

Department of Geology
MCMICKEN COLLEGE OF ARTS AND SCIENCES

**SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN**

APPLICATION DEADLINE: March 1, 2007

The Department of Geology is pleased to offer the following research project for the summer of 2007. 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.

**GLOBAL ENVIRONMENTAL DISTURBANCES ASSOCIATED WITH THE
PERMO-TRIASSIC MASS EXTINCTION**

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Project Description

The student participating in this project will undertake geochemical analysis of samples from three stratigraphic sections across the Permo-Triassic boundary. These sections, which have already been measured and sampled, are located in the Spiti River Valley (India), the Dolomites (Italy), and Opal Creek (Alberta, Canada). The significance of these sections is that each represents a continuously accumulated marine section across the Permo-Triassic boundary, and each may have potentially recorded geochemical signals that can provide insights regarding the causes of this most devastating mass extinction in Earth history (during which ~90% of all species perished). The project will involve (1) processing and analyzing samples from each section, (2) interpreting the resulting geochemical datasets, and (3) preparing a report and/or presentation of the findings. The student will learn a variety of useful laboratory techniques, including how to prepare samples and how to perform XRF (x-ray fluorescence), LOI (loss-on-ignition), and TOC (total organic carbon) analyses. I will assist the student in the interpretation of the resulting datasets and in preparation of materials for publication and/or for presentation at a professional meeting. My goal is to provide the student with first-hand experience in some of the essential components of scientific research, i.e., laboratory techniques, data analysis, and professional communication.