

6th International Workshop on Advances in High-Performance Computational Earth Sciences: Applications and Frameworks

June 6, 2016, San Diego

In Conjunction with ICCS 2016 “Data Through the Computational Lens”

Catamaran Resort Hotel, 3999 Mission Boulevard, San Diego, CA 92109

Room: Cockatoo

Session 1: Atmosphere and Ocean

Chair: Kengo Nakajima

- 10:35-11:15** Progress towards nonhydrostatic adaptive mesh dynamics for multiscale climate models (**Invited**), **William Collins**, Hans Johansen, Travis O'Brien, Jeff Johnson, Elijah Goodfriend and Noel Keen, LBNL (#454)
- 11:15-11:35 Towards characterizing the variability of statistically consistent Community Earth System Model simulations, **Daniel Milroy**, Allison Baker, Dorit Hammerling, John Dennis, Sheri Mickelson and Elizabeth Jessup, University of Colorado (#276)
- 11:35-11:55 A New Approach to Ocean Eddy Detection, Tracking, and Event Visualization -- Application to the Northwest Pacific Ocean, **Daisuke Matsuoka**, Fumiaki Araki, Yumi Inoue and Hideharu Sasaki, JAMSTEC (#318)
- 11:55-12:15 SC-ESAP: A Parallel Application Platform for Earth System Model, **Jinrong Jiang**, Tianyi Wang, Xuebin Chi, Huiqun Hao, Yuzhu Wang and Yiran Chen, CAS (#285)

Session 2: Solid Earth

Chair: Osni Marques

- 14:30-15:10** Xeon and Xeon Phi-Aware Kernel Design for Seismic Simulations using ADER-DG FEM (**Invited**), **Alexander Heinecke**, Intel (#554)
- 15:10-15:30 Octree-Based Multiple-Material Parallel Unstructured Mesh Generation Method for Seismic Response Analysis of Soil-Structure Systems, **Kohei Fujita**, Keisuke Katsushima, Tsuyoshi Ichimura, Munuo Hori and Maddegada Lalith, RIKEN (#391)
- 15:30-15:50 Parallel Iterative Solvers for Ill-conditioned Problems with Heterogeneous Material Properties, **Kengo Nakajima**, University of Tokyo (#385)

Session 3: GPU Architectures, Frameworks and Optimizations

Chair: Yifeng Cui

- 16:40-17:20** Inside the Pascal GPU Architecture and Benefits to Seismic Applications (**Invited**), **Peng Wang**, NVIDIA (#549)
- 17:20-17:40 High-productivity Framework for Large-scale GPU/CPU Stencil Applications, **Takashi Shimokawabe**, Takayuki Aoki and Naoyuki Onodera, Tokyo Tech (#433)
- 17:40-18:00 GPU acceleration of a non-hydrostatic ocean model with a multigrid Poisson/Helmholtz solver, **Takateru Yamagishi** and Yoshimasa Matsumura, Hokkaido University (#305)