Ergodic theorems for amenable groups

Abstract:

We will talk on the validity of the mean ergodic theorem along left Følner sequences in a countable amenable group G. Although the weak ergodic theorem always holds along any left Følner sequence in G, we will provide examples where the mean ergodic theorem fails in quite dramatic ways. On the other hand, if G does not admit any ICC quotients, e.g. if G is virtually nilpotent, then we will prove that the mean ergodic theorem does indeed hold along any left Følner sequence. Based on the joint work with M. Björklund (Chalmers).