



# Qualitative and Quantitative Analysis of PM<sub>2.5</sub> using FTIR Spectroscopy

Emily Hughes

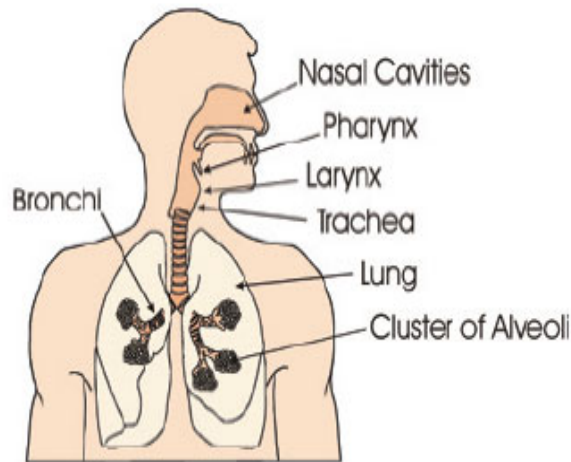
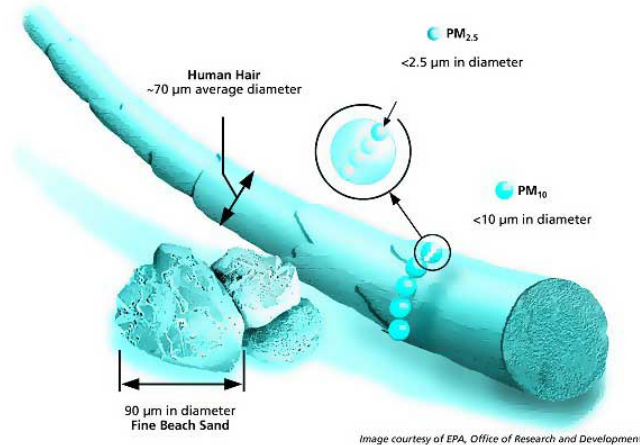
Beth Wittig, PhD

Department of Civil Engineering  
CUNY City College of New York



# What is PM<sub>2.5</sub>?

PM<sub>2.5</sub> is particulate matter smaller than 2.5 micrometers, about 30 times smaller than the diameter of a human hair. PM<sub>2.5</sub> is called fine particulate matter.



PM<sub>2.5</sub> is particularly hazardous to public health because it can penetrate deep into the respiratory system, causing health problems ranging from coughing and wheezing to cardiopulmonary disease and death.



# Why use FTIR?

If the relative amounts of chemicals can be easily characterized, the sources of air pollution can be identified and controlled. FTIR is the only method that can measure both organics and inorganics without destroying the sample.

