



Wednesday, June 25, 2014

■ EOFS Breakfast Meeting

June 25, 2014, 07:00 am - 08:30 am

07:30 am - 10:00 am Welcome Coffee

Hall 4, CCL

■ Research Papers 05

Programmability

June 25, 2014, 08:30 am - 10:30 am

07:30 am - 10:00 am Welcome Coffee

10:30 am - 11:30 am Coffee Break

Hall 3, CCL

Scalability & Parallel Execution of OmpSs-OpenCL Tasks on Heterogeneous CPU-GPU Environment

08:30 am - 09:00 am

Cyme, a Library Maximizing SIMD Computation on User-Defined Containers

09:00 am - 09:15 am

A Compiler-Assisted OpenMP Migration Method Based on Automatic Parallelizing Information

09:15 am - 09:30 am

A Type Oriented Graph500 Benchmark

09:30 am - 09:45 am

A Dynamic Execution Model Applied to Distributed Collision Detection

09:45 am - 10:00 am

Implementation & Optimization of Three-Dimensional UPML-FDTD Algorithm on GPU Clusters

10:00 am - 10:15 am

Exploiting SIMD & Thread-Level Parallelism in Multiblock CFD

10:15 am - 10:30 am

■ Distinguished Speakers

June 25, 2014, 09:00 am - 10:30 am

07:30 am - 10:00 am Welcome Coffee

10:30 am - 11:30 am Coffee Break

Hall 1, CCL

Climate Projection & Numerical Weather Prediction toward the Exa-Scale Era

09:00 am - 09:45 am

Can Integrated Optical Interconnects Provide the Bandwidth Needed for Exascale Systems?

09:45 am - 10:30 am



■ Cloud & Big Data: Examples from Industry

June 25, 2014, 09:00 am - 10:30 am

07:30 am - 10:00 am Welcome Coffee

10:30 am - 11:30 am Coffee Break

Hall 2, CCL

Industry Engagement at the STFC Hartree Centre: Utilising HPC, Cloud & Big Data

09:00 am - 09:20 am

Faster Design Cycles with High Performance Hardware in the Cloud

09:20 am - 09:40 am

Bringing New Value to the Enterprise with the Internet of Things & Big Data

09:40 am - 10:00 am

Big Data Analytics in Public & Private Clouds

10:00 am - 10:20 am

Questions & Answers

10:20 am - 10:30 am

■ BoF 15

June 25, 2014, 09:00 am - 10:00 am

07:30 am - 10:00 am Welcome Coffee

Hall 4, CCL

■ Emerging Trends for Big Data in HPC

June 25, 2014, 09:00 am - 10:30 am

07:30 am - 10:00 am Welcome Coffee

10:30 am - 11:30 am Coffee Break

Hall 5, CCL

Big Data in Neuroscience: Where Is The Information?

09:00 am - 09:30 am

The Boson in the Hay-Stack

09:30 am - 10:00 am

Topological Analysis at the Extreme Scale: Finding Features in Large Data Sets

10:00 am - 10:30 am

■ Research Posters & HPC in Asia Posters

June 25, 2014, 09:00 am - 06:00 pm

07:30 am - 10:00 am Welcome Coffee

10:30 am - 11:30 am Coffee Break

01:00 pm - 02:15 pm Lunch

04:15 pm - 05:15 pm Coffee Break

Multi-Purpose Area 3/4 Foyer, CCL



BoF 16

June 25, 2014, 10:00 am - 11:00 am

07:30 am - 10:00 am Welcome Coffee

10:30 am - 11:30 am Coffee Break

Hall 4, CCL

Exhibition

June 25, 2014, 10:00 am - 06:00 pm

07:30 am - 10:00 am Welcome Coffee

10:30 am - 11:30 am Coffee Break

01:00 pm - 02:15 pm Lunch

04:15 pm - 05:15 pm Coffee Break

Exhibition Hall, Hall 2

Exhibitor Forum 03

June 25, 2014, 10:20 am - 01:00 pm

10:30 am - 11:30 am Coffee Break

01:00 pm - 02:15 pm Lunch

Exhibition Hall #660, Hall 2

Numascale: Experiences with Large Numascale Shared Memory Systems

10:20 am - 10:40 am

Panasas: ActiveStor: Hybrid Scale-Out NAS Designed for HPC & Big Data

10:40 am - 11:00 am

Bright Computing: A Unified Management Solution for HPC and Hadoop Clusters

11:00 am - 11:20 am

Eurotech: Aurora Bricks, a Novel HPC Architecture

11:20 am - 11:40 am

Adaptive Computing: HPC, Cloud & Big Workflow: The Evolution of Big Data Analytics

11:40 am - 12:00 pm

T-Platforms: An Introduction of A-Class Multipetaflops Supercomputer Platform with Hot-Water Cooling

12:00 pm - 12:20 pm

Huawei: Flexible, Workload-Optimized, End-to-End HPC Solutions

12:20 pm - 12:40 pm

Toshiba: Flash Memory Basics for SSD Users

12:40 pm - 01:00 pm

BoF 17

June 25, 2014, 11:00 am - 12:00 pm

10:30 am - 11:30 am Coffee Break

Hall 4, CCL



■ Quantum Computing

June 25, 2014, 11:30 am - 01:00 pm

10:30 am - 11:30 am Coffee Break

01:00 pm - 02:15 pm Lunch

Hall 1, CCL

NASA Embarks on the Quantum Computing Path

11:30 am - 12:00 pm

Benchmark Experiments with the D-Wave Two Quantum Annealer

12:00 pm - 12:30 pm

Computing with the D-Wave Processor at USC: Quantumness Tests & the Road Toward Applications

12:30 pm - 01:00 pm

■ Real Life Applications

June 25, 2014, 11:30 am - 01:00 pm

10:30 am - 11:30 am Coffee Break

01:00 pm - 02:15 pm Lunch

Hall 2, CCL

HPC for Oil & Gas Exploration: Performance & Usability

11:30 am - 11:50 am

The Application of HPC Solutions from the ExaScience Life Lab in Drug Discovery at Janssen

11:50 am - 12:10 pm

HPC at Airbus

12:10 pm - 12:30 pm

Real-Time Design Validation & Realistic Animation HPC Is Transforming the Business of 3D Visualisation with Autodesk VRED

12:30 pm - 12:45 pm

Next Generation Sequencing: Using High Performance Computing Best Practices to Enable the Genomics Pipeline & Integrate with the Downstream Analytics

12:45 pm - 01:00 pm



■ Research Papers 06

Co-Design

June 25, 2014, 11:30 am - 01:00 pm

10:30 am - 11:30 am Coffee Break

01:00 pm - 02:15 pm Lunch

Hall 3, CCL

SADDLE: A Modular Design Automation Framework for Cluster Supercomputers & Data Centres

11:30 am - 12:00 pm

Designing MPI Library with Dynamic Connected Transport (DCT) of InfiniBand: Early Experiences

12:00 pm - 12:30 pm

Tofu Interconnect 2: System-on-Chip Integration of High-Performance Interconnect

12:30 pm - 12:45 pm

Real-Time Olivary Neuron Simulations On Dataflow Computing Machines

12:45 pm - 01:00 pm

■ Advanced Re-Engineering of HPC Applications

June 25, 2014, 11:30 am - 01:00 pm

10:30 am - 11:30 am Coffee Break

01:00 pm - 02:15 pm Lunch

Hall 5, CCL

Challenges of Getting ECMWF's Weather Forecast Model (IFS) to the Exascale

11:30 am - 12:00 pm

Optimizing Haemodynamics Simulation for Supercomputers: Coalesced Communication & Weighted Decomposition

12:00 pm - 12:30 pm

Rotor Wake Simulation via Vortex Lattice Methods on a Workstation Using GPGPU Accelerators

12:30 pm - 01:00 pm

■ BoF 18

June 25, 2014, 12:00 pm - 01:00 pm

01:00 pm - 02:15 pm Lunch

Hall 4, CCL



Exhibitors Innovation Forum

June 25, 2014, 01:15 pm - 02:25 pm

01:00 pm - 02:15 pm Lunch

Exhibition Hall #660, Hall 2

Introduction

01:15 pm - 01:20 pm

AppliedMicro X-Gene 64b ARM Server SoC Power Efficient Density for HPC

01:20 pm - 01:30 pm

GS-R22PHL: The Ultimate HPC Block

01:30 pm - 01:40 pm

Kalray MPPA-256 Scalable Compute Cartridge

01:40 pm - 01:50 pm

Massively Parallel Simulation Software with the Open Source DUNE Framework

01:50 pm - 02:00 pm

DCCN Open Source Data Center Compute & Networking System

02:00 pm - 02:10 pm

Efficient 2-Phase (2-P-Cool) Cooling of Compute Nodes with Novec High-Tec Fluids

02:10 pm - 02:20 pm

Wrap-Up

02:20 pm - 02:25 pm

ISC Think Tank: Future of Supercomputing

June 25, 2014, 02:15 pm - 03:15 pm

01:00 pm - 02:15 pm Lunch

Hall 1, CCL

Solving Complex Problems

June 25, 2014, 02:15 pm - 03:15 pm

01:00 pm - 02:15 pm Lunch

Hall 2, CCL

Optimizing Industrial Flow Measurement Devices & Facilities Using DALCO HPC Cluster Systems

02:15 pm - 02:35 pm

Implementing a Viable HPC Cluster for Engineering

02:35 pm - 02:55 pm

From PC to Parallel: When Workstations Stop Working

02:55 pm - 03:15 pm



■ Research Papers 07

Parallel I/O

June 25, 2014, 02:15 pm - 04:15 pm

01:00 pm - 02:15 pm Lunch

04:15 pm - 05:15 pm Coffee Break

Hall 3, CCL

RADAR: Runtime Asymmetric Data-Access Driven Scientific Data Replication

02:15 pm - 02:45 pm

Fast Multi-Resolution Reads of Massive Simulation Datasets

02:45 pm - 03:15 pm

Rebasing I/O for Scientific Computing: Leveraging Storage Class Memory in an IBM BlueGene/Q Supercomputer

03:15 pm - 03:45 pm

Orthrus: A Framework for Implementing Efficient Collective I/O in Multicore Clusters

03:45 pm - 04:15 pm

■ BoF 19

June 25, 2014, 02:15 pm - 03:15 pm

01:00 pm - 02:15 pm Lunch

Hall 4, CCL

■ Performance Measurement Tools

June 25, 2014, 02:15 pm - 03:15 pm

01:00 pm - 02:15 pm Lunch

Hall 5, CCL

Score-P & Friends: Scalable & Versatile Parallel Performance Analysis with Periscope, Scalasca, TAU & Vampir

02:15 pm - 02:45 pm

Automated Performance Engineering with the Periscope Tuning Framework

02:45 pm - 03:15 pm



Exhibitor Forum 04

June 25, 2014, 02:40 pm - 06:00 pm

04:15 pm - 05:15 pm Coffee Break

Exhibition Hall #660, Hall 2

D-Wave Systems: Introduction to Quantum Computing

02:40 pm - 03:00 pm

NUDT: Towards Extreme Large Scale Computing

03:00 pm - 03:20 pm

Mellanox: Interconnect Your Future

03:20 pm - 03:40 pm

Gompute: Accelerate Innovation on the Gompute HPC Cloud Platform

03:40 pm - 04:00 pm

DataDirect Networks: Tackling IO Challenges at Scale

04:00 pm - 04:20 pm

ScaleMP: Creating a Flexible Workload Environment

04:20 pm - 04:40 pm

Verne Global: Data Security, Data Protection & Compliance The Example of Iceland

04:40 pm - 05:00 pm

RSC: Exascale Ready: RSC PetaStream Massively-Parallel Solution with an Industry-Record Ultra High Density of 1.2 PFLOPS per Rack with 1024x Intel® Xeon Phi

05:00 pm - 05:20 pm

NEC: NEC LX Series Update

05:20 pm - 05:40 pm

Boston: From Hand-Held Device to Datacentre Deployment How ARM & MIPS Could Change the HPC Landscape

05:40 pm - 06:00 pm

Chat: Whats the Big Deal about Big Data?

June 25, 2014, 03:15 pm - 04:15 pm

04:15 pm - 05:15 pm Coffee Break

Hall 1, CCL



Support Structures for HPC in Industry

June 25, 2014, 03:15 pm - 04:15 pm

04:15 pm - 05:15 pm Coffee Break

Hall 2, CCL

Support Concepts for Computer Aided Engineering (CAE)

03:15 pm - 03:35 pm

How to Turn SMEs into Happy HPC Users

03:35 pm - 03:55 pm

Life Sciences, Manufacturing & Financial Services Case Studies: Implementing Cloud for Better Science, Better Design & Better Business

03:55 pm - 04:15 pm

BoF 20

June 25, 2014, 03:15 pm - 04:15 pm

04:15 pm - 05:15 pm Coffee Break

Hall 4, CCL

HPC in Europe

June 25, 2014, 03:15 pm - 04:15 pm

04:15 pm - 05:15 pm Coffee Break

Hall 5, CCL

Reducing the TCO for Grand Scale Applications, Experience with SuperMUC

03:15 pm - 03:30 pm

Behaviour & Performance Insight: the Key towards Productivity & Efficiency

03:30 pm - 03:45 pm

Tuning System Architectures in the Exascale Scenarios

03:45 pm - 04:00 pm

Exascale Challenges of European Academic & Industrial Applications

04:00 pm - 04:15 pm

Wednesday Keynote

June 25, 2014, 05:15 pm - 06:00 pm

04:15 pm - 05:15 pm Coffee Break

Hall 1, CCL

HPC Achievement & Impact 2014 A Personal Perspective

HPCAC- ISC Awards

June 25, 2014, 06:00 pm - 06:30 pm

Hall 1, CCL

ISC BBQ

June 25, 2014, 06:30 pm - 09:30 pm

CCL Main Entrance, Others