CMCF Seminar Series





Decoding and engineering cell fates and circuits

Jian Shu, Ph.D.

Assistant Professor, Massachusetts General Hospital, Harvard Medical School Associate Member, Broad Institute of MIT and Harvard

Tuesday | January 18, 2022 | 2 - 3pm

Abstract: Reconstructing the circuits that control how cells adopt specific fates and engineering these circuits to reprogram cellular functions are major challenges in biology. I will introduce a series of experimental and computational frameworks such as "Waddington-OT", "Raman2RNA" for reconstructing molecular dynamics over time and in live cells through single-cell genomics and imaging. I will introduce how we can use these approaches to decode the cellular and molecular mechanisms governing reprogramming and development.

Bio: Jian Shu is an Assistant Professor at Harvard Medical School and Massachusetts General Hospital, an Associate Member at Broad Institute of MIT and Harvard. Jian Shu was a Helen Hay Whitney Fellow working at the intersection of single-cell genomics and stem cell biology in Dr. Eric Lander's lab at the Broad Institute of MIT and Harvard and Dr. Rudolf Jaenisch's lab at the Whitehead Institute for Biomedical Research at MIT. The research interests of the Shu lab at MGH/Harvard Medical School center around novel experimental and computational methods for investigating the mechanisms of cellular programming and reprogramming, as well as immune tolerance in pregnancy and cancer.

