

Postdoctoral Associate Position in Serial Synchrotron Crystallography

Cornell University

Ithaca, NY, USA

Applications are invited for a postdoctoral position in development and application of methods for synchrotron-based serial crystallography of biomolecular systems. A joint project between Cornell University and MiTeGen, LLC, supported by a Phase II STTR award, is developing a complete suite of tools for sample preparation, handling, imaging and high-throughput data collection via serial crystallography at room and cryogenic temperatures, and will apply these tools to high scientific value targets. The postdoctoral position will involve methods development and applications using these tools in SSX experiments to be performed at CHSS and NSLS-II, with some emphasis on evaluating a multimodal microcrystal imaging system and integrating this system into serial crystallography workflows. The postdoctoral associate will be expected to collaborate with synchrotron source staff scientists and with other members of the structural biology and X-ray science communities at Cornell, and with staff at MiTeGen. The successful candidate will gain exposure to a wide variety of novel methods for structural science using X-rays and electrons currently under development at MiTeGen and in the Thorne lab and to the fundamental physical ideas underlying these methods, providing a strong basis for a variety of subsequent careers.

Applicants may have a Ph.D. in structural/molecular biology, physics, biophysics, applied physics, chemistry, materials science or related fields. Relevant skills include protein preparation and crystallization, optical system design and construction, use of multimodal laser scanned imaging systems, synchrotron-based X-ray data collection, biomolecular structural analysis and modeling, and programming for data collection and experiment control.

Start dates are flexible and can be as early as September 2021.

The group of [Prof. Warren Zipfel](#) at Cornell University develops and applies novel optical microscopy methods for biomedical research and clinical imaging. MiTeGen, LLC, designs, manufactures, and distributes tools for X-ray crystallography and cryo-electron microscopy. MiTeGen grew out of studies by the group of [Prof. Robert Thorne](#) at Cornell University on biological, chemical, and materials physics problems relevant in probing and understanding biomolecular structure and function, and their past and ongoing efforts to develop new methods for synchrotron X-ray and electron diffraction-based study of biomolecular systems.

The work will make extensive use of the highly flexible facilities for X-ray science available at the Cornell High-Energy Synchrotron Source (CHSS) (www.chess.cornell.edu), and the outstanding microbeam capabilities at NSLS-II.

Application material should be submitted to Academic Jobs Online. Complete applications will include a **brief cover letter**, a **CV**, a **detailed summary of research experience and interests**, and three letters of recommendation. Recommendation letters, if not initially provided, will be requested after application screening.

Diversity and Inclusion are a part of Cornell University's heritage. Cornell embraces diversity and seeks candidates who will create a climate that attracts students and faculty of all races, nationalities, and genders. We strongly encourage women and underrepresented minorities to apply. Cornell University is a recognized EEO/AA employer and educator, valuing AA/EEO, Protected Veterans, and Individuals with Disabilities.

For further information, please contact Prof. Robert E. Thorne ret6@cornell.edu and/or Prof. Warren Zipfel wrz2@cornell.edu