

Psychiatry and Neuroscience Seminar Series 2020



Pr Virginie LECAUDEY

(Host C Hanus & G van Niel)

*Institute for Cell Biology and Neuroscience, ICNF
Goethe University, Frankfurt and Main, Germany*

Crosstalk between morphogenesis and cell fate in epithelia

Friday December 4th, 2020, 11AM

VISIOCONFERENCE, 102-108 rue de la santé - 75014 Paris

Pr Virginie LECAUDEY

Department of Developmental Biology of Vertebrates, Interdisciplinary Center for Neuroscience, Frankfurt

During development of an organism, cells must coordinate their behavior with that of their neighbors to assemble functional organs. We are interested in understanding the cellular and molecular mechanisms by which cells altogether acquire a given identity, change their shape, migrate and proliferate in an orchestrated manner to assemble into tissue and organs. For this purpose, we use as a model the zebrafish lateral line, a sensory system specific to aquatic vertebrates. The lateral line is an ensemble of mechanosensory organs allowing fishes to sense water movements and changes in water pressure, and thus to get information on their environment. The mechanosensory organs, or neuromasts, are initially assembled in the migrating group of above 100 cells that also proliferate, change their shape and differentiate as they migrate. We are currently particularly focusing on the mechanisms (i) controlling cell shape changes and (ii) limiting the size of organs.

Methods

- Live imaging in whole embryos using point scanning and spinning disc confocal microscopy
- Tol2-mediated transgenesis
- TALEN and cas9/CRISPR-mediated genome editing (knock-out, knock-in)
- Molecular biology including multisite gateway cloning
- In situ hybridization and immunofluorescence
- Zebrafish injection and transplantation

LINK to the ZOOM conference:

Meeting ID: 845 8598 3874

Passcode: 620577

<https://u-paris.zoom.us/j/84585983874?pwd=TisrSlhWcWFLQ2ZVMjMxaENCbjNHQT09>