INVITED SESSION SUMMARY

Title of Session: Bio-Inspired Computing and Bioinformatics

Name, Title and Affiliation of Chair:
Victor Mitrana, Full Professor, Phd, University of Bucharest, Bucharest, Romania
Co-Chair:
Andrei Paun, Full Professor, University of Bucharest and Senior Researcher, National Research Institute for Biological Sciences, Bucharest, Romania

Details of Session (including aim and scope):

Bio-inspired computing is a relatively new area of science which heavily relies on biology, computer science, and mathematics. It is mainly focused on the design of high-performance computational models inspired by phenomena in biochemistry, biology, genetics. These models inspired by the way in which nature "computes" are powerful tools to solve both hard theoretical problems as well as real-life problems.

Bioinformatics is an interdisciplinary field that links biological data with techniques from information processing, algorithms, statistics. The main goals of bioinformatics are: development of efficient algorithms for measuring sequence similarity, for information retrieval from biological databases, for extending experimental data by predictions.

Topics of either theoretical or applied interest include, but are not limited to:
- Bio-inspired computational models based on "in vitro" or "in vivo" molecular biology techniques
- Theoretical properties of bio-operations and applications
- DNA, molecular and membrane computing
- Modeling, designing and analysis of synthetic self-assembled systems
- Systems biology
- Identifying gene structures in the genome and recognizing regulatory motifs
- Computational methods in medicine and nanotechnology
- Network controllability algorithms in biology and medicine
- Algorithms for genomic distances by rearrangements
- Exact and approximate sequence analysis

Program Committee

Erzsébet Csuhaj-Varjú (Eötvös Loránd University, Hungary)
Sandra Gómez Canaval (Polytechnic University of Madrid, Spain)
Linqiang Pan (Huazhong University, China)
Mario de Jesús Pérez Jiménez (University of Seville, Spain)
Ion Petre (University of Turku, Finland)
Alfonso Rodríguez-Patón Aradas (Polytechnic University of Madrid, Spain)
Jose Sempere (Polytechnic University of Valencia, Spain)
György Vaszil (University of Debrecen, Hungary)

Main Contributing Researchers / Research Centres (tentative, if known at this stage):
Department of Information Systems, Polytechnic University of Madrid, Spain
Faculty of Mathematics and Computer Science, University of Bucharest, Romania
National Institute of Research and Development for Biological Sciences, Bucharest, Romania
Faculty of Informatics, Eötvös Loránd University, Budapest, Hungary
Turku Centre for Computer Science, Turku, Finland
Abo Akademi, Turku, Finland

Deadlines

Submission of papers**: ~~April 12, 2019~~ April 30, 2019 (Firm deadline)**
Notification of acceptance**: ~~May 6, 2019~~ May 18, 2019**
Final paper publication files**: June 3, 2019**

Website URL of Call for Papers (if any):

http://kes2019.kesinternational.org/cms/userfiles/is20.pdf

Email & Contact Details:
victor.mitrana@upm.es
apaun@fmi.unibuc.ro