



## Life Sciences Seminar

# High-throughput inference of brain composition and connectivity using single-cell genomics

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Harvard Medical School, Boston

Host: Mario deBono

My aim in research is to describe the cellular organization of the brain in systematic and scalable ways that inspire inductive hypotheses for how neural circuits assemble, support behavior and change during disease. My approach is to develop and then deploy new molecular technologies that allow quantitative, high-information-content descriptions of individual cells and their synaptic connections. My seminar will introduce how single-cell genomic analysis can be used to 1) enable insights into mouse neural cell types and their molecular programs; 2) compare the cellular properties of neural circuits across species and human genotypes; and 3) create larger experimental systems that enable high-throughput reconstruction of cell-type-specific synaptic connectivity relationships. Such technologies should allow wholly new (even currently unimaginable) ideas about brain function to be conceived and tested, supporting a transformation akin to the one that arose in genetics as datasets expanded from genes to thousands of genomes.

**Monday, February 10, 2020 10:00am - 11:00am**

Mondi Seminar Room 2, Central Building



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

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<https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.