



TERATEC 2014 Forum

JULY 1 & 2, 2014 - ECOLE POLYTECHNIQUE - 91 PALAISEAU - 9th EDITION

THE INTERNATIONAL MEETING FOR SIMULATION AND HIGH PERFORMANCE COMPUTING

Simulation and high performance computing, major competitiveness issues

High performance digital design and simulation make a key contribution to innovation for all industry and service sectors and to increase the global quality of their products and their capacity for innovation. Today, these technologies are accessible also to SMEs, in particular thanks to "SaaS" offers.

TheTERATEC Forum, for its 9th edition next July, will focus on the diversity of digital simulation and high performance computing usages, in many industry segments, and particularly, their adoption in SMEs: plenary sessions, a program of technical and application workshops, an exhibition showcasing hardware, software and services, will illustrate, during 2 days, the latest evolutions of the field.

■ **THE PLENARY SESSIONS on Tuesday, July 1st**, will report on the growing impact of HPC in many fields of industry and research and its role in major scientific and technological challenges. This day, which will include presentations by officials of Airbus, of the European platform ETP4HPC, of Project Square Kilometre Array (SKA) of HPC UberCloud Experiment of DISTENE, will be marked by the presence of Mr. Arnaud Montebourg, Minister of Economy, Industrial Renewal and Digital Development and will be the occasion of a presentation of the Supercomputing Plan, a part of the 34 conquest plans for the French Industry Renewal announced by the French government in September 2013.

■ **THE 8 WORKSHOPS on Wednesday July 2nd**, "technology" or "usage" oriented, will be conducted by the main market players and recognized experts who will review emerging technologies and new areas of application of HPC.

Technology-oriented workshops:

- **HPC & Big data applications and solution architectures: evolution and convergence**
New perspectives on state-of-the-art integrated solutions based on new workflows, storage and file systems for high capacity, complete platforms and innovative software solutions for deep insight into large volume of complex data.
- **Complex Systems Numerical Design and Optimization : state-of-the-art and challenges**
Focus on the major obstacles to the optimized design: Key locks and condition of the associated methods to remove the art.
- **Scientific Computing & Open Source: industrial practices for open source software:**
Based on testimonials from users and providers of solutions, this workshop will offer a broad overview of open source practices in industrial fields such as space, aeronautics, energy, medicine, and microelectronics.
- **HPC & Big Data – software components and tools**
This session will provide an update on the state of the art and prospects for power and energy optimization, efficient programming and run-time execution, resilience and fault-tolerance.

Usage-oriented workshops:

- **Material simulation: new materials, usage, and durability**
Because of the number of degrees of freedom required to describe them (quantum, atoms, molecules, surface area, impurities of all kinds), materials are heavy consumers of computing power. This is why adapting code to new-generation (exascale) machines is one challenge for the future

- **Digital technologies for plant**

The subject of this workshop is to present the issues and problems related to challenge and issues related to plant, tools and methods for simulation of plant growth and decision tools, processing technologies for imagery data and major applications: Seeds and food processing.

- **HPC and Healthcare: From therapeutic research to personalized medicine**

The field of healthcare is no stranger to progress in modeling and computing technologies, although they are more common in other more industrial sectors of the economy. Thanks to the increased capacity of supercomputers, we are now able to model more physico-chemical and physiological phenomena, which will eventually allow us to provide increasingly personalized medical care.

- **Modeling and simulating urban systems**

As a result, developing software tools for modeling and simulation, as well as for governing and managing urban systems, creates an opportunity to analyze, simulate, and optimize the way urban systems work as a whole and to enable city stakeholders (elected officials, residents, and companies) to make enlightened decisions.

■ **THE EXHIBITION, on July 1st & 2nd** will bring together key players in HPC: Systems manufacturers and software vendors, integrators and distributors, service providers, academic and laboratory researchers, public and private sector developers will present their latest HPC innovations.

■ ACTIVEON ■ ALINEOS ■ ALLINEA SOFTWARE ■ ALTAIR ENGINEERING ■ AMD ■ ANSYS France ■ AS+ GROUPE EOLEN ■ BULL ■ BUREAU 14 ■ CAPS ENTREPRISE ■ CARRI SYSTEMS ■ CEA ■ CLUSTERVISION ■ COMSOL France ■ CRAY COMPUTER ■ CS SYSTEMES D'INFORMATION ■ DATADIRECT NETWORKS ■ DELL ■ EMG2 / BITTWARE ■ ENGINSOFT FRANCE ■ ESI GROUP ■ ETP4HPC ■ EUROTECH ■ EXASCALE COMPUTING RESEARCH LAB ■ EXTREME NETWORKS ■ FUJITSU ■ GENCI ■ HEWLETT PACKARD ■ IBM ■ IFP ENERGIES NOUVELLES ■ INRIA ■ INTEL ■ KALRAY ■ MATHWORKS ■ METASCALE ■ NICE ■ NOESIS ■ NVIDIA ■ OPENSIDES ■ OXALYA OVH ■ PANASAS ■ PEPINIERE TERATEC ■ QUANTUM ■ ROGUE WAVE SOFTWARE ■ SCILAB ENTERPRISES ■ SGI ■ SILKAN ■ SOGETI HIGH TECH ■ SYSFERA ■ SYSTEMATIC ■ TOTALINUX ■ TRANSTEC ■ UNIVERSITAT POLITECNICA DE VALENCIA ■ XYRATEX

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July 1st and 2nd, 2014 - Ecole Polytechnique, Palaiseau, France

To find out more on TERATEC Forum

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