
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. Theiry 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