The National Center for Atmospheric Research
NCAR
managed by UCAR to serve the community
sponsored by NSF

NESL's Atmospheric Chemistry Division Seminar

From crude oil vapors to diesel and gasoline engines: Field and laboratory measurements of organic aerosol formation

Dr. Roya Bahreini

University of Denver

Monday, July 23, 2012
3:00 p.m. – Refreshments & Socializing
3:30 p.m. – Seminar
Foothills Lab 2, Room 1001

Abstract

Aerosol particles have adverse effects on air quality, visibility, and health as well as direct and indirect effects on climate. To better understand such effects, understanding aerosol formation pathways is essential. Although organic aerosol (OA) often contributes a large fraction of the submicron aerosol mass, ambient OA formation pathways are poorly understood. In this talk, I will present data provided by aerosol mass spectrometers (AMS) in order to investigate OA formation pathways downwind of the Deepwater Horizon Oil spill as well as in the laboratory-oxidation experiments of light crude oil vapors. Furthermore, I will present data from airborne measurements of OA in the Los Angeles Basin, California in order to assess the amount of secondary OA (SOA) formed in air masses with an influence from diesel emissions that varied from weekdays to weekends. Results from these studies have advanced our understanding of SOA formation from anthropogenic precursors. More importantly, they have important implications for policy makers regarding emission controls from gasoline and diesel vehicles.