


Towards Exascale HPC systems:
Co-design and Technology development
within the EuroEXA, ExaNeSt, ExaNoDe and EcoScale projects.

Thursday 31 May 2018, 14:30 - 18:30
European HPC Summit Week 2018, Ljubljana, Slovenia

Employing co-design to ensure technology developments that address the complete computing platform, the 4 projects address low-power, scalable and heterogeneous compute to meet the demands of Exascale computing. EuroEXA leads the System Software and Programming Environment activity, ExaNeSt develops innovative interconnects, storage, and packaging/cooling technologies. EcoScale focuses on integrating the acceleration capabilities of FPGAs. ExaNoDe develops heterogeneous, interposer-based, System-on-a-Chip (SoC) architectures and systems software and programming environments for compute node. This Workshop will present results from the four projects.

Session 1: Novel, Unified and Reconfigurable Accelerators: Applications, Tools, System SW and HW

- 14:30 **FPGA Acceleration of Weather Forecast Workloads in the EuroEXA Project Using Vivado HLS**
Mike Ashworth - University of Manchester
- 15:00 **Virtualization technologies in modern HPC systems**
Radoslav Dimitrov, Kevin Pouget - Virtual Open Systems
- 15:30 **Resource Elastic Scheduling for FPGAs using OpenCL**
Dirk Koch - University of Manchester
- 16:00 **Task-based parallelism for efficient cluster programming**
Paul Carpenter, Babis Chalias - BSC
- 16:30  **Coffee break**

Session 2: EuroEXA, ExaNeSt, ExaNoDe and EcoScale: System Prototypes and HW developments

- 17:00 **Reliable Communication in Networks of FPGAs**
Joshua Lant - University of Manchester
- 17:30 **A Flexible & Efficient Shared Memory Abstraction with Minimal HW Assistance**
Nikolaos D. Kallimanis - FORTH-ICS
- 18:00 **Odd-ECC: On-demand DRAM Error Correcting Codes**
Ioannis Sourdis - Chalmers
- 18:30 End of workshop

Registration <http://www.eiseverywhere.com/europeanhpsummitweek18>

Organizing Committee:

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