



Centre for Integrative Biology of Toulouse (CBI)

PHD POSITION IN INTESTINAL EPITHELIAL BIOLOGY

Our newly established team “[Gut Development and Homeostasis](#)”, led by Denis Krndija, is looking for highly motivated and enthusiastic students interested in research in the field of cell biology, physiology and/or mechanobiology. Our main research focus is on the mechanical properties of epithelial tissues, and how they are integrated into the physiological context of the organ, using the mouse gut as a model.

Project

The gut epithelium is one of the fastest-renewing tissues in the body (3-5 days), and is unique for withstanding continuous mechanical, chemical and biological insults whilst maintaining renewal and barrier function throughout adult life. We have recently showed that intestinal epithelial cells exert active migratory forces and that active migration is critical for steady-state tissue turnover in the adult mammalian gut ([Krndija et al., Science 2019](#)). Our goal now is to define how the epithelial tissue renewal and barrier integrity are maintained in adult gut homeostasis in the presence of tissue-intrinsic and extrinsic mechanical forces. The PhD student will work at the interface of cell biology, physiology and physics, and use state-of-the-art approaches, including live tissue imaging with laser nanosurgery, genetic and force perturbations in novel mouse models, organ-on-chip and proteomics. The work will be performed at the CBI and in association with our collaborators at the IRSD and LAAS in Toulouse.

Profile

The candidate should hold a Master's degree in cell biology and/or developmental biology, and have a strong interest in epithelial tissue homeostasis and tissue mechanics. Experience in imaging, image analysis, mouse models and/or tissue culture will be an advantage. Training will be provided on-site for approaches specific to our group. The student should be able to work as a part of a team, be self-driven and organised, with good written and spoken communication skills in English.

We are an equal opportunity employer, committed to creating a diverse, multicultural and inclusive environment, and we encourage applications from candidates from different socioeconomic and historically under-represented backgrounds.

Location

We are located at the [Centre for Integrative Biology of Toulouse \(CBI\)](#) in a brand-new building on the main campus of the Université Toulouse III-Paul Sabatier. The CBI offers a very dynamic and collaborative scientific environment (40 research groups) and in-house state-of-the-art core facilities and platforms.

Toulouse is a warm and vibrant city situated in the heart of southwest France, home to one of the oldest European universities, rich in culture and history, and offering excellent life quality.

Application details and contact

Please send your CV incl. contact details of two referees and a motivation letter to Denis Krndija – denis.krndija@univ-tlse3.fr, **before June 20th, 2021**.

Applicants will have to apply for a fellowship through a selective process of the doctoral programme of the [Graduate School of the University of Toulouse](#), where our [thesis proposal](#) can be found.

Starting date: October 1st 2021

