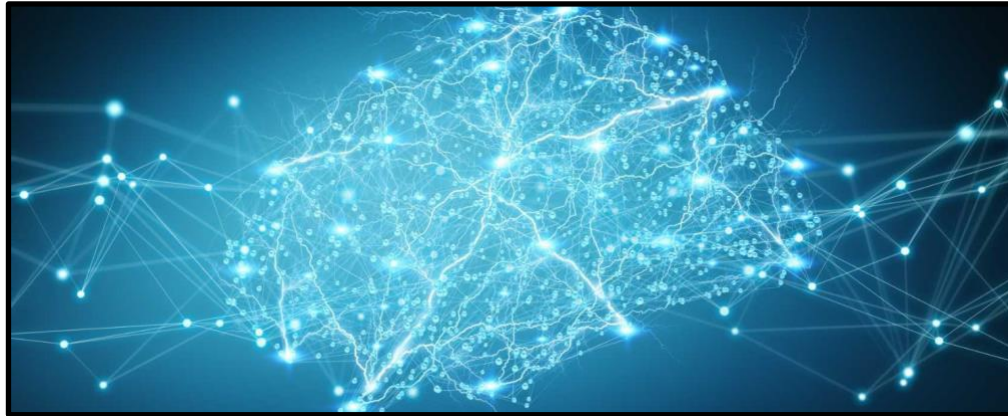


Introduction to Complex Systems



Dr. Afshin Montakhab

Lecturer, Physics Department
California Polytechnic State University

Thursday, May 9, 2024
11:10 am - 12:00 Noon
Building 53, Room 215
Pizza will be served!



Abstract: In this first part of a two-lecture series, I will provide a somewhat personal introduction to the modern theory of complex systems. I will discuss simple, complicated, and complex systems. Complexity is a multi-disciplinary field which heavily borrows from statistical physics literature. The four main lenses of the modern theory of complexity are: networks and graphs, criticality and phase transitions, nonlinear (thermo) dynamics, game theory and optimization. I will give specific examples to discuss and explain these fascinating disciplines.

Bio: I was born in Shiraz Iran, and I had my first physics course in the 9th grade and fell in love with the subject right away. Years later, I got my bachelor's degree from UCLA (with honors) and won a scholarship to study condensed matter physics at UCSB. I moved to my home country in 2000 where I helped transform the physics department at Shiraz University to become a leading graduate program in Iran. I moved back to the US in 2023 where I hope to mentor and teach talented undergraduate students. When I am not "doing" physics, I like to hike, swim and play poker.