1053-11-246 **Martin H. Weissman*** (weissman.marty@gmail.com), Dept. of Mathematics, UCSC, 1156 High Street, Santa Cruz, CA 95064. *Dichotomy and the local Langlands conjecture for G_2.*

The local Langlands conjecture predicts that to every generic cuspidal irreducible representation of G_2 over a p-adic field, one may associate either a cuspidal irreducible representation of PGL_3, or else a generic cuspidal irreducible representation of $PGSp_6$. Conversely, this dichotomy for representations reduces the local Langlands conjecture for G_2 (for generic irreducible representations) to the local Langlands conjecture for the classical groups PGL_3 (where it is known) and $PGSp_6$ (where it is "almost" known).

In this talk I will describe recent work, joint with Gordan Savin, which proves this predicted dichotomy for generic cuspidal irreducible representations of G_2, over p-adic fields with $p \neq 2$ (when $p = 2$, a slightly weaker result is proven). I will also describe the corresponding dichotomy for Galois representations. The methods include theta correspondences in the exceptional groups E_6 and E_7, a study of Shalika periods, and spin L-functions for $PGSp_6$. (Received September 06, 2009)