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“Mapping human somatic evolution with single-cell multi-omics”

We are committed to discovering fundamental principles in evolutionary biology and biological regulation of mammalian cells. We study primarily human cancer which constitutes a unique phenomenon in evolutionary biology – ‘reverse engineering’ whereby cells rescind the multicellular contract, and evolve to more closely resemble unicellular organisms.

Importantly, the evolutionary plasticity of cancer imposes significant limitations on the potential of cancer therapies. Our goal is to chart a roadmap of the basic dimensions that determine the course of cancer evolution, in order to devise therapies that directly anticipate and address tumor evolution.