



Day1 (19th February)

Latest updates: February 13, 2025

	Lily Room	Tung Blossom Room	Plum Blossom Room	Junior Ballroom West Wing
08:30-17:10	Registration			
09:00-12:30	Workshop-1 International Workshop on Arm-based HPC: Practice and Experience (IWAHPCE-2025)	Workshop-2 Multi-scale, Multi-physics, Coupled Problems and AI enhanced simulations on HPC (MMCP)	Workshop-3 International Workshop on RISC-V for HPC at HPC Asia 2025	Workshop-4 IXPUG Workshop at HPC Asia 2025
	BALLROOM#2			BALLROOM#3
14:00-14:30	Opening Ceremony <u>Welcome Remarks</u> General Chair: Dr. Chau-Lyan Chang (Director General, National Center for High-performance Computing, Taiwan) Steering Committee Chair: Dr. Taisuke Boku (Professor, University of Tsukuba) Distinguished Professor: Dr. Tzi-Dar Chiueh (Professor, Department of Electrical Engineering, National Taiwan University)			Exhibition
14:30-15:20	<u>Invited Talk – 1</u> Chair: Dr. Chau-Lyan Chang (Director General, National Center for High-performance Computing, Taiwan) Speaker: Dr. Jack Dongarra (Emeritus Professor, University of Tennessee Department of Electrical Engineering and Computer Science) Theme: Innovation Driven by Advances in High-Performance Computing			
15:20-15:35	Coffee Break			
15:35-17:10	<u>Best Paper Finalists – 1</u> Moderator: Osamu Tatebe, Professor, University of Tsukuba 1. <u>Scaling molecular dynamics for large-scale simulation of biological systems on AMD CPU/GPU supercomputers: Lessons from LUMI</u> Diego Ugarte La Torre (RIKEN Center for Computational Science), Jaewoon Jung (RIKEN Center for Computational Science, RIKEN Cluster for Pioneering Research), Yuji Sugita (RIKEN Center for Computational Science, RIKEN Center for Biosystems Dynamics Research)			

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	<p>2. <u>Dimensionality Reduction-based Interactive Visual Analytics Approach for Investigating Ensemble Weather Simulations</u></p> <p>Go Tamura (Photron Limited), Sena Kobayashi (Kobe University), Naohisa Sakamoto (Kobe University), Yasumitsu Maejima (Kobe University), Jorji Nonaka (RIKEN R-CCS)</p> <p>3. <u>PBHS: A Prediction-Based Scheduler for Hyperparameter Tuning</u></p> <p>Hong-Feng Yu (National Tsing Hua University), Jerry Chou (National Tsing Hua University)</p>	
18:00-20:00	Welcome Dinner (BALLROOM#1)	



Day2 (20th February)

	BALLROOM#2	BALLROOM#3
08:30-17:35	Registration	
09:00-09:15	Opening Remarks - Day 2	Exhibition
09:15-10:05	<u>Invited Talk – 2</u> Chair: Dr. Jerry Chou (Distinguished Professor, National Tsing Hua University) Speakers: Dr. Alex Tuo-Hung Hou (Director General, Taiwan Semiconductor Research Institute) Theme: Intelligent Memory in Future High-Performance Computing	
10:05-10:20	Coffee Break	
10:20-11:55	<u>Best Paper Finalists – 2</u> Moderator: Chih-Wei Yi, Professor, National Yang Ming Chiao Tung University 1. Revisiting Memory Swapping for Big-Memory Applications Shun Kida (Keio University), Satoshi Imamura (Fujitsu Limited), Kenji Kono (Keio University) 2. PCIe Bandwidth-Aware Scheduling for Multi-Instance GPUs Yan-Mei Tang (National Tsing Hua University), Wei-Fang Sun (NVIDIA AI Technology Center), Hsu-Tzu Ting (National Tsing Hua University), Ming-Hung Chen (IBM Research), I-Hsin Chung (IBM Research), Jerry Chou (National Tsing Hua University) 3. Scalable Dual Coordinate Descent for Kernel Methods Zishan Shao (Duke University), Aditya Devarakonda (Wake Forest University)	
11:55-13:30	Lunch	
13:30-14:20	<u>Invited Talk – 3</u> Chair: Dr. Taisuke Boku (Professor, University of Tsukuba) Speakers: Dr. Xian-He Sun (University Distinguished Professor, Illinois Institute of Technology) Theme: Dataflow under the Von Neumann Machine: A Destructive New under Existing Systems	
14:20-14:45	Coffee Break	
14:45-17:35	Poster Session (BALLROOM#3)	
18:00-20:00	Banquet (BALLROOM#1)	



Day3 (21st February)

	Lily Room	Tung Blossom Room	Plum Blossom Room	BALLROOM #3
08:30-11:55	Registration			
09:00-10:45	<p>📌 Research Paper – 1</p> <p>HPC Applications & Parallel Computing</p> <p>Moderator: Tzu-I Tseng, Researcher, National Center for High-performance Computing</p> <p>1. <u>Large Scale Ensemble Coupling of Non-hydrostatic Atmospheric Model NICAM</u></p> <p>Takashi Arakawa (The University of Tokyo), Hisashi Yashiro (National Institute for Environmental Studies), Shinji Sumimoto (The University of Tokyo), Kengo Nakajima (The University of Tokyo)</p> <p>2. <u>Accelerating General Relativistic Radiation Magnetohydrodynamic Simulations with GPUs</u></p> <p>Ryohei Kobayashi (Institute of Science Tokyo), Hiroyuki R. Takahashi (Komazawa University), Akira Nukada (University of Tsukuba), Yuta Asahina (University of Tsukuba), Taisuke Boku (University of Tsukuba), Ken Ohsuga (University of Tsukuba)</p> <p>3. <u>Lattice QCD code on GPUs: Implementation and performance comparison with OpenACC and CUDA</u></p> <p>Wei-Lun Chen (High Energy Accelerator Research Organization (KEK), The Graduate University for Advanced Studies (SOKENDAI)), Issaku Kanamori (RIKEN Center for Computational Science), Hideo Matsufuru (High Energy Accelerator Research Organization (KEK), The Graduate University for Advanced Studies (SOKENDAI))</p>	<p>📌 Research Paper – 2</p> <p>System Software</p> <p>Moderator: Jerry Chou, Professor, National Tsing Hua University</p> <p>1. <u>When HPC Scheduling Meets Active Learning: Maximizing The Performance with Minimal Data</u></p> <p>Jiheon Choi (Ajou University), Jaehyun Lee (Ajou University), Minsol Choo (Ajou University), Taeyoung Yoon (Ajou University), Oh-Kyoung Kwon (Korea Institute of Science and Technology Information), Sangyoon Oh (Ajou University)</p> <p>2. <u>A Full-Path Priority Based Workflow Scheduling Approach</u></p> <p>Wei-Cheng Tseng (National Taichung University of Education), Kai-Yang Rong (National Taichung University of Education), Kuo-Chan Huang (National Taichung University of Education)</p> <p>3. <u>Qsync: Extending Simplified SMR Protocol with Partial Network Partition Tolerance</u></p> <p>Aoi Kida (Keio University), Hideyuki Kawashima (Keio University)</p>	<p>Lightning Talk (detail agenda in page 7 & 8)</p>	<p>Exhibition</p>



	<p>4. <u>ITTPD: In-place Tensor Transposition with Permutation Decomposition on GPUs</u> Kai-Jung Cheng (National Tsing Hua University), Che-Rung Lee (National Tsing Hua University)</p>			
10:45-11:00	Coffee Break			
11:00-11:55	<p>■ Research Paper - 3 Machine Learning, AI & Emerging Technologies Moderator: Che-Rung Lee, Associate Professor, National Tsing Hua University</p> <p>1. <u>Using a Large Language Model as a Building Block to Generate Usable Validation and Verification Suite for OpenMP</u> Swaroop Pophale (Oak Ridge National Laboratory), Wael Elwasif (Oak Ridge National Laboratory), David E. Bernholdt (Oak Ridge National Laboratory)</p> <p>2. <u>Libra: A Python-Level Tensor Re-Materialization Strategy for Reducing Deep Learning GPU Memory Usage</u> Ling-Sung Wang (National Tsing Hua University), Sao-Hsuan Lin (National Tsing Hua University), Jerry Chou (National Tsing Hua University)</p>	<p>■ Research Paper - 4 Processor, Accelerator & Network Architecture Moderator: Kuo-Chan Huang, Professor, National Taichung University of Education</p> <p>1. <u>Fast Malicious Packets Inspection Framework Using Converged Accelerator</u> Chuan-Ming Ou (National Tsing Hua University), Yong-Xuan Huang (National Tsing Hua University), Ming-Hung Chen (IBM Research), I-Hsin Chung (IBM Research), Jerry Chou (National Tsing Hua University)</p> <p>2. <u>Lossy Compressed Collective Inter-FPGA Communications</u> Michihiro Koibuchi (National Institute of Informatics, The Graduate University for Advanced Studies), Yoshinobu Ishida (NSW Inc), Shoichi Hirasawa (National Institute of Informatics), Yao Hu (Information Technology Center, The University of Tokyo), Takumi Honda (Fujitsu), Yusuke Nagasaka (Fujitsu), Naoto Fukumoto (Fujitsu)</p>	Lightning Talk (detail agenda in page 7 & 8)	Exhibition
11:55-14:15	Lunch			
14:15-15:45	<p>Closing Ceremony & Awards (BALLROOM#2)</p> <p>Closing Remarks General Chair: Dr. Chau-Lyan Chang (Director General, National Center for High-performance Computing, Taiwan) Program Chair: Dr. Jerry Chou (Distinguished Professor, National Tsing Hua University)</p>			

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Steering Committee Chair: Dr. Taisuke Boku (Professor, University of Tsukuba)

Best Paper Award

Outstanding Paper Award

Best Student Poster Award

HPC Asia 2026 Announcement

General Chair HPC Asia 2026: Professor Hiroyuki Takizawa (Cyberscience Center, Tohoku University)

* The reception desk, located in the reception area, will be open throughout the event. If you miss the registration time, our staff will be available to assist you with the registration process.



Lightning Talk on Day 3, Friday, February 21, 2025

Location: 3F, Plum Blossom Room

Time	Agenda
09:00 - 10:45	Moderator: Meng-Hsun Tsai , Deputy Director General, National Center for High-performance Computing
	<div>■ AMD</div> <ul style="list-style-type: none"> Topic: Performance with Sustainability for Converged Architecture HPC-AI IT Data Centers Speaker: Siddhartha Karkare, Director of Server Software & System Development, AMD
	<div>■ SambaNova Systems</div> <ul style="list-style-type: none"> Topic: RDU: The GPU Alternative Speaker: Kenichi Hayashi, Field Marketing Director, APJ
	<div>■ VAST Data</div> <ul style="list-style-type: none"> Topic: Introduction of VAST Data Platform: The Data Platform for HPC and AI Speaker: James Chen, Senior Solutions Engineer, VAST Data
	<div>■ Intel</div> <ul style="list-style-type: none"> Topic: Porting and Scaling HPC/AI Applications with oneAPI Speaker: Bo-Yuan Yao, Sr. AI Engineer
	<div>■ Seagate Technology</div> <ul style="list-style-type: none"> Topic: HPC x S3 Private Cloud: Building High-Performance Data Infrastructure with OSNexus, Seagate Exos AP, and Corvault Speaker: Brian Chen, Seagate Senior Sales Manager
10:45 - 11:00	<div>■ WEKA</div> <ul style="list-style-type: none"> Topic: Unleashing Computational Power: Driving the Future of AI and HPC Speaker: Ray Wu, Senior Technical Consultant
	Coffee Break
11:00 - 11:55	Moderator: Meng-Hsun Tsai , Deputy Director General, National Center for High-performance Computing

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■ **Quanta Cloud Technology (QCT)**

- Topic: Catalyzing the Convergence of HPC and AI Workloads with a Heterogeneous Acceleration Platform
- Speaker: **Stephen Chang**, Associate Vice President

■ **NVIDIA**

- Topic: Driving Scientific Breakthroughs with AI
- Speaker: **Gabriel Noaje**, HPC Business Development Lead, NVIDIA Asia Pacific

■ **Taiwan AI Service Corporation**

- Topic: AI@Taiwan: Demystifying AI Cluster - Design, Service and Workload
- Speaker: **Peter Wu**, General Manager