

## 6 Months MSc Internship on Cardiac Modelling and Machine Learning *from Clinical Data to Personalised Prediction*

### Clinical Context

Pulmonary hypertension (PH) is a condition of increased blood pressure within the arteries of the lungs. Symptoms include shortness of breath, syncope, tiredness, chest pain, swelling of the legs, and a fast heartbeat. The cause is often unknown, and the underlying mechanism typically involves inflammation of the arteries in the lungs.

In order to diagnose and follow-up patients, it is important to be able to quantify the pressure within the pulmonary artery. However, this is an invasive measurement done with catheters, which limits its use.



### Position Description

The aim of this project is to develop machine learning tools to estimate the pulmonary artery pressure non-invasively based on imaging and modelling. This will be done in collaboration with clinicians experts in pulmonary hypertension.

This work could lead to a new non-invasive method to estimate pressure.

This internship position will be at [Inria](http://www.inria.fr), the French Institute for Research in Computer Science and Mathematics, in the [Epione](http://www.epione.fr) research team of the [Inria Sophia Antipolis - Méditerranée](http://www.inria.fr/sophia-antipolis) Research Centre, located on the French Riviera.

### Searched profile

- Biomedical engineering, computer science, applied mathematics (MSc level)
- Eager to work in the medical field, to learn and take initiatives
- Fluent in English (Reading, Writing, Speaking)

Job location: Inria Sophia Antipolis, 2004 route des Lucioles, 06 902 Sophia Antipolis, France

Contract: 6 months

Start: ASAP

Salary: gross remuneration of 1445 Euros/month (net is about 1182 Euros)

Send resume & motivation letter: [maxime.sermesant@inria.fr](mailto:maxime.sermesant@inria.fr)