

Speaker: Mina Aganagic

Title: Homological link invariants from Floer theory

Abstract: The link categorification problem is to give a uniform categorification of Chern-Simons link invariants which originates from geometry and physics. The resulting theory, predicted by string theory, generalizes Heegard-Floer theory from $\mathfrak{gl}(1|1)$ to other Lie (super-)algebras. The resulting category of A-branes has many special features which render it solvable explicitly. In this talk, I will describe how the theory is solved, and how homological link invariants arise from it. I will focus on the two simplest cases, the $\mathfrak{gl}(1|1)$ theory itself, and the $\mathfrak{su}(2)$ theory, categorifying respectively the Alexander and the Jones polynomials.