

## EGI: Building of a Future Pan-European Grid Infrastructure

*Dieter Kranzlmüller*

The European Grid Initiative (EGI) represents an effort to realize a sustainable grid infrastructure in Europe and beyond. Based on the requirements of the user communities and by combining the strength and views of the National Grid Initiatives (NGI), EGI is expected to deliver the next step towards a permanent and common grid infrastructure. The effort is currently driven by the EGI Design Study, an FP7 funded project defining the structure and functionality of the future EGI and providing support to the NGIs in their evolution. The goal is the setup of an organizational model, with the EGI Organization (EGI.org) as the glue between the national efforts, which provides seamless access to grid resources for all application domains.



## The DEISA European Supercomputing Ecosystem

*Wolfgang Gentzsch*

This talk presents an overview of the EU funded project DEISA, the Distributed European Infrastructure for Supercomputing Applications. The key role and aim of DEISA will be to deliver a turnkey operational solution for a future persistent European High Performance Computing ecosystem. Now, the EU FP7 DEISA2 project continues to support and further develop the distributed high performance computing infrastructure and its services. Activities and services relevant for applications enabling, operation, and technologies are continued and further enhanced, as these are indispensable for the effective support of computational sciences in the HPC area. The service provisioning model will be extended from one that supports single projects to one supporting virtual European communities. Collaborative activities will also be carried out with new European and other international initiatives.

## Grid Empowered Molecular and Material Science Simulations

*Antonio Lagana*

Molecular and material science is an elective field for computing grid applications. Due to its nanometer nature molecular and material science is able to account for most of the natural and technological structures and processes. For this reason it is an indispensable component of any realistic simulation. Grid empowered Molecular and Material science simulators are being implemented on the production grid of EGEE within the activities of the COMPCHEM virtual organization. They are articulated mainly in three blocks taking care respectively of the construction of an interaction bed built out of electronic structure calculations, the integration of motion equations to determine the time (or space) evolution of the system and of the statistical averaging of the calculated quantities to assemble observable properties. All these steps are being implemented on the computing grid using the appropriate EGEE middleware. The role of the COMPCHEM virtual organization is also evolving from a simple collector of users (who implement their own programs for personal usage) to a coordinator of cooperative work fostering the development of a specific grid community. Examples of the outcomes of all these activities will be illustrated.



## Grid computing for Earth Sciences

*Monique Petitdidier*

Earth Science (ES) community has a big potential to exploit nowadays grid infrastructures like EGEE due to their heavy computational simulations. Several members of ES community created a project called DEGREE (Dissemination and Exploitation of GRids in Earth science), which tries to help other ES application developers and users with using such infrastructures. DEGREE also seeks to address the barriers, which stand in the way of a wider uptake of the technology, such as perceived complexity of the middleware, insufficient support for important ES functions and vital additional services. The results will provide feedback to the GRID community and dissemination in the ES community will increase awareness of and involvement with GRID developments. This paper brings an overview of the DEGREE project and its objectives. Other environmental applications can benefit from the roadmap, one of the DEGREE project results.

## Preliminary program:

Monday	27.10.2008	13:00 – 13:30	Registration
		13:30 – 14:00	Opening session
		14:00 – 15:00	Invited lecture 1 <i>Dieter Kranzlmüller</i>
		15:00 – 16:00	Invited lecture 2 <i>Wolfgang Gentzsch</i>
		16:00 – 16:15	Coffee break
		16:15 – 17:15	Invited lecture 3 <i>Antonio Lagana</i>
		17:15 – 18:00	Invited lecture 4 <i>Monique Petitdidier</i>
	18:00	Reception	
Tuesday	28.10.2008	9:00 – 9:40	Invited lecture 5
		9:40 – 11:00	Session 1
		11:00 – 11:15	Coffee break
		11:15 – 12:35	Session 2
		12:35 – 13:30	Lunch
		13:30 – 14:10	Invited lecture 6
		14:10 – 15:30	Session 3
		15:30 – 15:45	Coffee break
		15:45 – 16:45	Session 4
		16:45 – 18:15	Tutorial: "P-GRADE"
Wednesday	29.10.2008	9:00 – 9:40	Invited lecture 7
		9:40 – 11:00	Session 5
		11:00 – 11:15	Coffee break
		11:15 – 11:30	Panel / Round table
		11:30 – 11:45	Consortium "SlovakGrid"
		11:45 – 12:00	Program committee meeting
		12:00	Closing ceremony
Wednesday	29.10.2008	11:15 – 13:00	Grid Tutorials
		13:00 – 13:30	Lunch
		13:30 – 16:00	Grid Tutorials

### Contact & info:

Institute of Informatics, Slovak Academy of Sciences  
Dúbravská cesta 9, 845 07 Bratislava, Slovakia  
Phone/Fax: +421 2 5477 1004  
e-mail: [conference.ui@sav.sk](mailto:conference.ui@sav.sk)



# 4<sup>th</sup> International Workshop on Grid Computing for Complex Problems GCCP 2008

October 27-29, 2008

Institute of Informatics, Slovak Academy of Sciences, Bratislava, Slovakia

Website: <http://conference.ui.sav.sk/gccp2008/>



The yearly meeting place of top researchers and practitioners in e-Science related to Grid Technologies, GCCP is one of the largest conferences in Slovakia in its area organized in a yearly basis, where many top researchers are regularly presenting their work.

During its previous 3 years of existence, 11 distinguished keynote speakers were invited to attend and share their knowledge, thus reinforcing GCCP quality.

The aim of the conference is to inform the wide professional public, special and scientific workers from industry, research institutions, Academy of Sciences, project and supplying organizations, and technical universities and high schools about the newest knowledge in the area of grid computing and to ensure exchange of their experience.

**We invite researchers and scientists interested in distributed high-performance computing to attend invited lectures given on Monday, October 27, 2008. Attendance is free of charge. Invited top European experts will present top European projects regarding usage of pan-European infrastructure for distributed high-performance computing.**

Attendance fee to a reception after the presentations: 500,-Sk on site payment (please register by e-mail [conference.ui@sav.sk](mailto:conference.ui@sav.sk) up to October 20, 2008).

