Preface

The Tenth **Cracow Grid Workshop** (CGW'10) was organized jointly by the Academic Computer Centre Cyfronet AGH, the Institute of Computer Science AGH, and the Institute of Nuclear Physics PAN. CGW'10 was held on the premises of the AGH Conference Center (U-2) from 11 to 13 October 2010.

This year we celebrated the 10th anniversary of this event. The main objective of the Cracow Grid Workshops, initiated in 2001, is to support the community of researchers, developers, and users who work in the fascinating field of e-Science, grid systems, and their applications. The Workshop addresses 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,
- distributed computing infrastructures (DCI), grids and clouds,
- knowledge in e-Science and DCI systems,
- virtual organizations and security aspects,
- resource management and scheduling,
- monitoring and information management,
- software engineering aspects,
- industrial and social implications.

CGW'10 was also the PL-Grid and the Central European Grid Consortium event, hence it was an opportunity for overview of research in the main European and national grid projects. For ACC Cyfronet AGH, CGW'10 also constituted part of its activity within the framework of UrbanFlood, gSLM, MAPPER, and EGI-InSPIRE projects.

CGW'10 comprised keynote and invited lectures, poster sessions, oral presentations and a tutorial. About 110 participants from 16 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: *Standards-Based Energy-Efficient Grid-Resources: Implementations and Solutions*,
- Kyriakos Baxevanidis, European Commission, Brussels, Belgium: *e-Science: A Central Choice for Sustainable Growth – European Experiences and Plans*,
- Ewa Deelman, University of Southern California, Los Angeles, USA: *Scientific Workflows and Cloud Computing*,
- Ad Emmen, AlmereGrid and EnterTheGrid, The Netherlands: *Desktop Grids Take Their Place in the e-Science Distributed Computing Infrastructure*,
- Pawel Gepner, HPC Platform Architect EMEA – Intel Corporation: *The Reality of the Cloud – Intel Cloud Vision*,

- Cees de Laat, Informatics Institute, Universiteit van Amsterdam, The Netherlands: *e-Infrastructure Aware Topology Handling in the Global Lambda Integrated Facility*,
- Jarek Nabrzyski, University of Notre Dame, USA: *Sustainable Computing Models*,
- Syed Naqvi, CETIC, Belgium: *Security Challenges of Cloud Deployments – Lessons Learned from the RESERVOIR Project*,
- Steven Newhouse, EGI.eu and EGI-InSPIRE Project: *A Virtualised European Grid Infrastructure?*,
- Dana Petcu, Western University of Timisoara, Romania: *From Grid Computing towards Sky Computing. Case Study for Earth Observation.*

The training entitled *Learn how to Use and Build your Own Cloud Infrastructure using the RESERVOIR Framework* was delivered by Damien Hubaux, Stéphane Mouton, and Michael Van de Borne from the RESERVOIR project consortium.

About 40 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:

- *PL-Grid Enhancement for NGI Tools* by Marcin Radecki, Wojciech Ziajka, Maciej Pawlik, Tadeusz Szymocha, Marcin Szelc, Łukasz Flis, Małgorzata Tomanek, and Tomasz Szepieniec,
- *Simulation of City Population Dynamics and Sustainable Growth in Desktop Grid Distributed Computing Infrastructure* by Olexander Gatsenko, Olexandra Baskova, and Yuri Gordienko,
- *How to Use Google AppEngine for Free Computing* by Maciej Malawski, Maciej Kuźniar, Piotr Wójcik, and Marian Bubak.

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:

- e-Infrastructures,
- Service Level Management,
- Monitoring: Tools and Methods,
- Applications.

We are indebted to all the members of the Workshop Secretariat (Zofia Mosurska, Maria Stawiarska, Milena Zając) and other colleagues from ACC Cyfronet AGH (Teresa Ozga, Angelika Zaleska-Walterbach, 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.

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Finally, we kindly invite you to visit the Web page of the Cracow Grid Workshop (`www.cyfronet.krakow.pl/cgw10/`) to see the poster and oral presentations as well as the photo gallery. We would like to invite you to present your new results of research at the CGW'11 in November 2011 (`www.cyfronet.krakow.pl/cgw11/`).

Kraków, March 2011

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