

December 12th and 13th, 2024, in Sendai, Miyagi, Japan

The 38th Workshop on Sustained Simulation Performance Toward Future HPC Technologies

Session Program

Thur., December 12th, 2024	
9:30-10:00	Registration
10:00-10:30	Opening Session
10:30-12:00	Session 1: HPC Trends I
12:00-13:00	Lunch
13:00-14:30	Session 2: System Software
14:30-14:40	Break
14:40-16:10	Session 3: HPC Applications I
16:10-16:20	Break
16:20-17:50	Session 4: HPC Technology
Fri., December 13th, 2024	
9:30-10:00	Registration
10:00-12:00	Session 5: HPC Applications II
12:00-13:00	Lunch
13:00-14:30	Session 6: HPC Trends II
14:30-14:40	Break
14:40-16:40	Session 7: Quantum Computing
15:40-15:50	Break
15:50-16:50	Session 8: HPC Application III
16:50-17:00	Concluding Remarks

Workshop Day 1 (Thur., December 12th, 2024)

Time	Presentation
9:30-10:00	Registration
10:00-10:30	Opening Session <i>Opening Address: Welcome to The 38th Workshop on Sustained Simulation Performance</i> Hiroyuki Takizawa (Tohoku Univ.) <i>Greetings</i> Takuo Suganuma (Tohoku Univ.) <i>Japan's S&T Policy on HPC</i> Kiyoshi Kurihara (MEXT)
10:30-12:00	Session 1: HPC Trends I Chair: Noritaka Hoshi (NEC Deutschland GmbH)
10:30-11:00	<i>New Developments at HLRS</i> Michael Resch (HLRS)
11:00-11:30	<i>New Strategies at Tohoku University Cyberscience Center</i> Hiroyuki Takizawa (Tohoku Univ.)
11:30-12:00	<i>Connecting Software Methods and Data Driven Methods</i> Sabine Roller (DLR)
12:00-13:00	Lunch
13:00-14:30	Session 2: System Software Chair: Kerem Kayabay (HLRS)
13:00-13:30	<i>ONION and RED-ONION for Assisting HPC and AI</i> Susumu Date (Osaka Univ.)
13:30-14:00	<i>CAD-in-the-loop: Integration of a Differentiated CAD Library for High-Fidelity Simulation and Optimization Processes</i> Thomas Hafemann (DLR)
14:00-14:30	<i>Powercapping the DTC: Conclusions and Lessons Learned</i> Johannes Gebert (HLRS)
14:30-14:40	Break
14:40-16:10	Session 3: HPC Applications I Chair: Akira Masago (JAMSTEC)
14:40-15:10	<i>Modeling and Simulation of Pulsed Electrochemical Machining</i> Matthias Meinke (RWTH Aachen Univ.)
15:10-15:40	<i>Investigating the Impact of Amazon deforestation on weather and climate using the Model for Prediction Across Scales (MPAS)</i> Thomas Schwitalla (University of Hohenheim)
15:40-16:10	<i>Weather Prediction by Machine Learning - Better than Ever?</i> Thomas Ludwig (DKRZ Hamburg)
16:10-16:20	Break
16:20-17:50	Session 4: HPC Technology Chair: Masayuki Sato (Tohoku Univ.)
16:20-16:50	<i>Results of the dynamic energy management of the HPC system Hawk</i> Ralf Schneider (HLRS)
16:50-17:20	<i>NEC's Contribution to Future HPC and the Next Generation Vector</i> Shin Kamiyamane (NEC)
17:20-17:50	<i>A dynamic computational resource mapping platform to improve efficiency of system utilization</i> Masatoshi Kawai (Nagoya Univ.)

Workshop Day 2 (Fri., December 13th, 2024)

Time	Presentation
9:30-10:00	Registration
10:00-12:00	Session 5: HPC Applications II Chair: Ralf Schneider (HLRS)
10:00-10:30	<i>Failure Characterization of Human Cancellous Bone During Screw Pull-Out</i> Benjamin Schnabel (HLRS)
10:30-11:00	<i>Discussion of GPU-coded Quantum Mechanics Software Performance</i> Akira Masago (JAMSTEC)
11:00-11:30	<i>Representing Research Aircraft in Twinstash - Towards Data Analysis</i> Sebastian Haufe (DLR)
11:30-12:00	<i>New supercomputer system for fusion science research in NIFS and QST</i> Shinsuke Satake (NIFS)
12:00-13:00	Lunch
13:00-14:30	Session 6: HPC Trends II Chair: Qifeng Pan (HLRS)
13:00-13:30	<i>AI at HLRS: Transformative Challenges and Future Horizons</i> Kerem Kayabay (HLRS)
13:30-14:00	<i>mdx II: The Second Cloud Platform of mdx for Supporting Data Science and Cross-Disciplinary Research Collaborations</i> Tomonori Hayami (Osaka Univ.)
14:00-14:30	<i>Acceleration of many small matrix calculations on GPU</i> Satoshi Ohshima (Kyushu Univ.)
14:30-14:40	Break
14:40-16:40	Session 7: Quantum Computing Chair: Benjamin Schnabel (HLRS)
14:40-15:10	<i>Supercomputer and Quantumcomputer Computing Platform; Programming Environment and Middleware</i> Miwako Tsuji (R-CCS)
15:10-15:40	<i>Exploring the Potential of Quantum Computing in NISQ era</i> Qifeng Pan (HLRS)
15:40-15:50	Break
15:50-16:50	Session 8: HPC Application III Chair: Takaki Nakamura (Tohoku Univ.)
15:50-16:20	<i>Applying Deep Reinforcement Learning with High-Fidelity Fluid Simulations for Separation Control over an Airfoil</i> Tomoaki Tatsukawa (Tokyo University of Science)
16:20-16:50	<i>New Brand "NEC BluStellar" Use Case -Research Information Infrastructure (RII)-</i> Yosuke Taira (NEC)
16:50-17:00	Concluding Remarks