Adam L. MacLean

Adam is an assistant professor in the Department of Quantitative and Computational Biology at the University of Southern California. The MacLean lab seeks to understand how cell fate decisions regulate organs during development, homeostasis, and cancer. To do so, we develop new mathematical models rooted in dynamical systems theory and new methods for machine learning and statistical inference. These methods draw on recent advances in single-cell measurement technologies and computation for numerical systems biology. Methods and models are tightly integrated with data through close collaborations with experimental laboratories. Our recent work has led to insight into gene expression dynamics during kidney development and stem cell fate decisions underlying hematopoietic lineage specification.