PhD position @ Université de Paris - Institut Necker Enfants Malades

PhD Title: Determine the role of Hippo pathway in the genetic susceptibility to develop renal lesions.

Supervisor: Fabiola Terzi

The offer: A fully founded 3 years position in Terzi Lab is open for graduate students to study the role of Hippo pathway in the genetic predisposition to chronic kidney disease progression.

This PhD programme is founded by the EU through an ITN network "Multidisciplinary training in chronic kidney disease: from genetic modifiers to drug discovery" (TrainCKDis) and will recruit 15 different PhD students enrolled at the same time in 10 different labs throughout Europe with the aim to foster and train early stage researchers to better understand and tackle the challenges related to chronic kidney disease (CKD) and improving patients' lives. TrainCKDis gathers top European laboratories, companies, hospitals, and associations involved in the treatment of CKD. Early Stage Researchers will thus benefit from an outstanding interdisciplinary platform integrating nephrology, epidemiology, genetics, cell biology, high-throughput screening, system biology, and metabolomics experts.

The Lab: The group "Mechanisms and therapeutic strategies of chronic kidney disease" led by Fabiola Terzi is located at the "Institut Necker Enfants Malades" (INEM). The INEM is an international biomedical research center located on the Necker Hospital Campus, in the central Montparnasse district in Paris, France. It is supported by the French National Institute of Health and Medical Research (INSERM), the French National Center for Scientific Research (CNRS) and the University of Paris. The close interactions between the research labs and the clinical departments represent a major strength creating a highly dynamic environment. The INEM is the hub for cellular and molecular biology at University of Paris, one of the World's leading universities. The Institute hosts over 300 talented scientists who are working together to promote scientific discoveries in the study of the molecular and cellular mechanisms of human diseases. The research activities of our laboratory focus on the mechanisms underlying the progression of chronic kidney disease, a major public health burden. In particular, we have discovered the critical role played by several molecular pathways, i.e., the EGFR pathway (*J Clin Invest 2000, Nat Med 2004, EMBO Mol Med 2012, PLOS Genet 2017*), the mTOR/AKT pathway (*Nat Med 2013, NEJM 2014*) or the Lcn2 pathway *(J Clin Invest 2010, Nat Commun 2016, Cell Report 2019*).

The project: Epidemiological and experimental studies indicate that the progression of chronic kidney disease after an initial injury is genetically determined. However, the genetic networks that account for the predisposition to progress are still unknown. Our recent results obtained in two strains of mice that differentially react to nephron reduction suggest that the Hippo pathway might play a role. Intrudingly, the two effectors of the pathway, YAP and TAZ, seem to have a divergent role. Moreover, their role seems to change according to the nephron compartment. The aim of the project is thus to define the role of YAP and TAZ in both glomerular and tubular homeostasis during CKD progression. More specifically, we will combine *in vivo* genetic modified animals and *in vitro* models with unbiased approaches to i) characterize the role of each factor in the cellular events leading to renal deteriorating, 2) identify the potential genetic networks that account for the divergent role of YAP and TAZ, 3) translate our experimental findings to humans.

The candidate: We are interested in rigorous and multi-talented candidates who are enthusiastic and passionate about tackling basic biological questions with potential therapeutic applications. This position is particularly suited for applicants with a background in experimental mouse models and/or cell biology. Competences in basic molecular biology technics will be appreciate. The candidate must demonstrate a capacity to rapidly adapt to a new environment and to interact with colleagues.

Offer Deadline: June 30, 2020

Beginning of the Fellowship: September 2020

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Advantages: As EU-funded project, TrainCKDis offer attractive salary to recruited researchers. To find more details, please read the information note of the European Commission.