

Cryo-Electron Microscopy (Cryo-EM)

The [Shahmoradian lab](#) invites applications for a Postdoctoral Researcher position in the field of Cryo-Electron Microscopy (Cryo-EM) at UTSW. The successful candidate will join a multidisciplinary team focused on elucidating the structural biology of complex macromolecular assemblies. Exceptional performance in this role may offer the opportunity to transition into a permanent staff scientist position upon completion of the Postdoc term.

Postdoctoral Researcher in Cryo-Electron Microscopy (Cryo-EM)

Location: Center for Alzheimer's and Neurodegenerative Diseases, O'Donnell Brain Institute, UT Southwestern Medical School, Dallas, Texas

Position Type: Full-Time, Fixed-Term (2 years with the possibility of extension)

Salary: Very Competitive

Application Deadline: Ongoing

Responsibilities:

- **Sample Preparation:** Prepare biological samples for Cryo-EM, including plunge-freezing techniques.
- **Image Processing:** Perform image alignment, classification, and high-resolution reconstruction using software such as RELION, cryoSPARC, or similar.
- **Model Building and Refinement:** Generate atomic models based on Cryo-EM maps, and refine these models for best fit and validation.
- **Computational Analysis:** Conduct computational simulations to interpret and validate structural data (**preferred but not required**)
- **Data Acquisition:** Operate high-end electron microscopes for data collection, including single-particle and tomographic imaging (**preferred but not required**)
- **Collaboration:** Work closely with biochemists, biophysicists, and computational scientists to integrate structural data with other experimental results.
- **Data Management:** Maintain accurate records of experimental procedures and data, ensuring compliance with institutional policies on data integrity and security.
- **Publication and Dissemination:** Prepare manuscripts for publication in peer-reviewed journals and present findings at scientific conferences.
- **Mentorship:** Train and mentor junior lab members in Cryo-EM techniques and data analysis.

Qualifications:

- Ph.D. in Structural Biology, Biophysics, Biochemistry, or a related field.
- Extensive experience in Cryo-EM sample preparation and image processing.
- Proficiency in computational tools for image processing and structural modeling, such as RELION, cryoSPARC, or equivalent.
- Experience with helical image processing is highly preferred.
- Additional programming skills in Python, MATLAB, or other relevant languages is preferred.
- Excellent communication skills, both written and oral.
- Ability to work independently and as part of a multidisciplinary team.
- A track record of peer-reviewed publications in reputable journals.

Interested individuals should send the following information to [Sarah Shahmoradian](#) at sarah.shahmoradian@utsouthwestern.edu:

- **Cover Letter:** Describe your research experience, interests, and how they align with the project.
- **Curriculum Vitae (CV):** Include a list of publications and contact information for three references.
- **Statement of Research:** Provide a summary of your research background and future research interests (maximum 2 pages).
- **Academic Transcripts:** Copies of your Ph.D. and undergraduate transcripts (unofficial copies are acceptable)

Information on our postdoctoral training program, benefits, and a virtual tour can be found at <http://www.utsouthwestern.edu/postdocs>.