



BiophysTO Lunchtime Seminar Series

Date

Thursday, March 24
2022

12:00 – 1:00 pm

Host: Sidhartha Goyal

Dr. Justin Kinney

Cancer Center
Cold Spring Harbor Laboratory

Massively parallel reporter assays, machine learning, and the biophysics of gene regulation

We study the biophysical mechanisms of gene regulation by quantitatively measuring and modeling sequence-function relationships. Our experimental work uses massively parallel reporter assays (MPRAs) to measure the effects that variant gene regulatory sequences have on gene expression. We pursue this experimental work in two biological contexts: alternative mRNA splicing in human cells and transcriptional regulation in bacteria. Our theoretical and computational work develops methods for analyzing the data produced by MPRAs and other highly multiplexed assays. We aim to extract biophysically meaningful models of regulatory sequence function, but also to understand the quantitative nature of sequence-function relationships more broadly.

Zoom Link: <https://us02web.zoom.us/j/86237158668?pwd=YVJlWjJlRk52RUgxdFZWMVp3RmtiZ09>



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