# Bernardo Zan

Thursday, September 29·2:00 – 3:00pm

Title: Chiral symmetry and mass shift for the lattice Schwinger model

Abstract: The Schwinger model is one of the simplest gauge theories, yet it is only solvable in the massless case. In order to obtain numerical results, the Kogut-Susskind lattice approach with staggered fermion is regularly used. I will show that, contrary to what it was believed, the lattice mass and the continuum mass are actually not the same, but they are related by a mass shift. This can be understood by considering the (anomalous) chiral symmetry in the massless case, and has the advantage of greatly improving convergence of the numerics. I will comment on the charge-q Schwinger model as well as the multiflavor Schwinger model as well.