



University of Colorado

CONSORTIUM FOR CLIMATE CHANGE & HEALTH

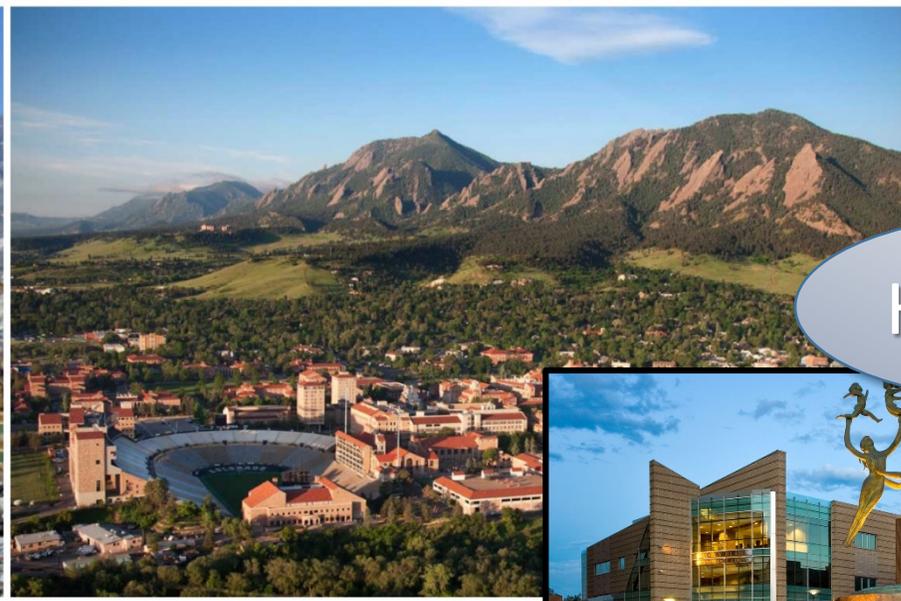
*Respiratory Disease Research
at the
Anschutz Medical Campus and Environs*

James Crooks, PhD MS

Boettcher Investigator

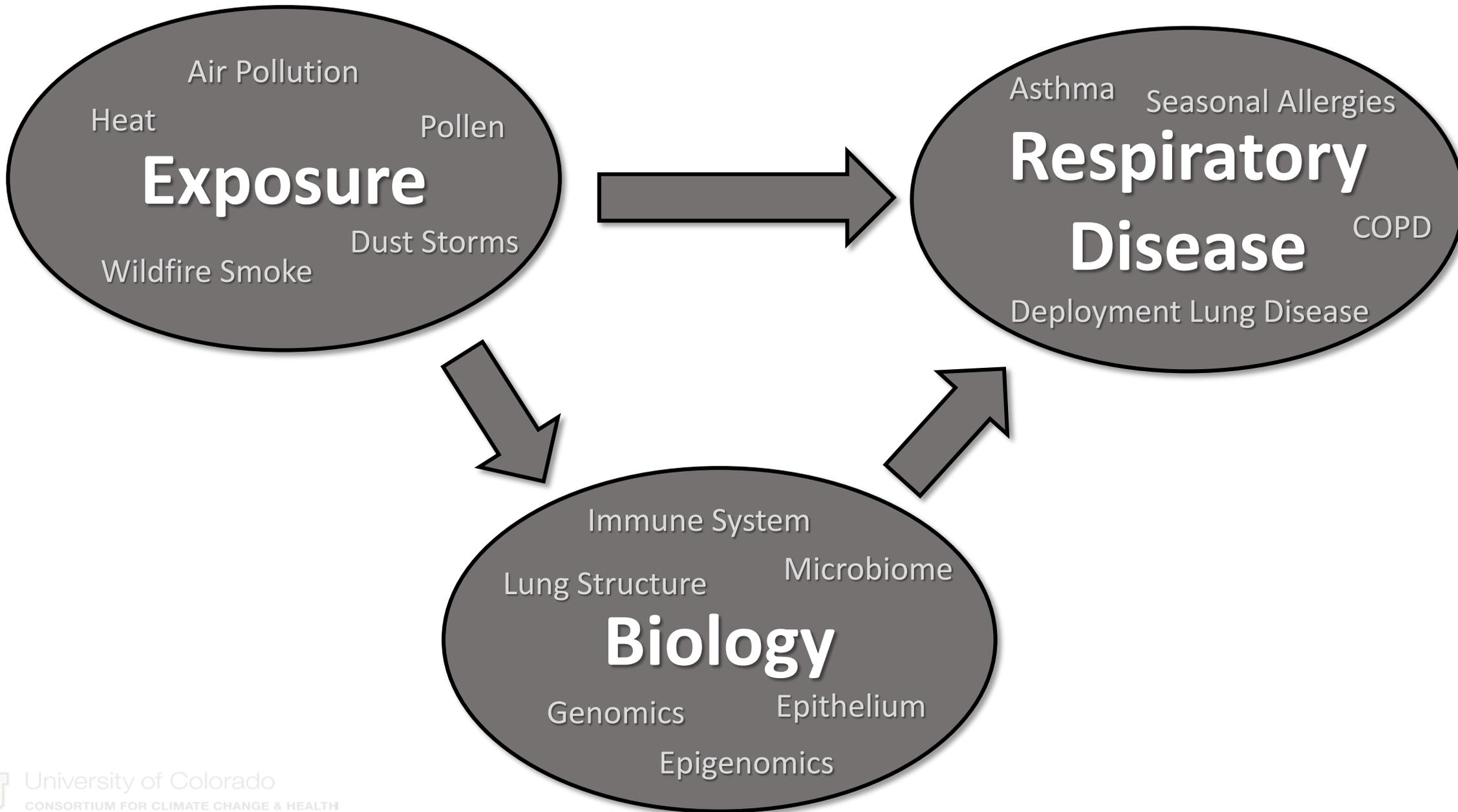
Assistant Professor, National Jewish Health

Clinical Assistant Professor, Colorado School of Public Health



Hi, Guys!



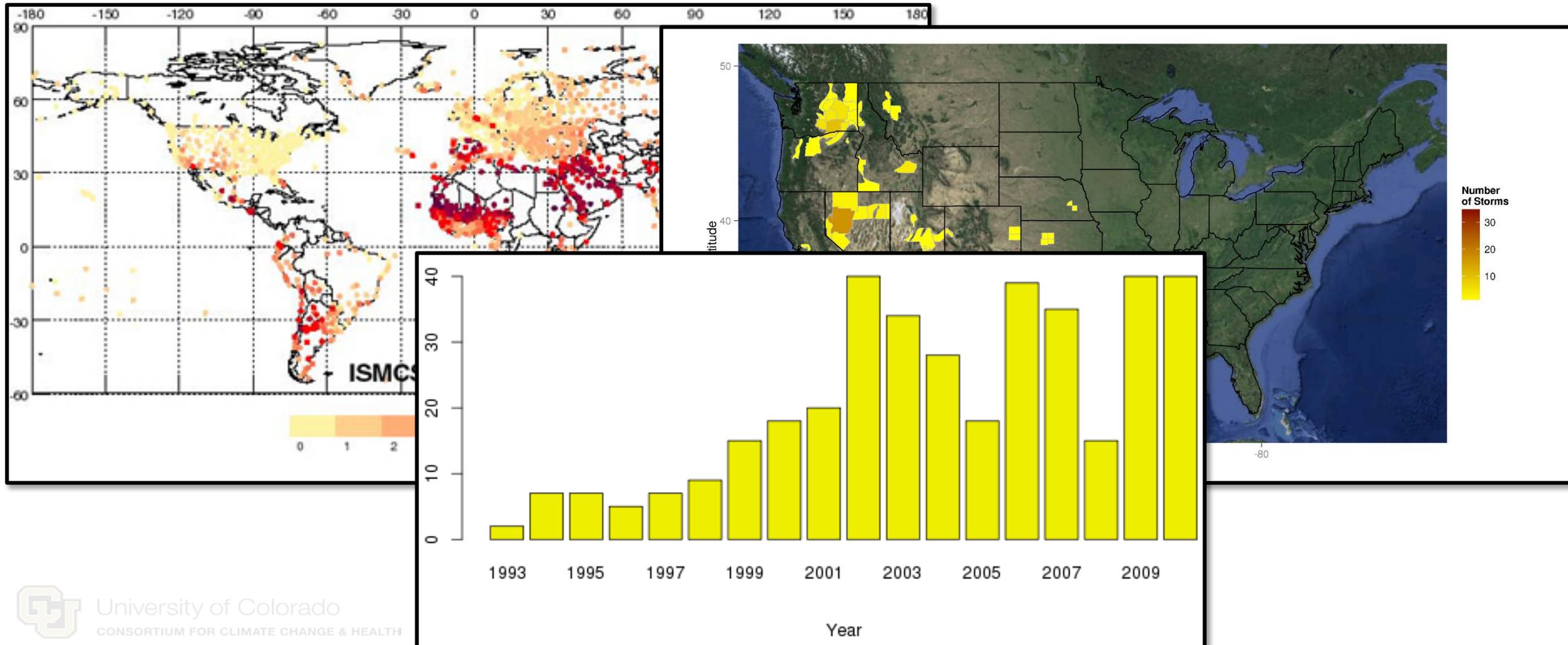




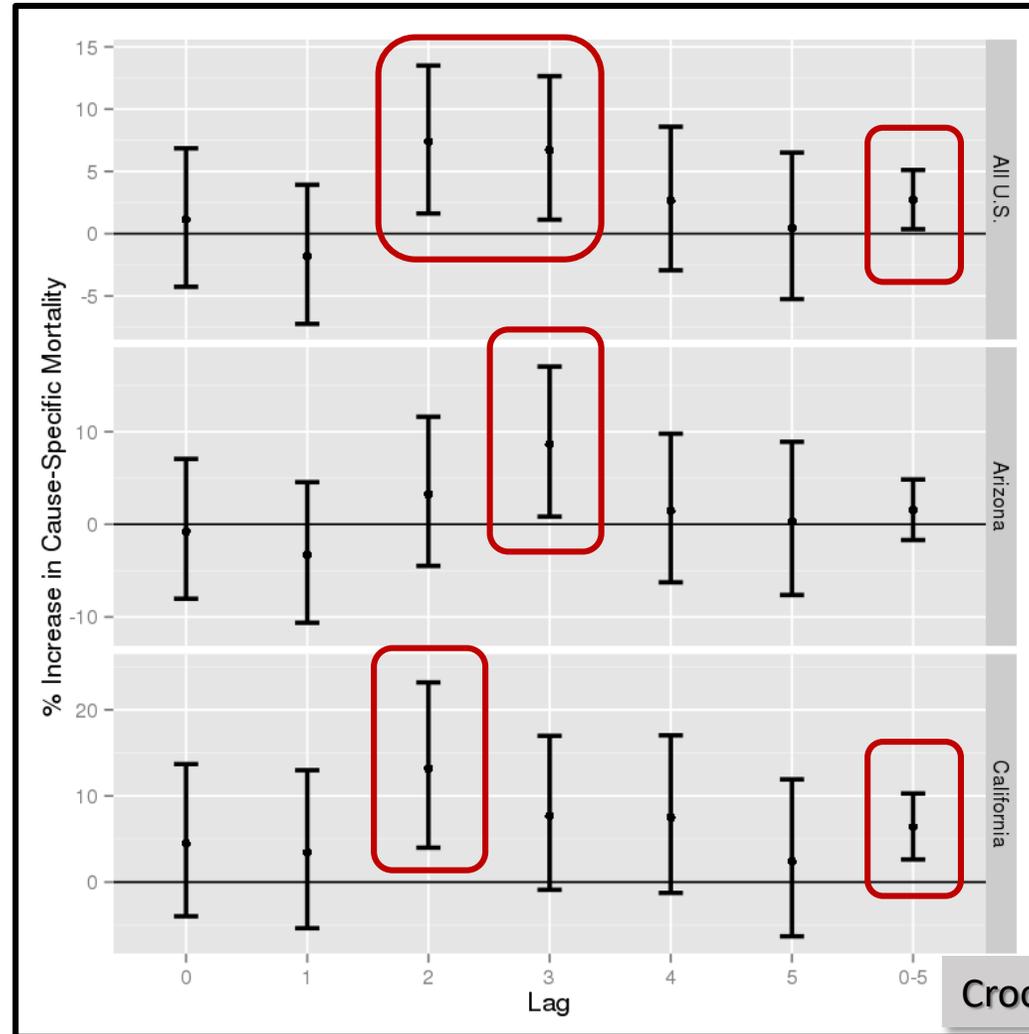
Dust

and Respiratory Disease

Dust Storms



Dust Storms and Non-Accidental Mortality



Crooks et al., EHP, 2016

Dust in Deployment Zones



Large Airborne Particles

NEFF ET AL.: DUST STORMS AND ATMOSPHERIC PARTICLE CONCENTRATIONS

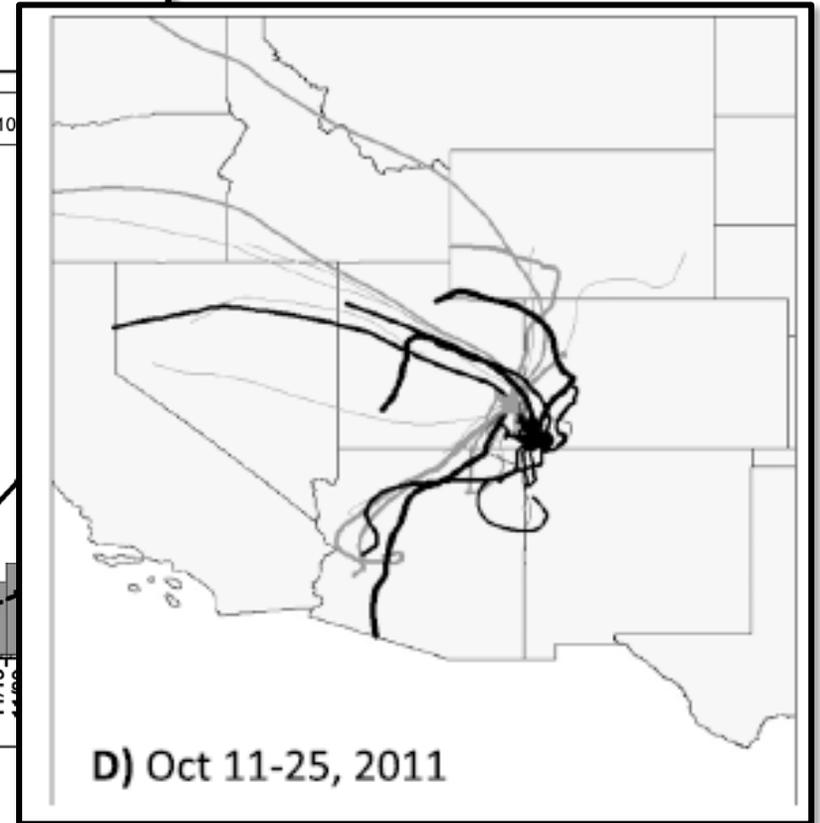
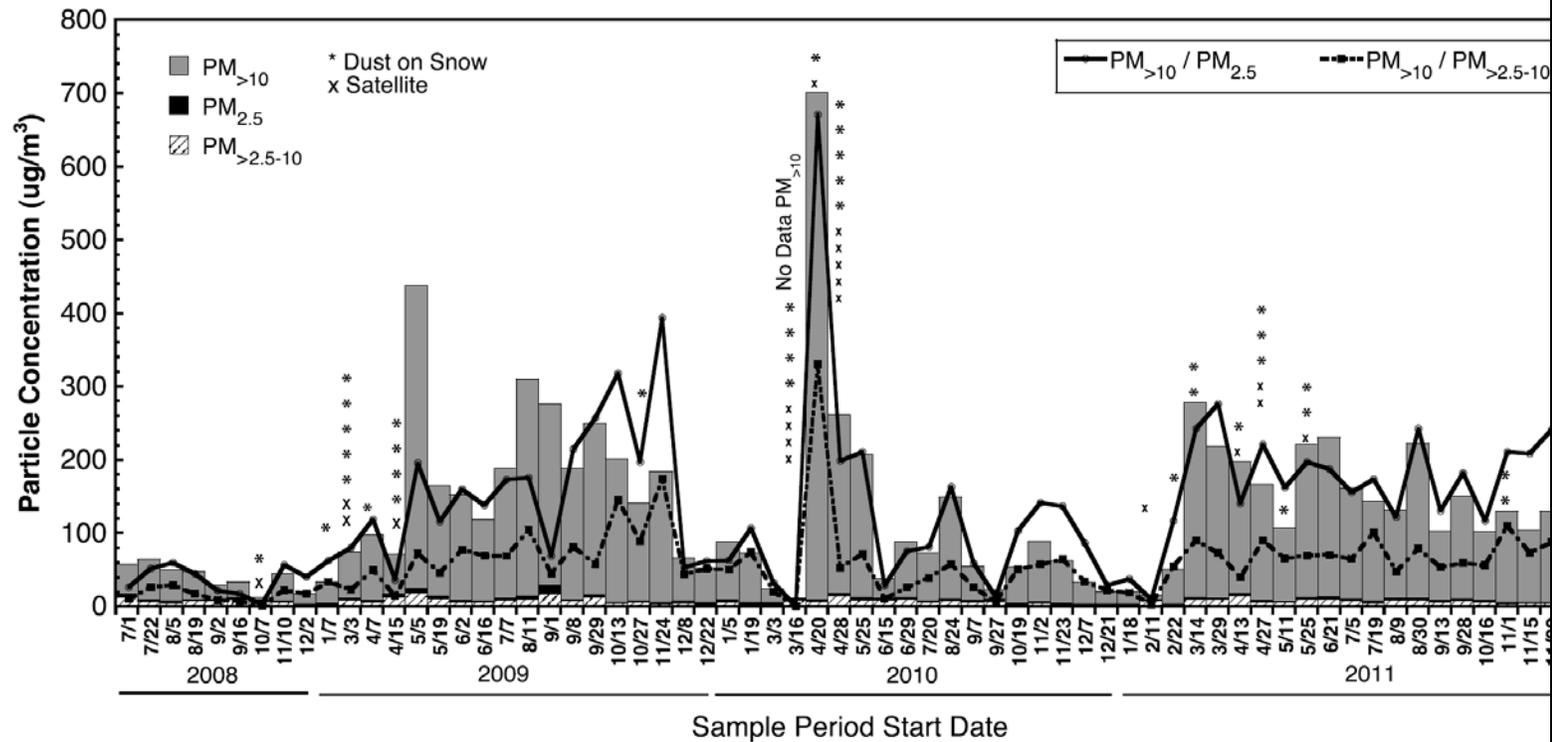


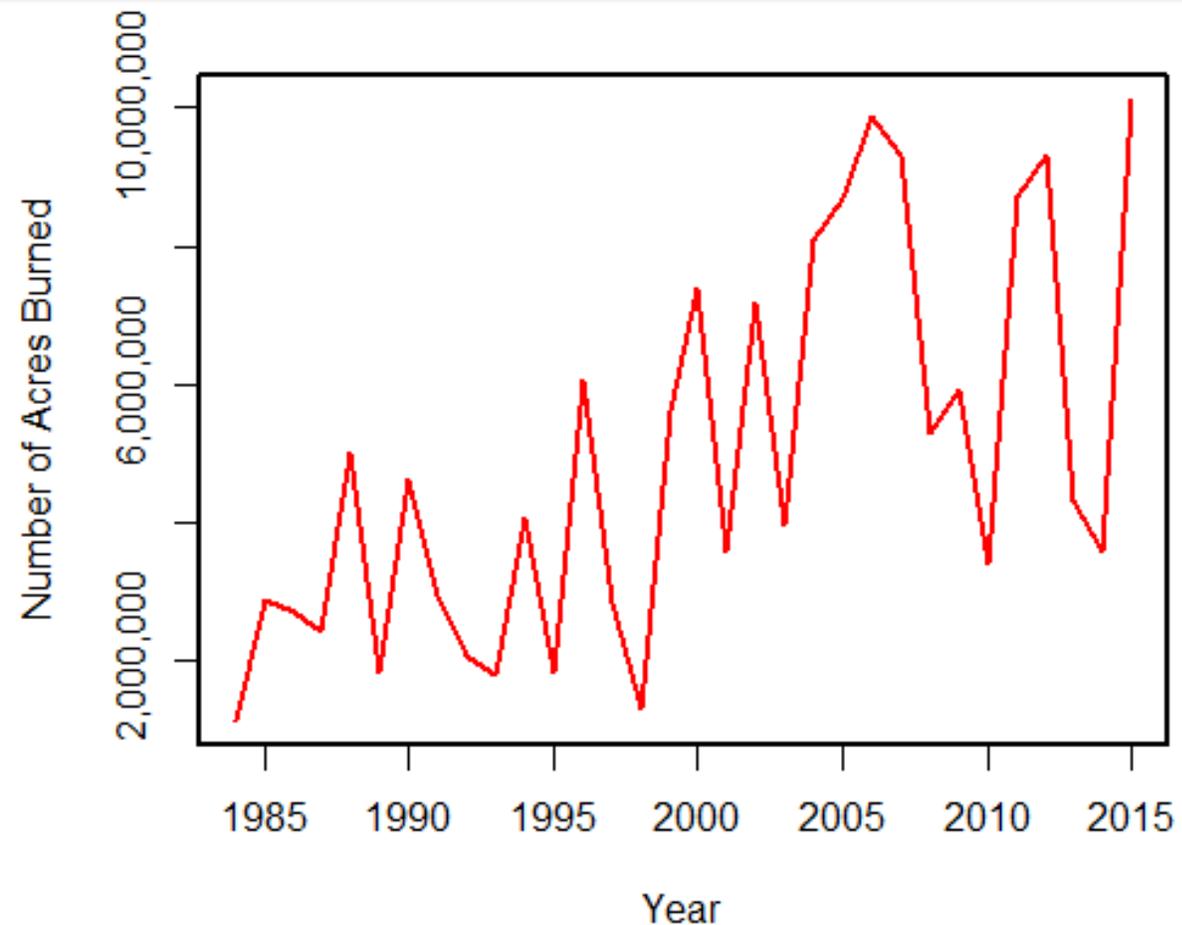
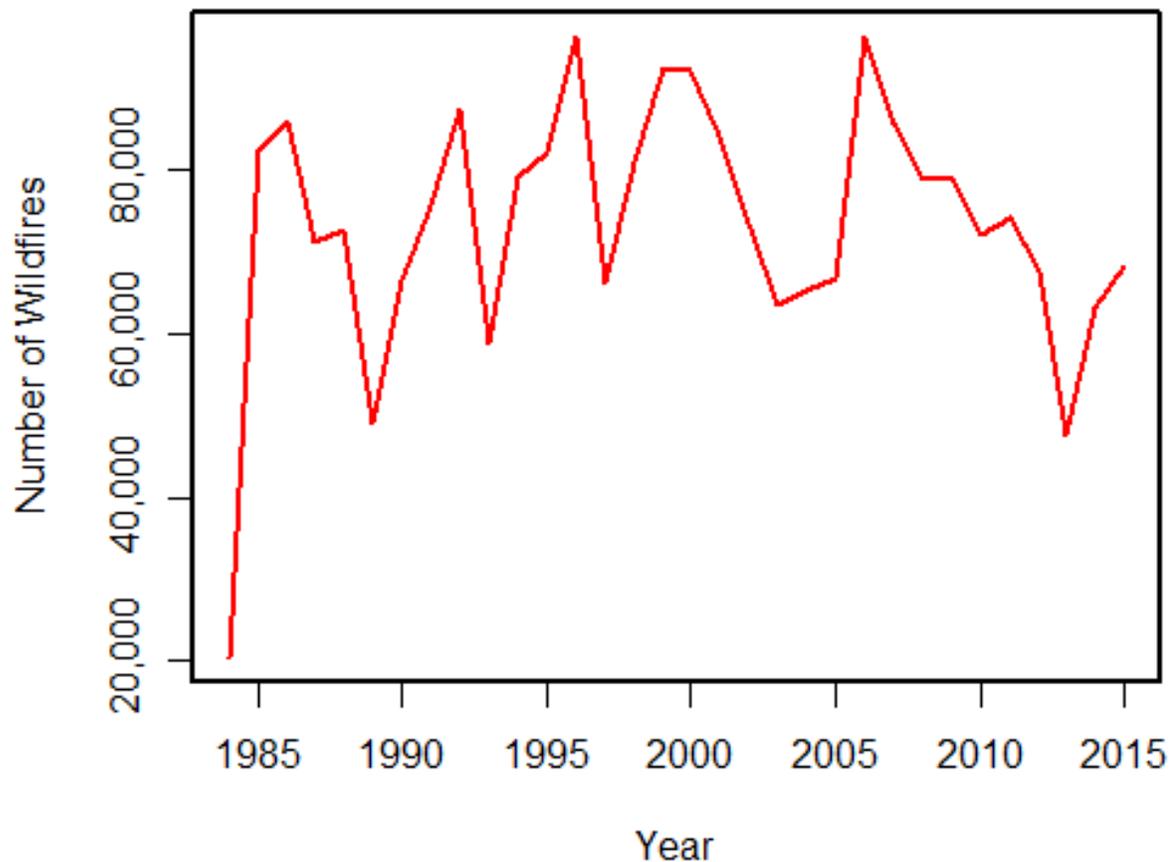
Figure 2. Average particle concentrations (in $\mu\text{g m}^{-3}$) at Canyonlands over each sampling period. $\text{PM}_{2.5}$ includes particles less than $2.5 \mu\text{m}$ in diameter, $\text{PM}_{2.5-10}$ includes particles with diameters from 2.5 to $10 \mu\text{m}$, and $\text{PM}_{>10}$ are larger particles calculated from the difference between TSP concentrations minus the sum of $\text{PM}_{2.5}$ and $\text{PM}_{2.5-10}$.

A person in silhouette stands on a paved road, looking out over a vast, hazy mountain landscape. The person is positioned on the left side of the frame, with their back to the camera. The landscape is filled with layers of mountains, creating a sense of depth and distance. The sky is a pale, hazy blue, suggesting a clear but slightly overcast day. The overall mood is contemplative and serene.

Wildfire Smoke

and Respiratory Disease

U.S. Wildfire Trends



Pediatric Asthma

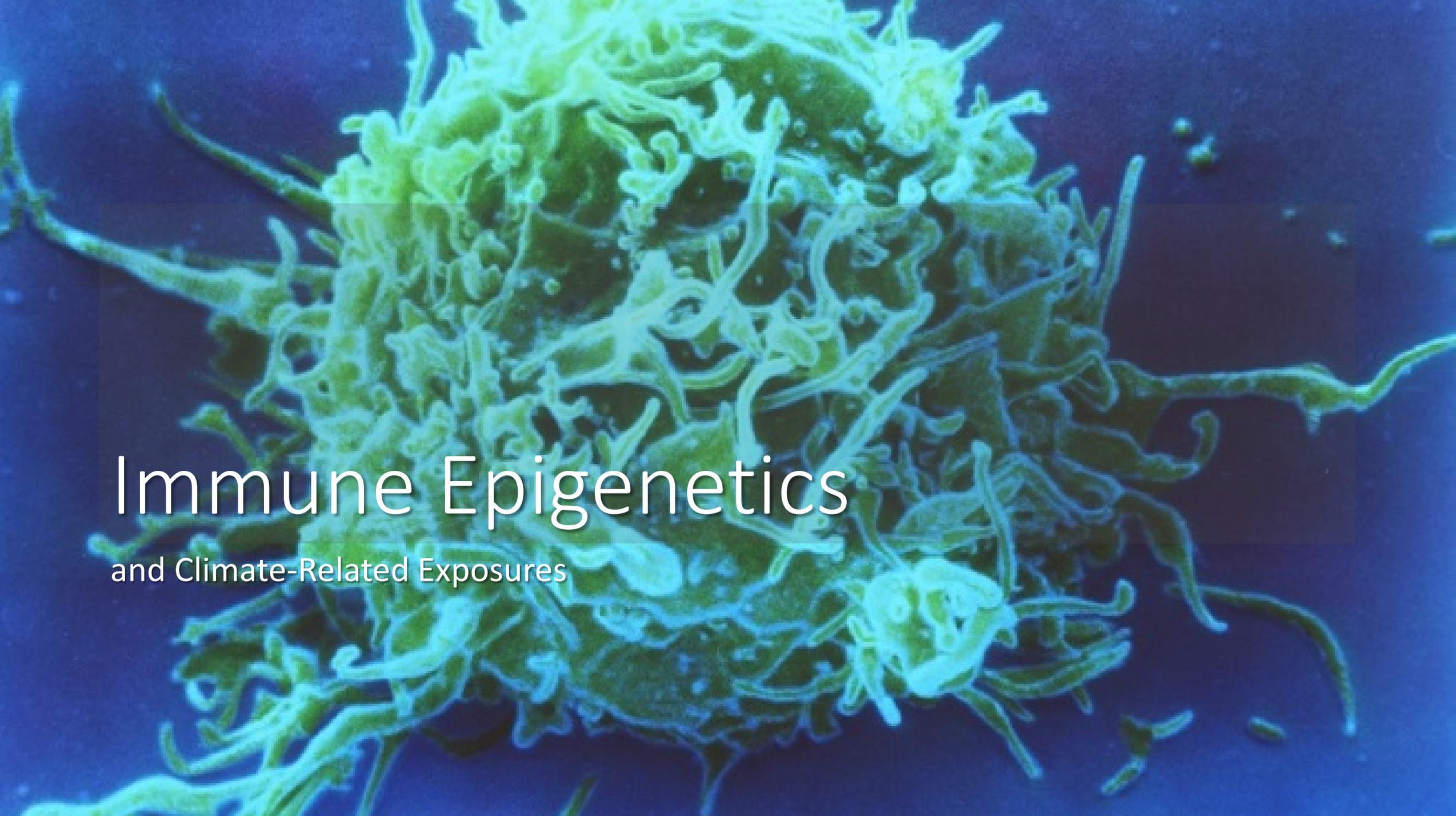


Asthma ICU Stays



Home Weatherization

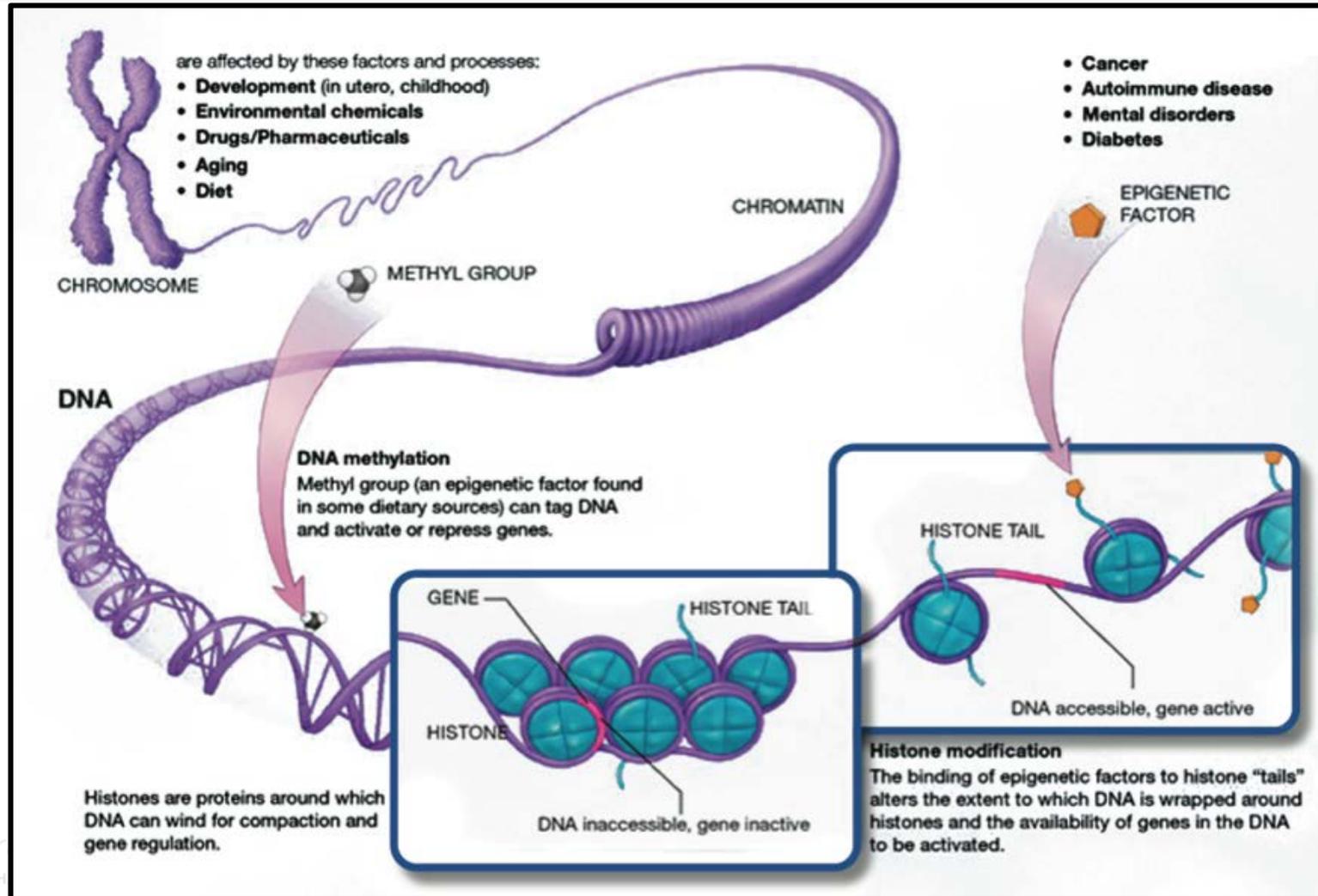




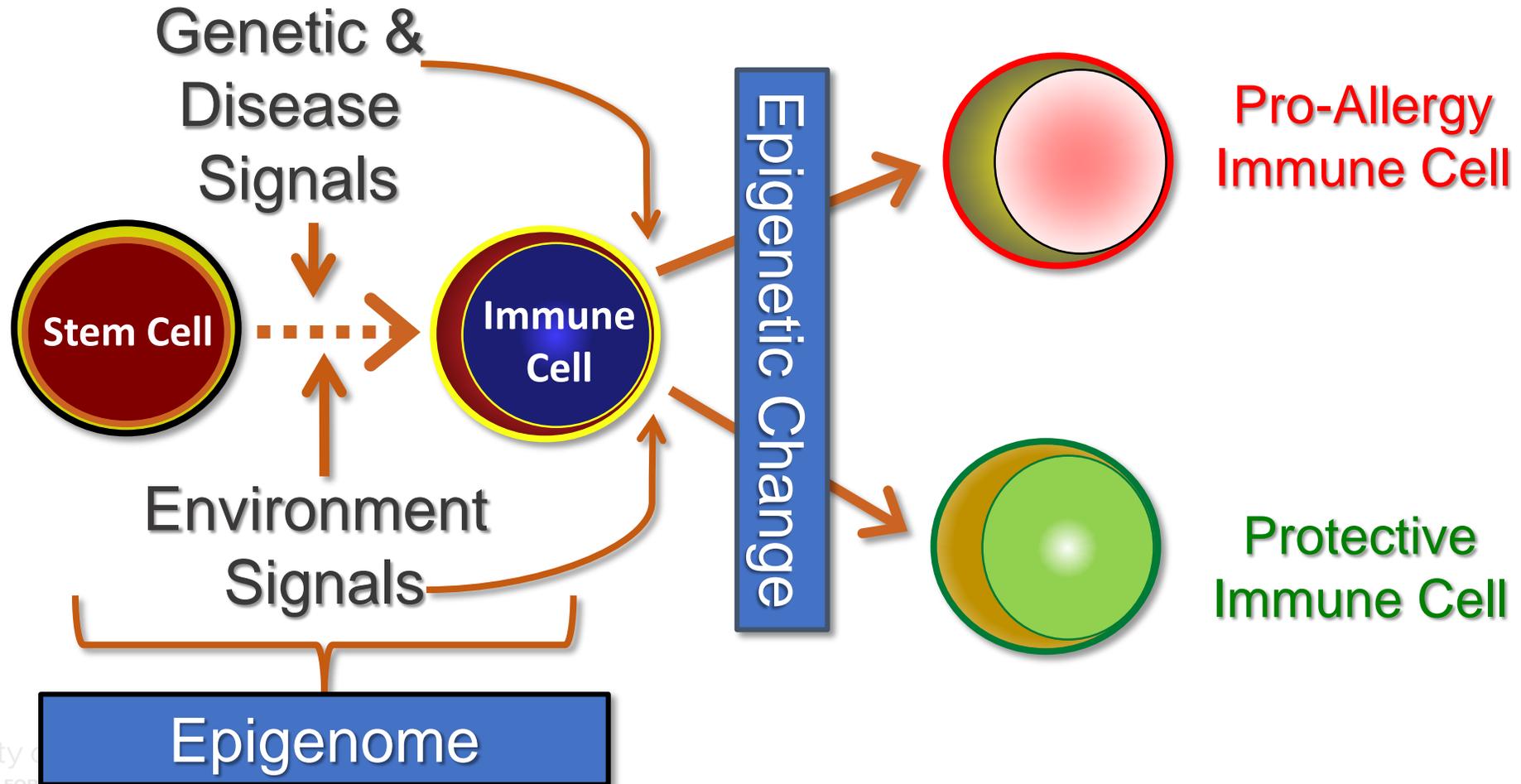
Immune Epigenetics

and Climate-Related Exposures

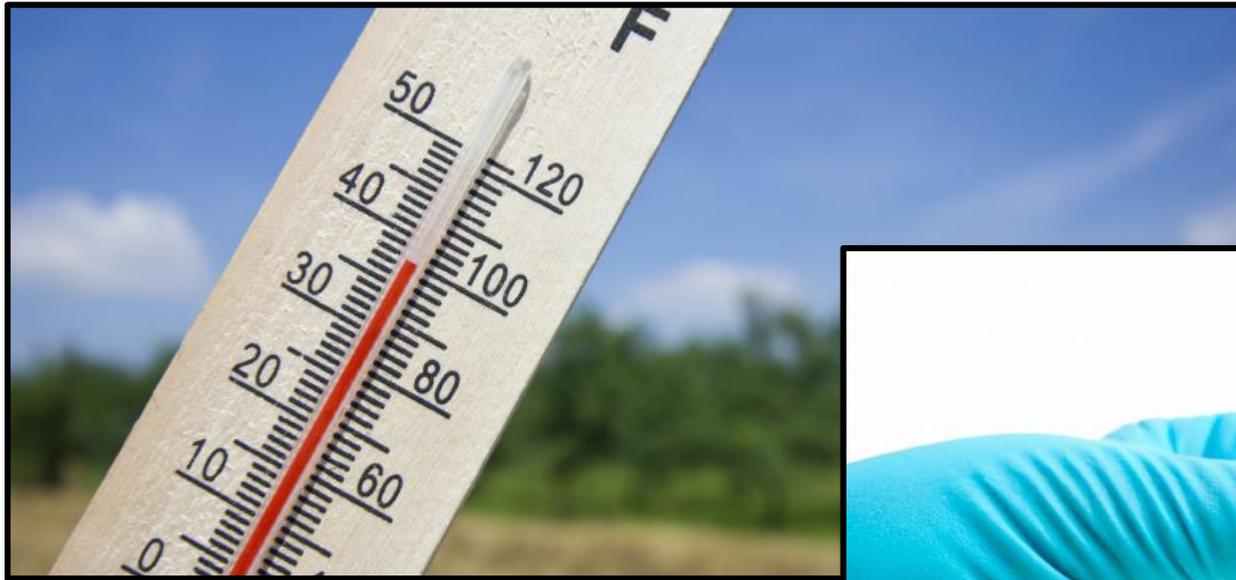
Genome and Epigenome



Environmental Exposure and Immune Epigenetics



EpiHeat Pilot Study



Icahn School
of Medicine at
Mount
Sinai



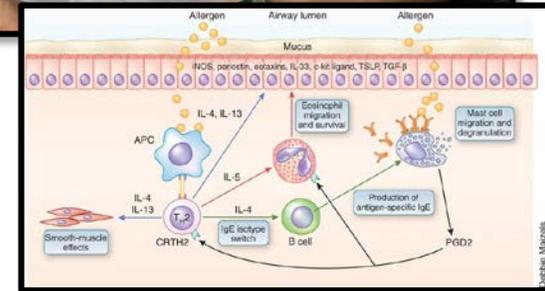
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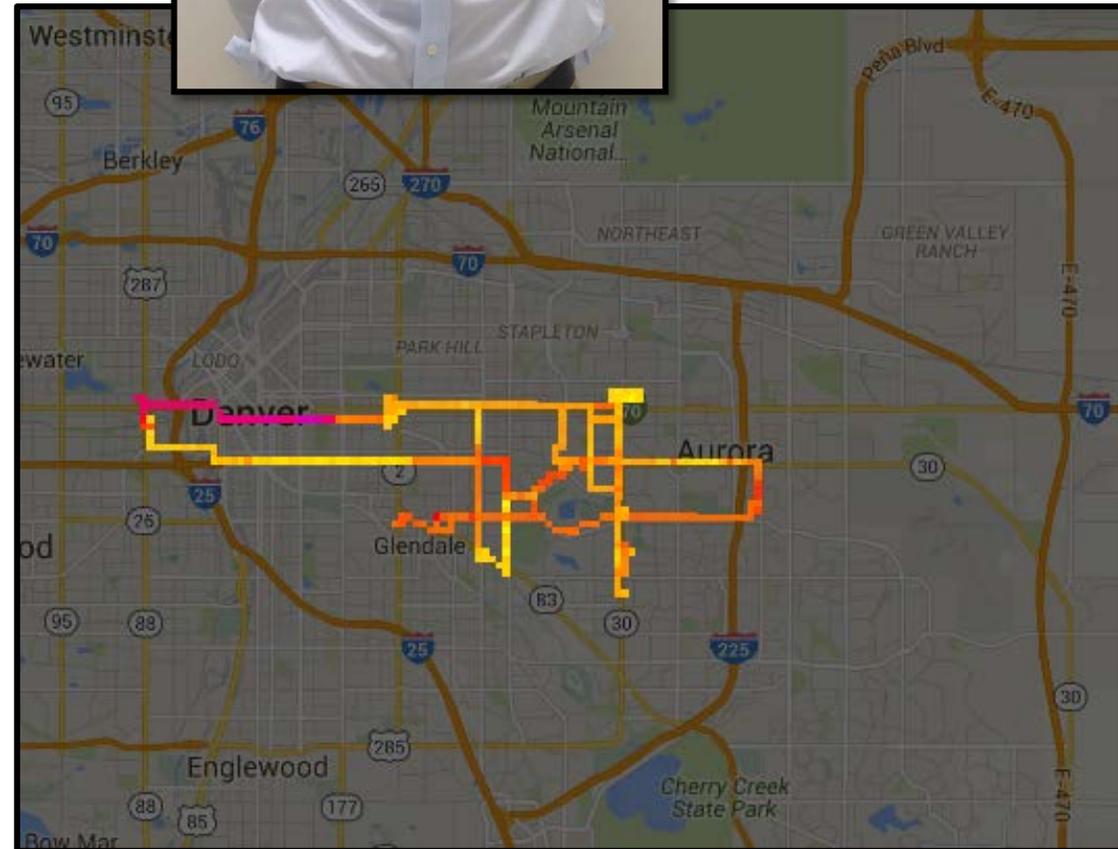
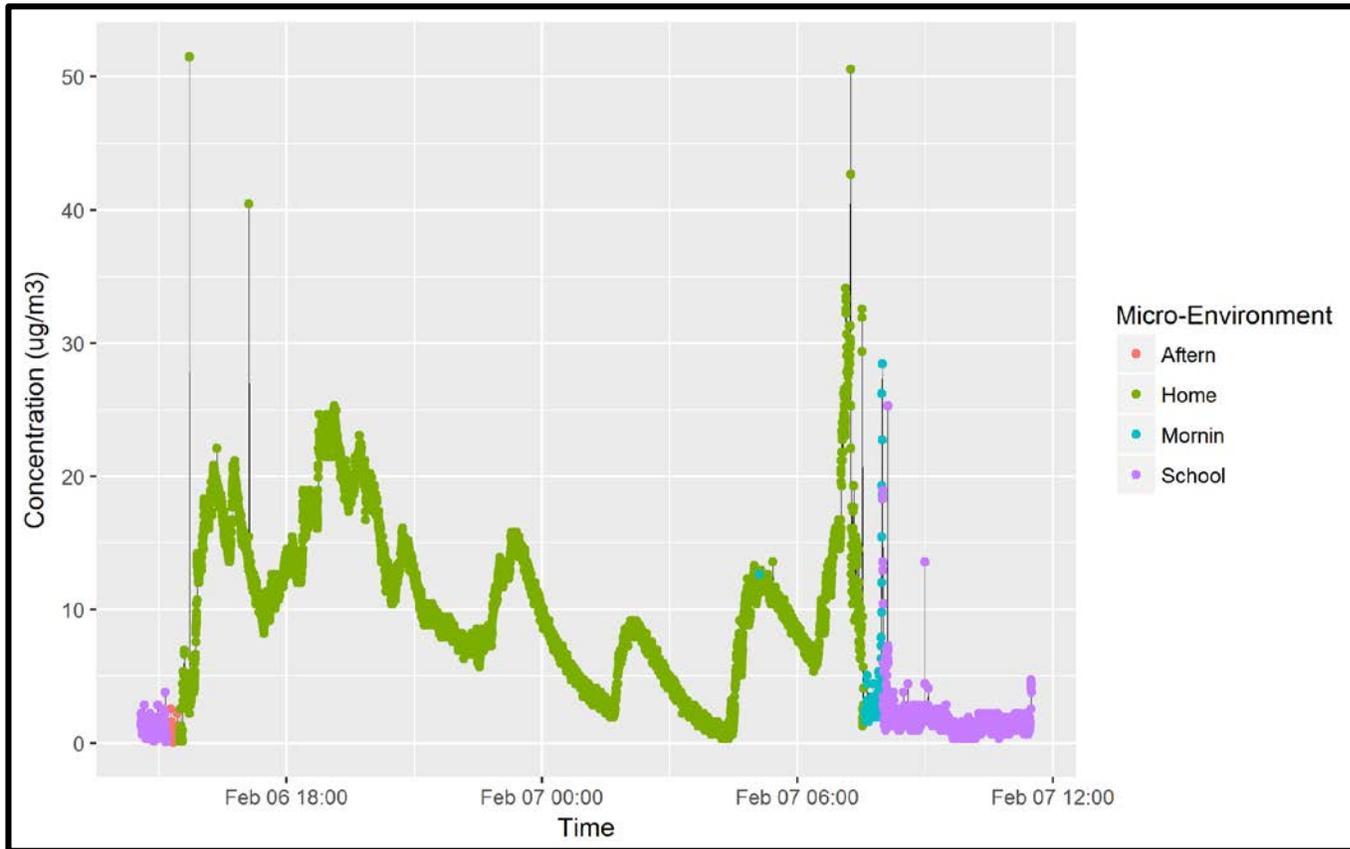
Asthma

and Air Pollution

Panel Studies



Personal Monitoring

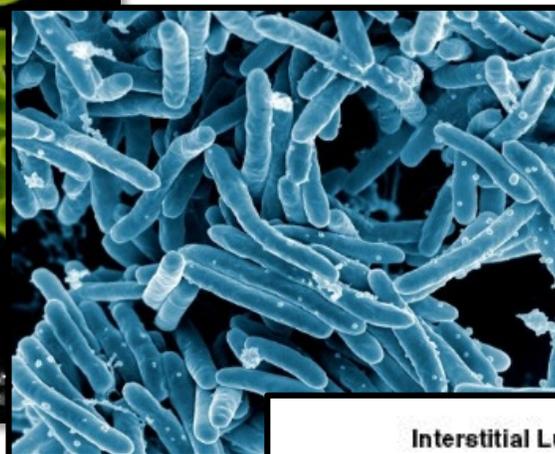
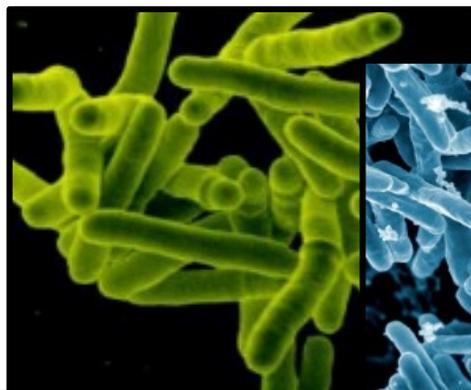


A person wearing a white lab coat and gloves is working in a laboratory. They are holding a clear plastic tray containing several petri dishes. The dishes contain a dense, fibrous material, likely a cell culture or tissue sample. The background is dark, and the overall lighting is warm and focused on the work area.

Other Respiratory Research

In and Around the Anschutz Campus

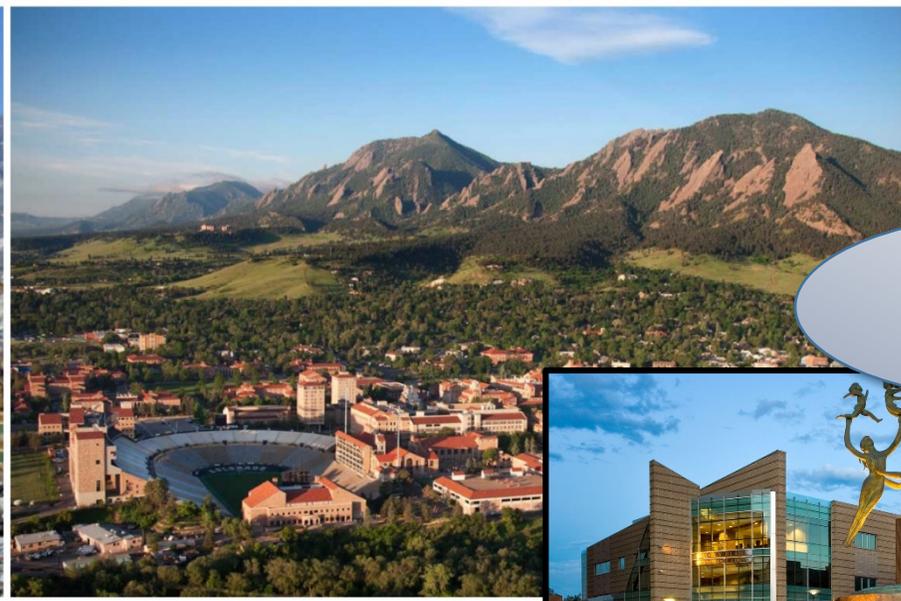
Lung Diseases Influenced by Environment



Electron Micrograph
Mycobacterium tuberculosis

Interstitial Lung Disease





Thanks!

