynamic Multichannel Access

Bhaskar Krishnamachari (University of Southern California, USA)

SPC & SCSD: Signal Processing for Communications & Social Computing and Semantic Data Mining

Room: Grand Ballroom C

Chair: Hongxiang Li (University of Louisville, USA)

An AMP based decoder for Massive MU-MIMO-OFDM with Low-Resolution ADCs

Chen Cao (University of Louisville, USA); Hongxiang Li (University of Louisville, USA); Zixia Hu (Qualcomm, USA)

An Iterative FFT-based Antenna Subset Modulation for Secure Millimeter Wave Communications

Chen Chen, Yue Dong and Xiang Cheng (Peking University, P.R. China); Na Yi (Peking University)

Pilot Hopping in Multi-Cell Massive MIMO Systems: Pilot Assignment and New Results

Ahmed Al Wakeel, Eng (Gust University, Kuwait); Ahmed Hesham Mehana (Cairo University, Egypt); Atef Ghuniem (Suez Canal University, Egypt)

A New Mining Method to Detect Real Time Substance Use Events from Wearable Biosensor Data Stream

Jin Wang (University of Massachusetts Dartmouth, USA); Hua Fang and Stephanie Carreiro (University of Massachusetts Medical School, USA); Honggang Wang (University of Massachusetts, Dartmouth & College of Engineering, USA); Edward Boyer (University of Massachusetts Medical School, USA)

Distributed Cache for Efficient Content Sharing in Heterogeneous Networks

Jianbin Chuan (Beijing University of Posts and Telecommunications); Li Wang and Shuangshuang Ma (Beijing University of Posts and Telecommunications, P.R. China)

Improving Shuffle I/O Performance for Big Data Processing using Hybrid Storage

Xiaojun Ruan (West Chester University of Pennsylvania, USA); Haiquan Chen (Valdosta State University, USA)

WAHS I: Wireless Ad hoc and Sensor Networks

Room: Grand Ballroom D

Chair: Cristiano Tapparello (University of Rochester, USA)

A Bayesian and Smart Gateway Based Communication For Noisy IoT Scenario

Cristanel Razafimandimby (Inria Lille - Nord Europe, France); Valeria Loscri (Inria Lille-Nord Europe, France); Anna Maria Vegni (Universita Roma 3, Italy); Alessandro Neri (University of ROMA TRE, Italy)

Accurately Initializing Real Time Clocks to Provide Synchronized Time in Sensor Networks

Hessam Mohammadmoradi and Omprakash Gnawali (University of Houston, USA); Alex Szalay (Johns Hopkins University, USA)

Enabling Multi-hop Ad Hoc Networks Through WiFi Direct Multi-group Networking

Colin Funai, Cristiano Tapparello and Wendi Heinzelman (University of Rochester, USA)

Enhancing Performance and Longevity of Multi-radio Multi-channel HetNets through Dynamic Path-assignment

Paulo Regis (University of Nevada Reno & CAPES, USA); Suman Bhunia and Shamik Sengupta (University of Nevada, Reno, USA)

Fog-enabled WSN System for Animal Behavior Analysis in Precision Dairy

Kriti Bhargava (Telecommunications Software & Systems Group, Waterford Institute of Technology, Ireland); Stepan Ivanov (Waterford Institute of Technology & TSSG, Ireland); Chamil Kulatunga (Waterford Institute of Technology, Ireland); William Donnelly (WIT, Ireland)

CLD: Cloud Computing and Big Data

Room: Grand Ballroom E

Chair: Haiying Shen (University of Virginia, USA)

Enabling Proactive Self-Healing by Data Mining Network Failure Logs

Umair Hashmi (University of Oklahoma, USA); Arsalan Darbandi (University of Oklahoma); Ali Imran (University of Oklahoma, USA)

Randomized Load Balancing With a Helper

Chunpu Wang, Chen Feng and Julian Cheng (University of British Columbia, Canada)

SEINA: A Stealthy and Effective Internal Attack in Hadoop Systems

Jiayin Wang (University of Massachusetts Boston, USA); Teng Wang (University of Massachusetts, Boston, USA); Zhengyu Yang (Northeastern University, USA); Ying Mao (The College of New Jersey, USA); Ningfang Mi (Northeastern University, USA); Bo Sheng (University of Massachusetts Boston, USA)

Taming Memory Related Performance Pitfalls in Linux Cgroups

Zhenyun Zhuang (LinkedIn Corp & Georgia Institute of Technology, USA); Cuong Tran (LinkedIn Corp., USA); Jui-Ting Weng (University of California, Los Angeles, USA); Haricharan Ramachandra and Badri Sridharan (LinkedIn Corp., USA)

Toward Carrier-Scale General-Purpose Node

Tomohiro Korikawa, Akio Kawabata and Akeo Masuda (NTT, Japan)

Understanding IP Address Multiplexing with Large-scale SSL/TLS Flow Analysis

Dawei Wang (National Computer Network Emergency Response Technical Team / Coordination Center of China, P.R. China); Qinglin He (Cncert/CC, P.R. China); Liping Qian (Beijing University of Civil Engineering and Architecture, P.R. China); Yibo Xue (Tsinghua university, P.R. China); Yingfei Dong (University of Hawaii, USA)

Saturday, January 28, 16:00 - 18:00

Invited Talks V

Room: Grand Ballroom A

Chair: Kenichi Mase (Niigata University, Japan)

Design and Control in Elastic Optical Networks: Issues, Challenges, and Research Directions

Eiji Oki and Bijoy Chand Chatterjee (The University of Electro-Communications, Japan)

Recent advances in optical data center networking

Suresh Subramaniam (The George Washington University, USA)

Challenges in Networking to Support Augmented Reality and Virtual Reality

Cedric Westphal (Huawei Innovation Center, USA)

Using SDN to Deliver Quality of Experience for Multimedia Services

Shervin Shirmohammadi (University of Ottawa, Canada)

MCC: Multimedia Computing and Communications

Room: Grand Ballroom B

Chair: Ming Li (California State University, USA)

A Dynamic Compression Technique for Streaming Kinect-Based Point Cloud Data

Carlos Moreno (California State University, Fresno, USA); Yilin Chen (California State University Fresno, USA); Ming Li (California State University, USA)

A High Performance Media Server and QoS Routing for SVC Streaming based on Software-Defined Networking

Wei-En Liang (Industrial Technology Research Institute (ITRI), Taiwan); Chung-An Shen (National Taiwan University of Science and Technology, Taiwan)

Patch-Based HDR Video Processing for Fast Moving Object Reconstruction

Yu Fu Mai and Ching-Te Chiu (National Tsing Hua University, Taiwan)

Study of User QoE Improvement for Dynamic Adaptive Streaming over HTTP (MPEG-DASH)

Shuai Zhao (University of Missouri-Kansas City, USA); Zhu Li (University of Missouri, Kansas City, USA); Deep Medhi (University of Missouri-Kansas City, USA); PoLin Lai (MediaTek USA Inc, USA); Shan Liu (MediaTek, USA)

Coexistence in Millimeter-Wave WBAN: A Game Theoretic Approach

MD Nashid Anjum (University of Massachusetts Dartmouth, USA); Hua Fang (University of Massachusetts Medical School, USA)

GCNC: Green Computing, Networking, and Communications

Room: Grand Ballroom C

Chair: Angelos K. Marnierides (Lancaster University & Lancaster University, United Kingdom)

Energy Management of End Users Modeling their Reaction from a GENCO's Point of View

Mehdi Rahmani-andebili (Clemson University, USA); Haiying Shen (University of Virginia, USA)

Joint RRH Selection and Beamforming in Distributed Antenna Systems With Energy Harvesting

Yanjie Dong (University of British Columbia, Vancouver Campus, Canada); Md. Jahangir Hossain (University of British Columbia, Okanagan, Canada); Julian Cheng and Victor C.M. Leung (University of British Columbia, Canada)

Network power saving based on Pareto optimal control with evolutionary approach

Yosuke Akishita, Yuichi Ohsita and Masayuki Murata (Osaka University, Japan)

Short Term Power Load Forecasting Using Deep Neural Networks

Ghulam Mohi Ud Din (Liverpool John Moores University, United Kingdom);
Angelos K. Marnerides (Lancaster University & Lancaster University, United
Kingdom)

*Traffic and Grid-Based Parking Lot Allocation for PEVs Considering Driver Behavioral
Model*

Mehdi Rahmani-andebili (Clemson University, USA); Haiying Shen (University
of Virginia, USA)

WAHS II: Wireless Ad hoc and Sensor Networks II

Room: Grand Ballroom D

Chair: Brigitte Jaumard (Concordia University, Canada)

*Improving Performance in Industrial Internet of Things Using Multi-Radio Nodes and
Multiple Gateways*

Jyotirmoy Banik, Ricardo Arjona and Marco Tacca (The University of Texas at
Dallas, USA); Miguel Razo (University of Texas at Dallas, USA); Andrea
Fumagalli (UTD, USA); Kumaran Vijayasankar and Arvind Kandhalu (Texas
Instruments, USA)

Symmetric Connectivity in WSNs Equipped with Multiple Directional Antennas

Tien Tran (University of Texas at Dallas, USA); Min Kyung An (Sam Houston
State University, USA); Dung Huynh (University of Texas at Dallas, USA)

*Throughput Improvement by Disruption-Suppressed Channel Switching in Multi-Channel
Ad-hoc Networks*

Masaki Inokuchi (NEC Corporation, Japan); Hirofumi Ueda (NEC, Japan); Gen
Motoyoshi (NEC Corporation, Japan)

Throughput Optimization in Multi-hop Wireless Networks with Reconfigurable Antennas

Yantian Hou (Boise State University, USA); Ming Li (University of Arizona,
USA); Kai Zeng (George Mason University, USA)

True ConvergeCast Scheduling in Wireless Sensor Networks

Mahesh Bakshi, Brigitte Jaumard and Lata Narayanan (Concordia University,
Canada)

CQSM: Communications QoS and System Modeling

Room: Grand Ballroom E

Chair: Lei Chen (Georgia Southern University, USA)

A New Index of Hidden Workload for Firewall Rule Processing on Virtual Machine

Dai Suzuki, Satoshi Imai and Toru Katagiri (Fujitsu Laboratories Ltd., Japan)

CORAL: A Multi-Core Lock-Free Rate Limiting Framework

Zhe Fu, Zhi Liu and Jiaqi Gao (Tsinghua University, P.R. China); Wenzhe Zhou
and Wei Xu (Huawei Technologies, USA); Jun Li (Tsinghua University, P.R.
China)

*Delay and quality metrics in Voice over LTE (VoLTE) networks: an end-terminal
perspective*

Majed Najmeddine (Orange labs & Telecom Bretagne, France); Stéphane Ragot (Orange Labs, France); Xavier Lagrange (Institut Mines Telecom / Telecom Bretagne & IRISA, France); Alberto P Blanc (Telecom Bretagne, France)

Traffic Engineering in the Peer-to-Peer SDN

Hemin Yang and George Riley (Georgia Institute of Technology, USA)

An Approach to Online Network Monitoring Using Clustered Patterns

Jinoh Kim (Texas A&M University-Commerce & Lawrence Berkeley National Laboratory, USA); Alex Sim (Lawrence Berkeley National Laboratory, USA); Sang Suh (Texas A&M University-Commerce, USA); Ikkyun Kim (ETRI, Korea)

Sunday, January 29

Sunday, January 29, 08:30 - 09:30

Keynote: Fair and Efficient Data Trading: Opportunities and Challenges for both IT and non IT majors

Prof. Wei Zhao (University of Macau - China)
Room: Grand Ballroom A
Chair: Jian Ren (Michigan State University, USA)

Sunday, January 29, 10:00 - 12:00

Distinguished Lecture: Galois Comes to the Rescue: Unifying Detection and Decoding in Designing Robust Wireless Communication Receivers

Prof. Zhi Ding (University of California - Davis)
Room: Grand Ballroom A
Chair: Dieter Hogrefe (University of Goettingen, Germany)

Sunday, January 29, 10:00 - 11:00

REUNS: Keynote Talk

Room: Grand Ballroom B

Sunday, January 29, 10:00 - 12:00

CNC I: Communications and Information Security

Room: Grand Ballroom C
Chair: Farah Kandah (University of Tennessee at Chattanooga, USA)
Enhancing the Security of IoT Enabled Robotics: Protecting TurtleBot File System and Communication
Michael Horton, Lei Chen and Biswanath Samanta (Georgia Southern University, USA)
Efficient Key Management for Big Data Gathering in Dynamic Sensor Networks
Farah Kandah and Li Yang (University of Tennessee at Chattanooga, USA);
Oliver Nichols (University of Tennessee Chattanooga, USA)
Rapid detection of disobedient forwarding on compromised OpenFlow switches
Yen-Chun Chiu and Po-Ching Lin (National Chung Cheng University, Taiwan)
Distributed Responder ARP: Using SDN to Re-Engineer ARP from within the Network
Mark Matties (The Johns Hopkins University Applied Physics Laboratory, USA)
Post-Quantum Hybrid Security Mechanism for MIMO Systems

Yousef Qassim, Mario E. Magaña and Attila Altay Yavuz (Oregon State University, USA)

Software Defined Networking enabled Resilience for IEC 61850-based Substation Communication Systems

Hellen Maziku (Tennessee State University, USA); Sachin Shetty (Old Dominion University, USA)

Advertisement Removal of Android Applications by Reverse Engineering

JenYi Pan (National Chung Cheng University, Taiwan); Sheng-Hao Ma (I-Shou University, Taiwan)

CNC II: Cloud Computing and Big Data & Multimedia Computing and Communications

Room: Grand Ballroom D

Chair: Martine Bellaïche (École Polytechnique, Canada)

A Network-Centric Architecture for Building the Cloud Continuum

Alessandro Carrega (University of Genoa, Italy); Matteo Repetto (CNIT, Italy)

Evaluation and Selection of Cloud Security Services based on Multi-Criteria Analysis MCA

Talal Halabi (École Polytechnique de Montréal, Canada); Martine Bellaïche (École Polytechnique, Canada)

Federated Cloud Computing as System of Systems

Yahav Biran, George Collins and Syed Azam (Colorado State University, USA); Joel Dubow (Fulcrum Co., USA)

Resource Allocation for IoT Applications in Cloud Environments

Anand Singh and Yannis Viniotis (North Carolina State University, USA)

Variability Management in Infrastructure as a Service: Scenarios in Cloud Deployment Models

Ateeq Khan and Johannes Hintsch (Otto von Guericke University Magdeburg, Germany); Gunter Saake (University of Magdeburg, Germany); Klaus Turowski (Otto von Guericke University Magdeburg, Germany)

Modeling of Free Riders in P2P Live Streaming Systems

Istiaque Shahriar, Dongyu Qiu and Brigitte Jaumard (Concordia University, Canada)

CNC III: Cognitive Computing and Networking & Green Computing, Networking, and Communications

Room: Grand Ballroom E

Chairs: Mustafa ElNainay (Alexandria University & Virginia Tech, Egypt), Tamer ElBatt (Faculty of Engineering, Cairo University & WINC, Nile University, Egypt)

Channel Selection Scheme for Cooperative Routing Protocols in Cognitive Radio Networks

Arsany Guirguis (Alexandria University, Egypt); Mustafa ElNainay (Alexandria University & Virginia Tech, Egypt)

Cluster-Based Dynamic Backup in Cognitive Radio Networks

Farah Kandah (University of Tennessee at Chattanooga, USA); Jesse Whitehead (University of Tennessee- Chattanooga, USA)
Cognitive Mission Planning and System Orchestration
Mark D Rahmes (Harris Corporation, USA)
Stability Analysis of a Cognitive Radio System with a Dedicated Relay
Doaa Kiwan and Amr El-Sherif (Nile University, Egypt); Tamer ElBatt (Faculty of Engineering, Cairo University & WINC, Nile University, Egypt)
An analytical study of the primary user activity pattern effect on the performance of cooperative opportunistic networks
Mohamed Abdelraheem (Assiut University, Egypt); Mustafa ElNainay (Alexandria University & Virginia Tech, Egypt)
Performance Study of Dedicated In-Band Control Channels for Cognitive Radio Networks
Ayman Sabbah (Communications Research Centre Canada); Omneya MK Issa (Communications Research Centre Canada, Canada); Bernard Doray (Communications Research Centre, Canada)
An Interference-aware Small Cell on/off Mechanism in Hyper Dense Small Cell Networks
Li-Ping Tung, Li-Chun Wang and Kuan-Sheng Chen (National Chiao Tung University, Taiwan)

Sunday, January 29, 11:00 - 12:00

REUNS I: The Third National Workshop for REU Research in Networking and Systems

Room: Grand Ballroom B

Chair: Shuhui Yang (Purdue University Northwest, USA)

A Study of Single-Sided HPC Communication Paradigm Using Chameleon Bare-Metal Cluster

Justin Y. Shi (Temple University, USA); Kimberly Kosman (University of Notre Dame, USA); Travis Evans (Louisiana Tech University, USA); Yasin Celik (Temple University, USA)

Spatial-Temporal Campus Crime Pattern Mining from Historical Alert Messages

Shela Wu (New York University, USA); John Male and Eduard Dragut (Temple University, USA)

IoTOne: Integrated Platform for Heterogeneous IoT Devices

Nathaniel Gyory and Mooi Choo Chuah (Lehigh University, USA)

Sunday, January 29, 13:30 - 15:30

Distinguished Lecture

Prof. Alexandros Potamianos

Room: Grand Ballroom A

Chair: Haohong Wang (TCL Research America, USA)

REUNS II: The Third National Workshop for REU Research in Networking and Systems

Room: Grand Ballroom B

Chair: Feng Li (Indiana University-Purdue University Indianapolis, USA)

A Survey of Social-Based Routing Protocols in Delay Tolerant Networks

Lauren Good (DePauw University, USA); Jacqueline Hom (Wellesley College, USA); Shuhui Yang (Purdue University Northwest, USA)

Does Bad News Spread Faster?

Anna Fang (Cornell University, USA); Zina Ben-Miled (IUPUI, USA)

A Command-level Study of Linux Kernel Bugs

Yiliang Shi (University of Utah, USA); Mai Zheng (New Mexico State University, USA)

Energy-Efficient Sparse Routing Protocol for Delay Tolerant Networks

Max Hastings and Shuhui Yang (Purdue University Northwest, USA)

Obfuscating Function Call Topography to Test Structural Malware Detection against Evasion Attacks

Andrew Choliy (Rutgers University, USA); Feng Li and Tianchong Gao (Indiana University-Purdue University Indianapolis, USA)

Investigating and Securing Communications in the Controller Area Network (CAN)

Zachary King and Shucheng Yu (University of Arkansas at Little Rock, USA)

Applying Rating Systems to Challenge Based Cybersecurity Education

Andrew Samuels (Clemson University, USA); Feng Li (Indiana University-Purdue University Indianapolis, USA); Connie Justice (Purdue School of Engineering and Technology, IUPUI, USA)

CNC IV: Communications QoS and System Modeling & Internet Services and Applications

Room: Grand Ballroom C

Chair: Junyu Lai (University of Electronic Science and Technology of China, P.R. China)

An Adaptive Coding and Modulation Based Multicast Scheme to Reduce Bandwidth Consumption in the Next Generation Satellite TV Systems

Junyu Lai, Wei Zhang, Jie Zhao, Weinan Zhang and Yang Zhang (University of Electronic Science and Technology of China, P.R. China)

An Efficient Binary-Search Based Heuristic for Extended Unsplittable Flow Problem

Erdal Akin and Turgay Korkmaz (University of Texas at San Antonio, USA)

Efficient and reliable transmission in Flow-Aware Networks — an integrated approach based on SDN concept

Jerzy Domżał, Robert Wójcik and Edyta Biernacka (AGH University of Science and Technology, Poland)

Application Identification via Network Traffic Classification

Barış Yamansavaşçılar, Amaç M. Güvensan, Gokhan A. Yavuz and Elif Karşlıgil (Yildiz Technical University, Turkey)

Using DEVS for Modeling and Simulating a Fog Computing Environment

Mohammad Etemad, Mohammad Aazam and Marc St-Hilaire (Carleton University, Canada)

WPAN Node with Wake-Up Receiver using CSMA/CA and a Channel Occupation Scheme

Josua Arndt and Nils Herjürgen (RWTH Aachen, Germany); Ralf Wunderlich (RWTH Aachen University, Germany); Stefan Heinen and Vahid Bonehi (RWTH Aachen, Germany)

Towards a Modular and Extensible TCP Congestion Control Implementation for the ns-3 Network Simulator

Allison Hume and Katia Obraczka (University of California, Santa Cruz, USA)

CNC V: Mobile Computing and Vehicle Communications & Optical and Grid Computing

Room: Grand Ballroom D

Chair: Keshav Dahal (University of the West of Scotland, United Kingdom)

Application-level Scheme to Enhance VANET Event-driven Multi-hop Safety-Related Services

Xiaomin Ma and Gabriel Kanelopoulos (Oral Roberts University, USA); Kishor S. Trivedi (Duke University, USA)

Geo-routing in Urban Vehicular Ad-hoc Networks: A Literature Review

Mehdi Tavakoli Garrosi and Marcel Kalac (Leibniz Universität Hannover, Germany); Torsten Lorenzen (Leibniz Universität Hannover & Institute of Communications Technology (IKT), Germany)

Proposal of Multi-lingual Sentence Reading for Mobile Communication

Toshiyuki Maeda (Hannan University, Japan)

Social Factors for Data Sparsity Problem of Trust Models in MANETs

Antesar M. Shabut (Anglia Ruskin University & Anglia Ruskin University, United Kingdom); Keshav Dahal (University of the West of Scotland, United Kingdom)

Preliminary Experiments for a GPS Improvement System Using Short-Range Communication

Tadashi Ogino (Meisei University, Japan)

Analyzing the Relative Cost Concept in Elastic Optical Networks

Anwar Alyatama (Kuwait University, Kuwait)

Energy Efficiency Benefits of Introducing Optical Switching in Data Center Networks

Artur Pilimon and Alexandra Zeimpeki (Technical University of Denmark, Denmark); Anna Manolova Fagertun (Telia Denmark, Denmark); Sarah Ruepp (Technical University of Denmark, Denmark)

CNC VI: Network Algorithms and Performance Evaluation & Social Computing and Semantic Data Mining

Room: Grand Ballroom E

Chair: Jinhoh Kim (Texas A&M University-Commerce & Lawrence Berkeley National Laboratory, USA)

A Lightweight Network Anomaly Detection Technique

Jinoh Kim (Texas A&M University-Commerce & Lawrence Berkeley National Laboratory, USA); Wuchel Yoo and Alex Sim (Lawrence Berkeley National Laboratory, USA); Sang Suh (Texas A&M University-Commerce, USA); Ikkyun Kim (ETRI, Korea)

A Live Network AS-Level Traffic Characterization

Quentin Grandemange (Université de Lorraine, France); Olivier Ferveur (Post Technologies, France); Marion Gilson (Université de Lorraine - CNRS CRAN UMR 7039, France); Eric Gnaedinger (University of Lorraine & ESSTIN, France)

Moving Peers in Distributed, Location-based Peer-to-Peer Overlays

Tobias Amft (University of Dusseldorf, Germany); Kalman Graffi (Heinrich Heine University Düsseldorf, Germany)

On the Vulnerability of Multi-level Communication Network under Catastrophic Events

Pankaz Das (University Of New Mexico, USA); Mahshid Rahnamay Naeini (Texas Tech University, USA); Nasir Ghani (University of South Florida, USA); Majeed M Hayat (University of New Mexico, USA)

Routing Algorithm for Multiple Unsplittable Flows Between Two Cloud Sites with QoS Guarantees

Erdal Akin and Turgay Korkmaz (University of Texas at San Antonio, USA)

How Partial Behavioral Networks Drive Econometric Bias and Inefficiency

Mark Abdollahian (Claremont Graduate University, USA); Zining Yang (Claremont Graduate University & Acertas, USA); Patrick Neal (Claremont Graduate University, USA)

Survey On Energy-Efficient Hard Drive Disks

Evans Oliech and Xiaojun Ruan (West Chester University of Pennsylvania, USA)

Sunday, January 29, 16:00 - 18:00

Distinguished Lecture:

Prof. Shu-Ching Chen

Room: Grand Ballroom A

Chair: Haohong Wang (TCL Research America, USA)

REUNS III: The Third National Workshop for REU Research in Networking and Systems

Room: Grand Ballroom B

Chair: Jie Wu (Temple University, USA)

Personalizable Neurological User Authentication Framework

Dennis Frank (Georgia Institute of Technology, USA); Jasmine Mabrey (Norfolk State University, USA); Kenji Yoshigoe (University of Arkansas at Little Rock, USA)

Exploitations of Wireless Interfaces via Network Scanning

Nathalie Domingo (Carnegie Mellon University, USA); Bryan Pearson (Stetson University, USA); Yier Jin (University of Central Florida, USA)

Radio Receiver Design for Unmanned Aerial Wildlife Tracking

Daniel Webber (Santa Clara University, USA); Nathan Hui (University of California, San Diego, USA); Ryan Kastner and Curt Schurgers (University of California, San Diego, USA)

Change Detection by Deep Neural Networks for Synthetic Aperture Radar Images

Frank Liao (Carnegie Mellon University, USA); Elizabeth Koshelev (Brandeis University, USA); Malcolm Milton (Salisbury University, USA); Yuanwei Jin (University of Maryland Eastern Shore, USA); Enyue Lu (Salisbury University, USA)

SDR Based Indoor Localization Using Ambient WiFi and GSM Signals

Varun Nambiar (Georgia Institute of Technology, USA); Edwin Vattapparamban and Ali Ihsan Yurekli (Florida International University, USA); Ismail Güvenç (North Carolina State University, USA); Mohammad Mozaffari and Walid Saad (Virginia Tech, USA)

Wireless Mesh Networking Protocol for Sustained Throughput in Edge Computing

Josiah Burchard (Southeast Missouri State University & University of Missouri, USA); Dmitrii Chemodanov, John Gillis and Prasad Callyam (University of Missouri-Columbia, USA)

CNC VII: Wireless Communications & Wireless Networks

Room: Grand Ballroom C

Chair: Hongxiang Li (University of Louisville, USA)

Channel Blocking Analysis and Availability Prediction in Cognitive Radio Networks

Muhammad Rehan Usman and Muhammad Arslan Usman (Kumoh National Institute of Technology (KIT), Korea); Soo Young Shin (Kumoh National Institute of Technology, Korea)

Performance of Non-Orthogonal Multiple Access (NOMA) in mmWave wireless communications for 5G networks

Andrea S Marcano and Henrik Christiansen (Technical University of Denmark, Denmark)

Rate Optimization for Energy Efficient System with M-QAM

Randa Jaouadi (University of Nantes, France); Guillaume Andrieux (University of Nantes & IETR Laboratory, France); Jean-Yves Baudais (CNRS, France); Jean Francois Diouris (University of Nantes, France)

Relay Selection of Relay-assisted Device-to-Device and Uplink Communication Underlying Cellular Networks

JenYi Pan and Ming-Hung Hsu (National Chung Cheng University, Taiwan)

A Generalized Optimization Framework for Control Plane in Tactical Wireless Networking

Brian Jalaian and Venkateswara Dasari (US Army Research Laboratory, USA); Mehul Motani (National University of Singapore, Singapore)

Analysis and Improvement of the 3-star Algorithm for the STP-MSP problem in Wireless Sensor Networks

Shuo-Han Chen and Chi-Heng Lee (National Tsing Hua University, Taiwan); Tseng-Yi Chen (Academia Sinica, Taiwan); Hsin-Wen Wei (Tamkang University,

Taiwan); Tsan-sheng Hsu (Academia Sinica, Taipei, Taiwan); Wei-Kuan Shih (National Tsing Hua University, Taiwan)
Opportunistic Scheduling for Network Coded Data in Wireless Multicast Networks
Nadieh Moghadam, Mohammad Taghi Mohebbi and Hongxiang Li (University of Louisville, USA)

CNC VIII: Wireless Ad hoc and Sensor Networks

Room: Grand Ballroom D

Chair: Kui Zhang (University of Twente, The Netherlands)

A Mobile Ad Hoc Cloud for Automated Video Surveillance System

Sayed Chhattan Shah (Hankuk University of Foreign Studies, South Korea, Korea)

Adaptive Location-Aware Routing with Directional Antennas in Mobile AdHoc Networks

Taku Noguchi and Takahiko Kobayashi (Ritsumeikan University, Japan)

Channel Access Proposal For Enabling Quick Discovery For D2D Wireless Networks

Huan-Bang Li (National Institute of Information and Communications Technology, Japan); Ryu Miura (NICT, Japan); Fumihide Kojima (National Institute of Information and Communications Technology, Japan)

Dynamic Replication Control Strategy For Opportunistic Networks

Salem Omar Sati (HHU University, Germany); Andre Ippisch and Kalman Graffi (Heinrich Heine University Düsseldorf, Germany)

MobiBone: An energy-efficient and adaptive network protocol to support short rendezvous between static and mobile wireless sensor nodes

Kui Zhang (University of Twente, The Netherlands); Eyuel Debebe Ayele (University of Twente, The Netherlands & University of Dresden, Germany); Nirvana Meratnia and Paul Havinga (University of Twente, The Netherlands); Peng Guo (Huazhong University of Science and Technology, P.R. China); Youxin Wu (Nanchang University, The Netherlands)

Neighbor Discovery Utilizing In-Band Full Duplex in Wireless Clique Networks

Yuichi Miyaji and Hideyuki Uehara (Toyohashi University of Technology, Japan)

Optimal Sensor Density and Placement in Power-constrained Wireless Sensor Networks

Marwan Alkhweldi (West Virginia University, USA)

CNC VIX: Wireless Ad hoc and Sensor Networks & WiSARN & Communications

Room: Grand Ballroom E

Chair: Nicola Roberto Zema (UTC - Université de Technologie de Compiègne, France)

An Enhanced MMSE Subchannel Decision Feedback Equalizer with ICI Suppression for FBMC/OQAM Systems

Chih-Wei Chen (Graduate School of Fundamental Science and Engineering, Waseda University, Japan); Fumiaki Maehara (Waseda University, Japan)

Set Reconciliation With an Inaccurate Oracle

Mark Bilinski (SSC Pacific, USA); Ryan Gabrys (SSC Pacific)

Low Energy Scheduling of Minimal Active Time Slots for Multi-Channel Multi-Hop Convergence Wireless Sensor Networks

Saurabh Kumar (Chungbuk National University, Korea); HyungWon Kim (Chungbuk National University & College of Electrical and Computer Engineering, Korea)

A cooperative packet loss-tolerant algorithm for wireless networked robots rendezvous

Sabato Manfredi and Claudio Pascariello (University of Naples Federico II, Italy); Nicola Roberto Zema (UTC - Université de Technologie de Compiègne, France); Isabelle Fantoni and Michal Krol (Université de Technologie de Compiègne, France)

Clustering Algorithm for Improved Network Lifetime of Mobile Wireless Sensor Networks

John Corn and Jerry Bruce (Mississippi State University, USA)

Tag-based Data Exchange in Disaster Relief Scenarios

Michal Krol and Enrico Natalizio (Université de Technologie de Compiègne, France); Nicola Roberto Zema (UTC - Université de Technologie de Compiègne, France)

Reference-Shifted DCSK Modulation Scheme for Secure Communication

Hua Yang, Guoping Jiang, Lingling Xia and Xiao Tu (Nanjing University of Posts and Telecommunications, P.R. China)