April 18: David Vogan (MIT), "Arthur's conjectures for E_8: getting real mathematics out of a press release."

Whenever G is the group of real points of a semisimple algebraic group, Arthur's conjectures describe a finite set of irreducible representations (called "special unipotent") of G that conjecturally appear in interesting ways in automorphic forms. (In particular, they are conjecturally unitary.) Arthur's description of these representations is somewhat indirect, and it is not a simple matter even to make a list of these representations. From a knowledge of the character table of G, it *is* possible to list the special unipotent representations, and then to look for ways to prove that they are unitary. Since Fokko du Cloux and Marc van Leeuwen computed the character table for the split real form of E_8, we can now write down Arthur's representations for that group. I'll talk about this, and about related evidence that the character table is correct.