"Global change and urban systems: Adaptation and mitigation options"

Many urban landscapes are engineered and managed specifically to provide goods and services for urban residents such as food provision, aesthetic value, and climate modification. Currently, urban managers and policy-makers are instituting many “greening” programs in cities to enhance these services and attempt to mitigate local and global environmental problems. Yet, these programs are often based on very little scientific information about the magnitude of ecosystem services and the environmental costs and benefits of creating and managing green infrastructure. Research aimed specifically at enhancing our understanding of urban ecosystem services, conducted in collaboration with stakeholders, can both improve our basic understanding of coupled human-natural processes, as well as provide the critical information needed by stakeholders for mitigating pollution and climate change in cities, and utilizing landscape management to help cities adapt to rising temperatures. Using urban ecological research in Los Angeles as a case study, this talk will focus on current research in ecophysiology, plant-atmosphere interactions, and ecosystem services in semi-arid urban landscapes.

Research Interests:

Diane Pataki is an ecologist who studies the role of plants and ecosystems in the climate system. Her research focuses on the influence of vegetation on hydrology, water resources, greenhouse gases, and climate with measurements of plant physiology, soil processes, and atmospheric composition. Her recent work focuses on the role of urban plants and landscapes in climate change mitigation and pollution remediation in cities. There is increasing interest in implementing “greening” programs in cities, but the environmental costs and benefits of these programs are highly uncertain. She has studied tree planting programs, greenhouse gas emissions, and climate change mitigation options in Salt Lake City, Utah and the Los Angeles metropolitan area.

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4:00 – 5:00 pm
210 Aline Wilmot Skaggs Building
Host: Fred Adler, Mathematics & Biology
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