

March 22 and 23, 2018 in Sendai, Miyagi, Japan

The 27th Workshop on Sustained Simulation Performance Toward Future HPC Technologies

Session Program

Workshop Day 1 (Thu., March 22nd, 2018)	
9:30-	Registration
10:00-10:30	Opening Session
10:30-12:00	Session 1 "HPC Systems I"
12:00-13:00	Lunch
13:00-14:10	Session 2 "Applications I"
14:10-15:10	Session 3 "System Software I"
15:10-15:30	Coffee Break
15:30-16:40	Session 4 "Vector Computer"
16:40-17:40	Session 5 "Applications II"
Workshop Day 2 (Fri., March 23rd, 2018)	
9:30-	Registration
10:00-11:10	Session 6 "HPC Systems II"
11:10-11:20	Break
11:20-12:20	Session 7 "Machine Learning"
12:20-13:20	Lunch
13:20-14:05	Session 8 "Cyberscience Center Award"
14:05-14:45	Session 9 "Applications III"
14:45-15:00	Coffee Break
15:00-16:00	Session 10 "System Software II"
16:00-16:10	Break
16:10-17:20	Session 11 "HPC Trends"
17:20-17:30	Concluding Remarks

Workshop Day 1 (Thu., March 22nd, 2018)

Time	Presentation
9:30-	Registration
	Opening Session
10:00-10:05	<i>Opening Remarks</i> Hiroaki Kobayashi (Tohoku Univ.)
10:05-10:15	<i>Greetings</i> Takafumi Aoki (Tohoku Univ.)
10:15-10:30	<i>HPC Policy in Japan</i> Kazuhiro Sawada (MEXT)
	Session 1 "HPC Systems I" Chair: Ryusuke Egawa
10:30-11:00	<i>HLRS, Germany and Europe</i> Michael Resch (HLRS)
11:00-11:30	<i>Algorithms, Computing Platforms and Unlimited Freedom of Comparison</i> Vladimir Voevodin (Moscow State Univ.)
11:30-12:00	<i>Early Evaluation of SX-Aurora TSUBASA and its Design Space Exploration for the Future</i> Hiroaki Kobayashi (Tohoku Univ.)
12:00-13:00	Lunch
	Session 2 "Applications I" Chair: Matthias Meinke
13:00-13:30	<i>HPC-CFD Frameworks for Industrial Problems Based on Fully Unstructured and Hierarchically Structured Mesh Systems</i> Makoto Tsubokura (Kobe Univ.)
13:30-13:50	<i>Adaptive Linearization in High-Order Modal Discontinuous Galerkin for Compressible Flows</i> Harald Klimach (Univ. of Siegen)
13:50-14:10	<i>Challenges in high-fidelity numerical simulation of high Reynolds number aircraft flows</i> Soshi Kawai (Tohoku Univ.)
	Session 3 "System Software I" Chair: Erich Focht
14:10-14:30	<i>HPC software for mass analysis of parallel applications efficiency</i> Vadim Voevodin (Moscow State Univ.)
14:30-14:50	<i>An MPI Framework for HPC Clusters Deployed with Software-Defined Networking</i> Keichi Takahashi (Osaka Univ.)
14:50-15:10	<i>Optimized scheduling mechanisms for Virtual Machine deployment in Cloud infrastructures</i> Michael Gienger (HLRS)
15:10-15:30	Coffee Break
	Session 4 "Vector Computer" Chair: Sabine Roller
15:30-16:00	<i>Brand-new Vector Supercomputer, SX-Aurora TSUBASA</i> Kazumasa Shoji / Yuta Watanabe (NEC)
16:00-16:20	<i>Revival of Vector Processors in Earth System Modelling</i> Panagiotis Adamidis (DKRZ)
16:20-16:40	<i>Performance of a DNS code of turbulence in a periodic box on some supercomputers</i> Mitsuo Yokokawa (Kobe Univ.)
	Session 5 "Applications II" Chair: Susumu Date
16:40-17:00	<i>The world's largest direct numerical simulation of turbulent channel flow</i> Yoshinobu Yamamoto (Univ. of Yamanashi)
17:00-17:20	<i>CFD Simulation of Flow with Volume Condensation during Accident in Containment of Pressurized Water Reactor</i> Jing Zhang (HLRS)
17:20-17:40	<i>Development and application of large-scale simulation of multiphase flow</i> Shun Takahashi (Tokai Univ.)

Workshop Day 2 (Fri., March 23rd, 2018)

Time	Presentation
9:30-	Registration
	Session 6 "HPC Systems II" Chair: Ken'ichi Itakura
10:00-10:30	<i>Reproducibility in Science, Computer Science & Climate Science</i> Thomas Ludwig (DKRZ)
10:30-10:50	<i>Data-Flow HPC with Custom Hardware on FPGA Cluster</i> Kentaro Sano (Tohoku Univ., Riken AICS)
10:50-11:10	<i>CFD + X: coupling, adaptation and implications</i> Sabine Roller (Univ. of Siegen)
11:10-11:20	Break
	Session 7 "Machine Learning" Chair: Masayuki Sato
11:20-11:40	<i>Towards prediction of effective optimizations in performance engineering</i> Hiroyuki Takizawa (Tohoku Univ.)
11:40-12:00	<i>Implementation of data frame for vector architectures</i> Takuya Araki (NEC)
12:00-12:20	<i>Job Run-time Estimation toward Energy-aware System Operation</i> Ryusuke Egawa (Tohoku Univ.)
12:20-13:20	Lunch
	Session 8 "Cyberscience Center Award" Chair: Hiroyuki Takizawa
13:20-13:35	<i>Cyberscience Center Award Ceremony</i>
13:35-14:05	<i>Past, Present and future of Typhoon Forecast</i> Toshiki Iwasaki (Tohoku Univ.)
	Session 9 "Applications III" Chair: Jing Zhang
14:05-14:25	<i>CFD Applications based on Advanced Cartesian Mesh Methods</i> Matthias Meinke (RWTH Aachen Univ.)
14:25-14:45	<i>Effective MHD Simulation of Global Planetary Magnetosphere with Various Supercomputer Systems</i> Keiichiro Fukazawa (Kyoto Univ.)
14:45-15:00	Coffee Break
	Session 10 "System Software II" Chair: Lee Chonho
15:00-15:20	<i>VE Offloading Mechanics and Applications</i> Erich Focht (NEC Deutch)
15:20-15:40	<i>Toward Resilient Software-Defined IT Infrastructure for Supporting Distributed Disaster Management Applications</i> Yasuhiro Watashiba (Osaka Univ.)
15:40-16:00	<i>Some Thoughts on Processor and HPC Hardware Technology</i> Thomas Boenisch (HLRS)
16:00-16:10	Break
	Session 11 "HPC Trends" Chair: Kazuhiko Komatsu
16:10-16:40	<i>JAMSTEC Cyber System for Geographic and Oceanographic Information</i> Kenichi Itakura (JAMSTEC)
16:40-17:00	<i>HPC Challenges for Engineering Applications in the Exa-Era</i> Bastian Koller (HLRS)
17:00-17:20	<i>Performance Evaluation of Tsunami Inundation Simulation</i> Akihiro Musa (NEC/Tohoku Univ.)
17:20-17:30	Concluding Remarks