

## 11<sup>th</sup> Workshop on Computational Advances for Next Generation Sequencing (CANGS)

in conjunction with

11<sup>th</sup> International Conference on Computational Advances in Bio and Medical Sciences (ICCABS)

Dec. 16-18, 2021, virtual conference

Workshop Co-Chairs:

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Massively parallel DNA and RNA sequencing technologies have become widely available, reducing the cost of sequencing by several orders of magnitude and placing the capacity to generate gigabases to terabases of sequence data into the hands of individual investigators. These technologies have the potential to dramatically accelerate biological and biomedical research by enabling the comprehensive analysis of genomes and transcriptomes to become inexpensive, routine and widespread. The exploding volume of data has spurred the development of novel algorithmic approaches for primary analyses of sequence data in such areas as error correction, de novo genome assembly, novel transcript discovery, virus quasispecies assembly, etc. The CANGS workshop will bring together specialists in the field to discuss new directions of research and exchange ideas on the many mathematical and computational challenges presented by next-generation sequencing data analysis.

Workshop topics of interest include but are not limited to:

- 3D genome architecture
- Cancer sequencing
- Characterization of structural variants
- Cloud-based NGS analysis
- De novo genome and transcriptome assembly
- Epigenomics
- Haplotype reconstruction
- Long single molecule read analysis
- Metagenomics and metatranscriptomics
- NGS error correction
- Population genomics
- Read mapping
- Small RNA analysis
- Scaffolding and genome finishing
- Transcriptome quantification
- Variant detection and genotyping
- **Special session devoted to SARS-CoV-2 genomics**

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 **November 30, 2021**. Following the workshop, speakers will be invited to submit extended abstracts for publication in the Springer LNBI post-proceedings volume devoted to ICCABS 2021 and/or full length articles to a special issue of the Journal of Computational Biology.

### Workshop Registration Fees

- Regular Registration (Early): \$200
- Regular Registration (Late): \$250
- Student Registration (Early): \$125
- Student Registration (Late): \$175