

CM/AMO Seminar

Prof. Nigel Goldenfeld

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“Undoing evolution with the genetic code: experiments with a biological time machine”

Time: Tuesday, April 21, 4PM

Location: 335 West Hall

Abstract: Relics of early life, preceding even the last universal common ancestor of all life on Earth, are present in the structure of the modern day canonical genetic code. In this talk, I will draw attention to these relics, and discuss their interpretation from the perspective of the dynamical system that is evolution. I will argue that this viewpoint, and the quantitative, statistical dynamical calculations that it entails, suggest a natural scenario in which evolution exhibits three distinct dynamical regimes, differentiated respectively by the way in which information flow, genetic novelty and complexity emerge. Possible observational signatures of these predictions are discussed.