

## Training in January and February

These are the upcoming 4 training courses:

### **Industry Focused PATC: Petaflop System Administration; MareNostrum III**

**Dates:** Monday, 27 January, 2014 - 09:00 to Tuesday, 28 January, 2014 - 13:00

**Objectives:** To explain the different components that MareNostrum III is composed, which were the design decisions taken and why.

To explain how the system administration is taken in this Petaflop system.

**Learning Outcomes:** The students will learn how MareNostrum III is organized and how it works. This can have some insights and ideas about how to manage clusters of thousands of nodes in a HPC or no-HPC environment.

For registration please follow the link: <http://events.prace-ri.eu/confRegistrationFormDisplay.py/display?confId=208>

Further details can be found at: <http://www.bsc.es/marenostrom-support-services/hpc-education-and-training/patc-training/27-28-jan-2014-ipatc-system>

### **PATC Course: HPC-based simulations, Engineering and Environment**

**Dates:** Wednesday, 5 February, 2014 - 09:00 to Friday, 7 February, 2014 - 18:00

**Objectives:** The objective of this course is to show some computational tools able to model complex engineering problems. Specifically, three tools developed by BSC will be showed in parallel sessions:

**ALYA:** to simulate complex multiphysic engineering problems.

**FALL3D:** to simulate volcanic dust dispersion.

**PANDORA:** to develop Agent Based Models using HPC platforms.

**Learning Outcomes:** The students who finish this course will be able to use these computational tools in real engineering problems

For registration please follow the link: <http://events.prace-ri.eu/confRegistrationFormDisplay.py/display?confId=205>

Further details can be found at: <http://www.bsc.es/marenostrum-support-services/hpc-events-trainings/prace-trainings/6-8-feb-patc-engineering>

As part of the PRACE Advanced Training Centres program at BSC and in cooperation with the Virtual Institute for High Productivity Supercomputing (VI-HPS) we are offering the opportunity to attend the **13th VI-HPS Tuning Workshop, held in Barcelona from 10<sup>th</sup> to 14<sup>th</sup> February 2014**. The lectures will be given in English by renowned European specialists in the fields of Performance Analysis and Optimisation.

Course description: Large-scale HPC applications and computer systems often fail to deliver their full potential performance and are inhibited by a variety of scalability bottlenecks. The series of Tuning Workshops provide training in the use of a range of tools that are widely available on PRACE and other HPC computer systems. Following introductory hands-on exercises with each of the tools, course participants receive expert coaching applying the tools to their own application codes and suggestions for improvements.

For further details about the course please visit: <http://www.bsc.es/marenostrum-support-services/hpc-education-and-training/workshops-and-summer-schools-2013-2014/13th>

For registration follow the link: <http://events.prace-ri.eu/confRegistrationFormDisplay.py/display?confId=272>

VI-HPS website is: <http://www.vi-hps.org/training/tws/tw13.html>

## **Programming Distributed Computing Platforms with COMPSs**

**Date:** Thursday, 20 February, 2014 (All day)

**Reasoning:** Distributed computing platforms like clusters, grids and clouds pose a challenge on application developers due to different issues such as distributed storage systems, complex middleware, geographic distributions

**Outline:** COMPSs is a programming model which is able to exploit the inherent concurrency of sequential applications and execute them in a transparent manner to the application developer in distributed computing platform. This is achieved by annotating part of the codes as tasks, and building at execution a task-dependence graph based on the actual data used/consumed/produced by the tasks. The COMPSs runtime is able to schedule the tasks in the computing nodes and take into account facts like data locality and the different nature of the computing nodes in case of heterogeneous platforms. Additionally, recently COMPSs has been enhanced with the possibility of coordinating Web Services as part of the applications.

**For registration and further details please go to:** <http://www.bsc.es/marenostrum-support-services/hpc-education-and-training/workshops-and-summer-schools-2013-2014>

**All Courses do not charge fees. PLEASE BRING YOUR OWN LAPTOP.**

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