CALL FOR PAPERS

10th International Conference on Computational
Advances in Bio and medical Sciences (ICCABS)
Virtual - December 10 to 12, 2020

Advances in high-throughput technologies such as DNA sequencing and mass spectrometry are profoundly transforming life sciences, resulting in the collection of unprecedented amounts of biological and medical data. Using this data to advance our knowledge about fundamental biological processes and improve human health requires novel computational models and advanced analysis algorithms. ICCABS aims to bring together leading academic and industry researchers to discuss the latest advances in computational methods for bio and medical sciences.

Topics of interest include but are not limited to:

● **Biological Big Data Analytics**
● **Biological modeling and simulation (**Molecular and cellular modeling, stochastic and rule-based modeling, modeling languages and systems);
● **Biomedical image processing (**Image segmentation and classification, visualization, functional and molecular imaging);
● **Biomedical data and literature mining (**Data integration, knowledge discovery from electronic medical records and scientific literature);
● **Computational genetic epidemiology (**Linkage and association analysis, gene-gene and gene-environment interaction modeling, genetic risk analysis);
● **Computational metabolomics (**Metabolomics databases, metabolite identification, spectral analysis, metabolic network modeling);
● **Computational proteomics (**Peptide identification and quantification, post-translational modifications, protein-protein interactions);
● **Databases and ontologies (**Biomedical data warehouses, database integration, biomedical ontologies and semantic web services);
● **Data Integration** (Records linkage and the integration of biological data);
● **Gene regulation (**Regulatory motifs and modules, post-transcriptional regulation, regulatory networks);
● **Genome analysis (**Genome assembly, genome annotation, comparative genomics, metagenomics);
● **Health Informatics (**Medical data management and privacy, medical recommender systems, therapy optimization);
● **High-performance bio-computing (**Cloud and grid computing, advanced multi-core, GPU, and FPGA biomedical applications);
● **Immunoinformatics (**Epitope prediction, vaccine design, immune system simulators);
● **Microbial Data Analysis** (The role of microbiomes in determining phenotypes);
● **Molecular evolution (**Models of evolution, reconstruction of phylogenetic trees and networks, comparative genomics);
● **Population genomics** (Haplotype and recombination analysis, structural genomic variation, signatures of natural selection);
● **Sequence analysis** (Multiple sequence alignment, motif discovery, sequence search and clustering);
● **Structural bioinformatics** (RNA and protein structure prediction and classification, molecular docking, RNA and protein design);
● **Systems biology** (Systems approaches to molecular biology, multi-scale modeling, biological networks, synthetic biology);

- **Transcriptomics (**Microarray and sequencing-based transcriptome profiling, novel transcript discovery, alternative splicing, non-coding RNA analysis).

Submission Instructions:
Authors are invited to electronically submit extended abstracts in PDF in easy chair:
https://easychair.org/conferences/?conf=iccabs2020
Special issues of journals on selected extended abstracts are under negotiation. A limited number of student awards will be made to cover registration fees (conditional upon NSF support).

Conference Website: iccabs.org

Key Dates:
Papers Submission: October 1, 2020
Notification of Acceptance: October 31, 2020
Author Registration: November 15, 2020
Camera-ready Papers Due: November 15, 2020