April 3: Lucas Mason-Brown (MIT), The $K$-types of unipotent representations

Unipotent representations are an important and mysterious class of unitary representations of a real reductive group. In a sense, they are the atoms of unitary representation theory. In a paper from 1991, David Vogan provides a conjectural formula for their $K$-types. In this talk, I will prove this formula in a large family of cases. The key ingredient is a theory of microlocalization for Harish-Chandra modules, inspired by Ivan Losev’s work on $W$-modules and primitive ideals.