



**M**arseille  
**M**edical  
**G**enetics

## PhD position in Heart development (2021)

### “Environment and genetic regulation of heart development: maternal obesity incidence”

The Rochais lab at the Marseille Medical Genetics (MMG) is seeking a talented and highly motivated PhD student whose interests are focusing to mouse heart development and metabolism. Our lab has a long standing experience in addressing heart development and cardiac regeneration aiming to enhance these knowledges by using transgenic mouse models together with molecular, developmental and imaging approaches.

The proposed PhD project will explore the intersection between genetic and environmental causes of congenital heart diseases secondary to maternal obesity. This project will investigate how genetic and environmental inputs intersect to regulate metabolic programs as cardiac progenitor cells differentiate in the embryonic heart. In particular, using unique mouse genetic models and experimental approaches such as molecular biology, imaging, cultures of embryos/explants and high throughput single cell RNA-Seq technology, the role of the lipid-sensing transcriptional factor *Pparg* in the regulation of cardiac progenitors will be addressed. Finally, the metabolic profile of cardiac progenitor cells during early heart development will be determined. Altogether this project will provide new insights regarding the etiology of the life-threatening congenital heart diseases related to the maternal obesity.

Previous experience in histology, molecular biology and biochemistry methods will be favorable. The PhD will be funded by a 3 years ANR grant starting on September 2021.

Application should be sent to [magali.theveniau-ruissy@univ-amu.fr](mailto:magali.theveniau-ruissy@univ-amu.fr) with 1- a detailed cover letter outlining previous research experience and future interests, 2- a CV, 3- scanned copies of degree certificates and 4- the names and email addresses of two references.

<https://www.marseille-medical-genetics.org>

