

**Department of Pediatrics
COLLEGE OF MEDICINE**

**SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN**

APPLICATION DEADLINE: March 1, 2010

The Department of Pediatrics is pleased to offer the following research project for the summer of 2010. 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.

PROJECT TITLE: Mechanisms of immunosuppression in HIV/AIDS

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Project Description

HIV remains one of the top infectious killers in the world at large, despite the development of active anti-retroviral therapy. My research activity aims at understanding how HIV infection affects some of the basic mechanisms of regulation of the immune system, leading to progressive immunosuppression and development of AIDS. In particular, we study the HIV-induced dysregulation of a CD4+ T cell subset, the regulatory T cells. Such knowledge is necessary to ameliorate the efficiency of therapeutic interventions, as well as obtain a better understanding of why attempts at designing a successful vaccine have failed so far.

The main projects developed in the laboratory use in vitro models of exposure of immune cells to HIV viruses, including non-infectious viruses that can interact with immune cells but failed at inducing productive infection, as well as ex vivo analysis of cells isolated from HIV-infected patients.