

# UDEI Seminar

March 19, 2014

10:30 a.m.

322 ISE Lab

## Dr. Jeremy Martin

Senior Scientist, Clean Vehicles Program  
Union of Concerned Scientists



**Jeremy Martin**, Senior Scientist in the Union of Concerned Scientists' Clean Vehicles Program, evaluates the impact of biofuels and fuel policy.

Dr. Martin is the author of more than 15 technical publications and 13 patents on topics ranging from biofuels lifecycle accounting to semiconductor manufacturing and polymer physics. His most recent peer reviewed publication in Environmental Research Letters is a collaboration between UCS, UC Berkeley and UC Davis to correctly account for time in crop based biofuels. This work was cited in both EPA and California Air Resources Board biofuels regulatory analyses.

Dr. Martin also acted as a technical peer reviewer for the EPA Renewable Fuel Standard Regulations on "Methods and Approaches to Account for Lifecycle Greenhouse Gas Emissions from Biofuels Production Over Time" and is a member of the California Air Resources Board's Low Carbon Fuel Standard Expert Workgroup.

Before coming to UCS, Dr. Martin worked in research, development and manufacturing of computer chips at Advanced Micro Devices. Dr. Martin has a Ph.D. in chemistry and a minor in chemical engineering from the California Institute of Technology (Caltech) and a bachelor's degree in chemistry and English literature from Haverford College. At Caltech his research focused on polymers.

## Dr. Rachael Nealer

Kendall Science Fellow, Clean Vehicles Program  
Union of Concerned Scientists



**Rachael Nealer** joined UCS in September 2013 as a Kendall Science Fellow in the Clean Vehicles Program. Her research will focus on the lifecycle environmental impacts of advanced vehicles, specifically hybrid-electric, plug-in electric, and fuel cell vehicles.

Before coming to UCS, Dr. Nealer worked for the U.S. Environmental Protection Agency where she modeled the lifecycle greenhouse gas emissions associated with biofuels for the Renewable Fuels Standard.

Dr. Nealer received her joint Ph.D. in civil and environmental engineering and engineering and public policy from Carnegie Mellon University. Her work focused primarily on modeling the lifecycle environmental impacts of freight transportation and analyzed policies to reduce energy consumption and greenhouse gas emissions nationally. She holds a M.S. from Carnegie Mellon University and a B.S. from the University of Massachusetts, Amherst—both in civil and environmental engineering.

## Half the Oil: Cutting oil use with advanced vehicles and fuels

Jeremy Martin and Rachael Nealer from the Union of Concerned Scientists in Washington DC describe a comprehensive plan to cut projected US oil use in half in twenty years with a combination of efficiency and innovative clean fuels and advanced vehicles. Jeremy will focus on biomass based fuels, vehicle and fuel infrastructure constraints called the blend wall, and the evolving policy framework governing biofuels in federal and state law. Rachael will describe life cycle analysis of electricity as a transportation fuel and advanced battery electric and fuel cell vehicles.