



Barcelona Supercomputing Center named CUDA Center of Excellence

Leading Computer Science Center recognized for its groundbreaking use and advancement of CUDA

Barcelona, Spain — Nov. 15, 2011 — Barcelona Supercomputing Center (BSC) in association with Universitat Politècnica de Catalunya. Barcelona Tech (UPC) has been awarded by NVIDIA as a CUDA Center of Excellence (CCOE). This announcement has been made today during the International Conference for High Performance Computing, Networking, Storage and Analysis (SC11) held in Seattle (USA) from November 11 – 18th.

BSC and UPC currently offer a number of courses covering CUDA architecture and parallel computing and became the first NVIDIA CUDA Research Center in Spain, in 2010. BSC/UPC Prof. Mateo Valero is Principal Investigator for the Center, and Prof. Nacho Navarro, is acting director of the actual BSC CUDA Research Center. Now as a CUDA Center of Excellence, BSC-CNS will utilize GPU computing equipment and grants provided by NVIDIA to support a growing number of research and academic programs.

For the next three years, BSC and UPC plans to build an Education Program on Parallel Programming using CUDA, to provide a cluster-aware programming environment for GPUs, to optimize multi-GPU runtime management with GMAC, to support GPU acceleration from the task-based StarSs programming model and its OmpSs implementation and to build a new GPU-based cluster prototype system to explore the potential of low-power GPU clusters as high-performance platforms. The first applications BSC will focus on will be Plasma 3D simulations on complex geometries, a cardiac simulator and elastic waves in seismic imaging.

“We feel honored to become a CUDA Center of Excellence and for sure this will strengthen even more the well settled collaboration with NVIDIA”, said **Mateo Valero**, BSC Director. “Our aim is that Barcelona becomes a hub for training in CUDA for scientists and faculty members from European academic and research institutions. ”

The CUDA Center of Excellence program recognizes, rewards and fosters collaboration with leading institutions at the forefront of parallel computing research. A world leader in Computer, Life and Earth sciences as well as computational applications in Science and eEngineering, BSC joins a network of 13 elite institutions worldwide that have demonstrated a unique vision for improving the technology and application of parallel computing, and are empowering academics and scientists to conduct world-changing research.

“BSC has been a pioneer in GPU computing providing CUDA classes for years already” said **Walter Mundt-Blum**, Vice President PSG EMEA. “We congratulate BSC for their dedication and hope that with this program they can furthermore expand their parallel computing education and research programs to larger numbers of researchers and students.”



BSC, a high-performance computing research center associated to the Universitat Politècnica de Catalunya/Barcelona Tech (UPC) in Barcelona (Spain), is the National Supercomputing Facility in Spain. BSC manages MareNostrum, one of the most powerful supercomputers in Europe, located at the Torre Girona chapel. It has also recently installed Spain's fastest compute cluster with 256 NVIDIA Tesla M2090 GPUs and an identical number of quad-core CPUs, delivering a peak performance of 186 TFlops. This new cluster doubles MareNostrum's computation capacity but consumes seven times less power and occupies 13 times less space. The combination of this new machine and the current MareNostrum system has tripled the supercomputing resources provided to the Spanish scientific community.

More information on the BSC CUDA Center of Excellence: visit the NVIDIA [CUDA Center of Excellence program page](#).

About Barcelona Supercomputing Center

The Barcelona Supercomputing Center (BSC, www.bsc.es) houses MareNostrum, one of the unique supercomputers in a renovated old chapel-style building. Its mission is to research, develop and manage information technology in order to facilitate scientific progress. With this objective, the center counts with research areas in Computer Sciences, Life Sciences, Earth Sciences and Computational Applications in Science and Engineering. In the context of this multi-disciplinary approach, the BSC has a large number of researchers and experts in HPC (High Performing Computing), which facilitate scientific progress together with state-of-the-art supercomputing resources. More than 350 people work at BSC on research and 100 of those are from outside Spain.

This Spanish multi-disciplinary supercomputing center was established by a consortium made up by the current Ministry of Science and Innovation (MICINN), by the Ministry of Economy and Knowledge of the local Government of Catalonia and by the Universitat Politècnica de Catalunya/Barcelona Tech (UPC) and is headed by Professor Mateo Valero.

In 2011, the BSC was recognized as a "Severo Ochoa Centre of Excellence". The goals of BSC are focused on scientific excellence in computing science. It houses the MareNostrum supercomputer, one of the most advanced supercomputers in the world. The first edition of the Severo Ochoa programme, run by the Ministry of Science and Innovation to identify and support research of excellence being carried out in Spain, has selected 8 research centres and units in Spain as being among the best in the world in their respective fields.

About NVIDIA

NVIDIA (NASDAQ: NVDA) awakened the world to computer graphics when it invented the GPU in 1999. Today, its processors power a broad range of products from smart phones to supercomputers. NVIDIA's mobile processors are used in cell phones, tablets and auto infotainment systems. PC gamers rely on GPUs to enjoy spectacularly immersive worlds. Professionals use them to create visual effects in movies and design everything from golf clubs to jumbo jets. And researchers utilize GPUs to advance the frontiers of science with high-performance computing. The company holds



more than 2,100 patents worldwide, including ones covering ideas essential to modern computing.
For more information, see www.nvidia.com.