

The group of **Prof. Dagmar Wachten (Biophysical Imaging)** at the **Institute of Innate Immunity** at the University Hospital Bonn is looking for a:

## Student assistant (m/w/d)

The group aims to understand how cilia work and elucidate their function. Cilia are subcellular compartments that protrude from the surface of almost every mammalian cell. Cilia can be grouped into two major classes: a) primary cilia, which are immotile and b) motile cilia, which are also called flagella. Ciliary dysfunction leads to severe diseases commonly referred to as ciliopathies. They comprise e.g. polycystic kidney disease, obesity, blindness, and infertility. However, the signaling pathways controlling ciliary function are ill-defined. To study ciliary signaling with high spatial and temporal precision, we combine optogenetics and genetically-encoded biosensors with high-resolution microscopy, mouse genetics, and biochemistry.

For in-depth image analysis of the generated microscopy images, we develop software tools that allow to automatically and comprehensively study motile and primary cilia. We have already published SpermQ – an analysis software to comprehensively study flagellar beating and sperm steering (Hansen et al., *Cells* 2018). In addition, we have developed a new software tool called CiliaQ that allows to automatically quantify ciliary morphology and fluorescence in 2D and 3D. However, the application of these software tools greatly benefits from personal interaction between the lab, which developed the software, and the scientists, who are going to use the software.

**Your task:** Develop digital online video-tutorials on how to use and apply CiliaQ in different types of experiments, making the software accessible to the whole international community. You will work in close contact with the developers of the software and scientists applying the software.

### Requirements:

- Student should be part of a Master program in the field of biology, biochemistry, bioinformatics, media sciences, computer sciences, or equivalent
- High communication skills
- Experience in tutoring and / or online media presentation
- Experience in microscopy, image analysis, or cell biology would be beneficial
- Programming skills (e.g. Java, R) would be an advantage

### Your application should include:

- CV
- brief summary of your previous work experience (max. 1/2 page)
- contact information of referees or references to own works

### Enquiries and applications to:

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Please refer to job number 525-2020.