

## **Making Brains with More Neurons: From the Womb to the Grave**

My group has found that the length of the G1 phase of the cell cycle influences the fate of somatic stem cells. This allowed us to promote the expansion of neural stem cells during development [1] and adulthood [2] to ultimately increase the number of neurons generated in the mammalian brain. This finding was important to reveal the contribution of specific progenitor subtypes in the evolutionary expansion and gyrification of the mammalian cortex [3] as well as the role of adult neurogenesis in promoting sensory discrimination [4] and cognitive performance over the course of life [5]. Our next ambition is to understand how tuning the number of neurons in specific brain areas can promote specific brain functions and gain insights into the cellular basis of cognition.

1. Lange et al., *Cell Stem Cell*, 2009
2. Artegiani et al., *J Exp Med*, 2011
3. Nonaka-Kinoshita et al., *EMBO J*, 2013
4. Bragado Alonso et al., *EMBO J*, 2019
5. Berdugo Vega et al., *Nat Commun*, 2020