
**2nd INTERNATIONAL CONFERENCE ON ALGORITHMS FOR COMPUTATIONAL
BIOLOGY**

AlCoB 2015

Mexico City, Mexico

August 4-5, 2015

Organized by:

Centre for Complexity Sciences (C3)
School of Sciences
Institute for Research in Applied Mathematics and Systems (IIMAS)
Graduate Program in Computing Science and Engineering
National Autonomous University of Mexico

Research Group on Mathematical Linguistics (GRLMC)
Rovira i Virgili University

<http://grammars.grlmc.com/alcob2015/>

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.

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.

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

VENUE:

AlCoB 2015 will take place in Mexico City, the oldest capital city in the Americas and the largest Spanish-speaking city in the world. The venue will be the main campus of the National Autonomous University of Mexico.

SCOPE:

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

Exact sequence analysis
Approximate sequence analysis
Pairwise sequence alignment

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

STRUCTURE:

AlCoB 2015 will consist of:

invited lectures
peer-reviewed contributions

INVITED SPEAKERS:

Julio Collado-Vides (National Autonomous University of Mexico, Cuernavaca), From
Curation of Information to Knowledge Encoding

Gaston Gonnet (Swiss Federal Institute of Technology, Zurich), Human-Dog-Mouse,
Probably and Provable Non-trivial Evolution Close to the Root of the Mammalian Clade

Peter D. Karp (SRI International, Menlo Park), Algorithms for Metabolic Route Search and
Determination of Reaction Atom Mappings

PROGRAMME COMMITTEE:

Stephen Altschul (National Center for Biotechnology Information, Bethesda, USA)

Yurii Aulchenko (Russian Academy of Sciences, Novosibirsk, Russia)

Pierre Baldi (University of California, Irvine, USA)

Daniel G. Brown (University of Waterloo, Canada)

Yuehui Chen (University of Jinan, China)

Keith A. Crandall (George Washington University, Washington, USA)

Joseph Felsenstein (University of Washington, Seattle, USA)

Michael Galperin (National Center for Biotechnology Information, Bethesda, USA)

Susumu Goto (Kyoto University, Japan)

Igor Grigoriev (DOE Joint Genome Institute, Walnut Creek, USA)

Martien Groenen (Wageningen University, The Netherlands)

Yike Guo (Imperial College, London, UK)

Javier Herrero (University College London, UK)

Karsten Hokamp (Trinity College Dublin, Ireland)

Hsuan-Cheng Huang (National Yang-Ming University, Taipei, Taiwan)

Ian Korf (University of California, Davis, USA)

Nikos Kyrpides (DOE Joint Genome Institute, Walnut Creek, USA)

Mingyao Li (University of Pennsylvania, Philadelphia, USA)

Jun Liu (Harvard University, Cambridge, USA)

Rodrigo López (European Bioinformatics Institute, Hinxton, UK)
Andrei N. Lupas (Max Planck Institute for Developmental Biology, Tübingen, Germany)
B.S. Manjunath (University of California, Santa Barbara, USA)
Carlos Martín-Vide (chair, Rovira i Virgili University, Tarragona, Spain)
Tarjei Mikkelsen (Broad Institute, Cambridge, USA)
Henrik Nielsen (Technical University of Denmark, Lyngby, Denmark)
Zemin Ning (Wellcome Trust Sanger Institute, Hinxton, UK)
Christine Orengo (University College London, UK)
Modesto Orozco (Institute for Research in Biomedicine, Barcelona, Spain)
Christos A. Ouzounis (Centre for Research & Technology Hellas, Thessaloniki, Greece)
Manuel Peitsch (Philip Morris International R&D, Neuchâtel, Switzerland)
David A. Rosenblueth (National Autonomous University of Mexico, Mexico City, Mexico)
Julio Rozas (University of Barcelona, Spain)
Alessandro Sette (La Jolla Institute for Allergy and Immunology, USA)
Peter F. Stadler (University of Leipzig, Germany)
Guy Theraulaz (Paul Sabatier University, Toulouse, France)
Alfonso Valencia (Spanish National Cancer Research Centre, Madrid, Spain)
Kai Wang (University of Southern California, Los Angeles, USA)
Lusheng Wang (City University of Hong Kong, Hong Kong)
Zidong Wang (Brunel University, Uxbridge, UK)
Harel Weinstein (Cornell University, New York, USA)
Jennifer Wortman (Broad Institute, Cambridge, USA)
Jun Yu (Chinese Academy of Sciences, Beijing, China)
Mohammed J. Zaki (Rensselaer Polytechnic Institute, Troy, USA)
Louxin Zhang (National University of Singapore, Singapore)
Hongyu Zhao (Yale University, New Haven, USA)

ORGANIZING COMMITTEE:

Adrian Horia Dediu (Tarragona)
Francisco Hernández-Quiroz (Mexico City)
Carlos Martín-Vide (Tarragona, co-chair)
David A. Rosenblueth (Mexico City, co-chair)
Florentina Lilica Voicu (Tarragona)

SUBMISSIONS:

Authors are invited to submit non-anonymized papers in English presenting original and unpublished research. Papers should not exceed 12 single-spaced pages (including eventual appendices, references, proofs, etc.) 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://www.easychair.org/conferences/?conf=alcob2015>

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 the Journal of Computational Biology (Thomson Reuters 2013 impact factor: 1.670) 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://grammars.grlmc.com/alcob2015/Registration.php>

DEADLINES:

Paper submission: March 23, 2015 (23:59 CET) – EXTENDED –

Notification of paper acceptance or rejection: April 10, 2015

Final version of the paper for the LNCS/LNBI proceedings: April 19, 2015

Early registration: April 19, 2015

Late registration: July 21, 2015

Submission to the journal special issue: November 6, 2015

QUESTIONS AND FURTHER INFORMATION:

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