



## POST-DOCTORAL POSITION

A postdoctoral position in Ultrafast Acoustoelectric Imaging is open at Institut Langevin in Paris ([www.institut-langevin.espci.fr](http://www.institut-langevin.espci.fr)).

### Project

#### **3-D Imaging of Tumor Angiogenesis using Ultrafast Ultrasound Imaging.**

Establishing the relationship existing between neo-angiogenesis and hyper metabolism is necessary for the development of efficient targeted and personalized cancer treatment strategies. Yet, while the tumor metabolism is routinely imaged clinically using FDG Positron Emission Tomography (PET), mapping both the vasculature and the metabolism is a daunting task. Even in laboratory settings, these maps are typically obtained using separate imaging modalities at different times, and hence in a different physiological state. We have recently built the first preclinical imaging instrument that can perform positron emission tomography (PET) and ultrafast ultrasound imaging (UUI) simultaneously. The objective of this project is to develop tailored instrumentation, ultrasound imaging sequences, and analysis tools to quantify and understand the link between angiogenesis and hypermetabolism in tumors in three dimensions. Specifically, the candidate will work on the development of novel high-frequency 3D ultrafast ultrasound imaging sequences based on both matrix arrays and contrast agents to quantify the anatomy and function of the blood vessels in mice.

### Applicant

Successful candidates will have a PhD in Engineering or Science with expertise in biomedical imaging. Candidates with experience in ultrasound imaging, signal processing, and computer programming (Matlab/C++) are preferred. The position is for one year with the possibility of renewal. The starting date is negotiable.

### Work environment

The post-doctoral researcher will join the Wave Physics for Medicine and Biology team directed by Dr. Mickael Tanter at Institut Langevin. Located in the heart of Paris, the team brings together physicists with expertise in wave physics and biomedical imaging to propose novel approaches to imaging and therapy based on ultrasound. Major contributions of the team include the development of [Ultrafast ultrasound imaging](#), [Shear Wave Elastography](#), and [fUltrasound](#), among others. This project is also conducted in close collaboration with the group of Bertrand Tavitian located at the PARCC, a major translational cardiovascular research center, also located in Paris.

### Application Process

Applicants should submit a cover letter and a resume as one document to [jean.provost@espci.fr](mailto:jean.provost@espci.fr). Please also provide the name, email address, and telephone number for at least two references if possible.

### Contact

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