



Life Sciences Seminar

A lineage study of progenitor cells in the avian retina: origin of neuronal classes and types

Franck Maurinot

Host: Gaia Novarino

The mechanisms regulating the generation of the different types of neurons of the vertebrate nervous system during development are still poorly understood. For my PhD project, I characterized the composition and organization of clones of neurons generated by retinal progenitor cells (RPCs) in chicken embryos with the Brainbow strategy. This technique enables to permanently label RPCs with distinct color combinations in order to individually trace their lineage. New approaches were developed to: i) trigger Brainbow labels at different stages of development or in genetically identified RPCs; ii) characterize in 3D the organization of retinal clones and identify the neuronal types that they comprise. My results provide new information on the phase of tangential dispersion of RPCs in the retinal neuroepithelium before neurogenesis, leading to uniform intercalation of retinal clones. The composition of these clones was analyzed to understand whether early RPCs could be biased to generate certain neural types and, through intercalation, contribute to their regular distribution in the retina. This study sheds light on the potentialities of a population of neural progenitors and on the possible links between the early development and mature cellular organization of a tissue through new approaches applicable to diverse problematics.

Monday, January 20, 2020 11:00am - 12:00pm

Mondi Seminar Room 1, Central Building



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

Please find a schedule of the ISTA Shuttle on our webpage:

<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.