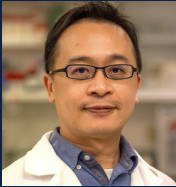


BCH 252 Seminar Series



Kuang-Lei Tsai, Assistant Professor, Biochemistry and Molecular Biology Department, University of Texas Health Science Center at Houston

Seminar Title: "Decoding the Human Transcriptional Mediator Complex and its Kinase: Visual Insights into Regulatory mechanisms"

Abstract: My research leverages single-particle cryo-electron microscopy (cryo-EM) and functional analysis to explore the structure and function of macromolecular complexes that regulate gene transcription. In this process, the precise interplay between transcription factors and coactivators is vital for conveying regulatory signals to the RNA polymerase II (Pol II) basal transcription machinery. Dysfunctions or dysregulations in these proteins are frequently associated with various human diseases. Therefore, a deep understanding of the regulatory mechanisms of transcriptional complexes is essential for uncovering how they influence transcription and relay signals to Pol II. Central to this process is the Mediator complex, which comprises a large Core and a Cdk8 kinase module (CKM) and plays a critical role in transcription initiation. In my presentation, I will discuss our recent findings on Pol II-dependent transcription regulation via the Mediator complex, highlighting the mechanism of Cdk8 activation and the functional role of the intrinsically disordered regions of CKM.

Tuesday, October 8th, 2024 12:00 p.m. - 12:50 p.m. PST

In-Person: Genomics Auditorium 1102A

Host: Dr. Chia-en Chang