## 1088-60-196 Scott P Robertson\* (scottrob@andrew.cmu.edu), Department of Mathematical Sciences, Wean Hall 6113, Pittsburgh, PA 15213. Static Fund Separation of Long Term Investments.

In this talk we will prove a class of static fund separation theorems, valid for investors with a long horizon and constant relative risk aversion, and with stochastic investment opportunities. An optimal portfolio decomposes as a constant mix of a few preference-free funds, which are common to all investors. The weight in each fund is a constant that may depend on an investor's risk aversion, but not on the state variable, which changes over time. Vice versa, the composition of each fund may depend on the state, but not on the risk aversion, since a fund appears in the portfolios of different investors. We prove these results for two classes of models with a single state variable, and several assets with constant correlations with the state. In the linear class, the state is an Ornstein-Uhlenbeck process, risk premia are affine in the state, while volatilities and the interest rate are constant. In the square root class, the state follows a square root diffusion, expected returns and the interest rate are affine in the state, while volatilities are linear in the square root of state. (Received February 10, 2013)