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**Division of Environment**

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**Conditional Sampling of Atmospheric Particles  
to Study Source-Oriented Toxicity**

by

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**Abstract**

What kind of ambient particles would you prefer breathing: Sea spray or diesel exhaust? The U.S. National Ambient Air Quality Standards do not distinguish between them, yet logic dictates that they should not be regulated the same. The toxicity of sources has been investigated directly from exhaust without substantial atmospheric processing, but humans do not breathe direct emissions from one source. Humans typically breathe the photochemically processed emissions from mixtures of sources. How can we relate the toxicity of ambient PM to the sources that emitted them? This talk will report on (a) a system that identifies and collects ambient particles associated with different sources or source-combinations in real time, (b) operation of the system in Fresno California to collect sufficient quantities of size-segregated ambient particles for toxicity studies, and (c) resulting toxicity studies.

*Bio of Prof. Anthony Wexler* obtained his BS from UC Berkeley, SM from MIT and PhD from Caltech. He was a professor of Mechanical Engineering at the University of Delaware from 1990 to 2000 when he joined the University of California, Davis in the departments of Mechanical and Aerospace Engineering, Civil and Environmental Engineering, and Land, Air and Water Resources. He has published over 190 papers that are currently cited about 400 times per year. His research interests center on atmospheric particles related to air pollution, climate change and human health, although he also works on neuromuscular physiology in his copious spare time.

**Date: 27 May 2013 (Monday)**

**Time: 10:00am**

**Venue: Room 3416 (Lifts 17-18)**

*~ All are welcome ~~*