

## **Intern/Master student: Simulation & optical design of a Brillouin lightsheet microscope**



### **Description of the position**

The European Molecular Biology Laboratory (EMBL) is one of the highest ranked scientific research organizations in the world. The Headquarters Laboratory is located in Heidelberg (Germany) and the outstations are in Grenoble (France), Hamburg (Germany), Hinxton (UK), Barcelona (Spain) and Monterotondo (Italy).

The Prevedel group in Heidelberg is seeking an intern or a master student for the duration of 6+months with an applied physics and/or optics/engineering background to work on advanced imaging techniques for applications in biology. In particular, the candidate will work on the development of new optical instrumentation with a particular emphasis on simulating, designing and potentially building a lightsheet Brillouin microscope (if time allows).

The candidate is expected to learn how to perform optical simulation and align an optical setup. Previous experience with Matlab/Python and/or Zemax is beneficial but not required. Our multi-disciplinary lab provides an innovative, dynamic and constructive working environment for this purpose. More information about the Prevedel group can be found here: [www.prevedel.embl.de](http://www.prevedel.embl.de)

### **Specific role:**

- Getting familiar with Brillouin microscopy and its challenges.
- Simulating a lightsheet Brillouin microscope using ideal optics (in Matlab/Python) and commercial optical components (in Zemax)
- Designing and building as well as characterizing the bespoke microscope

### **Qualifications and Experience**

The ideal candidate should be passionate about microscopy and have a good knowledge of geometrical and wave optics. The candidate should ideally have already some experience with Matlab or Python and prior knowledge or willingness to learn Zemax.

The successful candidate should be reliable and enjoy working in an international team within a highly collaborative atmosphere. Good communication, a high level of motivation and fluency in English are required.

### **Application Instructions**

For questions, or to apply, please contact directly Robert Prevedel ([prevedel@embl.de](mailto:prevedel@embl.de)).