

14th IEEE International Workshop on High Performance Computational Biology (HiCOMB 2015)

May 25, 2015

Hyderabad, India

in conjunction with the 29th International Parallel & Distributed Processing Symposium

Message from the Workshop Chairs

It is our privilege and honor to welcome you to the 14th IEEE International Workshop on High Performance Computational Biology. In the last years, the interdisciplinary fields of Computational Biology and Bioinformatics have received a lot of attention. Due to astonishing developments in sequencing technology, biological data are being produced in laboratories all over the world in a rate that is much higher than the speed needed to process them. The public repositories for genomic data, such as the one maintained in NCBI (*National Center for Biotechnology Information*), have attained exponential growth rates. In this scenario, successful biology research laboratories will be the ones that are able to analyze this huge amount of data, producing accurate results faster. High Performance Computing is being used to accelerate the production of results, bridging the gap between the generation of biological data and its analysis. Also, with High Performance Computing approaches, more elaborate methods can be executed in reasonable time. The goal of HiCOMB is to provide a forum to discuss the latest research developments in High Performance Computing solutions for Computational Biology and Bioinformatics problems.

The technical program committee of HiCOMB 2015 was organized by Program Chair Sanguthevar Rajasekaran from the University of Connecticut along with twenty members of a prestigious technical program committee. All submissions have received at least 2 reviews. Based on the reviews, five papers were selected for presentation at the workshop and inclusion in the proceedings. The keynote address was delivered by Ramesh Hariharan (CTO, Strand Life Sciences) on Genomic Imperfections: Diagnosing the Causes of Rare Diseases. In addition to the regular papers, the program includes four invited talks, from Mathieu Giraud (CRISTAL / INRIA Lille), Ananth Kalyanaraman (Washington State University), Michela Taufer (University of Delaware), and Denis Trystram (Grenoble Institute of Technology).

Many people have contributed to the success of this instance of HiCOMB. We are very grateful to the program committee members for submitting timely and thorough reviews. We also wish to thank all the authors, who worked hard to submit the best results of their research, without which this high quality program would not have been possible. Finally, we want to thank the keynote and invited speakers for their excellent talks. We plan to continue this workshop in the forthcoming years and look forward to your continuing support to this endeavor.

Sanguthevar Rajasekaran (Program Chair)

Srinivas Aluru (Co-General Chair)

David Bader (Co-General Chair)

Workshop Organizers

Workshop Co-Chairs:

Srinivas Aluru (Georgia Institute of Technology, USA)
David Bader (Georgia Institute of Technology, USA)

Program Chair:

Sanguthevar Rajasekaran (University of Connecticut)

Program Committee:

- Mario Cannataro, University Magna Graecia of Catanzaro, Italy
- Umit Catalyurek, Ohio State University, USA
- Mark Clement, Brigham Young University, USA
- Trilce Estrada, University of New Mexico, USA
- Mathieu Giraud, University of Lille, France
- Chun-Hsi Huang, University of Connecticut, USA
- Ananth Kalyanaraman, Washington State University, USA
- Marta Kasprzak, Poznan Institute of Technology, Poland
- Danny Krizanc, Wesleyan University, USA
- Ion Mandoiu, University of Connecticut, USA
- Folker Meyer, Argonne National Laboratory, USA
- Bertil Schmidt, Johannes Gutenberg University Mainz, Germany
- Quinn Snell, Brigham Young University, USA
- Alexandros Stamatakis, HITS gGmbH, Germany
- Shannon Steinfadt, Los Alamos National Laboratory
- Michela Taufer, University of Delaware, USA
- James Taylor, Emory University, USA
- Denis Trystram, Grenoble Institute of Technology, France
- Yoshiki Yamaguchi, University of Tsukuba, Japan
- Jaroslaw Zola, Rutgers University, USA