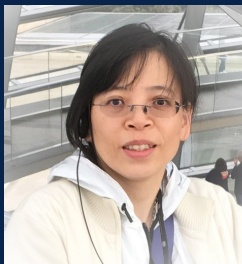


BCH 252 Seminar Series



**Dr. Chia-en Chang, Professor of Chemistry
and Bioinformatics, UC Riverside**

**Seminar Title: "Molecular modeling in
Biochemistry: Computer-aided Drug
Development and Enzyme Nanostructure
Design"**

Abstract: Recent advances in modeling techniques and the increases in computational power have led to considerable success in the field of computational biochemistry/chemistry, especially in drug development, protein folding and dynamics, and design and interpretation of complex experiments. In this presentation, I will discuss development and applications of a few computational tools that bring novel inhibitors targeting viral or bacterial proteins as new drug candidates. I will present two collaborative work that my group applied computation tools to screen and/or design small molecules that bind to tryptophan synthase for antibiotic development and papain-like protease of SARS-CoV-2 for Covid-19 treatments. I will also discuss how we use our computation tools to access kinetic enhancement for designing bioengineered multi-enzyme and enzyme-DNA nanostructure complexes that have increased overall efficiency of chemical catalysis for greener chemistry and other applications.

Biography: Chia-en A. Chang is professor of chemistry and bioinformatics. She received her Ph.D. in Chemistry from the University of Maryland, College Park with Mike Gilson, who is now a co-director of UCSD's Center for Drug Discovery Innovation. Before moving to UCR in 2008, Chang carried out her post-doctoral research at UCSD. The Chang group works on the development and application of computational methods and theoretical models to address medically and chemically important problems. She was awarded several awards such as the The Distinguished Lectureship Award from Japanese Society for Molecular Science in 2018, NSF CAREER award in 2014, HP Outstanding Junior Faculty Award and Robert T. Poe Faculty Development Award, both in 2009.

ZOOM Link: [https://ucr.zoom.us/j/97233953239?
pwd=U2w1VWdtcDI4WW8rRXdTUVp2WWp4dz09](https://ucr.zoom.us/j/97233953239?pwd=U2w1VWdtcDI4WW8rRXdTUVp2WWp4dz09)

Meeting ID: 972 3395 3239

Passcode: 609143

**Tuesday, January 25th, 2022
12:00 p.m. - 12:50 p.m.**

Host: Dr. Xuan Liu