

# GOLDEN ACADEMY

## Message from the organizers

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Dear Colleagues and Friends,

Asia Pacific Society for Computing and Information Technology 2019 Annual Meeting (APSCIT 2019 Annual Meeting) will be held in Hokkaido, Japan during July 26-29 2019.

APSCIT 2019 Annual Meeting intends to provide a platform for the exchange and networking between top scientists, emerging young researchers, and students across a wide spectrum of computer science and informatics.

We would like to invite you to participate in APSCIT 2019 Annual Meeting. Your active participation is the key to the success of this conference.



Yours Sincerely,

APSCIT 2019 Annual Meeting Committee

Asia Pacific Society for Computing and Information Technology (APSCIT)

[www.apscit.org](http://www.apscit.org)

# GOLDEN ACADEMY

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## Conference organizing committee

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### CONFERENCE CHAIRS

Prof. Shigeo AKASHI (Tokyo University of Science)

Prof. Ngoc Quang NGUYEN (Waseda University)

Prof. Kien NGUYEN (Chiba University)

Prof. Haoran XIE (The Education University of Hong Kong)

Dr. Eun Kyu LEE (Dong-A University)

Prof. Ching-Ming LAI (National Chung Hsing University)

Prof. Teruo TANIMOTO (Kyushu University)

### CONFERENCE PROGRAM DIRECTOR

Dr. Yingxue SONG (APSCIT)

### CONFERENCE SECRETARIAT

Ms. Yangjun HU (APSCIT)

Ms. Yaru WU (APSCIT)

Mr. Chenhuan HSU (APSCIT)

## Conference topics

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1. *Theory, Algorithms, Programming: No. 101 (16-18)*
2. *Database, Cloud Computing, Data Mining, Big Data: No. 101 (1-3, 21)*
3. *Communications, Networking, Security, and Internet of Things: No.101 (4-7, 11-13), No. 205 (2, 3), No. 201 (25, 26)*
4. *Multimedia, Image Processing and Recognition (Virtual Reality): No. 101 (14, 15), No. 205 (8, 13, 14)*
5. *High Performance Computing and Intelligent Systems (AI, Robotics): No. 101 (8-10), No. 205 (11, 12), No.201 (22-24)*
6. *Software Engineering and Applications: No. 205 (1, 7, 9, 10)*
7. *Electronics (Analog/Digital Circuits, Signal Processing, System Architectures): No. 205 (4-6), No. 101 (19, 20)*

	FRI, 7/26	SAT, 7/27	SUN, 7/28	MON, 7/29
9:00 – 10:20	Pre-session technical and discussion forums on international collaboration (by invitation only)	Oral Presentation		
10:20 – 10:30		Coffee & Tea Break		
10:30 – 12:00		Oral Presentation		
12:10 – 13:00		Lunch Break	Optional Excursion	
13:10 – 14:40		Oral Presentation		
14:40 – 14:50		Coffee & Tea Break		
14:50 – 17:00		Oral Presentation		
17:00 – 18:30	Conference Registration	Poster Session		
19:00 – 20:30	Conference Reception		Banquet (Japanese convivial gathering)	

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## Presentation List (No. 101 Meeting Room)

	FRI, 7/26	SAT, 7/27	SUN, 7/28	MON, 7/29
9:00 – 10:20	Pre-session technical and discussion forums on international collaboration (by invitation only)	1. H. YOE 2. K. NAKAI 3. K. HASIDA	16. K. MIMURA 17. S. AKASHI 18. T.J. YEN	
10:20 – 10:30		Coffee & Tea Break		
10:30 – 12:00		4. N.Q. NGUYEN 5. T. SATO 6. Z. PAN 7. M. ALHASANI	19. H. MOON 20. C.M. LAI 21. M.H. FU	
12:10 – 13:00		Lunch Break	Optional Excursion	
13:10 – 14:40		8. F. INO 9. N.Y. CHONG 10. T. SENOO		
14:40 – 14:50		Coffee & Tea Break		
14:50 – 17:00		11. E. OKI 12. S. KIM 13. H. CHOI 14. I. MITSUGAMI 15. Y. CHOE		
17:00 – 18:30		Conference Registration		
19:00 – 20:30	Conference Reception		Banquet (Japanese convivial gathering)	

# GOLDEN ACADEMY

## Presentation List (No. 205 Meeting Room)

	FRI, 7/26	SAT, 7/27	SUN, 7/28	MON, 7/29
9:00 – 10:20	Pre-session technical and discussion forums on international collaboration (by invitation only)	1. D.T. LIN 2. K. ISHIZU 3. X. SHAO		
10:20 – 10:30		Coffee & Tea Break		
10:30 – 12:00		4. E. ARIMA 5. S. KAWAKAMI 6. Y. INOUE 7. K. NAKAYAMA		
12:10 – 13:00		Lunch Break	Optional Excursion	
13:10 – 14:40		8. Y. KIDO 9. S. MORI 10. S.M. BAEK		
14:40 – 14:50		Coffee & Tea Break		
14:50 – 17:00		11. N. IWAHASHI 12. K. MATSUMOTO 13. K.T. LAI 14. D. THOMAS 15. RESERVED		
17:00 – 18:30		Conference Registration		
19:00 – 20:30	Conference Reception		Banquet (Japanese convivial gathering)	

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## Presentation List (No. 201 Meeting Room)

	FRI, 7/26	SAT, 7/27	SUN, 7/28	MON, 7/29
9:00 – 10:20	Pre-session technical and discussion forums on international collaboration (by invitation only)			22. H. XIE 23. D. ZOU 24. P. LIU
10:20 – 10:30		Coffee & Tea Break		
10:30 – 12:00				25. J. LIU 26. H. AWANO 27. Y.L. YEH
12:10 – 13:00		Lunch Break	Optional Excursion	
13:10 – 14:40				
14:40 – 14:50		Coffee & Tea Break		
14:50 – 17:00				
17:00 – 18:30	Conference Registration	Poster Session		
19:00 – 20:30	Conference Reception		Banquet (Japanese convivial gathering)	

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## Presentations for APSCIT 2019 Annual Meeting

### SATURDAY 7/27

#### No. 101 Meeting Room

1. Smart Farming Technology (H. YOE)
2. Deciphering the architecture of genetic switches encoded in non-coding DNA from massive sequence data (K. NAKAI)
3. Decentralized Personal Data Store (PLR) for Convenient, Cost-Minimizing, and Secure Utilization of Your Data (K. HASIDA)
4. Profit-Aware Caching Scheme for Information-Centric Network toward Optimal Content-Oriented Services (N.Q. NGUYEN)
5. Utilization of Blockchain Technology for the realization of the Decentralized Next-Generation Internet (T. SATO)
6. Towards Sustainable and Robust “Green” Solutions for Future Generation Mobile Networks (Z. PAN)
7. A Novel Four Single-Sideband Modulation technique over OFDM and MIMO towards 5G communication (M. ALHASANI)
8. Accelerating Distributed Deep Learning on a GPU-Cycle Sharing System (F. INO)
9. Culturally Competent Elderly Care Robots in a Smart ICT Environment (N.Y. CHONG)
10. High-speed Sensory Feedback Control for Dexterous Robotic Limbs (T. SENOO)
11. Resource Allocation in Network Virtualization (E. OKI)

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12. End-to-End based Cooperative Communication Protocol for Underwater Acoustic Sensor Networks (S. KIM)
13. Applying DDS Middleware for Enhancing the Scalability of Fog Computing (H. CHOI)
14. Gaze from Head: Gaze Estimation without Observing Eyes (I. MITSUGAMI)
15. Fast Low-Rank Matrix Approximation using The Nystrom Method for Image Clustering (Y. CHOE)

## **No. 205 Meeting Room**

1. Computer-aided Dementia Assessment System Using Clock Drawing Test and Deep Learning Recognition (D.T. LIN)
2. Research and Development on Coordinated Management and Flexible Spectrum Allocation for 5G and Beyond (K. ISHIZU)
3. Research on Joint Optimization of Data Locating and Computing Resource Allocation for Mobile Edge Clouds (X. SHAO)
4. Optimizations for Computing Systems with Emerging Memory Technologies (E. ARIMA)
5. Nanophotonic Neural Network Accelerator: Challenges and Opportunities (S. KAWAKAMI)
6. Adaptive frame-rate control for low energy visual object tracking system (Y. INOUE)



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7. AI Systems for Reduction of the Effects of a Natural Disaster (K. NAKAYAMA)
8. Development of High-Resolution Screen Sharing Functionality on Tiled Display Wall (Y. KIDO)
9. Secure and effective caching scheme using blockchain for information-centric wireless sensor networks (S. MORI)
10. Neural Network Application to Select Limiter Values of Power System Controllers (S.M. BAEK)
11. Artificial Intelligence in Loop (N. IWAHASHI)
12. Personality Analysis on Dialogue System for Emotional Interaction Robot (K. MATSUMOTO)
13. Deep Reinforcement Learning in Virtual Reality (K.T. LAI)
14. 3D Human body reconstruction using RGB-D cameras (D. THOMAS)
15. Reserved

## **POSTER SESSION**

- P1. A Study on FBAR Filter Design for Wireless Systems (E.K. LEE)
- P2. Development of a Cyber Physical System for a Smart Factory Testbed (B.K. PARK)
- P3. Markov Transition Matrix (MTM)-Based Synthetic Signal Generation for Missing Data (B.O. KANG)
- P4. Candidate Order Approach for Metaheuristic Algorithms that Utilize Multiple Reference Sequences (C.S. KIM)

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- P5. Proposed a method to characterize cold chain hub based on smart port logistics model (J.K. LEE)
- P6. Towards Reducing Memory Consumption for Accelerating Genotype Imputation on the GPU (K. TSUBAKI)
- P7. High-Dimensional Outlier Detection Algorithm via Locality Sensitive Hashing (Z. QIN)
- P8. Graph-based Semi-Supervised Learning for Off-target Predictions in CRISPR/Cas9 System (H. JIA)
- P9. An enhancement method based on PSO algorithm for optical coherence tomography images (H.H. HSU)
- P10. A thermal image enhancement algorithm for O-ring platform (C.Y. WU)
- P11. Detection Performance of Synchronization Signal in a 3GPP LTE system (C. WANG)
- P12. Performance of Zadoff-Chu sequence based random access preambles in wireless channels (H. CHOI)
- P13. Performance of channel adaptive random access with variable measurement intervals (J. LEE)
- P14. Congestion control algorithm with an estimation of the number of devices attempting to a random access (S. JANG)
- P15. Research on Classification of Sleep Time by Tweets (T. KOJIMA)

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## SUNDAY 7/28

### No. 101 Meeting Room

16. A stable iterative sparse recovery algorithm and its analysis (K. MIMURA)
17. On a spontaneous synergetic effect brought about the coexistence of inter-vlan hopping and inter-vlan routing (S. AKASHI)
18. An attention algorithm for solving large scale structured  $\| \cdot \|_0$ -norm penalized estimation problems (T.J. YEN)
19. Channel-adaptive random access for low power long distance IoT communications (H. MOON)
20. Study and Implementation of a Fifteen--Level Inverter with Coupled-Inductor and Single-Input Z-Source Impedance (C.M. LAI)
21. Social Degree of User Linkages Analysis Based on Social Media (M.H. FU)

## MONDAY 7/29

### No. 201 Meeting Room

22. An Enhanced DeepCluster Model for Image Clustering via Convolutionary Neural Network (H. XIE)
23. A Personalized Vocabulary Recommendation System based on User Preferences and Learning Histories (D. ZOU)
24. A Profile-based Digital Game Recommendation System for Early Childhood Education (P. LIU)

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25. Introduction of Optical Wireless Communication Technology in Near Field to Long-distance Applications (J. LIU)
26. Hardware Acceleration of Public Key Cryptography Algorithm (H. AWANO)
27. TBA (Y.L. YEH)