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INMED Conference Room

Tuesday, 28<sup>th</sup> March 2017 - 11 a.m.

**Dr Ludovic TELLEY**

**Invited by: A. CARABALONA & M. BOCCHIO**



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## Investigating neuronal birth in the central nervous system by single cell transcriptomics

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During neocortical development, excitatory neurons are born in the ventricular zone and migrate to the cortex, where they form the circuits that underlie mammalian skilled processing abilities. While the genetic programs that specify distinct subtypes of neurons within the neocortex are increasingly understood, how neuronal identity is dynamically acquired upon progenitor division is largely unknown. Identifying these primordial transcriptional processes is critical to understand how progenitor behavior is coupled to neuronal fate, and to provide mechanical insights into post mitotic neuron plasticity. Our results reveal early transcriptional waves that instruct the sequence and pace of neuronal differentiation events, guiding newborn neurons toward their final fate, and contribute to a road map for the reverse engineering of specific classes of cortical neurons from undifferentiated cells.