

IEEE eScience2011 Workshop on “Computing Advances in Life Sciences”

Description

Computationally intensive simulations and processing of large data sets have become a necessity in Life Science research. Full utilization of the available computing platforms has increased the demand for software optimized for performance, scalability and high-throughput. The workshop will bring together leading researchers to share their experiences in software development across all Life Science fields such as biology, biophysics, biochemistry, ecology, medicine, medical imaging, neuroscience, pharmacology and systems biology. The focus will be on discussions regarding methods, algorithms and frameworks for exploiting a wide spectrum of hardware resources such as clusters, grids and clouds; many-core and hybrid systems; GPGPUs, FPGAs and other non-traditional architectures.

The workshop is part of the eScience2011 conference (www.escience2011.org, December 5-8, Stockholm). It is organized by the EU funded project ScalaLife and the HealthGrid association which are establishing community structures for provision of support to various aspects on computing in Life Sciences.

Call for papers

Topics of interests include (but are not limited to):

- Multicore/manycore architectures in life science applications
- GPU support for life science applications
- Cluster, Grid and Cloud Computing in the life sciences
- Security of computing environments for the life sciences
- Privacy in environments for the life sciences
- Parallelization of compute- or data-intensive tasks in the life sciences
- Data handling, integration and visualization in the life sciences
- Distributed infrastructures for life science applications
- Programming paradigms for computing in the life sciences
- Tools and programming environments supporting computing in the life sciences
- Scheduling in computing environments for life science applications
- Workflow management and remote collaboration in the life sciences
- System level support for computing in the life sciences
- Fault-tolerance of distributed life science applications
- Scalability of infrastructures and applications in life science applications

Organizing Committee

Rossen Apostolov, KTH Royal Institute of Technology, Sweden

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Yannick Legré, HealthGrid Initiative, France

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Organizing projects

ScalaLife - Scalable Software Services for Life Science: www.scalalife.eu

HealthGrid - Human Grid Initiative: www.healthgrid.org

Program Committee [preliminary]

Hans Agren, KTH Royal Institute of Technology, Sweden
Lilit Axner, KTH Royal Institute of Technology, Sweden
Mihai Duta, Oxford eScience Research Center, UK
Sascha Fahl, University of Hannover, Germany
Jose Luis Gelpi, Barcelona Supercomputing Centre, Spain
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Modesto Orozco, Institute for Research in Biomedicine, Spain
Helmut Satzger, Leibniz-Rechenzentrum, Germany
Daniela Skrowny, University of Göttingen, Germany

Important dates

Full Papers Due:	July 1st, 2011
Author Notifications:	August 17th, 2011
Presentation:	December 5th, 2011

Submission guidelines

Authors are invited to submit papers with unpublished, original work of not more than 8 pages of double column text using single spaced 10 point size on 8.5 x 11 inch pages, as per IEEE 8.5 x 11 manuscript guidelines. The proceedings will be published by the IEEE Computer Society Press, USA and will be made available online through the IEEE Digital Library. Templates are available from here: <http://www.ieee.org/web/publications/pubservices/confpub/AuthorTools/conferenceTemplates.html>.

Authors should submit a PDF or PostScript (level 2) file that will print on a PostScript printer. Papers conforming to the above guidelines can be submitted through the submissions page at <https://www.easychair.org/conferences/?conf=cals2011>.

NOTE: papers should **NOT** be submitted to the main e-Science 2011 paper submission system, as they will not be directed to the workshop organizers.
It is a requirement that at least one author of each accepted paper attends the conference.