

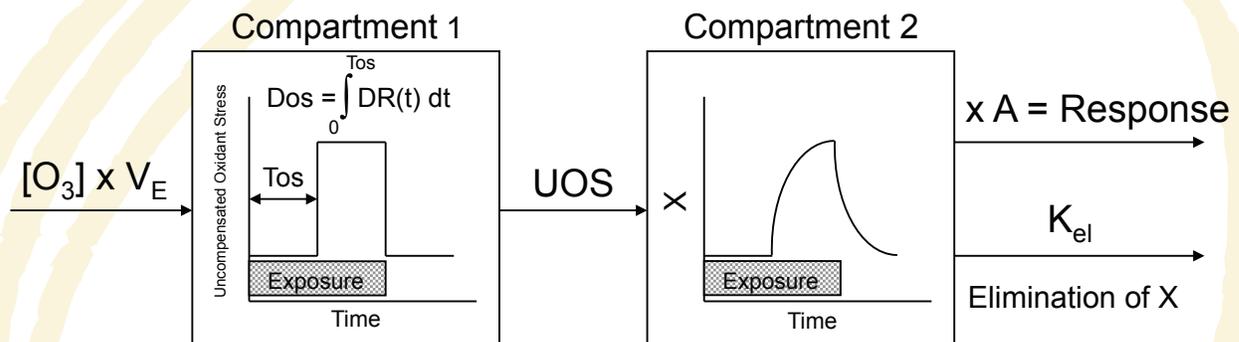
## EDWARD S. SCHELEGLE, PhD

CNPRC Core Scientist  
 Professor & Chair  
 Department of Anatomy, Physiology and Cell Biology  
 UC Davis School of Veterinary Medicine

### Pulmonary Neurophysiology and Inhalation Toxicology

I direct a translational program that examines how environmental factors affect human lung health. My primary research interest is the role that lung vagal afferents play in the control of breathing, airway smooth muscle reactivity, epithelial injury, inflammation and repair in models of acute and chronic lung injury and/or disease. Three critical findings from these studies is the demonstration of the link between airway ozone-induced injury and repair and sensory nerve activation; early-life co-exposure to ozone and aeroallergens and the development of a chronic asthma phenotype; and exposure to low ambient ozone and human health effects. These studies played a key role in the recent United States Environmental Protection Agency proposal to lower the National Air Quality Standard for ozone from 75 ppb to 70 ppb.

The goal of my research program is to utilize translational methodologies to examine how environmental factors affect human lung health.



Persistence of serotonergic enhancement of airway response in a model of childhood asthma

Moore BD, Hyde DM, Miller LA, Wong EM, Schelegle ES  
 Am J Respir Cell Mol Biol. 2014; 51:77-85

Ozone-induced airway epithelial cell death, the neurokinin-1 receptor pathway, and the postnatal developing lung

Murphy SR, Oslund KL, Hyde DM, Miller LA, Van Winkle LS, Schelegle ES  
 Am J Physiol Lung Cell Mol Physiol 2014; 307:L471-481

Diagram depicting a dynamic two compartment model for predicting the relationship between the inhaled dose rate ( $DR(t)$ ) of ozone and the magnitude of adverse health response.