Preface

The Ninth **Cracow Grid Workshop** (CGW'09) was organized jointly by the Academic Computer Centre Cyfronet AGH, the Institute of Computer Science AGH, and the Institute of Nuclear Physics PAN. CGW'09 was held on the premises of the AGH Conference Center (U-2) from 12 to 14 October 2009.

The main objective of the Cracow Grid Workshops, initiated in 2001, is to support the community of researchers, developers, and practitioners who work in the fascinating field of e-Science, grid systems, and their applications. The Workshops address the following topics:

- e-Science, system-level science and collaborative applications,
- models, methods and tools for collaborative applications development,
- virtual laboratories and problem solving environments,
- knowledge in e-Science and grid systems,
- virtual organizations and security aspects,
- resource management and scheduling,
- monitoring and information management,
- software engineering aspects,
- industrial and social implications.

CGW'09, as the PL-Grid and the Central European Grid Consortium event, was an opportunity for overview of research in the main European and national grid projects. CGW'09 hosted the 3rd EGEE Computational Chemistry Workshop, and the Cracow PRACE Code Porting Workshop, organised just after CGW'09, architectures and programming techniques of the HLRS NEC and the IBM Blue Gene were presented.

For ACC Cyfronet AGH, CGW'09 also constituted part of its activity within the framework of PL-Grid, EGEE III, ViroLab, GREDIA, BalticGrid projects.

CGW'09 comprised keynote and invited lectures, poster sessions, oral presentations and a tutorial. About 130 participants from 20 countries took part in the Workshop.

The following keynote speakers with their lectures honoured the event:

- Frank Baetke, Global HPC Technology Program Manager Hewlett-Packard: *HPC, Grids and Clouds: Synergies and Challenges*,
- Peter Coveney, University College London Department of Chemistry, UK: *Distributed Computing at the Petascale*,
- Kamil Iskra, Argonne National Laboratory, USA: *System Software for Petascale and Beyond*;
- Karin Johansson, European Commission, Brussels, Belgium: *Infrastructures Use, Requirements and Prospects in ICT for Health Domain*,
- William E. Johnston, Lawrence Berkeley National Laboratory, USA: *Progress in Integrating Networks with Service Oriented Architectures / Grids: ESnet's Guaranteed Bandwidth Service*,
- Yannick Legre, International Relationship Director, MAAT and President of HealthGrid: *HealthGrid: an International Initiative to Serve the Virtual Physiological Human and Bio-Medical Communities*,

- Michael Schiffers, Ludwig-Maximilians-Universität, Germany: *Cloudifying Grids and Gridifying Clouds: A Plea for Co-Operating Clouds and Grids*,
- Domenico Talia, Università della Calabria and ICAR-CNR, Italy: *Data Mining and Knowledge Discovery Services in Grids*.

During CGW'09, the ViroLab project presented its scientific achievements at a dedicated session:

- P.M.A. Sloot: *Virolab HIV Decision Support: From Molecule to Man*,
- M. Bubak, T. Gubala, M. Malawski, B. Balis, K. Prymula: *The Virolab Virtual Laboratory*,
- A. De Luca, *VPE Virtual Patient Experiment Demonstration*.

The Virolab session was accompanied by a live demo of the Virolab environment for collaborative e-science applications (see `http://virolab.cyfronet.pl`).

The *UNICORE 6 system – usage and administration* tutorial was delivered by Krzysztof Benedyczak (ICM UW, Poland).

About 60 contributed papers accepted for presentation during the Workshop provided a very good overview of the research activity in the area of e-Science and Grid computing. Traditionally, at CGW, the preferable form of presentation is a poster. This time, the Best Poster Jury selected the following posters for awards:

- *Connecting Communities on the Meta-Scheduling Level: The DGSI Approach!* by G. Birkenheuer, A. Carlson, A. Fölling, M. Högqvist, A. Hoheisel, A. Papaspyrou, K. Rieger, B. Schott, and W. Ziegler,
- *Benchmarking the 3G-Bridge in the EDGeS Infrastructure* by N.R. Ivaki, D. Ferreira, and F. Araujo,
- *Scaling-up MATLAB Application in Desktop Grid for High-Performance Distributed Computing – Example of Image and Video Processing* by O. Baskova, O. Gatsenko, and Y. Gordienko.

The contributed papers were reviewed by the Steering Committee upon submission of abstracts, then again during their presentations at the event, and, finally, following submission of full versions. These papers give an overview of research activities in the following areas:

- Cloud Computing,
- Virtual Organisations,
- Monitoring: Tools and Methods,
- Virtual Laboratories and Workflow Systems,
- Grid Middleware,
- Applications,
- PL-Grid.

We are also indebted to all the members of the Workshop Secretariat (Zofia Mosurska, Maria Stawiarska, Milena Zając) and other colleagues from ACC Cyfronet AGH (Teresa Ozga, Mieczysław Pilipczuk and Andrzej Oziębło) for organizing the event. Special thanks go to Milena Zając for her hard work on preparation of the Proceedings for printing.

Finally, we kindly invite you to visit the Web page of the Cracow Grid Workshop (`http://www.cyfronet.krakow.pl/cgw09/`) to see the poster and oral presentations as well as the photo gallery and, of course, to participate in CGW'10 in October 2010.

<div align="right">Kraków, February 2010</div>

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