

# About the job

**ABOUT US:** Scripps Research is ranked the most influential institution in the world for its impact on innovation. We expand basic knowledge in the biosciences, and use these fundamental advancements to develop profound innovations that improve wellbeing. Our educational and training programs mold talented and committed students and postdocs into leading edge scientists. Scientists in the institute's five academic research departments work hand-in-hand with researchers of the Scripps Research Translational Institute and Calibr to merge foundational studies in biology, chemistry and computer science with translational science to produce pioneering drugs and advances in digital and precision medicine. Together, we cultivate new scientific leaders and expand the frontiers of knowledge to deliver medical breakthroughs to better human health around the globe. If you have a passion for making a difference, this could be your opportunity to join our transformative team.

**POSITION TITLE:** Postdoctoral Associate

## Position Summary

Dr. Charles Daniel Murin at Scripps Research seeks to hire a highly motivated Postdoctoral Associate to start in 2021-2022. Dr. Murin is a Staff Scientist and Primary Investigator starting his lab aimed at understanding the molecular basis of antibody effector functions, including cellular recruitment and cytolytic activation during viral infection. This trainee will work closely with Dr. Murin to study the structure and function of the Natural Killer (NK) cell immune synapse during antibody dependent cellular cytotoxicity (ADCC). The postdoc will primarily drive super-resolution microscopy projects using the first and only available MINFLUX microscope in the United States, now housed in the Microscopy Core at Scripps Research. The postdoc will do the following:

- Setup and maintain NK cell stable cells lines for MINFLUX microscopy assays.
- Help clone, express, and purify recombinant viral proteins and antibodies as well as develop and implement in vitro ADCC assays.
- Develop and prepare planar lipid bilayers displaying viral proteins.
- Receive training on MINFLUX microscope operation, specimen preparation, imaging, and analysis within our core facility.
- Develop techniques to track and quantify Fc gamma receptor movement in live NK cells using MINFLUX nanoscopy.
- Develop techniques to perform single and two-color labeling of NK cell receptors and kinases in fixed cells to localize proteins on the 1-3 nanometer scale using MINFLUX.

Dr. Murin recently received the Stephen I. Katz R01, which is aimed at early-stage investigators pursuing innovative projects for which there are no preliminary data. Therefore, the postdoctoral candidate will be pursuing highly novel research with exclusive access to the cutting-edge technology of MINFLUX. The postdoc will also interact with Dr. Andrew Ward's large lab group at Scripps, where Dr. Murin's lab space is currently located.

## Preferred Qualifications

Although a background in super-resolution microscopy with first author publications using this technique is highly preferred, candidates with related or parallel skills will also be considered as training will be provided by experts in our core facility. Those candidates with clear motivation and interest in acquiring expertise in the use of MINFLUX nanoscopy will be prioritized. Other preferred experience includes:

- Some prior experience with advanced photonics and experience working with super-resolution microscopy techniques (such as STED, TIRF, and/or STORM).
- Working knowledge of design, theory, and operation of advanced light microscopy systems.
- Experience in digital image acquisition and preparation, including familiarity with Fiji/ImageJ, Imaris, Image Pro, etc.
- Demonstrated organizational skills, especially with electronic data, electron lab notebooks, and images.
- Experience with biological experimental design and implementation.
- Some experience with mammalian cell culture techniques as well as recombinant protein cloning, expression, and purification is preferred.
- Excellent written and verbal communication skills, especially in development of experimental approaches in collaboration with a PI.
- Ability to communicate and interact with a diverse array of people from different cultural and educational backgrounds.

### **Requirements**

Must possess a doctoral degree. A pending doctoral degree may be considered with approval of the Principal Investigator.

This position works in a laboratory or vivarium environment. Further details of the physical requirements of established essential functions for this position will be addressed/discussed during the interview process.

### **Compensation**

Commensurate with experience

*The above statements describe the level of work performed and expected in general terms. The statements are not intended to list all the responsibilities, duties and/or skills required of employees so classified, and the content herein is subject to change due to the business needs of Scripps Research, with or without notice. Furthermore, nothing in this job description shall be interpreted to be in conflict with or to eliminate or modify in any way the employment-at-will status of Scripps Research staff.*

**EEO Statement:** *Scripps is an equal opportunity employer. Qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability or protected veteran status.*