15th International Conference on

Bioinformatics and Computational Biology (BICOB 2023)

PROGRAM

March 20, 2023

Sponsored by



International Society for Computers and Their Applications

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15th International Conference on **Bioinformatics and Computational Biology** (BICOB 2023)

SPONSOR

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Monday, March 20, 2023

All times are in US Central Daylight Time (CDT: UTC-05:00)

8:55 a.m. – 9:00 a.m. WELCOME By BICOB Organizers

Hisham Al-Mubaid, University of Houston-Clear Lake, USA

Oliver Eulenstein, Iowa State University, USA

Tamer Aldwairi, Temple University, USA

9:00 a.m. – 10:00 a.m. KEYNOTE SPEAKER

Dr. Thomas loerger Texas A&M University

TnSeq: Analysis and Applications of Sequencing Transposon insertion Mutant Libraries

Session Chair: Dr. Hisham Al-Mubaid, University of Houston-Clear Lake, USA

10:00 a.m. – 10:05 a.m. 5 MINUTE BREAK

SESSION TITLE: Cancer Research
Monday March 20, 10:05 a.m. – 11:35 a.m.
Session Chair: Oliver Eulenstein (Iowa State University, USA)

1. Uncovering the particularities of the dynamical interaction between cancer-related Epithelial-Mesenchymal Transition and the Mammalian Cell Cycle: a feedback-based Boolean networks interconnection approach

Luis Juárez-Ramiro (Superior Technological Institute of Teziutlán, Mexico), José Dávila-Velderrain (HumanTechnopole, Italy), Alberto Soria-López (Center for Research and Advanced Studies of the National Polytechnic Institute, Mexico), Elena R. Álvarez-Buylla (The National Autonomous University of Mexico, Mexico) and Juan Carlos Martínez-Garcia (Center for Research and Advanced Studies of the National Polytechnic Institute, Mexico)

- 2. Uncovering the role of mutations in Epithelial-to-Mesenchymal transition through computational analysis of the underlying gene regulatory network
 Jorge Enrique Narváez-Chávez (OracleGlobalMexico, Mexico), Elena R. Álvarez-Buylla (The National Autonomous University of Mexico, Mexico) and Juan Carlos Martínez-García (Center for Research and Advanced Studies of the National Polytechnic Institute, Mexico)
- 3. An Association Analysis of Breast Cancer with Carotenoids Samuel Neumann (University of Alberta, Canada) and Mohamad El-Hajj (MacEwan University, Canada)

11:35 a.m. - 11:40 a.m. 5 MINUTE BREAK

SESSION TITLE: Machine Learning in Bioinformatics I Monday March 20, 11:40 a.m. - 1:10 p.m. **SESSION 2** Session Chair: Tamer Aldwairi (Temple University, USA)

1. Transmembrane Protein Inter-Helical Residue Contacts Prediction Using Transductive **Support Vector Machines**

Bander Almalki, Liao Li and Aman Sawhney (University of Delaware, USA)

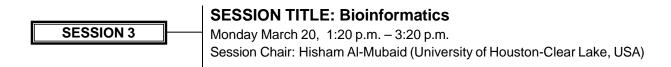
2. Classifying Protein Families with Learned Compressed Representations

Ramin Dehghanpoor, Fatemeh Afrasiabi, Charles Fogel, Tung Dao, Suman Gautam, Aanab Nehela, Ahmad Nehela, Daniel Haehn, and Nurit Haspel (University of Massachusetts, USA)

3. Biomarker discovery in multi-omics datasets using tensor decompositions; A comprehensive review

Farnoosh Koleini, Paul Gemperline and Nasseh Tabrizi (East Carolina University, Greenville, NC, USA)

1:10 p.m. – 1:20 p.m. **10 MINUTE BREAK**



1. Uncovering the interplay between hypertension and the inflammatory response for the patient affected by Covid 19 through mathematical modeling and computer-based analysis

Rosario Pacheco-Marin (The Center for Research and Advanced Studies of the National Polytechnic Institute, Mexico), Carolina Caballero-Cordero (The National Autonomous University of Mexico, Mexico), Jorge Arturo Arciniega-González (The National Autonomous University of Mexico, Mexico), Elena R. Álvarez-Buylla (The National Autonomous University of Mexico, Mexico) and Juan Carlos Martínez-García (The Center for Research and Advanced Studies of the National Polytechnic Institute, Mexico)

- 2. Utilizing Functional Annotation of Disease Genes for Disease Clustering Hisham Al-Mubaid (University of Houston - Clear Lake, USA) and Tamer Aldwairi (Temple University, USA)
- 3. The Velvet Assembler Using OpenACC Directives Evaldo Costa and Gabriel Silva (The Federal University of Rio de Janeiro, Brazil)
- 4. Clarifying the biological nature of the interaction between the systems-based epigenetic landscape and the epigenome

José Luis Caldú-Primo (The National Autonomous University of Mexico, Mexico), José Dávila-Velderrain (HumanTechnopole, Italy), Juan Carlos Martínez-García (Center for Research and Advanced Studies of the National Polytechnic Institute, Mexico)

and Elena R. Álvarez-Buylla (The National Autonomous University of Mexico, Mexico)

3:20 p.m. – 3:30 p.m. Best Paper Award Announcement

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