

### 3 to 5 months internship: Design of a thermal regulation for microfluidic chips

---

#### Design of a thermal regulation for microfluidic chips

**Mission:**

Design and fabrication of a thermal regulation stage for microfluidics experiments. The internship will happen in 3 steps: (i) design of a resistor pattern to warm up a microscope glass slide. The design can be checked by numerical simulations. This stage should also include a few temperature sensors (thermocouples or thermistors) to provide a feedback to the temperature controller. (ii) Design and programming of the temperature control feedback loop. (iii) Implementation of a user friendly interface to set the temperature and display the set value and the actual value.

**Education required:**

Student in M1 or M2 enrolled in a physics or engineering degree. The student can also be a 2nd or 3rd year engineering school (Grandes Ecoles) student.

**Skills:**

The candidate should be familiar with electronics design and microcontroller/Arduino programming. A knowledge of control engineering, microfabrication and finite element modeling is a plus but is not mandatory.

**Place:**

UMR1147 Translational research team  
Centre universitaire des Saints Pères  
45 rue des Saints-Pères  
75270 Paris Cedex 06  
France

**Contact:**

Antoine Riaud - antoine.riaud(at)gmail.com

**Conditions:**

Gratification of 554.40€/month  
Flexible starting date

