PhD position in neurodegeneration, RNA biology and phase separation

Summary

Interested in a PhD position combining basic RNA biology and phase separation with translational research on neurodegenerative diseases? Join us to work in a young dynamic group focusing on motor neuron degeneration and frontotemporal dementia.

Supervisor:	Magdalini Polymenidou
Availability:	This position is available.
Offered by:	Life Science Zurich Graduate School
Application deadline:	Applications are accepted between December 02, 2017 00:00 and July 01, 2018 23:59 (CEST)

Description

Our research group at the Institute of Molecular Life Sciences of the University of Zurich aims to understand the pathogenic mechanisms leading to two major neurodegenerative diseases: amyotrophic lateral sclerosis (ALS) and frontotemporal dementia (FTD). ALS affects motor neurons and leads to progressive paralysis, while FTD leads to language and behavioral dysfunction. Both diseases are devastating and cause death within a few years from diagnosis. The two diseases are genetically and pathologically linked, perhaps caused by the same molecular mechanism that harms neurons and causes them to progressively malfunction and die. The basis of these mechanisms is the misregulation of essential proteins (called TDP-43 and FUS), whose physiological function involves the maintenance of RNA metabolism.

In order to understand the molecular pathogenesis and to identify potential opportunities for therapeutic interventions for ALS and FTD, we combine state-of-the-art techniques such as basic biochemistry methods, organotypic slice cultures, mouse and human cell cultures (including generation of human neurons from iPSCs) as well as animal experiments. The current project will focus on the mechanism of transition of

We are looking for a motivated and creative PhD student with background in RNA biology interested in neurodegenerative disease mechanisms. The project will focus on new data from our team showing distinct nucleocytoplasmic transport of FUS in neurons and astrocytes, which has important implications for their susceptibility in ALS and FTD. This is a unique opportunity to gain insight into a breadth of modern biology techniques, while studying one of the most clinically relevant topics of today.

The position is 100%, initially for 3 years, starting from December 2018 or later.

For more information please visit our website: http://www.imls.uzh.ch/polymenidou or contact Magdalini Polymenidou at: magdalini.polymenidou@imls.uzh.ch and Julien Weber at: julien.weber@imls.uzh.ch

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