
**7th-8th INTERNATIONAL CONFERENCE ON ALGORITHMS FOR
COMPUTATIONAL BIOLOGY**

AlCoB 2020 & 2021

Missoula, Montana, USA

June 7-11, 2021

Co-organized by:

Department of Computer Science
University of Montana

and

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

<https://irdta.eu/alcob2020-2021/>

* Extended submission deadline: January 25 *

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, phylogeny reconstruction, and structure prediction.

AlCoB 2020 & 2021 will merge the scheduled program for AlCoB 2020, which could not take place because of the Covid-19 crisis, with a new series of papers submitted on this occasion.

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

The conference will address several of the current challenges in computational biology, with topics including:

- 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 for scholars at the beginning of their career.

VENUE:

AlCoB 2020 & 2021 will take place in Missoula, Montana, a college town located in the heart of the Rocky Mountains, near Glacier National Park and Yellowstone National Park. The meeting will be hosted in the University Center, a few hundred feet from the base of Mount Sentinel.

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 2020 & 2021 will consist of:

invited lectures
peer-reviewed contributions
posters

KEYNOTE SPEAKERS:

Terry Gaasterland (University of California, San Diego), Genetic Risk of Disease through Genome Variation and Regulation of Transcription

Christine Orengo (University College London), Algorithms for Mining Massive Metagenome Repositories to Detect Novel Enzymes

Tamar Schlick (New York University), Folding Genes at Nucleosome Resolution

PROGRAM COMMITTEE:

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Matthew T. Weirauch (Cincinnati Children's Hospital, US)

Travis Wheeler (University of Montana, US)

Zohar Yakhini (Interdisciplinary Center, Herzliya, IL)

Shibu Yooseph (University of Central Florida, US)

ORGANIZING COMMITTEE:

Sara Morales (Brussels)
Manuel Parra-Royón (Granada)
David Silva (London, co-chair)
Miguel A. Vega-Rodríguez (Cáceres)
Travis Wheeler (Missoula, co-chair)

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>).

Upload submissions to:

<https://easychair.org/conferences/?conf=alcob20202021>

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 (2019 JCR impact factor: 2.85) 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:

<https://irdta.eu/alcob2020-2021/registration/>

DEADLINES (all at 23:59 CET):

Paper submission: January 25, 2021 – EXTENDED -
Notification of paper acceptance or rejection: February 15, 2021
Final version of the paper for the LNCS/LNBI proceedings: March 1st, 2021
Early registration: March 1st, 2021
Late registration: May 24, 2021
Submission to the journal special issue: September 11, 2021

QUESTIONS AND FURTHER INFORMATION:

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University of Montana

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