SHAHAR SUKENIK

Assistant Professor
University of California, Merced

Thursday, November 2nd

10:30am - 11:30am

Steele 006

"The secret life of disordered proteins"

Biography: Shahar Sukenik completed his B.Sc, M.Sc, and Ph.D. at the Hebrew University of Jerusalem, where he studied the effects of complex solutions on protein structure and interactions using a combination of computational and spectroscopic methods with Prof. Daniel Harries. He worked as a post-doctoral scholar at the University of Illinois at Urbana-Champaign with Prof. Martin Grueble, where he developed microscopy methods to study protein structure, dynamics, and interactions in live cells. He joined the faculty of University of California Merced as an assistant professor in the department of chemistry and biochemistry in 2018, where his laboratory studies the interplay between proteins and their chemical environments using a combination of computational, biophysical, and live-cell microscopy techniques.

Abstract: The physical-chemical conditions inside the cell vary spatially and temporally in response to both routine cell cycle events and to external environmental changes. For many of the cell's proteins, the effects of these changes are negligible. Yet for intrinsically disordered proteins and protein-regions (IDPs), which make up over a third of the human proteome, such physical chemical changes in the intracellular solution can dramatically affect structure and function. I will share our lab's efforts to decipher how IDPs behave in response to a changing cellular environment using a combination of computational approaches, in vitro experiments, and live cell microscopy. With these complementary approaches, we reveal how IDPs sense and respond to their environment, and how this ability can be leveraged for function with long-ranging implications to cell health and disease.