

## **Light-Sheet Specialist at the University Imaging Centers**

This is a full or part-time, fixed term (1 year) position with the University Imaging Centers at the University of Minnesota.

### **OVERVIEW**

The position of Light-Sheet Specialist (LSS) will work within the University Imaging Centers (UIC) to support the imaging needs of scientists in and around the University of Minnesota. The Light-Sheet Specialist will be a member of the UIC team and report to the Program Director. The selected candidate will be responsible for assembly and validation of a macro Thin-Sheet Light Microscope (TSLiM) based on the design of Dr. Peter Santi. Beyond the assembly and validation of the system this person will provide basic training and assistance and will assist research projects for support in greater depth, and work on these projects in close association with users.

### **PROJECT SUMMARY**

Imaging is a cornerstone technology supporting science through the UIC. Achieving our research goals across diverse areas including developmental biology, neuroscience, and cancer requires imaging thicker specimens, such as spheroids, organoids, tissues and developmental model organisms. This includes both live imaging of fluorescent-proteins and imaging of fixed, fluorochrome-stained samples which may also require use of tissue clearing methods. To meet this challenge we now seek a Light Sheet Microscopy Specialist for the assembly of a custom TSLiM system.

### **KEY RESPONSIBILITIES**

The core responsibility of the Light-Sheet Specialist is to support all stages of light-sheet microscopy assembly and validation. In a broader context, the LSS will help to develop a pipeline within the UIC to support imaging across a range of samples, from 2D to 3D cell culture models through into model organisms including zebrafish, fruit flies, and spheroids. The LSS will develop operating protocols and potentially train users in the use of the (TSLiM). The LSS will also assist with the data pipeline and reconstruction of experimental data with support from the UIC and University of Minnesota Informatics Institute (UMII) These include but not limited to; • acquire and assemble the parts needed for light-sheet microscope • Develop standard operating protocols for the use of light-sheet microscopy • Assist with the specification and acquisition of hardware and software for light-sheet microscopy • Understand and be able to modify existing LabView software for operation of the microscope and imaging

### **KEY EXPERIENCE AND COMPETENCIES**

The post holder should embody and demonstrate our core values: Bold, Imaginative, Open, Dynamic and Collegial, in addition to the following: Essential • Evidence of collaboration skills • Training in optics and precision engineering, Experience with custom optical systems • Experience with LabView, micromanager, Zemax, and Fiji software • Ability to work effectively within a team • Ability to work independently when required • Excellent project management skills, including the ability to prioritize work • Ability to think creatively and problem-solve

Desirable • Experience with confocal and/or multi-photon microscopy • Experience with clearing methods such as CLARITY, iDISCO, CUBIC, etc. • Experience imaging thick samples, such as spheroids, organoids, embryos, etc.

### **Contact:**

For more information regarding this position please contact Mark Sanders – msanders@umn.edu.