

## Nu cosmologies and signals

*Thursday 11 June 2020 10:15 (1 hour)*

In this talk I will present some new signals of well-motivated UV completions of the Standard Model. Firstly, I will survey the cosmology of minimal left-right extensions of the Standard Model. Such theories have two possible mechanisms to set their relic density and we study each of them in general. Surprisingly, the viable mechanisms responsible for setting the dark matter density are predictive and can be probed by current and near-future experiments. Secondly (time-pending), I will go over how leptogenesis through the see-saw mechanism can be detected using gravitational waves. I will show how a restored high scale symmetry is necessary for a natural formulation of the see-saw mechanism and such symmetries often predict a background of gravitational waves. This background can be seen with projections for future experiments, potentially probing the entire range relevant of symmetry-breaking scales relevant for leptogenesis.

**Presenter:** DROR, Jeff (Berkeley)

**Session Classification:** Tuesday/Thursday seminars