

**Department of Pediatrics
COLLEGE OF MEDICINE**

and CINCINNATI CHILDREN'S HOSPITAL MEDICAL CENTER

**SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN**

APPLICATION DEADLINE: March 3, 2008

The Department of Pediatrics at Children's Hospital is pleased to offer the following research project for the summer of 2008. Interested students are urged to contact the faculty member(s) directing the project that most interests them. By contacting the faculty member, you can discover more about the project, learn what your responsibilities will be and if possible, develop a timetable for the twelve-week research period.

MOLECULAR PATHOGENESIS OF ASTHMA

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Project Description

The main interest of the laboratory is broadly focused on deciphering mechanisms of allergic diseases, primarily asthma. Eosinophils are the hallmark cell of allergic inflammation, including asthma. The long-term goals of the laboratory are 1) to understand the mechanisms of eosinophilia with the ultimate aim of changing the outcome of eosinophil-mediated diseases and 2) to understand the mechanisms of lung inflammation, in homeostasis and allergic disease. A variety of approaches are undertaken, including animal modeling and ex vivo cell and molecular biology. Currently we are focused on molecular understanding of eosinophil survival in allergic inflammation and asthma; in other words, why are eosinophils recruited and why do they stay and lead to disease in some people and not in others. Possible student projects include functional assays with human eosinophils from patients with asthma *in vitro* or in mouse models of asthma.