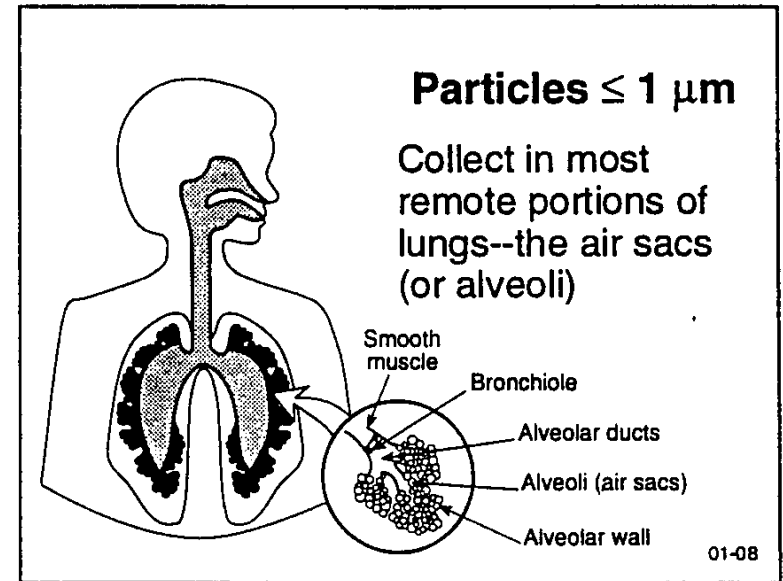


Chitosan Aerosolizing

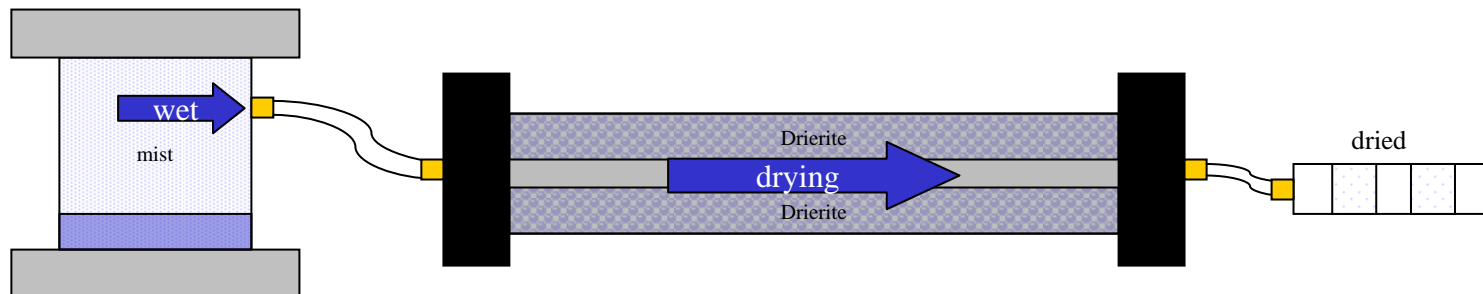
Professor Tom Donnelly, Professor Shenda Baker, Harvey Mudd College

Ultrasonic nebulizers can be found in common household appliances and can produce droplets around $2\mu m$ in diameter. By nebulizing appropriately diluted solutions of chitosan, one could theoretically dry the small droplets and collect chitosan particles $200nm$ in diameter. Not only is this process cost-effective for producing nano-particles, but at this size they are ideal for inhalants that lodge in the deepest part of the lungs and sinuses. Our first prototype drier uses a diffusion drying system and collects chitosan on microscope slides for inspection under SEM.



<http://www.ees.ufl.edu/homepp/cywu/ENV6130/Image21.gif>

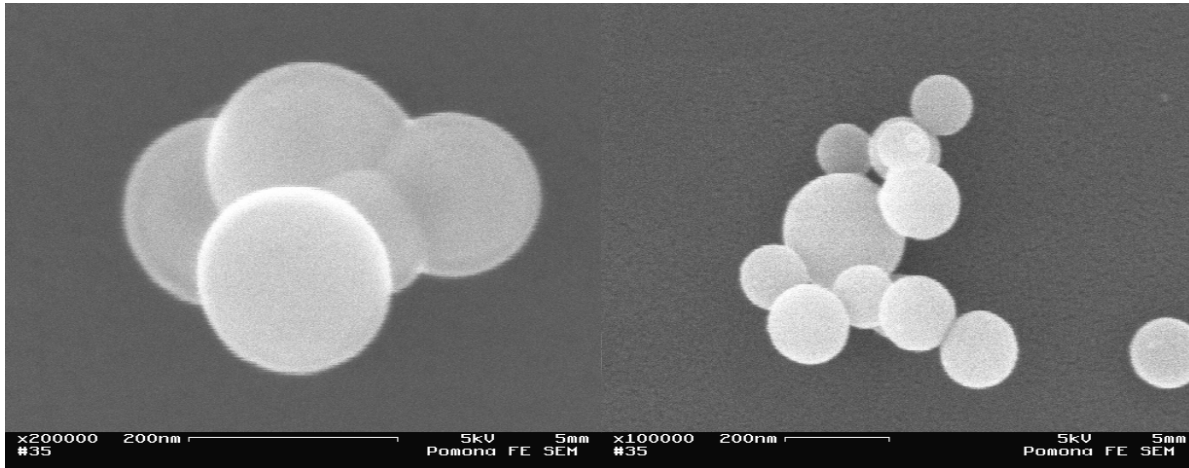
- Joshua Kao



Diffusion Drying System

Chitosan Aerosolizing

Professor Tom Donnelly, Professor Shenda Baker, Harvey Mudd College



These images of the nanoparticles were taken at the scanning electron microscope facility at Pomona College

Surface tension and viscosity allows us to predict the size of the droplets ejected by the ultrasonic mister.

