



# Workshop on Statistical Analysis of Genome Scale Data July 1 to 14, 2022

Friday, July 01, 2022		
7:00 pm	Introductions	
Saturday, July 02, 2022		
9:00 am	Introductions to R	
1:00 pm	Probability and Simulation	
2:00 pm	EDA and Visualizations	
7:00 pm	Student Talks	
Sunday, July 03, 2022		
9:00 am	Introductions to R	
10:30 am	Inference, P-Values, FDR	
1:00 pm	T-Statistic	
3:00 pm	Overview of Bioconductor	
7:00 pm	Student Lightning Talks	
Monday, July 04, 2022		
9:00 am	Experimental Designs	
10:30 am	Rmarkdown	
1:00 pm	Linear Regression and GLMs	
7:00 pm	Fireworks	
Tuesday, July 05, 2022		
9:00 am	Dimensionality Reduction	
1:00 pm	Introduction to Single-Cell Analysis	
4:00 pm	Research Talks	
7:00 pm	Research Talks	



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## MEETINGS & COURSES PROGRAM

### Wednesday, July 06, 2022

9:00 am	Research Talks
10:30 am	Single-Cell Analysis Continued
1:00 pm	Introduction to Spatial Transcriptomics
2:30 pm	Multimics Data Integration
7:00 pm	Research Talks

### Thursday, July 07, 2022

9:00 am	Spatial Transcriptomics Continued
10:30 am	Public Data
2:00 pm	Multimics Data Integration
7:00 pm	Open Lab

### Friday, July 08, 2022

Day Off

### Saturday, July 09, 2022

9:00 am	GSEA
1:00 pm	Deep Learning for Genomics
3:30 pm	Basic Hands-on Tutorials for Training NNs and CNNs
7:00 pm	Open Lab

### Sunday, July 10, 2022

9:00 am	Lecture on Interpretation of Deep Learning Models for Genomics (with BPNet as a Case Study)
10:00 am	Hands-on Tutorials for Interpreting NNs (continued)
1:00 pm	Hands-on Tutorials for Interpreting NNs (continued)
3:00 pm	Fast In-Silico Saturated Mutagenesis
4:00 pm	ChromBPNet
7:00 pm	Variant Interpretation with ChromeBPNet



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## MEETINGS & COURSES PROGRAM

8:00 pm

Open Lab

### Monday, July 11, 2022

9:00 am

TBD

1:00 pm

3D Genome Structure Analysis

4:00 pm

3D Genome Reorganization in Cancer and Aging

7:00 pm

Research Talk

### Tuesday, July 12, 2022

9:00 am

Cloud Computing

10:00 am

Robust and Scalable Pipelines

1:00 pm

Write Your Own WDL Pipeline Lab

2:00 pm

Write Your Own WDL Pipeline Lab

7:00 pm

Open Lab

### Wednesday, July 13, 2022

9:00 am

Chromatin Accessibility (ATAC and caQTL)

2:00 pm

Ranges and Tiny Range Analysis

4:00 pm

Cis Mendelian Randomization

7:00 pm

Allelic Expression Analysis

### Thursday, July 14, 2022

9:00 am

Matching and Bootstrapping Null Features

1:00 pm

Open Lab

4:00 pm

Completion Ceremony

6:00 pm

Banquet