

Gilly Elor – HEP seminar – February 7, 2024
University of Texas – Austin

Title: Mesogenesis

Abstract: What is the Universe made of? Why do complex structures such as ourselves exist? I will present a proposal for simultaneously solving both these outstanding mysteries of particle physics: Mesogenesis, which generates both the observed asymmetry of matter over antimatter in the early Universe, and the population of Dark Matter particles. Mechanisms of Mesogenesis generate an asymmetry through strongly coupled Standard Model particles known as mesons. Excitingly, this makes Mesogenesis highly testable and it can be searched for at the Large Hadron Collider, electron positron colliders, and even large volume neutrino experiments. Many experimental searches are currently underway to test Mesogenesis and I will present an overview of these exciting ongoing efforts.