



Swiss Institute of
Bioinformatics

BIOLOGY-INFORMED MULTIOMICS DATA INTEGRATION AND
VISUALIZATION

Integration of multi-omics data

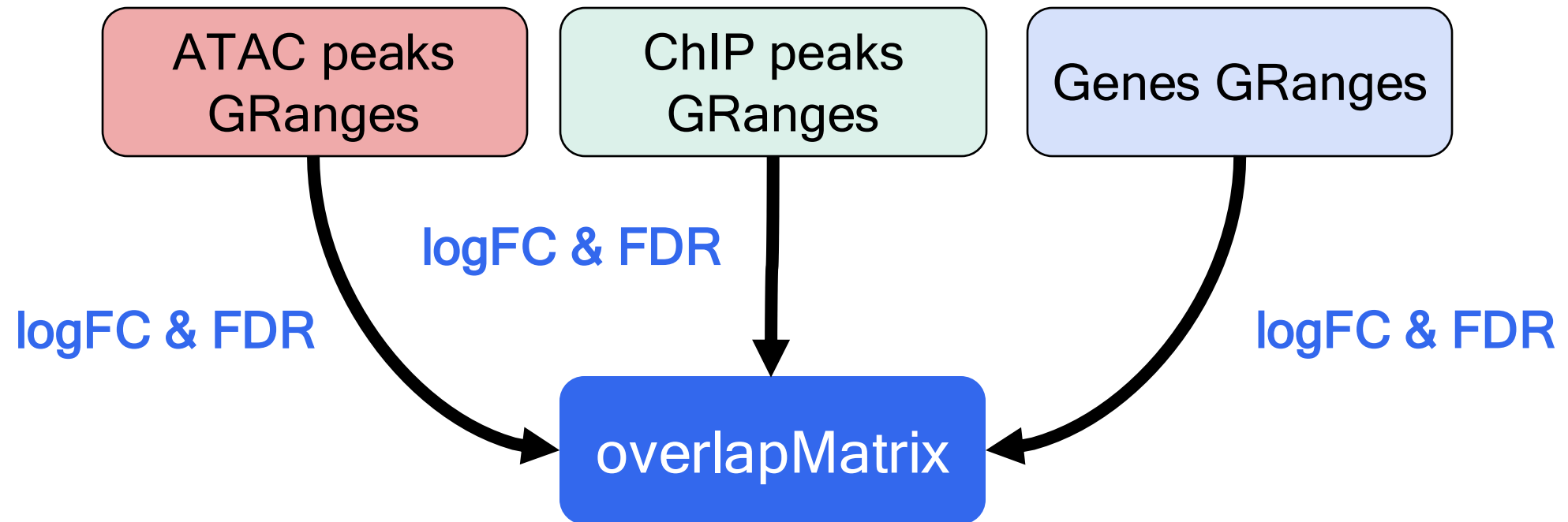
Deepak Tanwar

June 16-17, 2025

Learning outcomes

Interpreting integration of chromatin accessibility, histone modifications and gene expression

Pipeline for overlapMatrix

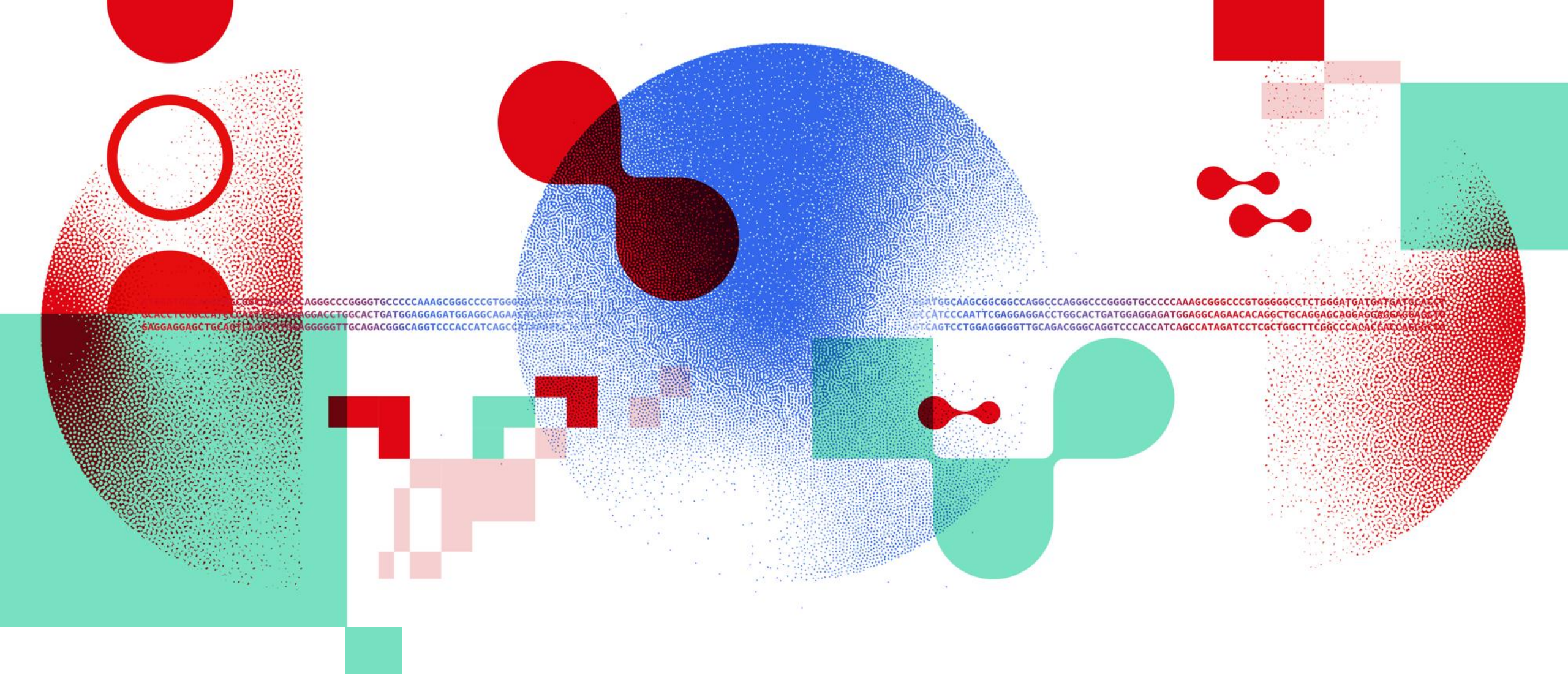


Keeping all regions from ATAC-seq

Regulatory regions from multi-omics data

Category	ATAC	H3K4me1	H3K27ac	H3K4me3	H3K27me3	RNA	Dist. to TSS
Gained Enhancers	↑	↑	↑	none	-	↑	>2500 bp
Lost Enhancers	↓	↓	↓	none	-	↓	>2500 bp
Active Promoters	↑	-	↑	↑	-	↑	<2500 bp
Repressed Promoters	↓	-	↓	↓	↑	↓	<2500 bp

Exercise 6



Thank you

DATA SCIENTISTS FOR LIFE

sib.swiss