

Bioinformatics

ACM *Special Interest Group*

SIGBioinformatics Record

Newsletter of the SIGBioinformatics
ACM Special Interest Group

ACM Special Interest Group in Bioinformatics, Computational Biology, Biomedical Informatics

ACM SIGBioinformatics

The Biology scene of recent years has been characterized by relevant improvements in biological research sustained by the introduction of novel technologies for investigations of molecular machineries. A huge amount of data coming from such experiments has been stored in novel databases; new algorithms for studying functions, structures, and interactions of proteins and genes have been introduced; and, almost all "omics" areas have been touched by new data sources with large repositories, new computational tools and applications powered by new algorithms.

The ACM Special Interest Group on Bioinformatics, Computational Biology, and Biomedical Informatics (SIGBioinformatics) has been instituted in 2010 with the aim of focusing on research on bioinformatics data management topics, roughly covered by the so-called biological and biomedical data, knowledge, and information management. The focus of SIGBioinformatics is to bridge computer science, mathematics, statistics with biology and biomedicine sharing research interests in the management of data related to life sciences. The mission of ACM SIGBioinformatics is to support advanced research, training, and outreach in Bioinformatics, Computational Biology, and Biomedical Informatics by stimulating interactions among researchers, educators and practitioners from related multi-disciplinary fields.

The 2010 ACM International Conference on Bioinformatics and Computational Biology (ACM BCB 2010) was the first ACM conference in the areas of bioinformatics, computational biology, and biomedical informatics. SIGBioinformatics has been instituted as a result of the overwhelming interest and enthusiasm expressed by the participants of the 2010 ACM BCB conference. The ACM BCB conference participants are a community of researchers with diverse and heterogeneous educational backgrounds and with immense interests in areas such as genomics, transcriptomics, proteomics, metabolomics, systems biology, tissue engineering, medical data and image analysis. The result in ACM BCB 2010 was three days of enthusiastic interactions among researchers in this broad community about the study, development and applications of computational techniques for managing data related to biological and biomedical informatics problems.

The SIGBioinformatics Newsletter is a publication of the ACM SIGBioinformatics community. The aim is to report on the activities conducted by the community, and to publish early notes on current progress in bioinformatics and biomedical informatics areas. In addition, special articles will be published highlighting important developments in the relevant fields.

Researchers are invited to join and participate in SIGBioinformatics activities. SIGBioinformatics membership is open to both ACM members and non-members.

This edition of the newsletter, after a short presentation of the aim of the SIG, contains the initial remark of the SIG chair, a short report of the ACM-BCB 2010. Then it outlines the 2011 conference and present the SIGBioinformatics officers.

Notes from the Chair

SIGBioinformatics Conferences

Report on ACM BCB 2010 Conference, by General co-Chair, Aidong Zhang

I am glad to report that we had a highly successful ACM BCB 2010 conference, in Niagara Falls, New York, USA, on Aug 2-4, 2010. There were 195 conference participants who came from all around the world. The registration revenue was \$106,866.00. In addition, the organizers of the conference were also awarded a US National Science Foundation grant of \$24,500 which covered two Keynote Speakers' travel costs, three

awards for the best paper, the best student paper, and the best poster, as well as 24 student travel support. In preparation for ACM BCB 2010, we received over 200 papers, workshop, and poster submissions. The conference program featured two keynote speakers, two tutorial lectures, two panel discussions, 37 regular papers, 27 short papers, 28 workshop papers, and 35 poster papers. In addition to the main conference, ACM BCB 2010 also featured four successful workshops: (1) Gene Networks and Pathway Analysis, (2) Graph Theoretic Approaches for Biological Network Analysis, (3) Immunoinformatics and Computational Immunology, and (4) Protein-protein Interaction Data: Management, Querying and Analysis.

The 2010 ACM BCB Conference achieved its goal of providing an interactive forum for professional researchers, practitioners, and graduate students from all around the world to discuss the latest advances in Bioinformatics, Computational Biology, and Biomedicine. New collaborations were formed during the conference between computer scientists and biologists. This annual flagship conference of ACM SIGBioinformatics is dedicated to the professional exchanges between scholars at all levels in the fields of computer science, computer engineering, applied computing, biology, medicine, biophysical sciences, and life sciences. We hope that it will soon become a premier conference with the highest citation-ratings in the fields of bioinformatics, computational biology, and biomedical informatics.

On August 4, 2010, the last day of ACM BCB 2010 conference, a panel was convened on ACM SIG Bioinformatics formation. Participants have expressed overwhelming support for the Special Interest Group in Bioinformatics, Computational Biology, and Biomedicine (SIGBioinformatics) with many volunteers expressing interest to get involved in the organization. This unwavering support and enthusiasm enabled us to assemble SIGBioinformatics officers and management with broad expertise from both computer science and biology sides. We are also very happy to report that we assembled a highly prestigious advisory board.

Call for Paper of the 2011 ACM Conference on Bioinformatics, Computational Biology and Biomedicine (ACM BCB 11)

August 1-3, 2011, Chicago, Illinois

<http://www.cse.buffalo.edu/ACM-BCB2011/>

The ACM Conference on Bioinformatics, Computational Biology and Biomedicine (ACM BCB) is the main conference of the newly formed ACM SIG Bioinformatics.

This is the second year of the ACM BCB Conference. Over 200 people attended ACM BCB 10, which took in Niagara Falls, NY on August 2-4, 2010.

ACM BCB 11 will be held at the Hilton Suites Chicago – Magnificent Mile from August 1-3. The conference welcomes high quality, original research papers. Papers should contain new algorithms or novel computational approaches in the broad areas of bioinformatics, computational biology and biomedicine. Papers that use existing computational techniques in new and interesting ways leading to novel biological discoveries are also welcome. Topics of interest include but are not limited to:

- Genomics: Structural, Functional, and Comparative
- Molecular Networks: Proteomics, Transcriptomics & Metabolomics
- Phylogenetics at Gene and Genome Levels
- Computational Systems Biology
- Immunoinformatics and Computational Immunology
- Computational Epidemiology
- Biomedical and Translational Informatics
- Databases, Knowledgebases & Ontologies for Bioinformatics
- Machine Learning, Image Analysis, Knowledge Representation and Inference
- Integration of Biomedical Data
- Text Mining and Natural Language Processing in Biomedicine
- Hardware and Software Infrastructure for Biomedicine

Important dates:

Electronic submission of full papers: March 1, 2011

Notification of acceptance: April 15, 2011

Camera-ready submission of accepted papers: May 1, 2011

Conference dates: August 1-3, 2011

Workshop proposal submission: February 1, 2011

Tutorial proposal submission: March 1, 2011

Poster submission: April 30, 2011

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Robert Grossman, University of Chicago

Program Chairs

Sun Kim, Indiana University Bloomington

Andrey Rzhetsky, University of Chicago

Wei Wang, University of North Carolina at Chapel Hill

SIGBioinformatics membership rates

Membership rates are:

- Professional: \$25.00
- Students: \$15.00
- Affiliate: \$25.00
- Subscribers: \$35.00

Professional and Student memberships refer to those who are already ACM Professional or Student members, adding a SIGBioinformatics membership. Affiliate refers to any non-ACM member who wishes to join SIGBioinformatics, only.

A subscriber is someone who subscribes to the SIGBioinformatics newsletter.

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Important Dates

Publication dates 30th January, 30th May, 30th , 30th September
Due dates 1st January, 1st May 1st September.