
**** SUBMISSION DEADLINE EXTENDED: January 19 ****

**6th INTERNATIONAL CONFERENCE ON ALGORITHMS FOR COMPUTATIONAL
BIOLOGY**

AlCoB 2019

Berkeley, California, USA

May 28-30, 2019

Co-organized by:

University of California, Berkeley

Institute for Research Development, Training and Advice, Brussels/London

<http://alcob2019.irdta.eu/>

AIMS:

AlCoB aims at promoting and displaying excellent research using string and graph algorithms and combinatorial optimization to deal with problems in biological sequence analysis, genome rearrangement, evolutionary trees, and structure prediction.

Previous events were held in Tarragona, Mexico City, Trujillo (Spain), Aveiro, and Hong Kong.

The conference will address several of the current challenges in computational biology by investigating algorithms aimed at:

- 1) assembling sequence reads into a complete genome,
- 2) identifying gene structures in the genome,
- 3) recognizing regulatory motifs,
- 4) aligning nucleotides and comparing genomes,
- 5) reconstructing regulatory networks of genes, and
- 6) inferring the evolutionary phylogeny of species.

Special focus will be put on methodology and significant room will be reserved to young scholars at the beginning of their career.

VENUE:

AlCoB 2019 will take place in Berkeley, home to the oldest campus in the highly prestigious University of California system. The venue will be:

University of California, Berkeley

SCOPE:

Topics of either theoretical or applied interest include, but are not limited to:

Sequence analysis
Sequence alignment
Sequence assembly
Genome rearrangement
Regulatory motif finding
Phylogeny reconstruction
Phylogeny comparison
Structure prediction
Compressive genomics
Proteomics: molecular pathways, interaction networks, mass spectrometry analysis
Transcriptomics: splicing variants, isoform inference and quantification, differential analysis
Next-generation sequencing: population genomics, metagenomics, metatranscriptomics, epigenomics
Genome CD architecture
Microbiome analysis
Cancer computational biology
Systems biology

STRUCTURE:

AlCoB 2019 will consist of:

invited lectures
peer-reviewed contributions
posters

INVITED SPEAKERS:

Igor Jurisica (University of Toronto), Explainable AI for Data-driven Medicine

Lior Pachter (California Institute of Technology), Algorithms for Single-cell Genomics

Pavel A. Pevzner (University of California, San Diego), Bioinformatics: A Servant or the Queen of Molecular Biology?

Teresa Przytycka (National Center for Biotechnology Information), Exploring Phenotypic Heterogeneity across Tissues and Conditions with Network-based Approaches

Tandy Warnow (University of Illinois, Urbana-Champaign), Advances in Mathematical Approaches to Constructing the Tree of Life

PROGRAMME COMMITTEE:

Can Alkan (Bilkent University, TR)

Stephen Altschul (National Center for Biotechnology Information, US)

Philipp Bucher (Swiss Institute for Experimental Cancer Research, CH)

Ken Chen (MD Anderson Cancer Center, US)

Keith A. Crandall (George Washington University, US)

Colin Dewey (University of Wisconsin, Madison, US)

Eytan Domany (Weizmann Institute of Science, IL)

Robert Edgar (independent, US)

Dmitrij Frishman (Technical University of Munich, DE)

Susumu Goto (Research Organization of Information and Systems, JP)

Desmond Higgins (University College Dublin, IE)

Karsten Hokamp (Trinity College Dublin, IE)

Ian Holmes (University of California, Berkeley, US)

Fereydoun Hormozdiari (University of California, Davis, US)

Daniel Huson (University of Tübingen, DE)

Martijn Huynen (Radboud University Medical Centre, NL)

Peter Karp (SRI International, US)

Kazutaka Katoh (Osaka University, JP)

Anders Krogh (University of Copenhagen, DK)

Doron Lancet (Weizmann Institute of Science, IL)

Alla Lapidus (Saint Petersburg State University, RU)

Ming Li (University of Waterloo, CA)

Gerard Manning (Genentech, US)

Carlos Martín-Vide (Rovira i Virgili University, ES, chair)

David H. Mathews (University of Rochester Medical Center, US)

Aaron McKenna (University of Washington, US)

Jason Rafe Miller (Shepherd University, US)

Aleksandar Milosavljevic (Baylor College of Medicine, US)

Yasukazu Nakamura (National Institute of Genetics, JP)

Zemin Ning (Wellcome Trust Sanger Institute, UK)

William Stafford Noble (University of Washington, US)

Sandra Orchard (European Bioinformatics Institute, UK)

William Pearson (University of Virginia, US)

Matteo Pellegrini (University of California, Los Angeles, US)

Mihaela Pertea (Johns Hopkins University, US)

Steve Rozen (Duke-NUS Medical School, SG)

David Sankoff (University of Ottawa, CA)

Russell Schwartz (Carnegie Mellon University, US)

Wing-Kin Sung (National University of Singapore, SG)

Alfonso Valencia (Barcelona Supercomputing Centre, ES)

Arndt von Haeseler (Center for Integrative Bioinformatics Vienna, AT)
Kai Wang (Children's Hospital of Philadelphia, US)

ORGANIZING COMMITTEE:

Ian Holmes (Berkeley, co-chair)
Sara Morales (Brussels)
Manuel Parra-Royón (Granada)
David Silva (London, co-chair)
Miguel A. Vega-Rodríguez (Cáceres)

SUBMISSIONS:

Authors are invited to submit non-anonymized papers in English presenting original and unpublished research. Papers should not exceed 12 single-spaced pages (all included) and should be prepared according to the standard format for Springer Verlag's LNCS series (see <http://www.springer.com/computer/lncs?SGWID=0-164-6-793341-0>).

Submissions have to be uploaded to:

<https://easychair.org/conferences/?conf=alcob2019>

PUBLICATIONS:

A volume of proceedings published by Springer in the LNCS/LNBI series will be available by the time of the conference.

A special issue of IEEE/ACM Transactions on Computational Biology and Bioinformatics (2017 JCR impact factor: 2.428) will be later published containing peer-reviewed substantially extended versions of some of the papers contributed to the conference. Submissions to it will be by invitation.

REGISTRATION:

The registration form can be found at:

<http://alcob2019.irdta.eu/Registration.php>

DEADLINES (all at 23:59 CET):

Paper submission: January 19, 2018 – EXTENDED –
Notification of paper acceptance or rejection: February 19, 2019
Final version of the paper for the LNCS/LNBI proceedings: February 26, 2019
Early registration: February 26, 2019
Late registration: May 14, 2019
Submission to the journal special issue: August 30, 2019

QUESTIONS AND FURTHER INFORMATION:

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University of California, Berkeley

IRDTA – Institute for Research Development, Training and Advice,
Brussels/London