



# Institute for Flow Physics and Control

Department of Aerospace and Mechanical Engineering  
University of Notre Dame, Notre Dame, IN

## FlowPAC Seminar

**Prof. Eric Pardyjak**  
**Associate Professor**  
**Department of Mechanical Engineering**  
**University of Utah**

**Date:** Friday, October 28, 2011  
**Time:** 1:00-2:00 p.m., 131 DeBartolo Hall  
**Title:** Impact of Green Infrastructure on Urban Microclimate & Air Quality

### **Abstract**

Understanding the impact of green infrastructure projects on urban energy use and microclimate is critical to developing sustainable long-term urban planning strategies. Green infrastructure projects come in many forms including: the development of parks, alteration of building rooftops, and the use of novel asphalt and concrete materials for streets and parking lots. They all share the common goals of reducing energy usage, mitigating pollution emissions and improving the urban microclimate. Due to difficulty in simulating the large disparity in length scales covering these processes, little is known about their impact. In this presentation, a description of our approach, which is designed to bridge these scales and improve our understanding of how green infrastructure interacts with urban environments at local (neighborhood), city, and meso-scales (using a suite of computationally based strategies) will be discussed. In particular, how the distribution of heat, moisture and pollutants can be effected and how optimal green infrastructure designs can be found. A discussion of various tools that can be used to more effectively convey scientific and engineering results will be presented.

For more information about Dr. Pardyjak, visit:  
<http://www.mech.utah.edu/people/faculty/pardyjak.html>