
Wednesday, June 21, 2017

■ High Performance Visualization

June 21, 2017, 08:30 am - 10:00 am

08:00 am - 09:00 am Welcome Coffee

10:00 am - 11:00 am Coffee Break

Panorama 1, Forum

In Situ Processing: Instantiations, Opportunities & Challenges

08:30 am - 09:00 am

Hank Childs, University of Oregon

Big Data Visual Analysis

09:00 am - 09:30 am

Chris Johnson, University of Utah

Software Defined Visualization: Bringing the Vis to Where the Data Is

09:30 am - 10:00 am

Dr.-Ing. Ingo Wald, Intel

■ Algorithms for Extreme Scale in Practice

June 21, 2017, 08:30 am - 10:00 am

08:00 am - 09:00 am Welcome Coffee

10:00 am - 11:00 am Coffee Break

Panorama 2, Forum

The Trilinos Project Exascale Roadmap

08:30 am - 09:00 am

Dr. Michael Heroux, Sandia National Laboratories

Hierarchical Low-Rank Approximations at Extreme Scale

09:00 am - 09:30 am

Rio Yokota, Tokyo Institute of Technology

Towards Extreme Scalable Selected Inversion Algorithm for Green's Function Calculation in Nanoelectronic Device Simulation

09:30 am - 10:00 am

Olaf Schenk, Università della Svizzera Italiana

■ **Keynotes Deep Learning Day**

June 21, 2017, 08:30 am - 10:00 am

08:00 am - 09:00 am Welcome Coffee

10:00 am - 11:00 am Coffee Break

Panorama 3 DEEP LEARNING DAY, Forum

Deep Learning & Scientific Computing

08:30 am - 09:15 am

Thomas Breuel, NVIDIA

Generative Adversarial Networks Architecture for Image Synthesis from Text

09:15 am - 10:00 am

Dr. Zeynep Akata, AMLab/University of Amsterdam

■ **Research Papers 06 - Applications III**

June 21, 2017, 08:30 am - 10:00 am

08:00 am - 09:00 am Welcome Coffee

10:00 am - 11:00 am Coffee Break

Analog 1+2, Forum

Incremental SVM on Intel Xeon Phi Processors

08:30 am - 09:00 am

Yida Wang, Intel

Accelerating Seismic Simulations Using the Intel Xeon Phi Knights Landing Processor

09:00 am - 09:30 am

Dr. Alexander Heinecke, Intel Parallel Computing Lab

A Framework for Out of Memory SVD Algorithms

09:30 am - 10:00 am

Dr. Stanimire Tomov, University of Tennessee

■ **HPC in Asia Session 01**

June 21, 2017, 08:30 am - 10:00 am

08:00 am - 09:00 am Welcome Coffee

10:00 am - 11:00 am Coffee Break

Substanz 1+2, Forum

Welcome Address

08:30 am - 08:40 am

Prof. Dr. Satoshi Matsuoka, Tokyo Institute of Technology

Status Report from Australia

08:40 am - 08:50 am

Brendan Dalton, CSIRO

Status Report from China

08:50 am - 09:00 am

Depei Qian, Sun Yat-Sen University & Beihang University

Status Report from Japan

09:00 am - 09:10 am

Prof. Dr. Satoshi Matsuoka, Tokyo Institute of Technology

Status Report from Korea

09:10 am - 09:20 am

Dr. Kwang-Jin Oh, KISTI

Status Report from Saudi Arabia

09:20 am - 09:30 am

Prof. Dr. David Keyes, KAUST

Status Report from Singapore

09:30 am - 09:40 am

Jon Lau, NSCC

Status Report from Taiwan

09:40 am - 09:50 am

Dr. Weicheng Huang, NCHC

Questions & Answers

09:50 am - 10:00 am

■ **Research Posters (+ PhD Forum Posters)**

June 21, 2017, 08:30 am - 04:45 pm

08:00 am - 09:00 am Welcome Coffee

10:00 am - 11:00 am Coffee Break

12:30 pm - 01:45 pm Lunch

03:15 pm - 03:45 pm Coffee Break

04:45 pm - 05:15 pm Coffee Break

Foyer 0, Forum

■ **BoF 16**

June 21, 2017, 08:30 am - 09:30 am

08:00 am - 09:00 am Welcome Coffee

Kontrast, Hall 3.0

Jun Nakajima, Intel

Dr. Karl W. Schulz, Intel

Matthieu Ospici, Atos

David N. Lombard, Intel

■ **BoF 17**

June 21, 2017, 09:30 am - 10:30 am

10:00 am - 11:00 am Coffee Break

Kontrast, Hall 3.0

Dr. Martin Schulz, LLNL

■ **HPC in Asia Poster Session**

June 21, 2017, 10:00 am - 11:00 am

10:00 am - 11:00 am Coffee Break

Substanz 1+2, Forum

(A01) Poster from Australia 1

Gaurav Mitra, NCI

(A02) Poster from Australia 2

Alex Kruger, CSIRO

(A03) Poster from China 1

Hongkun Yu, Tsinghua University

(A04) Poster from China 2

Zhongchao Lin, Xindian University

(A05) Poster from Japan 1

Mohamed Wahib, AIST

(A06) Poster from Japan 2

Dr. Kohei Fujita, The University of Tokyo

(A07) Poster from Korea

Guohua Li, Konkuk University

(A08) Poster from Saudi Arabia 1

Mustafa Abduljabbar, KAUST

(A09) Poster from Saudi Arabia 2

Amani AlOnazi, KAUST

(A10) Poster from Singapore 1

Rikky Wenang Purbojati, Nanyang Technological University

(A11) Poster from Singapore 2

Lu Shengliang, Nanyang Technological University

(A12) Poster from Taiwan

Yi-Kai Kan, National Tring Hua University

■ **Project Posters**

June 21, 2017, 10:00 am - 06:00 pm

10:00 am - 11:00 am Coffee Break

12:30 pm - 01:45 pm Lunch

03:15 pm - 03:45 pm Coffee Break

04:45 pm - 05:15 pm Coffee Break

Booth #L-212, Hall 3.0

 **Exhibition**

June 21, 2017, 10:00 am - 06:00 pm

10:00 am - 11:00 am Coffee Break

12:30 pm - 01:45 pm Lunch

03:15 pm - 03:45 pm Coffee Break

04:45 pm - 05:15 pm Coffee Break

Exhibition Hall, Hall 3.0

Exhibitor Forum 03

June 21, 2017, 10:20 am - 05:20 pm

10:00 am - 11:00 am Coffee Break

12:30 pm - 01:45 pm Lunch

03:15 pm - 03:45 pm Coffee Break

04:45 pm - 05:15 pm Coffee Break

Booth #M-210, Hall 3.0

Inspur: From Supercomputing Competition to the Next HPC Generation

10:20 am - 10:40 am

Dr. Yan Yan, Inspur

Asetek: One Size Does Not Fit All: Adapting Liquid Cooling to Heat Rejection Requirements

10:40 am - 11:00 am

Larry Vertal, Asetek

Supermicro: TBA

11:00 am - 11:20 am

Dr. Martin Galle, Supermicro

Boston: OpenStack for Scientific Workloads - Using GPUs & Fast Fabrics

11:20 am - 11:40 am

David Power, Boston

Cray: Convergence of Supercomputing & Scalable Analytics

11:40 am - 12:00 pm

Paul Hahn, Cray

Venkat Krishnamurthy, Cray

National Super Computer Center Guangzhou: Convergence of HPC & Bigdata on Tianhe-2

12:00 pm - 12:20 pm

Dr. Hui Yan, NSCCGZ

Huawei: Huawei HPC Solution

12:20 pm - 12:40 pm

Dr. Kunbin Hong, Huawei

Dr. Thomas Schoenemeyer, Huawei

NEC Deutschland: Unveiling NEC's Next Generation Vector Supercomputer

12:40 pm - 01:00 pm

Dr. Shintaro Momose, NEC Japan

Bull: A 7-year Experience Feedback about HPC-as-a-Service

01:00 pm - 01:20 pm

Dr. Patrice Calegari, Atos

Marc Levrier, Atos

Dell EMC: Transforming the Future with Dell EMC

01:20 pm - 01:40 pm

Ed Turkel, Dell

ClusterVision: The Next Chapter in Modern HPC Storage Architecture

01:40 pm - 02:00 pm

Quentin Le Burel, ClusterVision

Lenovo: Lenovo - The Face of the Future, HPC & AI

02:00 pm - 02:20 pm

Dr. Luigi Brochard, Lenovo

Seagate: Flash Acceleration of HPC Workloads - Seagate Nytro Intelligent I/O Manager

02:20 pm - 02:40 pm

Chris Weeden, Seagate

Mellanox: Next Generation of Co-Processors Emerges - In-Network Computing

02:40 pm - 03:00 pm

Gerald Lotto, Mellanox

QCT: The Winning HPC Platform - Adaptive, Powerful, Simple.

03:00 pm - 03:20 pm

Grover Hwang, QCT

UNIVA: The Challenges Running Machine Learning Applications in Docker on Univa Grid Engine

03:20 pm - 03:40 pm

Bill Bryce, UNIVA

CALYOS: Calyos Solutions to Cool Higher TDP Processors Remaining Waterfree

03:40 pm - 04:00 pm

Olivier de Laet, CALYOS

Thomas Le Clerc, CALYOS

Quantum: Scalable High Performance Storage for Technical Computing

04:00 pm - 04:20 pm

Jason Coari, Quantum

Altair: PBSCloud.io - Take Control of Your HPC Cloud

04:20 pm - 04:40 pm

Jérémie Bourdoncle, Altair

Sugon Information Industry: Facilitate HPC Operation & Administration via Cloud

04:40 pm - 05:00 pm

Dr. Qing Ji, Sugon Information Industry

Amazon Web Services: AWS Batch - An Infrastructure-Less, Fully Managed Batch Computing Service

05:00 pm - 05:20 pm

Arthur Petitpierre, AWS

 **BoF 18**

June 21, 2017, 10:30 am - 11:30 am

10:00 am - 11:00 am Coffee Break

Kontrast, Hall 3.0

Dr. Bill Nitzberg, Altair

■ **Interconnects for HPC Systems**

June 21, 2017, 11:00 am - 12:30 pm

10:00 am - 11:00 am Coffee Break

12:30 pm - 01:45 pm Lunch

Panorama 1, Forum

Existing De-Facto Standards for Interconnects: InfiniBand, GigE & OmniPath

11:00 am - 11:25 am

Jens Domke, Tokyo Institute of Technology

Prof. Dr. Torsten Hoefler, ETH Zurich

Optical Interconnects for Exascale - Challenges & Opportunities

11:25 am - 11:50 am

Dr. Sébastien Rumley, Columbia University

Gen-Z, a Future Standard for Interconnects?

11:50 am - 12:15 pm

Dr. John Bent, Seagate Government Solutions

Dr. Paolo Faraboschi, HPE

Panel

12:15 pm - 12:30 pm

Jens Domke, Tokyo Institute of Technology

Dr. Paolo Faraboschi, HPE

Prof. Dr. Torsten Hoefler, ETH Zurich

Dr. Sébastien Rumley, Columbia University

■ **Big Data Experiments & Big Data Analysis**

June 21, 2017, 11:00 am - 12:30 pm

10:00 am - 11:00 am Coffee Break

12:30 pm - 01:45 pm Lunch

Panorama 2, Forum

A Superfacility Model for Data Intensive Science

11:00 am - 11:20 am

Prof. Dr. Kathy Yelick, LBNL & UC Berkeley

"Think Big - Think Outside the Box!" - Extreme Computing Requirements for the Square Kilometer Array (SKA)

11:20 am - 11:40 am

Ronald P. Luijten, IBM Research Zurich

ABCI - AI Bridging Cloud Infrastructure

11:40 am - 12:00 pm

Prof. Dr. Satoshi Matsuoka, Tokyo Institute of Technology

Questions & Answers

12:00 pm - 12:30 pm

■ **How Deep Learning is Changing the HPC Landscape**

June 21, 2017, 11:00 am - 12:30 pm

10:00 am - 11:00 am Coffee Break

12:30 pm - 01:45 pm Lunch

Panorama 3 DEEP LEARNING DAY, Forum

Scalable Deep Learning for Scientific Data Sets

11:00 am - 11:30 am

Brian Van Essen, LLNL

Deep Learning: The Killer App for GPUs

11:30 am - 12:00 pm

Mayank Daga, AMD

HPC Meets Cognitive Computing: AI Frontiers for the Future of R&D

12:00 pm - 12:30 pm

Dr. Costas Bekas, IBM Research Zurich

■ **Research Papers 07 - Applications IV**

June 21, 2017, 11:00 am - 12:30 pm

10:00 am - 11:00 am Coffee Break

12:30 pm - 01:45 pm Lunch

Analog 1+2, Forum

EDGE: Extreme Scale Fused Seismic Simulations with the Discontinuous Galerkin Method

11:00 am - 11:30 am

Alexander Breuer, UCSD

LAMMPS' PPPM Long-Range Solver for the Second Generation Xeon Phi

11:30 am - 12:00 pm

William J. McDoniel, RWTH Aachen University

Communication Reducing Algorithms for Distributed Hierarchical N-Body Problems with Boundary Distributions

12:00 pm - 12:30 pm

Mustafa Abduljabbar, KAUST

■ **HPC in Asia Session 02**

June 21, 2017, 11:00 am - 12:30 pm

10:00 am - 11:00 am Coffee Break

12:30 pm - 01:45 pm Lunch

Substanz 1+2, Forum

Best Poster Award Ceremony & Presentation

11:00 am - 11:15 am

Dr. Marek T. Michalewicz, University of Warsaw

China's Effort on HPC in the Next Five Years

11:15 am - 11:45 am

Depei Qian, Sun Yat-Sen University & Beihang University

Panel: Achieving Multilateral Organization in Asian HPC Collaboration

11:45 am - 12:25 pm

Prof. Dr. Satoshi Matsuoka, Tokyo Institute of Technology

Brendan Dalton, CSIRO

Dr. Weicheng Huang, NCHC

Prof. Dr. David Keyes, KAUST

Jon Lau, NSCC

Dr. Kwang-Jin Oh, KISTI

Dr. Motoi Okuda, RIST, Kobe Center

Depei Qian, Sun Yat-Sen University & Beihang University

Closing

12:25 pm - 12:30 pm

Dr. Marek T. Michalewicz, University of Warsaw

■ **BoF 19**

June 21, 2017, 11:30 am - 12:30 pm

12:30 pm - 01:45 pm Lunch

Kontrast, Hall 3.0

Dr. Michael Heroux, Sandia National Laboratories

Dr. Erich Strohmaier, LBNL

■ **Fault Tolerance for Next Generation High Performance Computing**

June 21, 2017, 01:45 pm - 03:15 pm

12:30 pm - 01:45 pm Lunch

03:15 pm - 03:45 pm Coffee Break

Panorama 1, Forum

Characterizing Faults, Errors & Failures in Extreme-Scale Computing Systems

01:45 pm - 02:05 pm

Dr. Christian Engelmann, ORNL

Evaluating Parallel Application Resiliency with the Software Fault Injector, PFSEFI

02:05 pm - 02:25 pm

Dr. Nathan DeBardeleben, Los Alamos National Laboratory

Performance Portable Checkpoint/Restart with VeloC & UnifyCR

02:25 pm - 02:45 pm

Kathryn Mohror, LLNL

Support for Resilience in Parallel Applications

02:45 pm - 03:05 pm

George Bosilca, University of Tennessee

Questions & Answers

03:05 pm - 03:15 pm

■ **How HPC Influences Energy Exploration**

June 21, 2017, 01:45 pm - 03:15 pm

12:30 pm - 01:45 pm Lunch

03:15 pm - 03:45 pm Coffee Break

Panorama 2, Forum

Overview of HPC in Oil & Gas

01:45 pm - 01:50 pm

Prof. Dr. David Keyes, KAUST

Partnering to Solve Tomorrow's Energy Exploration HPC Challenges

01:50 pm - 02:15 pm

Prof. Jan Odegard, Rice University

Seismic Depth Imaging: Overview & Applications

02:15 pm - 02:40 pm

Dr. Theierry Tonelot, Saudi Aramco

Multi-Scale Fluid Flow & Transport through Porous Media

02:40 pm - 03:05 pm

Prof. Shuyu Sun, KAUST

Questions & Answers

03:05 pm - 03:15 pm

■ HPC & Big Data for Autonomous Driving & Connected Vehicles

June 21, 2017, 01:45 pm - 03:15 pm

12:30 pm - 01:45 pm Lunch

03:15 pm - 03:45 pm Coffee Break

Panorama 3 DEEP LEARNING DAY, Forum

HPC for Machine Learning & Validation for Automated Driving at BMW

01:45 pm - 02:05 pm

Mario Tokarz, BMW Group

Technical HPC Architectures for Autonomous Driving

02:05 pm - 02:25 pm

Dr. Pradeep Dubey, Intel

Hardware Architecture to Enable Data Analytics & Image Processing for Fully Automated Driving

02:25 pm - 02:45 pm

Leonid Smolyansky, Mobileye

The Future of Advanced Driver Assistance Systems (ADAS) Computing Platforms

02:45 pm - 03:05 pm

Achim Noller, Bosch

Questions & Answers

03:05 pm - 03:15 pm

■ Research Papers 08 - Architecture

June 21, 2017, 01:45 pm - 02:45 pm

12:30 pm - 01:45 pm Lunch

Analog 1+2, Forum

The Investigation of the ARMv7 & Intel Haswell Architectures Suitability for Performance & Energy-Aware Computing

01:45 pm - 02:15 pm

Vojtech Nikl, Brno University of Technology

An Analysis of Core- & Chip-Level Architectural Features in Four Generations of Intel Server Processors

02:15 pm - 02:45 pm

Johannes Hofmann, University of Erlangen-Nuremberg

■ BoF 20

June 21, 2017, 01:45 pm - 02:45 pm

12:30 pm - 01:45 pm Lunch

Substanz 1+2, Forum

Dr. Toni Collis, EPCC

Dr. Kelly Gaither, TACC

Dr. Joanna Leng, University of Leeds

BoF 21

June 21, 2017, 01:45 pm - 02:45 pm

12:30 pm - 01:45 pm Lunch

Kontrast, Hall 3.0

Dr. Robert McLay, TACC

Georg Rath, Consultant

Analyst Crossfire

June 21, 2017, 02:45 pm - 03:15 pm

03:15 pm - 03:45 pm Coffee Break

Analog 1+2, Forum

Addison Snell, Intersect360 Research

Bill Mannel, HPE

Jussi Kukkonen, Penguin Computing

Depei Qian, Sun Yat-Sen University & Beihang University

Prof. Dr. Rick Stevens, University of Chicago & ANL

BoF 22

June 21, 2017, 02:45 pm - 03:45 pm

03:15 pm - 03:45 pm Coffee Break

Substanz 1+2, Forum

Dr. Richard Murphy, Micron

Prof. Dr. David A. Bader, Georgia Tech

Prof. Dr. Peter Kogge, University of Notre Dame

Prof. Dr. Andrew Lumsdaine, Indiana University

BoF 23

June 21, 2017, 02:45 pm - 03:45 pm

03:15 pm - 03:45 pm Coffee Break

Kontrast, Hall 3.0

Dr. Frank Baetke, HPE

Stephen Simms, Indiana University

Distinguished Speakers

June 21, 2017, 03:45 pm - 04:45 pm

03:15 pm - 03:45 pm Coffee Break

04:45 pm - 05:15 pm Coffee Break

Panorama 1, Forum

Sunway TaihuLight: Designing & Tuning Scientific Applications at the Scale of 10-Million Cores

03:45 pm - 04:15 pm

Dr. Haohuan Fu, National Supercomputer Center at Wuxi

AWS - Helping Our Customers Deliver Agile Innovation

04:15 pm - 04:45 pm

Andrew Jones, Amazon

Dr. Peter Ziegenhein, Institute of Cancer Research

■ **Panel: Energy Efficiency in HPC**

June 21, 2017, 03:45 pm - 04:45 pm

03:15 pm - 03:45 pm Coffee Break

04:45 pm - 05:15 pm Coffee Break

Panorama 2, Forum

Dr. Michèle Weiland, EPCC

Torsten Wilde, LRZ

Daniel Hackenberg, TU Dresden

Jonathan Eastep, Intel

Dr. Martin Schulz, LLNL

■ **Future Challenges for Deep Learning & HPC**

June 21, 2017, 03:45 pm - 04:45 pm

03:15 pm - 03:45 pm Coffee Break

04:45 pm - 05:15 pm Coffee Break

Panorama 3 DEEP LEARNING DAY, Forum

Challenges in Machine Learning for Complex Physical Systems

03:45 pm - 04:15 pm

Christoph Angerer, NVIDIA

Pushing the Frontiers of Deep Learning

04:15 pm - 04:45 pm

Dr. Steve Scott, Cray

■ **BoF 24**

June 21, 2017, 03:45 pm - 04:45 pm

03:15 pm - 03:45 pm Coffee Break

04:45 pm - 05:15 pm Coffee Break

Analog 1+2, Forum

Jim Cownie, Intel

Dr.-Ing. Michael Klemm, Intel

■ **BoF 25**

June 21, 2017, 03:45 pm - 04:45 pm

03:15 pm - 03:45 pm Coffee Break

04:45 pm - 05:15 pm Coffee Break

Substanz 1+2, Forum

Jörg Hilpert, University of Stuttgart

Olaf Schneider, KIT

Prof. Martin Frank, RWTH Aachen University

Adam Simpson, ORNL

BoF 26

June 21, 2017, 03:45 pm - 04:45 pm

03:15 pm - 03:45 pm Coffee Break

04:45 pm - 05:15 pm Coffee Break

Kontrast, Hall 3.0

Hans-Christian Hoppe, Intel

Prof. Dr. Felix Wolf, TU Darmstadt

Dr.-Ing. Bernd Mohr, JSC

Prof. Dr. Jesús Labarta, BSC

HPCAC- & shy;

ISC Awards

June 21, 2017, 05:15 pm - 05:30 pm

04:45 pm - 05:15 pm Coffee Break

Panorama 2, Forum

Wednesday Keynote

June 21, 2017, 05:30 pm - 06:15 pm

Panorama 2, Forum

HPC Achievement & Impact - 2017

Prof. Dr. Thomas Sterling, Indiana University

Closing Session

June 21, 2017, 06:15 pm - 06:30 pm

Panorama 2, Forum