May 6: Clifton Cunningham (University of Calgary), *Arthur packets for G_2 and perverse sheaves on cubics.*

This talk demonstrates a non-invasive procedure that calculates Arthur packets, their associated stable distributions and Langlands-Shelstad transfers, without direct use of endoscopy, using certain unipotent representations of the split p-adic exceptional group G_2 as examples. In the case at hand, this procedure relies on a study of the category of $GL(2)$-equivariant perverse sheaves on the moduli space of homogeneous cubics in two variables, which is perhaps of independent interest. Specifically, we find the Fourier transform and the microlocalization of the simple objects in this category, and convert that into information about the Aubert involution and stable distributions attached to Arthur packets. This is joint work with Andrew Fiori and Qing Zhang, based on earlier joint work with Andrew Fiori, Ahmed Moussaoui, James Mracek and Bin Xu, which is based on earlier work by David Vogan, sadly, not joint.