

**Department of Geology  
COLLEGE OF ARTS & SCIENCES**

**SUMMER RESEARCH OPPORTUNITIES  
FOR UNDERGRADUATE WOMEN**

**APPLICATION DEADLINE: March 1, 2012**

*The Department of Geology is pleased to offer the following research project for the summer of 2012. 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: Impacts of Biochar on Plant Biomass**

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**Project Description**

Biochar is a charcoal product that is created from the decomposition of biomass brought on by high temperatures in a low oxygen environment. When added to soil, biochar has been known to increase the level of carbon sequestered underground, reduce soil greenhouse gas emissions, and increase soil nutrition and water retention. However, not much is known about the impacts of biochar on plant yields in an agricultural setting.

This summer project will study the growth effects of biochar on plant yields and soil biogeochemistry. Plants will be grown in soils amended with different amounts of biochar, and measurements will be taken of the plants and the soil over time. The project will consist of field test plots located at the Gorman Heritage Farm, as well as controlled test plots located in the University of Cincinnati's on-campus greenhouse. The results from this experiment will be used to understand the potential benefits (or drawbacks) of using biochar for sustainable farming.