

11th IEEE International Workshop on High Performance Computational Biology

HiCOMB 2012

May 21, 2012

Regal Shanghai East Asia Hotel
Shanghai, China

in conjunction with the 26th International Parallel and Distributed Processing Symposium

Message from the Workshop Chairs

Welcome to the 11th IEEE International Workshop on High Performance Computational Biology (HiCOMB). The interdisciplinary field of computational biology and bioinformatics is at the verge of several exciting possibilities owing to a rapid introduction of many disruptive experimental technologies to procure data. The resulting preponderance of data and the inherent complexity of processing have collectively placed an enormous demand on the computational methods that seek to model and analyze biological data — a demand that can be met only through a comprehensive embrace of high performance computing. The goal of this workshop is to provide a forum for discussion of the latest research in the design and development of high performance computing solutions to data- and compute-intensive problems arising from molecular biology and related life sciences.

The technical program was organized by Program Chairs Mark Clement and Quinn Snell from Brigham Young University along with twenty four members of a distinguished program committee. This year we received a total of twenty two submissions. Each paper was thoroughly reviewed by at least three members of the program committee. Based on the reviews, eleven papers were selected for presentation at the workshop and inclusion in the workshop proceedings. These papers cover a wide range of topics including next-generation sequence analysis, phylogenetics, RNA structure prediction and systems biology. The program also includes an invited keynote presentation by Lin Fang, Director of the Bioinformatics Center at BGI.

We are grateful to the program committee members for submitting timely and thorough reviews. We wish to thank all the authors who submitted manuscripts to this workshop, without which this high quality technical program would not have been possible. We plan to continue this workshop in the forthcoming years and look forward to your continuing support in this endeavor.

Mark Clement, Quinn Snell, Srinivas Aluru, and David A. Bader

Workshop Organizers

Workshop Co-Chairs:

Srinivas Aluru (Iowa State University)
David A. Bader (Georgia Institute of Technology)

Program Chairs:

Mark Clement (Brigham Young University)
Quinn Snell (Brigham Young University)

Program Committee:

- Nancy Amato - Texas A&M University
- Gagan Agrawal - Ohio State University
- Sanjukta Bhowmick - University of Nebraska at Omaha
- Hyrum D. Carroll - Middle Tennessee State University
- Umit V. Catalyurek - The Ohio State University
- Nathan L. Clement – University of Texas Austin
- Martin Herbordt - Boston University
- Jugal Kalita - University of Colorado, Colorado Springs
- Ananth Kalyanaraman - Washington State University
- Heshan Lin - Virginia Tech
- Scott Lloyd - Livermore Laboratories
- Kamesh Madduri - Pennsylvania State University
- David A. McClellan - Bigelow Laboratory for Ocean Sciences
- Harald Meier - Technische Universitdt Munchen
- Jared Price – Brigham Young University
- Bertil Schmidt -University of Mainz, Germany
- Katherine St. John - City University of New York
- Alexandros Stamatakis - Heidelberg Institute for Theoretical Studies
- Rick Stevens - Argonne National Laboratory
- Tjerk Straatsma- Pacific Northwest National Laboratory
- Kenneth Sundberg - Utah State University
- Andrey Tovchigrechko - J. Craig Venter Institute
- Chau-Wen Tseng - University of Maryland
- Tiffani L. Williams - Texas A&M University
- Jaroslav Zola- Iowa State University