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***** SUBMISSION DEADLINE EXTENDED: February 18 *****

**5th INTERNATIONAL CONFERENCE ON ALGORITHMS FOR COMPUTATIONAL
BIOLOGY**

AlCoB 2018

Hong Kong

June 25-27, 2018

Co-organized by:

The Hong Kong Polytechnic University
Department of Computing

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

<http://grammars.grlmc.com/AlCoB2018/>

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), and Aveiro.

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 2018 will take place in Hong Kong, the city with the most skyscrapers in the world, one of the highest human development indexes, and the longest life expectancy. The venue will be:

M1603, Li Ka Shing Tower
The Hong Kong Polytechnic University
Hung Hom, Kowloon
Hong Kong

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, mass spectrometry analysis
Transcriptomics: splicing variants, isoform inference and quantification, differential analysis
Next-generation sequencing: population genomics, metagenomics, metatranscriptomics
Microbiome analysis
Systems biology

STRUCTURE:

AlCoB 2018 will consist of:

invited lectures
peer-reviewed contributions
posters

INVITED SPEAKERS:

Tatsuya Akutsu (Kyoto University), Algorithms for Analysis and Control of Boolean Networks

Bin Ma (University of Waterloo), De Novo Protein Sequencing with Mass Spectrometry and Its Medical Applications

Ben Raphael (Princeton University), Algorithms for Cancer Evolution

PROGRAMME COMMITTEE:

Josep Francesc Abril (University of Barcelona, ES)
Kees Albers (Radboud University Medical Centre, NL)
Emmanuel Barillot (Curie Institute, FR)
Philipp Bucher (Swiss Federal Institute of Technology Lausanne, CH)
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Julien Lagarde (Centre for Genomic Regulation, ES)
Gerton Lunter (University of Oxford, UK)
Ruibang Luo (Johns Hopkins University, US)
Bill Majoros (Duke University, US)
Carlos Martín-Vide (Rovira i Virgili University, ES, chair)
Huaiyu Mi (University of Southern California, US)
Ryan E. Mills (University of Michigan, US)
Kenta Nakai (University of Tokyo, JP)
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Russell Schwartz (Carnegie Mellon University, US)
Xinghua Shi (University of North Carolina at Charlotte, US)
Denis Shields (University College Dublin, IE)
Ilya Shmulevich (Institute for Systems Biology, US)
Thomas Sicheritz-Pontén (Technical University of Denmark, DK)
Steven Skiena (Stony Brook University, US)
Wing-Kin Sung (National University of Singapore, SG)
Weili Wu (The University of Texas at Dallas, US)
Wenzhong Xiao (Massachusetts General Hospital, US)
Shibu Yooseph (University of Central Florida, US)
Yaoqi Zhou (Griffith University, AU)

ORGANIZING COMMITTEE:

Jesper Jansson (Hong Kong, co-chair)
Konstantinos Mampentzidis (Hong Kong)
Carlos Martín-Vide (Tarragona, co-chair)
Manuel J. Parra-Royón (Granada)
Abdul Raheem (Hong Kong)
David Silva (London)
Sandhya T P (Hong Kong)
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=alcob2018>

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 (2016 JCR impact factor: 1.955) 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/AlCoB2018/Registration.php>

DEADLINES (all at 23:59 CET):

Paper submission: February 18, 2018 – EXTENDED –
Notification of paper acceptance or rejection: March 18, 2018
Final version of the paper for the LNCS/LNBI proceedings: March 28, 2018
Early registration: March 28, 2018
Late registration: June 11, 2018
Submission to the journal special issue: September 27, 2018

QUESTIONS AND FURTHER INFORMATION:

david.silva409 (at) yahoo.com

POSTAL ADDRESS:

AlCoB 2018
Research Group on Mathematical Linguistics (GRLMC)
Rovira i Virgili University
Av. Catalunya, 35
43002 Tarragona, Spain

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The Hong Kong Polytechnic University
Universitat Rovira i Virgili