Title:
Statistical mechanics of dense disordered matter

Abstract:
I will present a rapid and pedagogical overview of on-going research efforts in the broad field of dense disordered materials in various contexts, from dense fluids undergoing glass and jamming transitions to transport and mechanical properties of amorphous solids, with applications from molecular systems to biological active matter. These problems involve computational and theoretical challenges that I would like to explain, and recent developments involving advanced Monte Carlo techniques and machine learning approaches.