

Genomics and Bioinformatics Hub

A new program providing bioinformatics collaboration, services, and training in Brigham and Harvard



Director: Xianjun Dong, PhD (Assistant Professor of Neurology, Harvard Medical School)





- PhD in genomics and bioinformatics
- Specialized in transcriptional regulation of eukaryotic genome
- Was an active member in ENCODE consortium
- Leading a bioinformatics team in Precision
- Neurology Program since 2013
- 30+ publications, 15,000+ citations and H-index 21 Currently funded by APDA, ASAP, and NIH
- Xianjun Dong, PhD



Ariela Buxbaum Grice TBD. PhD Biology, onboarding Connecticut College

Our Customers: From basic scientists to physician scientists





Our Expertise

------ Next-generation sequencing (NGS) data analysis

- Single-cell omics analysis (scRNA-seq/ATAC-seq, clustering, trajectory analysis, spatial transcriptomics, etc.);
- · RNA-seq analysis (from raw sequencing data to QC, to normalized gene expression table, group comparison, pathway analysis, and interactive reporting and visualization of the results);
- Small RNA-seq analysis (e.g. miRNAs, circRNAs, piRNAs, eRNAs, etc.);
- ChIP-seq analysis (e.g. QC, peak calling, differential binding);
- Variant calling from genotyping/WGS/WES data;
- Other NGS data analysis (Methyl-seq, CAGE, ChIA-PET, Hi-C etc.);
- Streamless NGS analysis on cloud computing environment.

----- Transcriptional regulation of eukaryotic genome

- Discovery of regulatory elements (e.g. promoter, enhancer) in the vertebrate genome:
- Epigenetic regulation of gene expression:
- Cis- and trans-regulation of genetic variants (both SNP and SV) to gene expression, e.g. eQTL, in both healthy control and disease setting;



Dong et al. Nature Neuroscience, 2018

Applying AI/machine learning to disease prediction ------





Training: the Bioinformatics Club in BWH

- Bioinformatics Club since 2017, with 350 members:
- 50 speakers, 75 talks, 3000+ participants so far;
- Winner of 2018 BRI NextGen Award:
- http://bioinformatics.bwh.harvard.edu/trainings



Flat price: \$150/hr for any BWH/MGH/DFCI labs New customer discount: 50% off for the first 30 hours

Contact us for your next project



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Integration of multi-

