

## **Postdoc positions in Molecular biology (RNA-seq, NGS)**

**Biochemistry Laboratory**

**ESPCI Paris**

**Prof. Andrew Griffiths**

### **ESPCI Paris**

ESPCI Paris is a major institution of higher education (a French "Grande École d'ingénieurs"), an internationally renowned research center (6 Nobel Prizes), and a fertile ground of innovation for industry (3 start-ups created/year). ESPCI is a highly multidisciplinary environment with teaching and research in physics, chemistry and biology.

### **Laboratory of Biochemistry ESPCI (LBC)**

The activities of the Laboratory of Biochemistry at ESPCI Paris, directed by Prof. Andrew GRIFFITHS, are based around droplet-based microfluidics, a powerful new ultrahigh-throughput system in which reaction volumes can be miniaturized by up to a million-fold compared to conventional assays in microtitre plates. This opens up exciting prospects for the development of extremely innovative systems with many applications in the Life Sciences.

### **Research project**

We are looking for a postdoc candidate to work on the project entitled "Single cell analyses of anti-tumor immune responses to lung cancer and search for predictive biomarkers".

Almost 80% of bronchopulmonary cancers are non-small cell lung cancer (NSCLC) and diagnosis is most often made at an advanced or metastatic stage. Immune checkpoint inhibitors are routinely used for treatment of metastatic NSCLC, and are being evaluated in the perioperative situation for early stage NSCLC. While impressive results are obtained in responding patients, the overall response rate to checkpoint inhibitors is around 30% of patients. Given these low response rates, there is a clear clinical need to stratify patients according to their likelihood to respond and to better understand the immune biology in order to develop novel therapeutic strategies that increase the response rate.

The aim of this project is to apply and further develop recent technological breakthroughs in the field of droplet microfluidics which allow single-cell transcriptomic, epigenetic and phenotypic analyses on several thousand cells for each sample to the study of NSLC. The project involves three main groups: i) Specialist in single-cell microfluidics (Prof. A Griffiths), ii) Cancer immunologist (Prof. S Amigorena), and iii) Clinician (Nicolas Girard).

### **Postdoc mission**

The role of the postdoc will be to apply and further develop droplet-based microfluidics protocols for high-throughput single-cell transcriptomic, epigenetic and phenotypic analyses based on next-generation sequencing (NGS).

### **Requirements**

We are seeking a highly motivated Postdoc, ideally with a strong experience in RNA-seq and NGS. The candidate should be interested in learning how to use microfluidic systems. Flexibility,

autonomy, the ability to work in a highly multidisciplinary team and good interpersonal skills are essential.

**Job package**

We offer an exciting and collaborative work environment at the forefront of biology, chemistry and physics research with top academic and industrial partners. We offer a competitive salary for up to a three-year period.

**Address your applications (CV + cover letter) to:**

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