DEPARTMENT OF BIOLOGICAL SCIENCES  
COLLEGE OF ARTS & SCIENCES  

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE WOMEN  

APPLICATION DEADLINE: 03/01/2017  

PROJECT TITLE: What happens to a stream when it is buried? Examining the ecological impacts of piping streams in an urban ecosystem  

Ishi Buffam  
Department of Biological Sciences  
731H Rieveschl Hall  
Cincinnati, OH 45221-0006  
Tel: (513) 556-9745  
Email: ishi.buffam@uc.edu  

Project Description  

The effects of urbanization on stream ecosystems have been well-documented and include increased pollution, reduced biodiversity, and altered or reduced ecosystem function. Urbanization can take various forms in streams and one of the most extreme forms is forcing streams through pipes or culverts. While urban streams in general have been well-studied, very little is known about the ecology and function of piped streams, which can make up the majority of stream length in urban watersheds! Our project’s goal is to explore the impacts of piping streams at a fine spatial scale to better determine the ecological impact of stream piping within the culvert as well as determining the downstream impact on ecosystem structure and function.  

The WISE summer research project will include both field and laboratory work. Field work will include potentially strenuous in-stream sampling and work within a piped stream(s) during the summer months. Sampling will include, but is not limited to, the collection of benthic macroinvertebrates and water samples. Laboratory work will include the sorting and identifying of benthic macroinvertebrates and water chemistry analysis. Training will be provided for all field and laboratory work. This work will require complete attention to detail and the ability to be consistent and thorough with methods/procedures. The project will be carried out under the supervision of Chelsea Hintz, a graduate student in our research group. An organized, responsible, self-motivated individual with strong analytical skills and an interest in stream ecology and urban ecosystems will be a good fit for this project.