

**The 2008 International Conference on High performance Computing & Simulation
(HPCS 2008)
June 3 - 6, 2008, Nicosia, Cyprus**

PLENARY SPEECH

e-Science Applications on Grids – The DEISA Success Story

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ABSTRACT

This presentation addresses the state-of-the-art in applications running on distributed, high performance and large scale computing Grids like DEISA, NAREGI, and TeraGrid. We will look into application modeling and simulation, design and use, and their impact on science. We will present selected compute and data intensive applications which have been ported to Grids recently, especially to the Distributed European Infrastructure for Supercomputing Applications (DEISA) which connects the 11 most powerful supercomputers in Europe into a supercomputing grid offering seamless, transparent and remote access to supercomputing cycles to every scientist in Europe. The presentation will include lessons learned and recommendations, and tries to answer specific questions like: Why do we need Grids and for which applications? Especially which applications benefit from Grids? What are some of the success stories so far? What are the benefits of Grids compared with monolithic HPC systems? How to port and/or develop applications for Grids?

SPEAKER BIOGRAPHY

Wolfgang Gentsch is Dissemination Advisor for the DEISA Distributed European Initiative for Supercomputing Applications. He is adjunct professor of computer science at Duke University in Durham, and visiting scientist at RENCI Renaissance Computing Institute at UNC Chapel Hill, both in North Carolina. From 2005 to 2007, he was the Chairman of the German D-Grid Initiative. Recently, he was Vice Chair of the e-Infrastructure Reflection Group e-IRG; Area Director of Major Grid Projects of the OGF Open Grid Forum Steering Group; and he is a member of the US President's Council of Advisors for Science and Technology (PCAST-NIT). Before, he was Managing Director of MCNC Grid and Data Center Services in North Carolina;

Sun's Senior Director of Grid Computing in Menlo Park, CA; President, CEO, and CTO of start-up companies Genias and Gridware, and professor of mathematics and computer science at the University of Applied Sciences in Regensburg, Germany. Wolfgang Gentsch studied mathematics and physics at the Technical Universities in Aachen and Darmstadt, Germany.