



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Lisa N. Tran	Project Number S1328
Project Title Fungi: From Sneezing to Wheezing	
Abstract Objectives/Goals To determine how fungal allergens form respirable aerosols by: investigating whether fungal cultures release respirable-sized allergens, examining the conditions that lead to this release, and understanding the amount of this fungi in the outdoor air. Methods/Materials Fungal culture plates were placed in a controlled emission chamber and the release of sub-micron sized particles and spores were recorded. Particles were captured in the Sierra cascade impactor and counted and sized with an Aerodynamic Particle Sizer. Results Fungal fragments are released from Alternaria and other allergenic molds and these are small enough (less than 1.5 micron) to deposit in the airways. Conclusions/Discussion Many fungal spores are too large to be inhaled into the airways. However, molds release fine particles into the air. These particles are aerodynamically small enough to deposit in the lower airways. Whether the presence of allergenic mold particles in the air is linked to the increasing prevalence of asthma remains to be explored.	
Summary Statement The aim of this project was to determine whether molds could release an aerosol of particles that have the potential to trigger asthma in susceptible people and to monitor the Alternaria in the air.	
Help Received used lab equipment at Caltech under the supervision of Dr. Taylor	