1145-42-1024     **Philip T Gressman\***, Mathematics Department, David Rittenhouse Lab, 209 South 33rd Street, Philadelphia, PA 19104. *Geometric problems related to Fourier restriction and decoupling.*

In this talk, I will discuss recent developments related to the problem of characterizing well-curved geometries of sub-manifolds of Euclidean space as dictated by model Fourier restriction and decoupling problems. The work incorporates ideas old and new from representation theory and geometric invariant theory and has the potential to bring clarity to a number of other challenging, geometrically-connected problems in harmonic analysis as well, including $L^p$-improving and linear and nonlinear variants of the Brascamp-Lieb inequalities. (Received September 18, 2018)