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**Wednesday, June 21, 2017**

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**■ 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**

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**In Situ Processing: Instantiations, Opportunities & Challenges**

08:30 am - 09:00 am

Hank Childs, University of Oregon

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**Big Data Visual Analysis**

09:00 am - 09:30 am

Chris Johnson, University of Utah

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

09:30 am - 10:00 am

Dr.-Ing. Ingo Wald, Intel

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**■ 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**

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**The Trilinos Project Exascale Roadmap**

08:30 am - 09:00 am

Dr. Michael Heroux, Sandia National Laboratories

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**Hierarchical Low-Rank Approximations at Extreme Scale**

09:00 am - 09:30 am

Rio Yokota, Tokyo Institute of Technology

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**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

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■ **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**

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**Deep Learning & Scientific Computing**

08:30 am - 09:15 am

Thomas Breuel, NVIDIA

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**Generative Adversarial Networks Architecture for Image Synthesis from Text**

09:15 am - 10:00 am

Dr. Zeynep Akata, AMLab/University of Amsterdam

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■ **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**

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**Incremental SVM on Intel Xeon Phi Processors**

08:30 am - 09:00 am

Yida Wang, Intel

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**Accelerating Seismic Simulations Using the Intel Xeon Phi Knights Landing Processor**

09:00 am - 09:30 am

Dr. Alexander Heinecke, Intel Parallel Computing Lab

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**A Framework for Out of Memory SVD Algorithms**

09:30 am - 10:00 am

Dr. Stanimire Tomov, University of Tennessee

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■ **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**

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**Welcome Address**

08:30 am - 08:40 am

Prof. Dr. Satoshi Matsuoka, Tokyo Institute of Technology

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**Status Report from Australia**

08:40 am - 08:50 am

Brendan Dalton, CSIRO

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**Status Report from China**

08:50 am - 09:00 am

Depei Qian, Sun Yat-Sen University & Beihang University

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**Status Report from Japan**

09:00 am - 09:10 am

Prof. Dr. Satoshi Matsuoka, Tokyo Institute of Technology

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**Status Report from Korea**

09:10 am - 09:20 am

Dr. Kwang-Jin Oh, KISTI

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**Status Report from Saudi Arabia**

09:20 am - 09:30 am

Prof. Dr. David Keyes, KAUST

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**Status Report from Singapore**

09:30 am - 09:40 am

Jon Lau, NSCC

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**Status Report from Taiwan**

09:40 am - 09:50 am

Dr. Weicheng Huang, NCHC

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**Questions & Answers**

09:50 am - 10:00 am

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■ **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**

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■ **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**

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■ **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**

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**■ 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**

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**(A01) Poster from Australia 1**

Gaurav Mitra, NCI

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**(A02) Poster from Australia 2**

Alex Kruger, CSIRO

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**(A03) Poster from China 1**

Hongkun Yu, Tsinghua University

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**(A04) Poster from China 2**

Zhongchao Lin, Xindian University

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**(A05) Poster from Japan 1**

Mohamed Wahib, AIST

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**(A06) Poster from Japan 2**

Dr. Kohei Fujita, The University of Tokyo

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**(A07) Poster from Korea**

Guohua Li, Konkuk University

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**(A08) Poster from Saudi Arabia 1**

Mustafa Abduljabbar, KAUST

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**(A09) Poster from Saudi Arabia 2**

Amani AlOnazi, KAUST

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**(A10) Poster from Singapore 1**

Rikky Wenang Purbojati, Nanyang Technological University

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**(A11) Poster from Singapore 2**

Lu Shengliang, Nanyang Technological University

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**(A12) Poster from Taiwan**

Yi-Kai Kan, National Tring Hua University

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**■ 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**

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 **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**

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**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**

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**Inspur: From Supercomputing Competition to the Next HPC Generation**

10:20 am - 10:40 am

Dr. Yan Yan, Inspur

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

10:40 am - 11:00 am

Larry Vertal, Asetek

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**Supermicro: TBA**

11:00 am - 11:20 am

Dr. Martin Galle, Supermicro

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

11:20 am - 11:40 am

David Power, Boston

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**Cray: Convergence of Supercomputing & Scalable Analytics**

11:40 am - 12:00 pm

Paul Hahn, Cray

Venkat Krishnamurthy, Cray

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

12:00 pm - 12:20 pm

Dr. Hui Yan, NSCCGZ

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**Huawei: Huawei HPC Solution**

12:20 pm - 12:40 pm

Dr. Kunbin Hong, Huawei

Dr. Thomas Schoenemeyer, Huawei

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**NEC Deutschland: Unveiling NEC's Next Generation Vector Supercomputer**

12:40 pm - 01:00 pm

Dr. Shintaro Momose, NEC Japan

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

01:00 pm - 01:20 pm

Dr. Patrice Calegari, Atos

Marc Levrier, Atos

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**Dell EMC: Transforming the Future with Dell EMC**

01:20 pm - 01:40 pm

Ed Turkel, Dell

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**ClusterVision: The Next Chapter in Modern HPC Storage Architecture**

01:40 pm - 02:00 pm

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Quentin Le Burel, ClusterVision

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

02:00 pm - 02:20 pm

Dr. Luigi Brochard, Lenovo

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

02:20 pm - 02:40 pm

Chris Weeden, Seagate

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

02:40 pm - 03:00 pm

Gerald Lotto, Mellanox

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

03:00 pm - 03:20 pm

Grover Hwang, QCT

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

03:20 pm - 03:40 pm

Bill Bryce, UNIVA

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**CALYOS: Calyos Solutions to Cool Higher TDP Processors Remaining Waterfree**

03:40 pm - 04:00 pm

Olivier de Laet, CALYOS

Thomas Le Clerc, CALYOS

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**Quantum: Scalable High Performance Storage for Technical Computing**

04:00 pm - 04:20 pm

Jason Coari, Quantum

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

04:20 pm - 04:40 pm

Jérémie Bourdoncle, Altair

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**Sugon Information Industry: Facilitate HPC Operation & Administration via Cloud**

04:40 pm - 05:00 pm

Dr. Qing Ji, Sugon Information Industry

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

05:00 pm - 05:20 pm

Arthur Petitpierre, AWS

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 **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**

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## ■ **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**

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### **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

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### **Optical Interconnects for Exascale - Challenges & Opportunities**

11:25 am - 11:50 am

Dr. Sébastien Rumley, Columbia University

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### **Gen-Z, a Future Standard for Interconnects?**

11:50 am - 12:15 pm

Dr. John Bent, Seagate Government Solutions

Dr. Paolo Faraboschi, HPE

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### **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

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## ■ **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**

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### **A Superfacility Model for Data Intensive Science**

11:00 am - 11:20 am

Prof. Dr. Kathy Yelick, LBNL & UC Berkeley

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### **"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

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### **ABCI - AI Bridging Cloud Infrastructure**

11:40 am - 12:00 pm

Prof. Dr. Satoshi Matsuoka, Tokyo Institute of Technology

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### **Questions & Answers**

12:00 pm - 12:30 pm

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■ **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**

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**Scalable Deep Learning for Scientific Data Sets**

11:00 am - 11:30 am

Brian Van Essen, LLNL

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**Deep Learning: The Killer App for GPUs**

11:30 am - 12:00 pm

Mayank Daga, AMD

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

12:00 pm - 12:30 pm

Dr. Costas Bekas, IBM Research Zurich

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■ **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**

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

11:00 am - 11:30 am

Alexander Breuer, UCSD

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

11:30 am - 12:00 pm

William J. McDoniel, RWTH Aachen University

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

12:00 pm - 12:30 pm

Mustafa Abduljabbar, KAUST

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■ **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**

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**Best Poster Award Ceremony & Presentation**

11:00 am - 11:15 am

Dr. Marek T. Michalewicz, University of Warsaw

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**China's Effort on HPC in the Next Five Years**

11:15 am - 11:45 am

Depei Qian, Sun Yat-Sen University & Beihang University

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**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

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**Closing**

12:25 pm - 12:30 pm

Dr. Marek T. Michalewicz, University of Warsaw

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■ **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**

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**■ 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**

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

01:45 pm - 02:05 pm

Dr. Christian Engelmann, ORNL

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**Evaluating Parallel Application Resiliency with the Software Fault Injector, PFSEFI**

02:05 pm - 02:25 pm

Dr. Nathan DeBardeleben, Los Alamos National Laboratory

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**Performance Portable Checkpoint/Restart with VeloC & UnifyCR**

02:25 pm - 02:45 pm

Kathryn Mohror, LLNL

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**Support for Resilience in Parallel Applications**

02:45 pm - 03:05 pm

George Bosilca, University of Tennessee

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**Questions & Answers**

03:05 pm - 03:15 pm

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**■ 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**

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**Overview of HPC in Oil & Gas**

01:45 pm - 01:50 pm

Prof. Dr. David Keyes, KAUST

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**Partnering to Solve Tomorrow's Energy Exploration HPC Challenges**

01:50 pm - 02:15 pm

Prof. Jan Odegard, Rice University

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**Seismic Depth Imaging: Overview & Applications**

02:15 pm - 02:40 pm

Dr. Theierry Tonelot, Saudi Aramco

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**Multi-Scale Fluid Flow & Transport through Porous Media**

02:40 pm - 03:05 pm

Prof. Shuyu Sun, KAUST

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**Questions & Answers**

03:05 pm - 03:15 pm

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**■ 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**

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**HPC for Machine Learning & Validation for Automated Driving at BMW**

01:45 pm - 02:05 pm

Mario Tokarz, BMW Group

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**Technical HPC Architectures for Autonomous Driving**

02:05 pm - 02:25 pm

Dr. Pradeep Dubey, Intel

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

02:25 pm - 02:45 pm

Leonid Smolyansky, Mobileye

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

02:45 pm - 03:05 pm

Achim Noller, Bosch

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**Questions & Answers**

03:05 pm - 03:15 pm

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**■ Research Papers 08 - Architecture**

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

12:30 pm - 01:45 pm Lunch

**Analog 1+2, Forum**

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**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

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**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

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**■ 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**

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■ **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

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■ **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

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■ **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

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■ **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

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■ **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

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**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

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**AWS - Helping Our Customers Deliver Agile Innovation**

04:15 pm - 04:45 pm

Andrew Jones, Amazon

Dr. Peter Ziegenhein, Institute of Cancer Research

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■ **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**

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■ **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**

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**Challenges in Machine Learning for Complex Physical Systems**

03:45 pm - 04:15 pm

Christoph Angerer, NVIDIA

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**Pushing the Frontiers of Deep Learning**

04:15 pm - 04:45 pm

Dr. Steve Scott, Cray

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■ **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**

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■ **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**

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**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**

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**HPCAC- & shy;**

**ISC Awards**

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

04:45 pm - 05:15 pm Coffee Break

**Panorama 2, Forum**

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**Wednesday Keynote**

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

**Panorama 2, Forum**

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**HPC Achievement & Impact - 2017**

Prof. Dr. Thomas Sterling, Indiana University

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**Closing Session**

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

**Panorama 2, Forum**

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