October 14th and 15th, 2025, in Sendai, Miyagi, Japan

The 40th Workshop on Sustained Simulation Performance

Toward Future HPC Technologies

Session Program

Tue., October 14th, 2025	
9:40-10:10	Registration
10:10-10:30	Opening Session
10:30-11:45	Session 1: HPC Trends I
11:45-13:00	Lunch
13:00-14:25	Session 2: Bridging Paradigms
14:25-14:45	Break
14:45-16:00	Session 3: HPC Applications I
16:00-16:20	Coffee Break
16:20-17:35	Session 4: Future HPC Systems

Wed., October 15th, 2025	
9:30-10:00	Registration
10:00-12:00	Session 5: HPC Trends II
12:00-13:00	Lunch
13:00-14:15	Session 6: HPC Applications II
14:15-14:35	Coffee Break
14:35-16:15	Session 7: HPC Applications III
16:15-16:25	Concluding Remarks

Workshop Day 1 (Tue., October 14th, 2025)

Time	Presentation
9:40-10:10	Registration
10:10-10:30	Opening Session — Chair: Hiroyuki Takizawa (Tohoku University)
10:10-10:15	*Opening Address: Welcome to The 40th Workshop on Sustained Simulation Performance* **Hiroyuki Takizawa** (Tohoku University)
10:15-10:20	*Greetings* **Takuo Suganuma** (Tohoku University)
10:20-10:30	*Towards Fugaku NEXT: Japan's HPC Policy and AI for Science* **Kiyoshi Kurihara** (MEXT)
10:30-11:45	Session 1: HPC Trends I — Chair: Kazuhiko Komatsu (Tohoku University)
10:30-10:55	*Gigafactories and HPC* **Michael Resch** (HLRS)
10:55-11:20	*The Cyberscience Center not only for Cyberscience.* **Hiroyuki Takizawa** (Tohoku University)
11:20-11:45	*Convergence of HPC & AI will or won't* **Sabine Roller** (DLR)
11:45-13:00	Lunch
13:00-14:25	Session 2: Bridging Paradigms — Chair: Michael Resch (HLRS)
13:00-13:10	*Greetings* **Takafumi Aoki** (Tohoku University)
13:10-13:35	*Vector Processing as a Platform for Simulating Ising Machines: Bridging Classical and Quantum Paradigms* **Hiroaki Kobayashi** (Tohoku University)
13:35-14:00	*Architecting the Next 20 Years: Lessons from the Cybermedia Center* **Shinji Shimojo** (Aomori University)
14:00-14:25	*My Research Shift from CFD to Biomechanics: Lessons from WSSP* **Ryutaro Himeno** (Juntendo University)
14:25-14:45	Break
14:45-16:00	Session 3: HPC Applications I — Chair: Susumu Date (The University of Osaka)
14:45-15:10	*Benchmarking CFD Simulations: Comparison Challenges on Heterogeneous HPC Systems* **Flavio Galeazzo** (HLRS)
15:10-15:35	*A journey through the beautiful landscape of weather simulations performed on Hornet, Hazel Hen, and Hawk (Online)* **Thomas Schwitalla** (University of Hohenheim)
15:35-16:00	*Exploring the Solution of Quadratic Unconstrained Binary Optimization Problems with Different Quantum Hardware* **Qifeng Pan** (HLRS)
16:00-16:20	Coffee Break
16:20-17:35	Session 4: Future HPC Systems — Chair: Thomas Ludwig (DKRZ Hamburg)
16:20-16:45	*Efforts Toward GPU Computing on the Earth Simulator* **Akira Masago** (JAMSTEC)
16:45-17:10	*The Next Generation Vector with RISC-V, and Global Collaboration* **Masaaki Hara** (NEC)
17:10-17:35	*FugakuNEXT Project: Challenges for Post-Exascale Supercomputing in Japan* **Kentaro Sano** (Riken R-CCS)

Workshop Day 2 (Wed., October 15th, 2025)

Time	Presentation
9:30-10:00	Registration
10:00-12:00	**Session 5: HPC Trends II** — Chair: Shintaro Momose (NEC)
10:00-10:25	*Do not call your LLMs conscious – they do not like that!* **Thomas Ludwig** (DKRZ Hamburg)
10:25-10:50	*Compute and Storage Infrastructural Challenges Towards Promotion and Acceleration of Data-driven Research at the University of Osaka* **Susumu Date** (The University of Osaka)
10:50-11:15	*targetDART - Offloading of GPU Tasks across MPI processes for Load Balancing* **Jose Gracia** (HLRS)
11:15-11:40	*Research Information Infrastructure (RII) and Related Product* **Ayano Nakao** (NEC)
11:40-12:00	*Tohoku University Research Data Lake IZUMI Powering Data-driven Research* **Takaki Nakamura** (Tohoku University)
12:00-13:00	Lunch
13:00-14:15	**Session 6: HPC Applications II** — Chair: Matthias Meinke (RWTH Aachen)
13:00-13:25	*Towards Future High-Performanc Computing* **Johannes Gebert** (HLRS)
13:25-13:50	*Modeling Micromotion: Micro-FE Analysis of Bone-Screw Interactions* **Benjamin Schnabel** (HLRS)
13:50-14:15	*Rootless Kubernetes on HPC: Early Experience and Future Outlook* **Kamil Tokmakov** (NEC Deutschland)
14:15-14:35	Coffee Break
14:35-16:15	**Session 7: HPC Applications III** — Chair: Jose Gracia (HLRS)
14:35-15:00	*GPU/APU Porting Results of a Cartesian Mesh based Finite-Volume Solver* **Matthias Meinke** (RWTH Aachen)
15:00-15:25	*Introduction of Plasma Simulator and tips learned from porting fusion applications to MI300A (Cancelled)* **Haruki Seto** (QST)
15:00-15:25	*SPLISS – LINEAR ALGEBRA FOR IMPLICIT CFD METHODS* **Arne Rempke** (DLR)
15:25-15:50	*VH-VE Implementation for Direct Numerical Simulation of Weakly Compressible Turbulence on SX-Aurora TSUBASA* **Mitsuo Yokokawa** (Tohoku University)
15:50-16:15	*Challenges and solutions in the porting of a finite difference high-fidelity CFD code to HLRS's Hunter system* **Tobias Gibis** (HLRS)
16:15-16:25	Concluding Remarks