Abstract:
In ergodic theory, one often studies measure-preserving actions of countable groups on probability spaces. Bernoulli shifts are a class of such actions that are particularly simple to define, but despite several decades of study some elementary questions about them still remain open, such as how they are classified up to isomorphism. Progress in understanding Bernoulli shifts has historically gone hand-in-hand with the development of a tool known as entropy. In this talk, I will review classical concepts and results, which apply in the case where the acting group is amenable, and then I will discuss recent developments that are beginning to illuminate the case of non-amenable groups.