



HiCOMB 2015

**14th IEEE International Workshop on
High Performance Computational Biology**

May 25, 2015

Hyderabad, India

<http://www.hicomb.org>



HiCOMB 2015 Program

Monday, May 25, 2015

8:20am-
8:30am **Opening Remarks**

8:30am- **Plenary Session**
9:30am **Chair: Srinivas Aluru**

Ramesh Hariharan (*CTO, Strand Life Sciences*), keynote talk, *Genomic Imperfections: Diagnosing the Causes of Rare Diseases*

9:30am- **Coffee Break**
10:00am

10:00am- **Session 1**
12:00pm

Chair: *Ananth Kalyanaraman*

- (Invited) Mathieu Giraud, *Perfect Hashing Structures for Parallel Similarity Searches*
- Basavaraj Talawar, *A Crossbar Interconnection Network in DNA*
- (Invited) Denis Trystram, *How to handle GPUs for efficient implementation of bio-computing codes*
- G.M. Siddesh and K.G. Srinivasa, *Phylogenetic Analysis using MapReduce Programming Model*

12:00pm- **Lunch Break**
1:30pm

1:30pm- **Plenary Session**
2:30pm **Chair: Srinivas Aluru**

Geoffrey Fox (*Distinguished Professor, Indiana University Bloomington*), keynote talk, *Visualizing and Clustering Life Science Applications in Parallel*

2:30pm-
3:30pm

Session 2

Chair: *Michela Taufer*

- Solon P. Pissis and Ahmad Retha, *Generalised Implementation for Fixed-Length Approximate String Matching & Applications*
- Hanyu Jiang and Narayan Ganesan, *Fine-Grained Acceleration of HMMER 3.0 via Architecture-aware Optimization on Massively Parallel Processors*

3:30pm- **Coffee**
4:00pm **Break**

4:00pm-
5:30pm

Session 3

Chair: *Narayan Ganesan*

- (Invited) Michela Taufer, Boyu Zhang, Trilce Estrada, Pietro Cicotti, Pavan Balaji, *Enabling In-situ Analysis of Ligand Geometries in Drug Design*
- Wajeeta Lohana, Jawwad A. Shamsi, Tahir Q. Syed, and Farrukh Hasan, *Toward Context-Aware DNA Sequence Compression for Efficient Data Exchange*
- (Invited) Ananth Kalyanaraman, *Emerging Architectural Frameworks for Microbiome Applications*