

**Department of Science and Health
UC CLERMONT COLLEGE**

**SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN**

APPLICATION DEADLINE: March 2, 2015

The Department of Science and Health is pleased to offer the following research project for the summer of 2015. 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: The Movement Patterns During Wall Lizard
Thermoregulation**

Professor José Pedro Sousa do Amaral
Department of Science and Health
215L McDonough Hall
Cincinnati, OH 45103-1785
Tel: (513) 732-5293
Fax: (513) 732-5304
Email: amaral@uc.edu

Project Description

We will study the movement patterns associated with the thermoregulation of the wall lizard *Podarcis muralis*. To study its thermoregulation, we will place the lizards in a lab thermal gradient and measure its body temperature. Furthermore, we will collect lizards in the field and collect field data. To analyze movement patterns, we will use an overhead camera and software for motion analysis.

In the 1950s, this species of wall lizard was introduced in Cincinnati from Italy, and it provides an excellent model to study adaptation. All data collected from this study will be contrasted with data from native populations of the same genus, and with previously collected thermal data for the same species.

Thermoregulation is fundamental for lizards and for all animals unable to generate enough heat to regulate body temperature. Ectotherms, like wall lizards, rely on environmental temperatures to regulate their body temperature, and thus movement patterns affect body temperature patterns. By studying thermoregulation, one obtains insight into important physiological, behavioral, and ecological relationships. Studies using similar techniques have changed our understanding of fever and other thermal states of the human body.