

Wei Zhang, Ph.D., Laboratory – Research Interests

Wei Zhang's principle research interests are in computer-aided drug discovery focusing on developing and utilizing computational approaches to study biological systems, exploring the relationship among structure, dynamics and functions of drug targets, and designing chemical reagents to modulate protein functions for the treatment of diseases. Current research projects of Zhang's laboratory include:

- 1) Exploring novel allosteric site(s) of protein targets using combined computational and experimental methods
- 2) Developing chemotherapeutic agents that selectively target mitotic kinesins, such as Eg5/KSP, KIFC1/HSET, KIF3a, for cancer treatment
- 3) In collaboration with Yonghe Li, Ph.D., designing small molecule inhibitors of frizzled receptors to block the Wnt signaling pathway for cancer therapeutics
- 4) Identifying potential chemotherapeutics for CNS diseases by targeting different protein targets, such as glucose transporters (in collaboration with Anita Hjelmeland), neurotensin receptors and dopamine transporter (in collaboration with Sam Ananthan, Ph.D.)
- 5) Using computational methods, including *in silico* screening and structure-based drug design, to identify novel therapeutics for HIV infection