Abstract

Recall that the character of a finite dimensional (complex) representation ρ of a finite group, namely the function $g \mapsto trace(\rho(g))$, "knows" everything about the representation. In the context of p-adic reductive groups such as $GL_n(\mathbb{Q}_p)$ (i.e.,the group of $n \times n$ invertible matrices whose entries are p-adic numbers), all interesting representations are infinite dimensional, so the above definition does not apply. In this talk I will discuss how Harish-Chandra adapted the notion of character to such a context and studied it. If time permits, I will discuss what are called relative characters, and comment on ongoing joint work regarding the range of validity for their asymptotics.