Abstract
In this talk, I will present a general approach to obtain effective field theories for topological crystalline insulators whose low-energy theories are described by massive Dirac fermions. We show that these phases are characterized by the responses to spatially dependent mass parameters with interfaces. These mass interfaces implement the dimensional reduction procedure such that the state of interest is smoothly deformed into a network of defects (dubbed topological crystal), where each defect supports a short-ranged entangled state. Effective field theories are obtained by integrating out the massive Dirac fermions, and various quantized topological terms are uncovered. I will describe how to apply this strategy through a few simple examples and comment on the relation to the topological elasticity theory.