

PhD. in Life Imaging and Pharmacology

Research Project

Overview We are looking for a candidate for a science thesis in Cardiovascular Imaging and Pharmacology. Our laboratory is interested in the non-destructive imaging analysis of energy metabolism and vascularization (*Sourdon J et al. Theranostics 2017, Theranostics 2021*). We have recently introduced a new non-invasive imaging technique to simultaneously study these two phenomena and their interactions (PETRUS, *Provost J et al Nature Biomed Eng 2018, Perez-Liva M. et al. Phys Med Biol 2018, Mol Im Biol 2020, Facchin C et al. Theranostics 2020*). Applied to the exploration of cardiac pathologies, the integration of PETRUS with molecular and functional analyses provides in-depth information on their mechanisms and pharmacological targets for treatment.

Project Takotsubo syndrome is a stress-induced cardiomyopathy affecting mostly women. The clinical picture is that of an infarction without coronary artery obstruction, its prevalence is increasing and it exposes to fatal recurrences. There is no treatment. We have identified the metabolic pathways involved, making them potential therapeutic targets. Our objective is to explore these new therapeutic avenues by in vivo imaging and proteomic and transcriptomic approaches.

Lines of Research The main axes of this research topic are (1) to identify and/or confirm therapeutic targets by PETRUS imaging and molecular analysis, notably by Nanostring and p by mass spectroscopy, in order to (2) experimentally treat Takotsubo syndrome with drugs against the identified targets in the case of (a) a single stress and (b) repeated stress.
Work on small laboratory animals.

Skills Willingness to pursue a career in medical research.

- Good organizational skills
- Relational skills
- Rigor
- Autonomy

The ability to adapt in an international multidisciplinary team, scientific curiosity and motivation are essential.

Required degree Master 2 en Sciences du Vivant

Terms and conditions Application to the PhD scholarship for 3 years: Doctoral School ED 563, deadline May 5, 2022: click [here](#)

Hosting structure

Laboratory Team#2, In vivo Imaging Research, Paris Cardiovascular Research Center – PARCC Inserm U970.

Manager Bertrand TAVITIAN. <http://parcc.inserm.fr/research-teams/team/tavitian/>

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Location [PARCC-HEGP](#), 56 rue Leblanc, 75015 Paris, France

How to apply

Send CV and cover letter to bertrand.tavitian@inserm.fr before April 15, 2022.