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Diane M. Taylor*, dtaylor2@scu.edu, and **Fotini K. Chow**. *Advection diffusion, atmospheric modeling, and methane transport.*

Landfills are a significant contributor to atmospheric methane, a potent greenhouse gas. An important problem is to quantify landfill methane emissions, but the size and heterogeneous nature of landfills presents difficulties. This talk discusses the use of the tracer dilution method (TDM), as a cost effective method to estimate the emissions. This method involves releasing a tracer gas and then measuring both methane and the tracer gas at a location downwind. This research focuses on the use of atmospheric dispersion modeling to simulate the plumes of methane and tracer gas at a real landfill, and examine how this modeling can be used to assess the TDM's accuracy. (Received September 16, 2017)