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## Program

Monday, February 18

### Monday, February 18 8:30 - 9:30

[Keynote Talk I: Internet of Everything for the New Industrial Revolution](#)  
**Prof. Ali H. Sayed**

Chair: Chonggang Wang

### Monday, February 18 9:30 - 10:00

[Coffee Break](#)

### Monday, February 18 10:00 - 12:00

#### CNC III

Room: Milo 4

Chair: Howard Fan

##### **Silent Timestamping for Blockchain Mining Pool Security**

Sang-Yoon Chang and [Youngee Park](#)

##### **Learning for Detection: A Deep Learning Wireless Communication Receiver Over Rayleigh Fading Channels**

Amer Al Baidhani and Howard Fan

##### **Product Review Credibility Analysis**

Anusha Prabhakaran and [Min Chen](#)

##### **Computational Complexity Reduction of Receive Weight Matrices in Massive MIMO SC-FDE**

K. Saito, Yasutaka Ogawa, Toshihiko Nishimura, Takeo Ohgane and Junichiro Hagiwara

##### **Intelligent Scheduling for Parallel Jobs in Big Data Processing Systems**

Mingrui Xu, Chase Q. Wu, Aiqin Hou and Yongqiang Wang

##### **A Study on Layouts of Distributed Antenna Arrays in an Indoor Multi-User Massive MIMO System**

Y. Suzuki, Toshihiko Nishimura, Takeo Ohgane, Yasutaka Ogawa and Junichiro Hagiwara

##### **Markov Chain Analysis for Compressed Sensing based Random Access in Cellular Systems**

Sangjun Park, Seunghyun Lee and Wan Choi

#### CNC IV

Room: Milo 5

Chair: Andrea Marotta

##### **Outage Probability Bounds of EGC Over Correlated Lognormal Fading Channels**

Zhiqiang Xiao, Bingcheng Zhu and Yongjin Wang

##### **SMAP: A Map Extension Framework for Intelligent Travel Systems**

Nardine Basta

##### **Data Interpolation for Deep Learning based Encrypted Data Packet Classification**

Pan Wang, [Yiqing Zhou](#), Feng Ye and Hao Yue

##### **Hadoop Performance Evaluation in Software Defined Data Center Networks**

Claudio Calcaterra, Alessio Carmineni, [Andrea Marotta](#) and Dajana Cassioli

##### **Angle-of-Arrival Estimator for Light Signals Based on Optimized Photodiode Array**

Zhiming Zhu, Bingcheng Zhu, Yongjin Wang, Zheng Shi and Yuan Jiang

##### **Secrecy Capacity of Hybrid RF/VLC DF Relaying Networks with Jamming**

Jaber Al-khori, Galymzhan Naurzybayev, Mohamed M. Abdallah and Mounir Hamdi

#### Distinguished Lecture I:

**Prof. Zhu Han**

Room: Waikiki Ballroom Salon 1

Chair: Chonggang Wang

#### CNC I:

Room: Waikiki Ballroom Salon 2

Chair: Cong Pu

##### **Spam DIS Attack Against Routing Protocol in the Internet of Things**

Cong Pu

##### **Preventing UDP Flooding Amplification Attacks with Weak Authentication**

Edoardo S. Biagioni

##### **Dynamic Bayesian Game Based Power Allocation in Mobile Edge Computing with Users' Behaviors**

Sachula Meng, [Ying Wang](#), Wensheng Sun, Shan Guo and Kai Sun

##### **Multicast Design for the MobilityFirst Future Internet Architecture**

[Bowen Yang](#), Xiang Chen, Jinsen Xie, Sugang Li, Yanyong Zhang and Jian Yang

##### **An Information Feature Extraction and Rapid Updating Scheme for Knowledge Centric Networking**

Qi Zhang, Xiaofeng Jiang, Shuangwu Chen, Jinsen Xie, Jian Yang and Ling Xing

##### **Fine-tuning a pre-trained Convolutional Neural Network Model to translate American Sign Language in Real-time**

Manuel Eugenio Morochó Cayamcela and Wansu Lim

##### **Security Enhancing Spatial Modulation Using Antenna Selection and Artificial Noise Cancellation**

Weicheng Yu, Kai Zhang, Pingping Shang, Xueqin Jiang, Miaowen Wen, Jun Li and Han Hai

#### CNC II:

Room: Waikiki Ballroom Salon 3

Chair: Lav Gupta

##### **A Two-phase Transmission Protocol Design for Ultra-reliable Communications**

[LanLin Li](#), Yinglei Teng, Mei Yan, [Mei Song](#) and Lihong Song

##### **Improvement on Localization Accuracy of IR-UWB By Adapting Time Bias Inner Transceiver**

Huan-Bang Li, Kenichi Takizawa, Toshinori Kagawa, Fumihide Kojima and Ryu Miura

##### **How to Control a TCP: Minimally-Invasive Congestion Management for Datacenters**

[Safiqul Islam](#), Michael Welzl and Stein Gjessing

**On Cluster Head Selection in Monkey-inspired Optimization based Routing Protocol for WSNs**

Tina Gui, Feng Wang, Christopher Ma and Dawn Wilkins

**Maximizing Secrecy Rates and Payoffs Through Wireless Virtualization in Heterogeneous Wireless Networks**

Naveen Naik Sapavath, Dema Alorini, Danda B. Rawat and Moses Garuba

**Authenticating Endpoints and Vetting Connections in Residential Networks**

Yu Liu, Curtis Taylor and Craig A. Shue

**HYPER-VINES: A Hybrid Learning Fault and Performance Issues ERadiator for Virtual Network Services in Multi-Cloud Systems**

Lav Gupta, Tara Salman, Ria Das, Alman Erbad, Raj Jain and Mohammed Samaka

**Monday, February 18 12:00 - 13:30**

Lunch (on attendee own)

**Monday, February 18 13:30 - 15:30**

**CNC VII**

Room: Milo 4

Chair: Marcin Niemiec

**A Novel NMF Algorithm for Detecting Clusters in Directed Networks**

Yoshito Usuzaka and Norikazu Takahashi

**Multi-Resource Continuous Allocation Model for Cloud Services**

Anwar Alyatama

**Fast and Accurate Machine Learning-based Malware Detection via RC4 Ciphertext Analysis**

Junggab Son, Euseong Ko, Uday Bhaskar Boyanapalli, Donghyun Kim, Youngsoo Kim and Mingon Kang

**Risk Assessment Approach to Secure Northbound Interface of SDN Networks**

Marcin Niemiec, Piotr Jaglarz, Marcin Jekot, Piotr A Cholda and Piotr Boryto

**Expected Capacity Guaranteed Routing based on Dynamic Link Failure Prediction**

Shu Sekigawa, Eiji Oki, Satoru Okamoto and Naoaki Yamanaka

**Design of an Efficient Resource Management Model in Elastic Optical Networks**

Ching-Fang Hsu, Siou-Ci Sie, Hsuan-Fang Fu, Jin-Jun Zheng and Shi-Xuan Chen

**CNC VIII**

Room: Milo 5

Chair: Jooyoung Lee

**Enhancing VoIP Security and Efficiency using VPN**

Thattapon Surasak and Scott CH Huang

**Mobile Device Localization in 5G Wireless**

Gurudutt Hosangadi, Anil Rao, Pantelis Monogioudis and Dandan Wang

**Probabilistic Estimation of Honeypot Detection in Internet of Things Environment**

Oleg Surnin, Fatima Hussain, Rasheed Hussain, Svetlana Ostrovskaya, Andrey Polovinkin, Jooyoung Lee and Xavier N. Fernando

**Performance Comparison of Software Defined Networking Simulators for Tactical Network: Mininet vs. OPNET**

Seungwoon Lee, Jehad Ali and Byeong-hee Roh

**An Enhanced Capacity Model based on Network Measurements for a Multi-Service 3G System**

Diogo Parracho, David Duarte, Iola Pinto and Pedro Vieira

**A System for Generating Background Colors for e-Books, Based on its Text**

Takuto Kamiura, Shohei Yamada and Chandrasiri Naiwala P.

**An abstraction layer for cybersecurity context**

Raffaele Bolla, Alessandro Carrega and Matteo Repetto

**Distinguished Lecture II**

**Prof. Schahram Dustdar**

Room: Waikiki Ballroom Salon 1

Chair: Honggang Wang

**CNC V**

Room: Waikiki Ballroom Salon 2

Chair: Hyuck Kwon

**Construction of Time-Space Radio Environment Database using HMM for Cooperative Sensing**

Yuya Aoki and Takeo Fujii

**A QoE-Driven Rate Adaptation Approach for Dynamic Adaptive Streaming Over HTTP**

Ziwei Wang and Xiuhua Jiang

**Frost's and Maximin Space-Time Adaptive Processing under Block Rayleigh Fading**

Krittetash Pinyoanuntapong, Hyuck Kwon, Khanh D. Pham and James Lyke

**A temporary communication system using DTN for improving power consumption of mobile terminals**

Yoshitaka Nakamura and Osamu Takahashi

**Spectrum Sharing for Heterogeneous Communication Systems in TV White Spaces**

Wenjie Zhang, Guanglin Zhang, Yifeng Zheng, Liwei Yang and Chai Kiat Yeo

**Incentive Marketing Strategy under Multi-state Diffusion Model in Online Social Networks**

Yan Li and Victor O. K. Li

**Towards Self-Defense of Non-Stationary Systems**

Stefano Iannucci, Andrea Montemaggio and Byron Williams

**CNC VI**

Room: Waikiki Ballroom Salon 3

Chair: Aziz Mohaisen

**A Method of Moments Estimator for Modulation Index of Continuous Phase Modulation**

Ihtisham Khalid, Syed Asad Ullah, Sajid Saleem and Syed Ali Hassan

**Text-To-Speech quality evaluation based on LSTM Recurrent Neural Networks**

Meng Tang and Jie Zhu

**Tail Latency Prediction for Datacenter Applications in Consolidated Environments**

Sami M Alesawi, Minh Nguyen, Hao Che and Akshit Singhal

**Overcome Heterogeneity Impact in Modeled Fork-Join Queuing Networks for Tail Prediction**

Sami M Alesawi and Sakher Ghanem

**Clustering Enabled Classification using Ensemble Feature Selection for Intrusion Detection**

Fadi Salo, MohammadNoor Injadat, Abdallah Moubayed, Ali Bou Nassif and Aleksander Essex

**Generative Adversarial Learning for Machine Learning empowered Self Organizing 5G Networks**

Ben Hughes, Shruti Bothe, Hasan Farooq and Ali Imran

**Emergency Trunk Reservation Control Using Waiting Queue for Accommodating More General Calls**

Kenta Kawai, Kazuki Tanabe, Katsunori Yamaoka and Ken-ichi Baba

**Monday, February 18 16:00 - 18:00**

**CCCIoT**

Room: Milo 4

**Individual Identification and Classification of Radiation Sources Based on RF Amplifiers**

Xiang Chen, Jie Chang, Ruowu Wu, Chengzhuo Shi and Yun Lin

**Communication Abnormal Signal Detection Based on Deep Learning in IoT**

Ruowu Wu, Chunyan Wei, Xiang Chen and Guangzhen Si

**Research on Nonlinear Modeling of RF Power Amplifier Based on Machine Learning**

Jie Chang, Yun Lin and Zheng Dou

**Tutorial**

**Prof. Michael Welzl, University of Oslo, Norway**

Rooms: Milo 4, Milo 5

Distinguished Lecture III:

**Prof. Yiran Chen**

Room: Waikiki Ballroom Salon 1  
Chair: Honggang Wang

**CNC IX**

Room: Waikiki Ballroom Salon 2  
Chair: Hyuck Kwon

**A Graded Approach to Network Forensics with Privacy Concerns**

William Brockelsby and Rudra Dutta

**Fractional Packet Duplication and Fade Duration Outage Probability Analysis for Handover Enhancement in 5G Cellular Networks**

Rahul Paropkari, Cory Beard and Aklilu Gebremichael

**A Meshed Tree Protocol for Loop Avoidance in Switched Networks**

Peter Willis and Nirmala Shenoy

**UWB-Based Single-Anchor Indoor Localization Using Channel Impulse Response**

Hessam Mohammadmoradi, Milad Heydariaan, Omprakash Gnawali and Kyungki Kim

**Satellite MIMO Digital Beam-Forming under Nonlinear High-Power Amplifier and Keyhole**

Madhuprana Goswami, Hyuck Kwon, Khanh D. Pham and James Lyke

**Optimal Admission Control For Secondary Users In Cognitive Radio Systems**

Wenlong Ni and Wei Li

**D2D-Assisted Physical-Layer Security in Next-Generation Mobile Network**

Daidong Ying and Feng Ye

**CNC X**

Room: Waikiki Ballroom Salon 3  
Chair: Laurent Njilla

**Hybrid precoded index modulation in downlink mmWave MU-MIMO systems**

Alvaro Ortega, Raimundo Sampaio-Neto and Rodrigo David

**A Bare PC Text Based Browser**

Saleh Almutairi, Ramesh Karne and Alexander L Wijesinha

**Age Minimization of Multiple Flows using Reinforcement Learning**

Hasan Beytur and Elif Uysal

**A full Secondary User model for Cognitive Radio in a GSM-900 scenario**

Marco Scarpa and Salvatore Serrano

**MongoDB Clustering using K-means for Real-Time Song Recognition**

Murtadha Arif Bin Sahbudin, Marco Scarpa and Salvatore Serrano

**A Lightweight Network Discovery Algorithm for Resource-constrained IoT Devices**

Salvatore Gaglio, Giuseppe Lo Re, Gloria Martorella and Daniele Peri

**Countering Selfish Mining in Blockchains**

Muhammad Saad, Laurent Njilla, Charles A Kamhoua and Aziz Mohaisen

Tuesday, February 19

**Tuesday, February 19 8:20 - 8:30**

Opening Ceremony

Rooms: Milo 4, Milo 5, Waikiki Ballroom Salon 1, Waikiki Ballroom Salon 2, Waikiki Ballroom Salon 3  
Chairs: Chonggang Wang, Haohong Wang, Honggang Wang

**Tuesday, February 19 8:30 - 9:30**

Keynote Talk II: Computing for the Common Good

**Laura Haas, U-Mass Amherst, USA.**

Rooms: Milo 4, Milo 5, Waikiki Ballroom Salon 1, Waikiki Ballroom Salon 2, Waikiki Ballroom Salon 3  
Chair: Honggang Wang

**Tuesday, February 19 10:00 - 12:00**

**CLD**

Room: Milo 4  
Chair: Zhe Sun

**SmartEye: Mobile Device Proximity Monitoring via Wireless Signal Analysis**

Mohammad Hadian, Thamer Altuwaiyan, Xiaohui Liang, Bo Sheng and Kuan Zhang

**Toward Secure Resource Allocation in Mobile Cloud Computing: A Matching Game**

Talal Halabi, Martine Bellaïche and Adel Abusitta

**Security and Privacy of Electronic Health Records: Decentralized and Hierarchical Data Sharing using Smart Contracts**

Ehab Zaghloul, Tongtong Li and Jian Ren

**kFHC0: Optimal VM Consolidation via k-Factor Horizontal Checkpoint Oversubscription**

Yangyang Tao and Shucheng Yu

**Neuro-Fuzzy classifier for behavioral intervention data**

Venkata Sukumar Gurugubelli, Hua Fang and Honggang Wang

**An Extended Control Framework for Privacy-Preserving Photo Sharing across Different Social Networks**

Fenghua Li, Zhe Sun, Ben Niu, Jin Cao and Hui Li

**WN I:**

Room: Milo 5  
Chair: Venkata Sukumar Gurugubelli

**Minimum Latency Aggregation Scheduling in Internet of Things**

Min Kyung An, Hyuk Cho, Bing Zhou and Lei Chen

**Clustering the Unknown - The Youtube Case**

Amit Dvir, Angelos K. Marnierides, Ran Dubin and Nehor Golan

**Performance Assessment of Smart Meter Traffic over LTE Network Using SDR Testbed**

Amirshahram Hematian, Wei Yu, David Griffith and Nada Golmie

**Location Information-Aided Load Balancing Design for Hybrid LiFi and WiFi Networks**

Weibin Ma, Lin Zhang and Zhiqiang Wu

**DIAM: Diversified Identity Authentication Mechanism for 5G Multi-Service System**

Yurong Luo, Jin Cao, Maode Ma, Hui Li, Ben Niu and Fenghua Li

**Privacy-Preserving Device Discovery and Authentication Scheme for D2D Communication in 3GPP 5G HetNet**

Yunqing Sun, Jin Cao, Maode Ma, Hui Li, Ben Niu and Fenghua Li

**Invited Talks I: WC & 5G**

**Naoaki Yamanaka, Fumiyuki Adachi, Carla-Fabiana Chiasserini, Li-Chun Wang**

Room: Waikiki Ballroom Salon 1  
Chair: Hao Xu

**Industry Forum**

Room: Waikiki Ballroom Salon 2  
Chair: Haohong Wang

**CIS I:**

Room: Waikiki Ballroom Salon 3  
Chair: Casey T. Deccio

**Towards Multimodal Learning for Android Malware Detection**

Josh McGiff, William Hatcher, James Nguyen, Wei Yu, Erik Blasch and Chao Lu

**Adversarial Detection of Concealed VoIP Traffic**

Mario Di Mauro, Paolo Addesso, Maurizio Longo, Vincenzo Matta and Michele Cirillo

**A Quantitative Study of the Deployment of DNS Rate Limiting**

Casey T. Deccio, Derek Argueta and Jonathan Demke  
**Automatic Spam Detection on Gulf Dialectical Arabic Tweets**  
Dema Alorini and Danda B. Rawat  
**Verification Code Recognition Based on Active and Deep Learning**  
Dongliang XU, Bailing Wang, Xiaojiang Du, Xiaoyan Zhu, Zhitao Guan, Xiaoyan Yu and Jingyu Liu  
**A Game Theoretic Approach for Making IoT Device Connectivity Decisions During Malware Outbreak**  
Chin-Tser Huang, Muhammad N Sakib, Laurent Njilla and Charles A Kamhura

## Tuesday, February 19 13:30 - 15:30

Plenary: Pramod K. Varshney, Syracuse University, USA.; Elza Erkip, New York University, USA  
Rooms: Milo 4, Milo 5, Waikiki Ballroom Salon 1, Waikiki Ballroom Salon 2, Waikiki Ballroom Salon 3  
Chair: Jian Ren

## Tuesday, February 19 16:00 - 18:00

### CQSM & ISA

Room: Milo 4  
Chair: Md Shaad Mahmud

**Performance Analysis of Raptor Code for Reconciliation in Continuous Variable Quantum Key Distribution**  
Michael Berhane Asfaw, Xueqin Jiang, Meixiang Zhang, Jia Hou and Wei Duan  
**Accelerated Prediction of Bradycardia in Preterm Infants Using Time-Frequency Analysis**  
Md Shaad Mahmud, Honggang Wang and Yong Kim  
**Enhancing Interdomain Transport via Economic Software-Defined Exchange Points**  
Tilman Wolf, Anna Nagurney, James Griffioen and Ken Calvert  
**Developing a QoE Monitoring Approach for Video Service Based on Mobile Terminals**  
Xiaoming Tao, Xiwen Liu, Li Wang, Yafeng Zhan and Jianhua Lu  
**SDN based Network Function Parallelism in Cloud**  
Ankur Chowdhary and Dijiang Huang  
**Multi-objective Optimization of Joint Power Allocation and Splitting Control for SWIPT-enabled NOMA Systems**  
Jie Tang, Yu Yu, Daniel K. C. So, Gaojie Chen, Mo Huang and Xiuyin Zhang  
**Queueing Analysis of Auxiliary-Connection-Enabled Switches for Software-Defined Networks**  
Chuanji Zhang, Hemin Yang, George Riley and Douglas Blough

### WN II:

Room: Milo 5  
Chair: Hongxiang Li

**Context-Aware Analysis Scheduling in Wireless Body Area Networks**  
Joseph Reeves and Ming Li  
**Blocking Probability Analysis for Relay-Assisted OFDMA Networks using Stochastic Geometry**  
Ahmed Alahmadi, Yuan Liang, Run Tian, Jian Ren and Tongtong Li  
**Joint Transmission Scheduling and Power Allocation in Wirelessly Powered Hybrid Radio Networks**  
Wenfeng Chen, Chengming Li, Shimin Gong, Lin Gao and Jing Xu  
**Towards Efficient Cellular Traffic Offloading via Dynamic MPTCP Path Configuration with SDN**  
Qi Zhao, Muhao Chen, Pengyuan Du, Tuan Le and Mario Gerla  
**Indoor Localization Using Commodity Wi-Fi APs: Techniques and Challenges**  
Laxima Niure Kandel and Shucheng Yu  
**Dynamic EAP Based MAC Protocol for Wireless Body Area Networks**  
Ai Enkoji, Ming Li, James Brisky and Ryan Melvin

### Invited Talks II: AI & WN:

Falko Dressler, Haris Gacanin, Marco DI Renzo, Jun Wu

Room: Waikiki Ballroom Salon 1  
Chair: Li-Chun Wang

### Invited Talks III: QoS Modeling

Ender Ayanoglu, Sergei Gorlatch, Tommaso Melodia, Eiji Oki

Room: Waikiki Ballroom Salon 2  
Chair: Wei Yu

### CIS II:

Room: Waikiki Ballroom Salon 3  
Chair: Yan Zhang

**ESAS: An Efficient Semantic and Authorized Search Scheme over Encrypted Outsourced Data**  
Xueyan Liu, Zhitao Guan, Xiaojiang Du, Liehuang Zhu, Zhengtao Yu and Yinglong Ma  
**Three-way Email Spam Filtering with Game-theoretic Rough Sets**  
Yan Zhang, PengFei Liu and JingTao Yao  
**Integrated Node Authentication and Key Distribution Method for Body Area Network**  
Zhouzhou Li, Hua Fang and Honggang Wang  
**Toward Drone Privacy via Regulating Altitude and Payload**  
Zupei Li, Chao Gao, Qinggang Yue and Xinwen Fu  
**What To Do First: Ranking The Mission Impact Graph for Effective Mission Assurance**  
Pranavi Appana, Xiaoyan Sun and Yuan Cheng  
**SUPC: SDN enabled Universal Policy Checking in Cloud Network**  
Ankur Chowdhary, Adel Alshamrani and Dijiang Huang  
**Adaptive MTD Security using Markov Game Modeling**  
Ankur Chowdhary, Sailik Sengupta, Adel Alshamrani, Dijiang Huang and Abdulhakim Sabur

## Tuesday, February 19 19:00 - 21:00

### Welcome Reception

Room: Waikiki Ballroom Terrace  
Chairs: Chonggang Wang, Honggang Wang

Wednesday, February 20

## Wednesday, February 20 8:30 - 9:30

### Keynote III:

Prof. Raj Jain, Washington University in St. Louis., USA

Rooms: Milo 4, Milo 5, Waikiki Ballroom Salon 1, Waikiki Ballroom Salon 2, Waikiki Ballroom Salon 3  
Chair: Honggang Wang

## Wednesday, February 20 10:00 - 12:00

### Plenary Forum

Future Trends of Technology Innovations  
Rooms: Milo 4, Milo 5, Waikiki Ballroom Salon 1, Waikiki Ballroom Salon 2, Waikiki Ballroom Salon 3  
Chair: Haohong Wang

## Wednesday, February 20 13:30 - 15:30

### MCC & OGC

Room: Waikiki Ballroom Salon 3  
Chair: Jounsup Park

**A Novel Rate Control Method for Free-viewpoint Video in MV-HEVC**

Roxana Abolfathi, Hoda Roodaki and Shervin Shirmohammadi  
**A New Prediction Structure for Efficient MV-HEVC based Light Field Video Compression**  
Joseph Khoury, Mahsa T Pourazad and Panos Nasiopoulos  
**Domain-Specific Image Classification Using Ensemble Learning Utilizing Open-Domain Knowledge**  
Han Sun and Jian Yang  
**Video Streaming over the LWA Systems**  
Jounsup Park  
**Spectrum Usage Minimization for Shared Backup Path Protection in Elastic Optical Networks**  
Ching-Fang Hsu, Hao-Cheng Hu, Hsuan-Fang Fu, Jin-Jun Zheng and Shi-Xuan Chen  
**Performance of Elastic Optical Network with Spectrum Slicing for Fragmented Bandwidth Allocation**  
Nattapong Kitsuwat and Ryota Matsuura

### Wednesday, February 20 16:00 - 18:00

#### ISA

Room: Milo 4

Chair: Runa Barik

**Investigating the Delay Impact of the DiffServ Code Point (DSCP)**  
Michael Welzl, Safiqul Islam, Runa Barik, Stein Gjessing and Ahmed Mustafa Elmokashfi  
**A Lightweight Payment Verification Protocol for Blockchain Transactions on IoT Devices**  
Arman Pouraghily and Tilman Wolf  
**COMPRESS: A Self-Sufficient Scheme for Measuring Queuing Delay on the Internet Routers**  
Khondaker M. Salehin, Roberto Rojas-Cessa and Ki Won Kwon  
**Distributed Mechanism for Computation Offloading Task Routing in Mobile Edge Cloud Network**  
Lijun Dong and Richard Li  
**MedRec: A Network for Personal Information Distribution**  
Andrew Lippman, Nchinda Nchinda, Kalliroi Retzepi and Agnes Cameron  
**Real-Time Data Transport Scheduling for Edge/Cloud-Based Internet of Things**  
James Nguyen, Yalong Wu, Jin Zhang, Wei Yu and Chao Lu  
**Sort: Social Helper Selection Scheme for Mobile Question Answering Systems**  
Imad Ali, Ronald Y. Chang and Cheng-Hsin Hsu

#### MLCN

Room: Milo 5

Chair: Venugopal Veeravalli

**Multi-User Multi-Armed Bandits for Uncoordinated Spectrum Access**  
Meghana Bande and Venugopal Veeravalli  
**An Empirical Investigation of DDoS and Flash Event Detection Using Shannon Entropy, KOAD and SVM Combined**  
Salva Daneshgadah, Thomas Kemmerich, Tarem Ahmed and Nazife Baykal  
**Adaptive Resource Provisioning based on Application State**  
Constantine Ayimba, Paolo Casari and Vincenzo Mancuso  
**Network-based Classification of Authentication Attempts using Machine Learning**  
Curtis Taylor and Julian Lanson  
**Deep Learning Based Transmitter Identification using Power Amplifier Nonlinearity**  
Samer Hanna and Danijela Cabric  
**Approximating the Void: Learning Stochastic Channel Models from Observation with Variational Generative Adversarial Networks**  
Timothy J O'Shea, Tamoghna Roy and Nathan E West  
**Game Theoretic Based Intelligent Multi-User Millimeter-Wave MIMO Systems under Uncertain Environment and Unknown Interference**  
Ming Feng and Hao Xu

#### Invited Talks IV: Information Theory, Signal Process

Anders Høst-Madsen, Takehiro Moriya, Michele Zorzi, Akbar Sayeed

Room: Waikiki Ballroom Salon 1

Chair: Takehiro Moriya

#### Invited Talks V: Mobile Computing/System

Marwan Krunz, Sung-Ju Lee, Victor C.M. Leung, Manos M. Tentzeris

Room: Waikiki Ballroom Salon 2

Chair: Jianqing Liu

#### GCNC

Room: Waikiki Ballroom Salon 3

Chair: Syed Ali Hassan

**A Deep Learning-Based Weather Forecast System for Data Volume and Recency Analysis**  
Jarrett Booz, Wei Yu, Guobin Xu, David Griffith and Nada Golmie  
**An Energy-efficient and Trust-based Formation Algorithm for Cooperative Vehicle Platooning**  
Dapeng Wu, Jiaying Wu and Ruyan Wang  
**WLAN Channel Measurement in Two Classrooms for LOS and NLOS Coverage**  
Ruonan Zhang, Qi Guo, Jiaxin Wang, Zhimeng Zhong and Chao Li  
**Recommendations for Energy Efficient SoDIP6 Network Deployment at the Early Stage Rural ICT Expansion of Nepal**  
Babu R Dawadi, Danda B. Rawat, Shashidhar Joshi and Martina Keitsch  
**Cloud-assisted Two-Factor Protection Mechanism for Public Data in Smart Campus**  
Jian Shen  
**Performance Analysis of Flexible Duplexing-enabled Heterogeneous Networks Exploiting Multi Slope Path Loss Models**  
Syed Qasim Gilani, Syed Ali Hassan, Haris Bin Pervaiz and Syed Hassan Ahmed  
**Bidding-Based Dynamic Power Pricing Scheme in Smart Grids**  
Andrew Ward, Zhengyuan Zhou and Nicholas Bambos

### Wednesday, February 20 19:00 - 21:00

#### Banquet & Award Ceremony

Room: Pualeilani Terrace

Chairs: Chonggang Wang, Honggang Wang

Thursday, February 21

### Thursday, February 21 8:30 - 9:30

#### Keynote IV:

Connecting Data with Domain Knowledge in Neural Networks

Lizhong Zheng, Massachusetts Institute of Technology

Chair: Chonggang Wang

### Thursday, February 21 10:00 - 12:00

#### Cooperative Intelligence for Situational Awareness in Autonomous Driving

Prof. Liqing Yang

Chair: Chonggang Wang

#### NAPE I

Room: Milo 4

Chair: Chadi Kari

**Infrastructure vs. Multi-Hop D2D Networks: Availability and Performance Analysis**  
Nadir Adam, Cristiano Tapparello and Wendi Heinzelman  
**RankRoute: Efficient Interests Forwarding by Nodes Ranking**  
Dongbiao He, Cedric Westphal, Jinlei Jiang and Guangwen Yang

**NP-completeness of Shortest Leaf-to-Leaf Distance in a Tree**

Ivan Avramovic and Dana Richards

**DNS Diagnostics through the Eye of the Beholder**

Casey T. Deccio

**Flexible Evaluation Caching Using FATE**

James Mathewson and JJ Garcia-Luna-Aceves

**Slotted Flow Stats Acquisition: a Resource-efficient Flow Statistics Polling in OpenFlow Networks**

Michał Rzepka, Piotr Boryło, Piotr A Cholda and Artur Lason

**GCNC & SCSD**

Room: Milo 5

Chair: Bin Li

**An Energy-efficient Metric for Relay Selection in Large-Scale Multi-hop Wireless Networks**

Bin Li, Hongxiang Li, Ruonan Zhang and Chungqiao Wei

**Evaluating the Performance and Energy Efficiency of OpenGL and Vulkan on a Graphics Rendering Server**

Michael Lujan, Michael Baum, Dayuan Chen and Ziliang Zong

**An energy-efficiency-aware resource allocation strategy in multi-granularity provision for green computing**

Xiaobo Cai, Huihui Wang, Houbing Song, Yue Zhang, Ke Han and Zhiyong Cao

**Document Context-Aware Social Recommendation Method**

Guangxia Xu, Lijie He and Mengxiao Hu

**Spatial Community Search Using PageRank Vector**

Haoran Mo and Jooyoung Lee

**Invited Talks VI: Security & Privacy**

Xiuzhen Cheng, Ling Liu, Yi Qian, Hamid Sharif

Room: Waikiki Ballroom Salon 1

Chair: Yi Qian

**MLCN & NAPE**

Room: Waikiki Ballroom Salon 3

Chair: Wei Yu

**An LSTM Enabled Dynamic Stackelberg Game Theoretic Method for Resource Allocation in the Cloud**

Yongxin Liu, Laurent Njilla, Jian Wang and Houbing Song

**Using Natural Language Constructs and Concepts to Aid Network Management**

Abhishek Dwaraki, Richard Freedman, Shlomo Zilberstein and Tilman Wolf

**A Delay-Based Congestion-Control Protocol for Information-Centric Networks**

JJ Garcia-Luna-Aceves and Abdulazaz Albalawi

**Optimal Cache Allocation under Network-Wide Capacity Constraint**

Van Sy Mai, Stratis Ioannidis, Davide Pesavento and Lotfi Benmohamed

**An empirical study of intelligent approaches to DDoS detection in large scale network**

Xiaoyu Liang and Taleb Znati

**Thursday, February 21 13:30 - 15:30**

**Invited Talks VII: Multimedia**

Sethuraman Panchanathan, Panos Nasiopoulos, Abdulmotaleb El Saddik, Mohamed-Slim Alouini

Chair: Shervin Shirmohammadi

**NAPE II**

Room: Milo 4

Chair: Chadi Kari

**Stateless Forwarding in ICN with Dynamic Non-Bloom Filters**

Aytac Azgin and Ravi Ravindran

**Multiple Path Infrastructure-less Networks A Cooperative Approach**

Razvan Voicu, John A. Copeland and Yusun Chang

**On the Effectiveness of Standard Centrality Metrics for Interdependent Networks**

Nathaniel Hudson, Matthew Turner, Asare Nkansah and Hana Khamfroush

**Virtually the Same: Comparing Physical and Virtual Testbeds**

Jonathan Crussell, Thomas M Kroeger, Aaron Brown and Cynthia A Phillips

**Data Migration in Large Scale Heterogeneous Storage Systems with Nodes to Spare**

Chadi Kari, Sixia Chen, Sepehr Amir-Mohammadian and Vivek K. Pallipuram

**Joint Base Station Selection and Adaptive Slicing in Virtualized Wireless Networks: A Stochastic Optimization Framework**

Kory Teague, Mohammad J. Abdel-Rahman and Allen B. Mackenzie

**WC I**

Room: Milo 5

Chair: Ana Belen Martinez

**Chaos-based Information Rotated Polar Coding Scheme for Visible Light Wiretap Channel**

Xiaoge Wu and Lin Zhang

**Blind Carrier Frequency Offset Estimation in Generalized Frequency Division Multiplexing**

Ana Belen Martinez, Maximilian Matthé, Marwa Chafii and Gerhard Fettweis

**A Comprehensive Study of Low Frequency and High Frequency Channel Correlation**

Pablo Jimenez Mateo, Alejandro Blanco, Norbert Ludant, Matteo Marugan Borelli, Amanda Garcia-Garcia, Adrian Loch, Zhenyu Shi, Yi Wang and Joerg Widmer

**Downlink Resource Allocation in Cell-Free Massive MIMO Systems**

Susanna Moseleh, Hayder Almosa, Erik S. Perrins and Lingjia Liu

**Online Reconfigurable Antenna State Selection based on Thompson Sampling**

Tianchi Zhao, Ming Li and Gregory Ditzler

**Experimental Evaluation of UL-NOMA System Employing Correlated Receive Diversity**

Masafumi Moriyama, Kenichi Takizawa, Masayuki Oodo, Hayato Tezuka and Fumihide Kojima

**Thursday, February 21 16:00 - 18:00**

**MCVC**

Room: Milo 4

Chairs: Martine Bellaïche, Suman Kumar

**A Decentralized Reputation Management System for Securing the Internet of Vehicles**

Richard Engoulou, Martine Bellaïche, Talal Halabi and Samuel Pierre

**A Robust Road Region of Interest Identification Scheme for Traffic-Video Data Mining**

Suman Kumar, Anes Madani, Linh Nguyen and Jiling Zhong

**Evaluation of a Geo-region Based Architecture for Information Centric Disruption Tolerant Networks**

Katherine Russell and Robert Simon

**FARES: Fast and Accurate Recognition of Exact Scenes on Mobile Devices**

Tengpeng Li, Xiaoqian Zhang, Teng Wang, Mohammad Hadian, Nam Nguyen, Xiaohui Liang and Bo Sheng

**Diffuse Scattering Models for mmWave V2X Communications in Urban Scenarios**

Bogdan Antonescu, Meead Tehrani Moayyed and Stefano Basagni

**Busy-Tone Multiple Access with Collision Avoidance and Detection for Ad-Hoc Networks**

JJ Garcia-Luna-Aceves

**WC II**

Room: Milo 5

Chair: Tugba Erpek

**Elevation Power Spectrum Measurement and Interference Analysis of UMa I2O Uplink Channels**

Ruonan Zhang, Haochen Xu, Bin Li, Zhimeng Zhong and Chao Li

**Joint Precoder and Combiner Design for MMSE Distributed Beamforming with Per-Antenna Power Constraints**

Riten Gupta, Han Yan and Danijela Cabric

**Interference Regime Enforcing Rate Maximization for Non-Orthogonal Multiple Access (NOMA)**

Tugba Erpek, Sennur Ulukus and Yalin E. Sagduyu

**Accelerating Channel Estimation and Demodulation of Uplink OFDM symbols for Large Scale Antenna Systems using GPU**

Bhargav Gokalgandhi, Christina Segerholm, Nilanjan Paul and Ivan Seskar

**Topological Rate-Splitting Based Power Allocation Scheme in K-cell MISO Interference Channel with Imperfect CSIT**

Xiuyi Du, Lihua Li, Zejian Li and Guangyan Lu

**Multi-Robot Enhanced Intelligent Multi-User Millimeter-Wave MIMO Systems under Uncertain Environment**

Ming Feng and Hao Xu

**Optimizing Beams and Bits: A Novel Approach for Massive MIMO Base-Station Design**

Narayan Prasad, Xiao Qi and Alan Gatherer

**Invited Talks VIII: Audio and Acoustic**

**Akihiko K. Sugiyama, Klara Nahrstedt, Rose Qingyang Hu, Yonggang Wen**

Room: Waikiki Ballroom Salon 1

Chair: Yonggang Wen

**SPC**

Room: Waikiki Ballroom Salon 2

Chair: Yi Jiang

**Distributed Multi-Stream Beamforming in Multi-Relay Interference Networks with Multi-Antenna Nodes**

Kenk M. Yetis and Ronald Y. Chang

**VLSI Architectures for ORVD Trellis based MIMO Detection**

Sebastian Birke, Dominik Auras, Tobias Piwczyk, Robin Mahlke, Nikolas Alberti, Rainer Leupers and Gerd H. Ascheid

**Blind Channel Subspace Estimation for Massive MIMO with Hybrid Beamforming**

Yi Jiang and Yimeng Feng

**Massive MISO IBC Reduced Order Zero Forcing Beamforming - a Multi-Antenna Stochastic Geometry Perspective**

Christo Kurisummoottil Thomas and Dirk Slock

**Accuracy Analysis of Feature-based Automatic Modulation Classification with Blind Modulation Detection**

Pejman Ghasemzadeh, Subharthi Banerjee, Michael Hempel and Hamid Sharif

**Deep Learning based Framework for Automatic Damage Detection in Aircraft Engine Borescope Inspection**

Zejiang Shen, Xili Wan, Feng Ye, Xinjie Guan and Shuwen Liu

**WAHS**

Room: Waikiki Ballroom Salon 3

Chair: Tim Strayer

**#1 A Web Application for the Remote Control of Multiple Unmanned Aerial Vehicles**

Riccardo Musmeci, Ken Goss, Simone Silvestri and Giuseppe Lo Re

**#2 A Stochastic Process based Routing Algorithm for Wireless Ad Hoc Networks**

Hyunsun Lee, Yi Zhu, Donald Wapenski, Xi Wang, Qiong Zhang, Paparao Palacharla and Tadashi Ikeuchi

**#3 Array Antenna for Power Saving of Sensor Nodes in UAV-BS enabled WSN**

Hendrik Lumbantoruan and Koichi Adachi

**#4 Device-Free Activity Recognition Using Ultra-Wideband Radios**

Sarthak Sharma, Hessam Mohammadmoradi, Milad Heydariaan and Omprakash Gnawali

**#5 Mission-Centric Content Sharing Across Heterogeneous Networks**

Tim Strayer, Ram Ramanathan, Daniel Coffin, Samuel C. Nelson, Michael Atighetchi, Aaron Adler, Stephane Blais, Bishal Thapa, Will Tetteh, Vladimir Shurbanov, Karen Zita

Haigh, Regina Hain, Colleen Rock, Emily Do, Armando L. Caro, Daniel Ellard, Scott Loos, Michael Beckerle and Stephen Lawrence

**#6 Fragmented Data Routing Based on Exponentially Distributed Contacts in Delay Tolerant Networks**

Tuan Le, Qi Zhao and Mario Gerla

**WAHS:**

Room: Waikiki Ballroom Salon 3