CALL FOR PAPERS

4th International Workshop on High Performance Computational Biology HiCOMB 2005

April 4, 2005, Denver, Colorado

www.hicomb.org

Important Dates:

Submissions Due:	November 15, 2004
Notification:	December 15, 2004
Final Paper Due:	January 21, 2005
Workshop:	April 4, 2005

Location:

Omni Interlocken Resort
Denver, Colorado
co-located with the International Parallel & Distributed Processing Symposium (IPDPS)

Workshop Co-Chairs:

Srinivas Aluru (Iowa State U.)
David A. Bader (U. New Mexico)

Program Chair:

Nancy M. Amato
Parasol Laboratory
Dept. of Computer Science
Texas A&M University
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Program Committee:

Frank Dehne (Griffith U.)
Ken Dill (UCSF)
Roland Dunbrack (Fox Chase Cancer Ctr.)
Guang Gao (U. Delaware)
Atilla Gursoy (Koc U.)
Bruce Hendrickson (Sandia Nat. Lab.)
Sorin Istrail (Celera)
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Jose Moreira (IBM T.J. Watson)
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Lawrence Rauchwerger (Texas A&M)
John Reif (Duke U.)
Joel Saltz (Ohio State U.)
Marc Snir (UIUC)
Siang Wun Song (U. Sao Paulo)
Michael Thorpe (Arizona State U.)
Jerry Tsai (Texas A&M)
Tiffani Williams (Radcliffe Inst. Adv. Study)

Computational Biology is fast emerging as an important discipline for academic research and industrial application. The large size of biological data sets, inherent complexity of biological problems and the ability to deal with error-prone data all result in large run-time and memory requirements. The goal of this workshop is to provide a forum for discussion of latest research in developing high-performance computing solutions to problems arising from molecular biology. We are especially interested in parallel algorithms, memory-efficient algorithms, large scale data mining techniques, and design of high-performance software. The workshop will feature contributed papers as well as invited talks from reputed researchers in the field.

Topics of interest include but are not limited to:

- Bioinformatic databases
- Computational genomics
- Computational proteomics
- DNA assembly, clustering and mapping
- Gene expression and microarrays
- Gene identification and annotation
- Parallel algorithms for biological analysis
- Parallel architectures for biological applications
- Molecular evolution
- Molecular sequence analysis
- Phylogeny reconstruction algorithms
- Protein structure prediction and modeling
- String data structures and algorithms

Submission Guidelines:

Papers reporting on original research (both theoretical and experimental) in all areas of bioinformatics and computational biology are sought. Surveys of important recent results and directions are also welcome. To submit a paper, send a postscript or PDF copy of the paper by email to the workshop's Program Chair, Prof. Nancy Amato `<amato@cs.tamu.edu>`. The paper should not exceed 12 single-spaced pages (US Letter or A4 size) in 11pt font or larger. All papers will be reviewed. IEEE CS Press will publish the IPDPS symposium and workshop abstracts as a printed volume. The complete symposium and workshop proceedings will also be published by IEEE CS Press on CD-ROM and will also be available in the IEEE Digital Library.

Authors of selected papers from the workshop will be invited to submit extended versions of their papers for publication in a special issue of IEEE Transactions on Parallel and Distributed Systems on High-Performance Computational Biology.