Date: October 26th

Time: 11:00 AM

Location: Maryland Hall 110

Speaker: Dr. Paul O'Gorman

California Institute of Technology

Title: *"The curious case of large-scale turbulence in the atmosphere"*

Abstract

The study of turbulent flows has focused on idealized isotropic and homogeneous geometries in which mean flows vanish and nonlinear interactions among eddies are of central importance. Large-scale (>500km) turbulence in the atmosphere is an example of turbulent flow in which other effects such as interactions of eddies with the mean flow are also important, so that a focus on nonlinear eddy-eddy interactions may be inappropriate. In recent work, we have demonstrated with an idealized general circulation model that many features of the mean circulation and large-scale turbulence of the atmosphere can be recovered even if nonlinear eddy-eddy interactions are eliminated completely. We will discuss fundamental features of atmospheric flow such as the eddy length scale, jet formation, and the kinetic energy spectrum in light of this new result.