Abstract:

In this talk I will discuss an ongoing work on random field models. I will begin by reviewing a conjecture by Parisi and Sourlas that the infrared fixed point of certain disordered theories should be described by a supersymmetric conformal field theory (CFT). From this it can be argued that the disordered CFT admits a description in terms of a CFT in two less spacetime dimensions but without the disorder. I will explain how the dimensional reduction is realized. Finally I will discuss when and how the RG flow of the random field theory reaches the SUSY fixed point.