2nd Workshop on Computational Advances for Single-Cell Omics Data Analysis (CASCODA)

in conjunction with

9th IEEE International Conference on Computational Advances in Bio and Medical Sciences (ICCABS)
Nov. 15-17, 2019, Florida International University, Miami, Florida

Workshop Co-Chairs:
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Recent technological advances have enabled high-throughput profiling of genomes, transcriptomes, epigenomes, and proteomes at single cell resolution. These revolutionary single-cell -omics technologies promise to bring unprecedented insights into tissue heterogeneity and unveil subtle regulatory processes that are undetectable by bulk sample analysis. However, fully realizing the potential of single cell technologies requires the development of novel computational and statistical analysis methods capable of handling the massive data sizes and significant levels of technical and biological noise. The goal of the CASCODA workshop is to bring together bioinformaticians, biologists, computer/data scientists, and statisticians to discuss the latest developments in computing infrastructure, mathematical and statistical modeling, algorithms, and visualization methods for single-cell -omics data.

Workshop topics of interest include but are not limited to:

- Quality control for single-cell sequencing data
- Single-cell RNA-Seq quantification
- Variant calling and haplotyping
- Modeling of missing data and imputation
- Normalization and batch effect removal
- Clustering and cell type inference
- Single-cell spatial reconstruction
- Lineage inference
- Single-cell phylogenetics
- Visualization
- Single-cell bioinformatics workflows and benchmarking
- Integration of multi-omics single-cell data
- Cell atlases

The meeting is by invitation only. If you would like to inquire about the possibility of being invited, please contact the workshop chairs as soon as possible, but no later than **October 15, 2019**. One-page abstracts of invited talks will be included in the ICCABS proceedings published in the IEEE Xplore Digital Library. Following the workshop invited speakers will be invited to submit full length articles to special issues of ***BMC Bioinformatics*** and ***BMC Genomics***.

Workshop Registration Fees:

- IEEE Members: $400
- IEEE Non-members and late IEEE members registration: $500
- IEEE Student members: $200
- IEEE Student non-members and late student member registration: $250