



HiBi '09

1st International Workshop on
High Performance Computational Systems Biology
Trento, Italy, October 14th-16th, 2009.
<http://www.cosbi.eu/hibi09/>

SECOND CALL FOR PAPERS

The HiBi (**H**igh performance computational systems **B**iology) workshop establishes a forum to link researchers in the areas of parallel computing and computational systems biology.

One of the main limitations in managing models of biological systems comes from the fundamental difference between the high parallelism evident in biochemical reactions and the sequential environments employed for the analysis of these reactions. Such limitations affect all varieties of continuous, deterministic, discrete and stochastic models; undermining the applicability of simulation techniques and analysis of biological models.

The goal of HiBi is therefore to bring together researchers in the fields of high performance computing and computational systems biology. Experts from around the world will present their current work, discuss profound challenges, new ideas, results, applications and their experience relating to key aspects of high performance computing in biology.

Topics of interest include, but are not limited to

- Parallel stochastic simulation
- Biological and Numerical parallel computing
- Parallel and distributed architectures
- Emerging processing architectures (e.g., Cell processors, GPUs, mixed CPU-FPGA)
- Parallel model checking techniques
- Parallel parameters estimation
- Parallel algorithms for biological analysis
- Application of concurrency theory to biology
- Parallel visualization algorithms
- Web-services and Internet computing for e-Science
- Tools and applications

Submissions

HiBi welcomes submissions for

Research papers. Paper will be no more than 10 pages long. Additional material for the aid of the reviewers (e.g., proofs) has to be placed in a clearly marked appendix that is not included in the page limit. HiBi referees are at liberty to ignore appendices, and papers must be understandable without them. The paper will be presented as a regular talk.

Tool papers. Paper will be no more than 2 pages long. The paper should describe a new relevant tool together with its features, comparison with previous tools evaluation, or any other information that shows the novelty and the relevance of the tool. The paper will be presented as a tutorial in a specific conference session.

Poster abstracts. A one pages abstract has to present the poster. The abstract presents interesting recent results or novel ideas that are not quite ready for a regular full-length paper. A poster associated to the paper will be shown in the main conference room, and a dedicated session will be arranged.

All papers must be unpublished and must not be submitted for publication elsewhere.

Proceedings

All papers submitted to HiBi will be evaluated by at least three reviewers on the basis of their originality, technical quality, scientific or practical impact on the field, and adequacy of references. Submissions must be in English.

All accepted papers (i.e., research, tool, and poster) will appear in the Conference Proceedings published by the **IEEE Computing Society Press**, and must be presented at the conference by one of the authors.

Papers will need to be in **8.5" x 11"**, **Two-Column Format**. Formatting instructions and templates can be obtained from the IEEE's Conference Publishing Service. Authors should prepare an Adobe Acrobat PDF version of their papers and submit it together with any other source files. Submission of papers to HiBi09 will be done through the EasyChair conference system.

Submissions not adhering to the specified format and length may be rejected immediately, without review.

Special Issues and Prizes

HiBi strongly encourages students participation. Two students awards will be available:

- **TCSIM Best Student Research Paper Award**
- **SERSC Best Student Tool Paper Award**

HiBi also works to spread relevant results. Two special issues will be arranged.

- **Briefings in Bionformatics:** a selection of best research papers will be considered for a special issue of Briefings in Bioinformatics
- **SERSC Journal:** a selection of best posters will be invited to submit an extended abstract to **International Journal of Advanced Science and Technology** or to **International Journal of Bio-Science and Bio-Technology** (depending on the submissions)

Important Dates

- April 24th, 2009: submission of abstract
- May 1st, 2009: submission of paper
- June 23rd, 2009: notification of paper acceptance
- July 1st, 2009: submission of poster abstract
- July 15th, 2009: revised version of paper due
- July 31st, 2009: early registration to workshop deadline

Program Committee

- Tommaso Mazza, CoSBI, Italy (chair)
- Mateo Valero, Technical University of Catalonia, Spain (co-chair)
- Yutaka Akiyama, Tokyo Institute of Technology, Japan
- Paolo Ballarini, CoSBI, Italy
- Gianfranco Balbo, Università di Torino, Italy
- Luboš Brim, Masaryk University, Czech Republic
- Kevin Burrage, University of Oxford, UK
- Hidde De Jong, INRIA Rhône-Alpes, France
- François Fages, INRIA Paris-Rochuencourt, France
- Fabrizio Gagliardi, Microsoft Research Cambridge, UK
- Martin Leucker, Technische Universität München, Germany
- Gethin Norman, Oxford University Computing Laboratory, UK
- Dave Parker, Oxford University Computing Laboratory, UK
- Davide Prandi, CoSBI, Italy
- Assaf Schuster, Israel Institute of Technology, Israel
- Koichi Takahashi, RIKEN, Japan
- David Torrents Arenales, Barcelona Supercomputing Center, Spain
- Adelinde Uhrmacher, University of Rostock, Germany