

**Department of Pediatrics
COLLEGE OF MEDICINE**

**SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN**

APPLICATION DEADLINE: March 2, 2009

The Department of Pediatrics is pleased to offer the following research project for the summer of 2009. 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: ROLE OF POISON CONTROL CENTERS IN A PUBLIC WATER
CONTAMINATION WARNING AND RESPONSE SYSTEM**

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Project Description

In 2007, the Cincinnati Drug and Poison Information Center (DPIC) was invited to participate in the public health component of the Environmental Protection Agency's Water Security Initiative. One component of this partnership involved methodology for real time surveillance of Poison Center (PC) calls to identify possible water contamination (WC) events.

We sought to evaluate surveillance of PC calls for WC by incorporating both machine analysis and 'astute clinician' models for anomaly detection. Three primary alerting mechanisms specific to the geographical boundaries of the water utility were developed:

1. National Poison Data System (NPDS) human exposure and clinical effect count definitions are used to identify unusual deviations from expected baseline counts,
2. Single cases involving environmental or malicious intent and substances of interest trigger NPDS case-based alerts, and
3. PC specialists are trained to use clinical judgment to identify cases possibly related to a WC threat.

The Tucson Poison and Drug Information Center is collaborating with DPIC to validate the design. The WISE undergraduate student will assist with this validation.