

December 13th and 14th, 2021, in Sendai, Miyagi, Japan

The 32nd Workshop on Sustained Simulation Performance Toward Future HPC Technologies

Session Program

Mon., December 13th, 2021

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|-------------|-----------------------|
| 14:00- | Registration |
| 15:00-15:45 | Opening Session |
| | Break |
| 15:50-17:20 | Session 1: HPC Trends |
| | Break |
| 17:25-18:25 | Session 1 (Cont.) |
| | Break |
| 18:30-19:30 | Session 2: CFD |

Tue., December 14th, 2021

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|-------------|-------------------------|
| 14:30- | Registration |
| 15:00-16:30 | Session 3: HPC Systems |
| | Break |
| 17:10-18:40 | Session 4: CFD II |
| | Break |
| 18:20-20:20 | Session 5: Data Science |
| 20:20-20:30 | Closing Remarks |

Workshop Day 1 (Mon., December 13th, 2021)

| Time | Presentation |
|-------------|--|
| 14:00- | Registration |
| 15:00-15:45 | Opening Session |
| | <i>Greetings</i> Takafumi Aoki (Tohoku Univ.) <i>Greetings</i> Takuo Suganuma (Tohoku Univ.) <i>Japan's S&T Policy on HPC</i> Hiroko Takuma (MEXT) <i>A 16-years Collaboration with HLRS and Beyond!</i> Hiroaki Kobayashi (Tohoku Univ.) |
| | Break |
| 15:50-17:20 | Session 1: HPC Trends Chair: Kazuhiko Komatsu (Tohoku Univ.) |
| 15:50-16:20 | <i>New developments at HLRS</i> Michael Resch (HLRS) |
| 16:20-16:50 | <i>Institute for Software Methods for Product Virtualization – HPC Competence Center for German Aerospace Center (DLR)</i> Sabine Roller (DLR) |
| 16:50-17:20 | <i>Solving heterogeneous geophysical problems on heterogeneous architectures</i> Vladimir Voevodin and Victor Stepanenko (Moscow State Univ.) |
| | Break |
| 17:25-18:25 | Session 1 (Cont.) |
| 17:25-17:55 | <i>Multi-Hybrid Acceleration for Multi-Physical Simulation</i> Taisuke Boku (Univ. of Tsukuba) |
| 17:55-18:25 | <i>One-year experience of operating SX-Aurora TSUBASA and future outlook</i> Hiroyuki Takizawa (Tohoku Univ.) |
| | Break |
| 18:30-19:30 | Session 2: CFD Chair: Yoshiaki Abe (Tohoku Univ.) |
| 18:30-19:00 | <i>Direct numerical simulation of subcritical wall turbulence using very large aspect-ratio domain</i> Takahiro Tsukahara (Tokyo Univ. of Sci.) |
| 19:00-19:30 | <i>Digital transformation of the droplet/aerosol infection risk assessment realized on the super-computer "Fugaku"</i> Makoto Tsubokura (Riken) |

Workshop Day 2 (Tue., December 14th, 2021)

| Time | Presentation |
|-------------|--|
| 14:30- | Registration |
| 15:00-16:30 | Session 3: HPC Systems Chair: Masayuki Sato (Tohoku Univ.) |
| 15:00-15:30 | <i>Challenges of Programming models for The Supercomputer "Fugaku" and Beyond</i> Mitsuhsa Sato (Riken) |
| 15:30-16:00 | <i>Highly Accurate Power Calculation Flow with Real Software on VE development</i> Keisuke Kanamaru (NEC) |
| 16:00-16:30 | <i>Performance Measurement on the Cloud-bursting Environment</i> Susumu Date (Osaka Univ.) |
| 16:30-17:00 | <i>ESSPER: Experimental FPGA Cluster connected with Supercomputer Fugaku</i> Kentaro Sano (Riken) |
| | Break |
| 17:10-18:40 | Session 4: CFD II Chair: Shintaro Momose (NEC) |
| 17:10-17:40 | <i>Analysis of Landing Gear Noise with a Lattice Boltzmann Method Implemented on GPU based HPC Systems</i> Matthias Meinke (RWTH Aachen Univ.) |
| 17:40-18:10 | <i>Direct numerical simulation of turbulence using file I/O functions</i> Mitsuo Yokokawa (Kobe Univ.) |
| | Break |
| 18:20-20:20 | Session 5: Data Science Chair: Ryusuke Egawa (Tohoku Univ.) |
| 18:20-18:50 | <i>A Data Driven Biomechanical Workflow on NEC Vulcan</i> Johannes Gebert (HLRS) |
| 18:50-19:20 | <i>borG: Cross-accelerator coding for fast batched kernel generation</i> Daniel Thuerck (NEC Laboratories Europe) |
| 19:20-19:50 | <i>NumPy-like library for SX-Aurora TSUBASA Vector Engine and Heterogeneous Systems</i> Teruyuki Imai (NEC) |
| 19:50-20:20 | <i>On European HPC Activities</i> Bastian Koller (HLRS) |
| 20:20-20:30 | Closing Remarks Chair: 'name': 'Yasuhisa Masaoka', 'affi': 'NEC' |