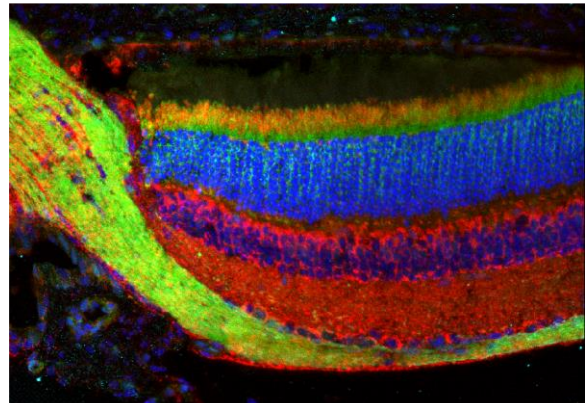


# PhD position to investigate Selective Autophagy in Neurons

Patricia Boya is looking for an enthusiastic scientist to carry out the PhD in the new Boya Lab at the University of Fribourg, Switzerland, from September 2022.

## The research group

Our lab uses cellular and animal models to understand the roles of autophagy in neurons in both physiological and pathological conditions. Autophagy is an essential intracellular degradation pathway that recycles cell components generating new building blocks and energy to maintain cellular homeostasis. Currently our main focus is on selective autophagy including the specific degradation of mitochondria via autophagy in the process called mitophagy.



We are interested in the relationships between autophagy pathways and basic processes such as proliferation, differentiation and cell death to gain insight into development and physiological aging. Moreover, we want to understand the role of autophagy in pathologies such as neurodegenerative and other disease conditions. We also seek to identify new therapies that target autophagy to discovering new treatments for human diseases. We use modern cell biology techniques, primary neuronal cultures, ex vivo organotypic cultures and in vivo animal studies combined with biochemistry, state of the art light, time lapse, confocal and electron microscopy. We also use transgenic animal models deficient for autophagy as well as reporter animals to monitor autophagy pathways *in vivo*.

## The candidate

Ideal applicant should have a master's degree in cell biology or neurobiology. Experience with primary cell culture, confocal microscopy and image analysis is a plus. Candidates are expected to be highly motivated, talented, hardworking and have the ability to work in a team and independently. Applicants should also have good communication skills and be proficient in spoken and written English.

The PhD will enroll at Fribourg Graduate School of Life Sciences (FGLS) for doctoral education. The Boya Lab will move to the University of Fribourg, Switzerland, in August 2022, Department for Neuroscience and Movement Science.

## The project

The position is available for 3-4 years to study some of these topics:

- 1) The role selective autophagy during neurogenesis
- 2) Why is selective autophagy altered in neurodegenerative diseases?
- 3) Relationships between autophagy and cell death

## How to apply/Contact

Please direct further questions and/or send your application (including a motivation letter, CV, academic records, references or reference contacts) in a single PDF file to Patricia Boya; [patricia.boya@gmail.com](mailto:patricia.boya@gmail.com)

**Deadline:** Apply as soon as possible, applications will be reviewed until the position is filled or by July 15<sup>th</sup>, 2022.

## Selected recent papers from the Boya Lab

- Ambra1 haploinsufficiency results in metabolic alterations and exacerbates age-associated retinal degeneration. <https://doi.org/10.1101/2022.02.04.476630>. *Autophagy* 2022, in press
- Targeting NCoR-RAR $\alpha$  interaction activates chaperone-mediated autophagy and protects against retinal degeneration. *Nature Communications* 2022, in press.
- [Programmed mitophagy is essential for the glycolytic switch during cell differentiation.](#) *EMBO Journal*. 2017 Jun 14;36(12):1688-1706.