UT Southwestern Medical Center

Structural Biology and Biochemistry of Gene Regulation

A joint postdoctoral training position is available in the laboratories of Dr. W. Lee Kraus and Dr. Xin Liu in the Cecil H. and Ida Green Center for Reproductive Biology Sciences at UT Southwestern Medical Center to study signaling and gene regulation and molecular biophysics of gene regulation. We are seeking a trainee interested in studying gene regulatory complexes, who will initiate and execute research projects investigating the molecular mechanisms by which proteins assemble into specific complexes for particular biological functions with a focus on the regulation of chromatin structure and transcription. The goal is to determine how macromolecular recognition and enzymatic regulation are accomplished, using biochemistry, structural biology, and molecular biology. The position will also include opportunities to learn and use genomics and bioinformatics, as well as cell and animal models. The Center also provides significant opportunities to engage in clinical/translational projects with clinicians working in the center.

The research in the Kraus lab covers a broad array of topics, including signaling, gene regulation, and genome function, especially in the areas of chromatin, transcription, epigenetics, RNA biology, and nuclear endpoints of cellular signaling pathways. The Kraus lab uses a wide variety of model systems and experimental approaches, including biochemistry, molecular biology, structural biology, animal models, genomics, proteomics, bioinformatics, and computational biology. The research in the Liu lab addresses a wide range of questions related to transcriptional regulation and chromatin dynamics underlying many fundamental biological processes, including differentiation, development, and oncogenesis. Current research is focused on elucidating the molecular and biophysical basis of chromatin organization, including chromatin looping and heterochromatin formation during gene activation and silencing, with a combined approach of structural biology, biochemistry, and chemical biology. As a joint postdoctoral fellow, the trainee will have immediate access to all the resources and expertise in both of the laboratories.

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

Candidates must hold a Ph.D. and/or M.D. degree. Experience in Biochemistry and Structural Biology leading to publication in peer-reviewed journals is required. Additional experience in Molecular Biology, Genomics, and/or Computational Biology is recommended. Interested individuals should send a CV, statement of interests, and a list of three references to:

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