



T14 - Dr. Aurelien KEREVER, Assistant Professor, French Juntendo University, Research Institute for Diseases of Old Age

[Researchgate Profile](#) || aurelien@juntendo.ac.jp

My research project:

I work in the field of neurosciences where I use [confocal microscopy](#) imaging as my primary tool to investigate the role of extracellular matrix (ECM) in brain development and in brain ageing. The extracellular matrix is the environment in which cells reside, that provide both structural and biochemical support. This research topic is articulated around a series of research projects. First, we study the role of ECM structures in the aging neurogenic niche (the place in the adult brain where new neurons can be generated). Second, we investigate the role of ECM during the formation/organisation of the cortex in a mouse model of autism. We are also interested in the development of new approaches in cell culture like growing neural stem cells onto decellularized brain tissue (brain slice from which cells have been removed so only ECM remains as a scaffold). Finally, we perform 3D deep imaging of transparent mouse brain in order to help refine magnetic resonance imaging (MRI) observation.¹

My career path:

How can the adult brain generate new neurons? The study of this process called neurogenesis is what got me into research as an undergraduate student. While attending University in Reims, France, I moved to the University of Hawaii for one year to do research. I later joined the University of Paris VI as a graduate student. I carried out my PhD training between the University of Paris VI, University of Hawaii, and Juntendo University in Tokyo (JSPS fellowship). After graduating I came back to Juntendo University as a Postdoc in 2011. I obtained a second JSPS fellowship in 2015. After completion of this fellowship in March 2017, I remained in Juntendo University as an assistant professor. I recently obtained a start-up kakenhi. While I have no academic duties, I do mentor numerous students (between second and sixth grade of medical studies) in my laboratory.

My relation to Europe:

We have two ongoing collaborations with European teams. One with the team "Oligodendrocyte Development and Neurovascular Interactions" from the ICM institute in Paris. The second with a team from Netherlands (Institute for Molecular Life Science, Nijmegen). In addition, I am involved in creating a line of communication between Juntendo and the University of Paris VI with the intent to form a memorandum of understanding to facilitate the exchange of students and bring new funding opportunities. We already successfully sent 3 students to do research work in Paris this June, we expect to repeat the experience and strengthen the ties between our two institutions in the coming years. On a personal level, I wish to eventually go back to France but there are few opportunities for academic positions. In the meantime, I am lucky to benefit from the support of my current institution.

¹ Kerever et al., 2007, 2014, 2015 ; Yamada et al., 2017; Kerever et al., 2015 ; Kamagata et al., 2016 ; Sato et al., 2017