

Nov
10th
2026

4:00PM CET
VIRTUAL

iPSZÜRICH

A Lecture Series Focused on Induced Pluripotent Stem Cells



HARVARD
Department of Stem Cell
and Regenerative Biology



STANLEY CENTER
FOR PSYCHIATRIC RESEARCH
AT BROAD INSTITUTE

Prof. Paola Arlotta

Department of Stem Cell & Regenerative Biology, Harvard University
Stanley Center for Psychiatric Research, Broad Institute of MIT and Harvard

UNDERSTANDING HUMAN NEURODEVELOPMENTAL DISEASE: FROM EMBRYOS TO ORGANOIDs

Much remains to be understood regarding the cellular and molecular principles that govern the development of the human brain, and how these events are affected in neurodevelopmental disease. Human brain organoids offer a unique platform for these studies. I will share our latest approaches to use brain organoids to understand the acquisition of human specific features of our brain and discuss how far the field may be able to experimentally probe events of human brain maturation and aging. We have recently demonstrated that development *in vitro* can occur over very protracted timelines by culturing and studying organoids for more than 6 years in culture. We find that organoids continue to develop and mature while in culture for these extended time frames, and that a strong correlation exists between predicted age of the organoids and time in culture. Human brain organoids are capable of “recording and recalling” developmental time through these long trajectories of maturation *in vitro*. I will end by showing new data on building further complexity in brain organoids, by leveraging outside the context of the body old rules of development at play in the embryo.



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