



---

*ACM IMCOM 2018, January 5 - 7*  
*Langkawi, Malaysia*  
**Conference Program**

---

| Hosted by |

**Sungkyunkwan University, Korea**  
**Universiti Kuala Lumpur, Malaysia**

**Association for Computing Machinery In-Cooperation**

# Program at a Glance

## | January 05, 2018 (Friday) |

	Bougainvillea Hall	VIP Meeting Room
08:30-	Registration	
09:00-10:20	Session 1: <b>Ad-Hoc Networks</b>	Session 2: <b>5G</b>
10:20-11:00	Coffee Break & Poster Session 1: <b>Networking/Telecommunications</b>	
11:00-12:20	Session 3: <b>Wired and Wireless</b>	Session 4: <b>Cloud Computing</b>
12:20-13:40	Lunch Break	
13:40-13:50	Opening Remarks	
13:50-14:30	Keynote Speech 1: <b>Prof. Angel P. del Pobil</b> (Bougainvillea Hall)	
14:30-15:10	Keynote Speech 2: <b>Prof. James Won-Ki Hong</b> (Bougainvillea Hall)	
15:10-15:30	Coffee Break	
15:30-16:50	Session 5: <b>Network Softwarization</b>	Session 6: <b>Security and Authentication</b>
16:50-17:00	Short Break	
17:00-18:00	Short Presentation Session 1: <b>Potpourri</b>	Short Presentation Session 2: <b>Human Aware Technologies</b>
18:00-18:30	Free Time	
18:30-21:00	Welcome Reception ( <b>Nest Rooftop Restaurant, Pantai Cenang, by 15 mins walk</b> )	

## | January 06, 2018 (Saturday) |

	Bougainvillea Hall	VIP Meeting Room
08:30-	Registration	
09:00-10:20	Session 7: <b>Social Analytics</b>	Session 8: <b>Massive Data Management</b>
10:20-11:00	Coffee Break & Poster Session 2: <b>Data Mining and Learning</b>	
11:00-12:20	Session 9: <b>Information Computing</b>	Session 10: <b>3D Imaging</b>
12:20-13:40	Lunch Break	
13:40-14:20	Keynote Speech 3: <b>Prof. Feng Xia</b> (Bougainvillea Hall)	
14:20-15:00	Keynote Speech 4: <b>Prof. Shahrul Azman Mohd Noah</b> (Bougainvillea Hall)	
15:00-15:40	Coffee Break & Poster Session 3: <b>Cloud and Applications</b>	
15:40-17:00	Session 11: <b>Machine Learning</b>	Session 12: <b>Data Acquisition &amp; Optimization</b>
17:00-17:10	Short Break	
17:10-18:30	Session 13: <b>Next-Gen Memory</b>	Committee Meeting on Conference Operation
18:30-19:00	Free Time	
19:00-21:30	Conference Banquet ( <b>Meritus Pelangi Beach Resort &amp; Spa, Beach Spa Kiosk</b> )	

**Session 1: Ad-Hoc Networks**

09:00-10:20, Friday, January 05, 2018

**Room: Bougainvillea Hall**

Session Chairs: Dongsoo S. Kim and Taejin Lee

- 1-1 Performance Evaluation on Multiple Ad-hoc Networks with Co-Existing Aggressive Contention Window Control and Legacy Control
- 1-2 Approximation on Throughput Evaluation on Relay Function in Cooperative Multiple Robots System
- 1-3 Efficient Approximations for Thinnest Path Problem in Grid Graph
- 1-4 Service-Aware Split Point Selection for User-Centric Mobility Enhancement in SDN

**Session 2: 5G**

09:00-10:20, Friday, January 05, 2018

**Room: VIP Meeting Room**

Session Chairs: Masato Oguchi and Saneyasu Yamaguchi

- 2-1 System Capacity Analysis of Millimeter Wave Band with Polarized Antenna Structure
- 2-2 Improving Energy Efficiency and Scalability for IoT Communications in 5G Networks
- 2-3 An OFDM System Design with Efficient ICI Cancellation over Embedded LTE-R Channels Based on the USRP Platform
- 2-4 Spectrum Efficient and Power Efficient Communication System for Satellite Applications

**Poster Session 1: Networking/Telecommunications**

10:20-11:00, Friday, January 05, 2018

Session Chairs: Husna Osman and Dahlan Ghani

- P1-1 An Efficient Multicast Routing Algorithm for Wireless Mesh Networks
- P1-2 Duty Cycle Optimizing for WiFi-based IoT Networks with Energy Harvesting
- P1-3 An Investigation of the Spatial Correlation Influence on Coded MIMO-OFDMA System Performance
- P1-4 An Effective Data Processing and Data Dissemination in Vehicular Networks
- P1-5 Performance Evaluation Considering the Capture Effect in Ad-hoc Networks on User Cooperative Mobility for QoS Improvement
- P1-6 Towards On-Demand Mobility Management in SDN
- P1-7 Hybrid Noise Reduction for Audio Captured by Drones
- P1-8 SuperFlex: Network Slicing based Super Flexible 5G Architecture

**Session 3: Wired and Wireless**

11:00-12:20, Friday, January 05, 2018

**Room: Bougainvillea Hall**

Session Chairs: Taejin Lee and Husna Osman

- 3-1 TCP Fairness Evaluation with Modified Controlled Delay in the Practical Networks
- 3-2 Performance Improvement of TCP Communication based on Cooperative Congestion Control in Android Terminals
- 3-3 Performance of Wavelength Routed Optical Networks Employing GMPLS-based Control Plane
- 3-4 Traffic-Aware Optimal Spectrum Sensing Policy in Wireless-Powered Cognitive Radio Networks

**Session 4: Cloud Computing**

11:00-12:20, Friday, January 05, 2018

**Room: VIP Meeting Room**

Session Chairs: Eui-Nam Huh and Dahlan Ghani

- 4-1 Cache Management for 5G Cloud Radio Access Networks
- 4-2 VM Migration in Mobile Edge Computing for QoS Improvement with Wireless Multi-Hop Access Networks
- 4-3 Study on Distributed Cloud Computing Environment with Composition Model and Graph Model
- 4-4 A Virtual Machine Placement Policy via Biogeography-based Optimization in the Cloud

**Session 5: Network Softwarization**  
15:30-16:50, Friday, January 05, 2018**Room: Bougainvillea Hall**  
Session Chairs: Masato Oguchi and Jitae Shin

- 5-1      Toward Network-based DDoS Detection in Software-defined Networks
- 5-2      Proposal of gRPC as a New Northbound API for Application Layer Communication Efficiency in SDN
- 5-3      Building a Tunnel through NAT Using OpenFlow
- 5-4      Cooperative Slice Allocation for Virtualized Wireless Network: A Matching Game Approach

**Session 6: Security and Authentication**  
15:30-16:50, Friday, January 05, 2018**Room: VIP Meeting Room**  
Session Chairs: Alexey Rodionov and Ryuya Uda

- 6-1      Improved Anonymous Biometric-based Authentication with Key-Agreement Scheme for Multi-Server Environments
- 6-2      A Framework for Managing User-defined Security Policies to Support Network Security Functions
- 6-3      Secure Framework and Key Agreement Mechanism for OPC-UA in Industrial IoT
- 6-4      A Group-Based Energy Harvesting MAC Protocol with AP Scheduling in Machine-to-Machine Networks

**Short Presentation Session 1: Potpourri**  
17:00-18:00, Friday, January 05, 2018**Room: Bougainvillea Hall**  
Session Chairs: Dongsoo S. Kim and Jitae Shin

- S1-1      Performance Analysis of Payload Header Suppression (PHS) for Transmission of VoIP over MPLS based IPv4/IPv6 Network
- S1-2      An Approximation Algorithm for Incrementally Deploying SDN Forwarding Devices
- S1-3      Performance Evaluation of Low-Power and Lossy Networks
- S1-4      An Energy-Efficient Cooperative Spectrum Sensing Scheme based on D-S Theory in Cognitive Radio Sensor Networks
- S1-5      Simulation Modelling of Fair Channel Allocation Scheme in Urban City
- S1-6      New Model for Multilevel Service Systems Analysis
- S1-7      Discovering Community Structure in Complex Network Through Community Detection Approach
- S1-8      A Case-Based Meta-Learning and Reasoning Framework for Classifiers Selection
- S1-9      Formal Verification of Ad Hoc M-Commerce Trading Systems with SPIN
- S1-10      A Data Mining Approach for Prediction of Students' Depression using Logistic Regression and Artificial Neural Network
- S1-11      Integrated Modeling Methodologies and Languages
- S1-12      Application of Fuzzy Delphi Method (FDM) to Establish Key Evaluation Factors Index for Cloud Service Selection and Evaluation

**Short Presentation Session 2: Human Aware Technologies**  
17:00-18:00, Friday, January 05, 2018**Room: VIP Meeting Room**  
Session Chairs: Eui-Nam Huh and Saneyasu Yamaguchi

- S2-1      How do Viewers React to Drama? - Extraction of Scene Features of Dramas from Live Commentary Tweets
- S2-2      The Effect of Back-Channeling Cues on Motivation to Continue Human-Machine Textual Interaction
- S2-3      Semantic-Based Social Medias Threats Detection
- S2-4      The Effects of Facebook Referrals and Mobile Devices on Online News Consumption
- S2-5      Using Uncertainty Technique of Bayesian Theorem to Predict Mortality of Tree in Forest Growth Simulation System
- S2-6      Personal Identification by Behavioral Features of Pinch In and Pinch Out
- S2-7      Prototyping of Mobile Application and Web Monitoring for Small Vessel Tracking System
- S2-8      Timber Harvesting Damage Prediction for Sustainable Forest Management
- S2-9      Flood Detection and Warning System (FLoWS)
- S2-10      An Application Framework for Forest Fire and Haze Detection with Data Acquisition using Unmanned Aerial Vehicle
- S2-11      Effects of Screen Size in Mobile Learning Over Time

**Session 7: Social Analytics**

09:00-10:20, Saturday, January 06, 2018

**Room: Bougainvillea Hall**

Session Chairs: Eunil Park and Taketoshi Ushima

- 7-1 Salient Beliefs about Sharing Rumor Denials on the Internet
- 7-2 IT Students' Sentiment of Faculty Evaluations and Posting Opinions on Social Media Networks
- 7-3 Proposal of Network Generation Model based on Latent Preference Topic
- 7-4 Classification of Web Site by Naive-Bayes and Convolutional Neural Network

**Session 8: Massive Data Management**

09:00-10:20, Saturday, January 06, 2018

**Room: VIP Meeting Room**

Session Chairs: Hyoungshick Kim and Shangguang Wang

- 8-1 Comparative Analysis of Ellipsoidal Methods for Distributed Data Fusion
- 8-2 Set-valued Data Anonymization Maintaining Data Utility and Data Property
- 8-3 Extending the View Updatability of Relational Databases from Set Semantics to Bag Semantics and Its Implementation on PostgreSQL
- 8-4 A Closed Frag-Shells Cubing Algorithm on High Dimensional and Non-Hierarchical Data Sets

**Poster Session 2: Data Mining and Learning**

10:20-11:00, Saturday, January 06, 2018

Session Chairs: Eunil Park and Eiad Yafi

- P2-1 Student Acceptance Model of Educational Games in University Class
- P2-2 An Educational Video Scoring Scheme for Level and Topic-based Recommendation
- P2-3 Similar Comment Analysis using Selector Rating Estimates in Relation to Comments
- P2-4 Application of Data Mining Techniques for Predicting Student Success in English Exit Exam
- P2-5 KEM-DT: A Knowledge Engineering Methodology to Produce an Integrated Rules Set using Decision Tree Classifiers
- P2-6 Real-Time Multi-Digit Recognition System using Deep Learning on an Embedded System
- P2-7 Long-term Tracking based on Deep Learning
- P2-8 Anomaly Detection from Diabetes Similarity Graphs using Community Detection and Bayesian Techniques
- P2-9 Ensemble of Deep Object Detectors for Page Object Detection

**Session 9: Information Computing**

11:00-12:20, Saturday, January 06, 2018

**Room: Bougainvillea Hall**

Session Chairs: Hyoungshick Kim and Taketoshi Ushima

- 9-1 Proposed Method for Disaster Prevention-Oriented Synthetic Rainfall of C-band Radar and XRAIN
- 9-2 Optimizing Power Consumption in Cloud Computing based on Optimization and Predictive Analysis
- 9-3 Natural Language, Mixed-Initiative Personal Assistant Agents
- 9-4 Sentiment Classification with Convolutional Neural Network using Multiple Word Representations

**Session 10: 3D Imaging**

11:00-12:20, Saturday, January 06, 2018

**Room: VIP Meeting Room**

Session Chairs: Angel Del Pobil and Keecheon Kim

- 10-1 Denser Trajectories of Anchor Points for Action Recognition
- 10-2 An Automatic Virtual Makeup Scheme based on Personal Color Analysis
- 10-3 Implementation of a Single-Image Haze Removal using the FPGA
- 10-4 Auto-Setting of Optimal Exposure for Structured Light 3D Cameras

**Poster Session 3: Cloud and Applications**

15:00-15:40, Saturday, January 06, 2018

Session Chairs: Khang Nguyen and Mohd Nizam Husen

- P3-1 Document Certificate Authentication System using Digitally Signed QR Code Tag
- P3-2 Personal Identification by Tilt of Smartphone on Browsing
- P3-3 Texting while Walking Suppression System using Vibration
- P3-4 LogMap-P: On Matching Ontologies in Parallel
- P3-5 Multi-objective Optimization Method for Resource Scaling in Cloud Computing
- P3-6 ASMIM: Augmented Reality Authoring System for Mobile Interactive Manuals
- P3-7 A Hybrid Approach for Facial Expression Recognition
- P3-8 Configurable Data Acquisition for Cloud-centric IoT
- P3-9 An Efficient Broadcast Method based on Hexagonal Tessellation for Mobile Ad-hoc Networks

**Session 11: Machine Learning**

15:40-17:00, Saturday, January 06, 2018

**Room: Bougainvillea Hall**

Session Chairs: Shangguang Wang and Khang Nguyen

- 11-1 Frequent Sequence Mining with Weight Constraints in Uncertain Databases
- 11-2 Deep Learning based Object Recognition for Robot Picking Task
- 11-3 DualSentiNet: Dual Prediction of Word and Document Sentiments using Shared Word Embedding
- 11-4 Dynamic Bus Travel Time Prediction using Machine Learning Technique

**Session 12: Data Acquisition and Optimization**

15:40-17:00, Saturday, January 06, 2018

**Room: VIP Meeting Room**

Session Chairs: Eiad Yafi and Angel Del Pobil

- 12-1 Wish Wall: Helping Each Other in College
- 12-2 Health Decision Support System based on Patient Provided Data for Both Patients and Physicians Use
- 12-3 Dynamic Optimization of Web Pages based on Estimating the User's Browsing Intention
- 12-4 Continuous Skyline Queries for Moving Objects in Road Network based on MSO

**Session 13: Next-Gen Memory**

17:10-18:30, Saturday, January 06, 2018

**Room: Bougainvillea Hall**

Session Chairs: Keecheon Kim and Mohd Nizam Husen

- 13-1 Optimizing Host-level Flash Translation Layer with Considering Storage Stack of Host Systems
- 13-2 I/O Performance Improvement of Secure Big Data Analyses with Application Support on SSD Cache
- 13-3 Fragmentation-Less FAT-Compatible File System for Internet of Things
- 13-4 A Caching Filesystem for Increasing Locality in the Second Cache in a Virtualized Environment

---

*Co-Hosted by*

---

**Sungkyunkwan University**

- College of Software and College of Information and Communication Engineering
- (BK21Plus) ICT HRD Institute for New Value Creation
- Convergence Research Institute
- Intelligent ICT Convergence Research Center
- Core Technology for Autonomous Network Control and Management (IITP Research Project Team)
- Access Technology Agnostic Next-Generation Networking Technology for Wired-Wireless Converged Networks (IITP Research Project Team)

**Universiti Kuala Lumpur**

- Malaysian Institute of Information Technology