

Water as a Universal Connector in West Philadelphia:

Prof. Simon Richter and the Water Center at Penn

Water as a Universal Connector in West Philadelphia This project offers students a unique opportunity to work in an historically under resourced community in West Philadelphia to harness and synthesize arts, citizen science, and Science, Technology, Engineering, Mathematics (STEM) education. The student will work in collaboration with the Water Center at Penn with guidance from Prof. Howard Neukrug, Executive Director of the Water Center and former CEO and commissioner of the Philadelphia Water Department. The goal of the project is to generate greater community engagement with the natural world and work towards engaging natural and anthropogenic communities for sustainable development. This effort will also create a constructive dialogue between the

The primary goal of the West Philadelphia project is to develop a water-centric framework to restore natural systems in the distressed Cobbs Creek community of Philadelphia and guide the ecological function and the historic community benefit. A secondary goal of the project is to connect Cobbs Creek to other regional and accessible natural assets. This framework is intended to serve as a model for water-centric, nature-based revitalization in underserved areas of other large cities.

A specific objective of this bigger project focuses on STEM education at the Cobbs Creek Community Environmental Center (CCCEC) focusing on various topics ranging from source water, water quality and public health implications, aquatic ecosystems, environmental monitoring, microbiology, biotechnology, and environmental job/career opportunities. Through this research, student will be assisting in understanding the following research topics as applied to Cobbs Creek- water quality, aquatic ecosystem and food webs, microbial ecology, public water utilities, social and environmental justice and public health.

As part of this community-based research project, the undergraduate student will be involved in:

- Evaluation of existing state of knowledge for Cobbs Creek regarding history, water quality, aquatic health and socio-cultural aspects surrounding the creek
- Field trips to Cobbs Creek Community Environmental Center
- Data collection on water quality, aquatic and public health aspects,
- Interaction with local residents to gather information on local ideas of environmental justice and equity
- Analysis and interpretation of collected data
- Writing reports and articles targeted to a general audience

The project will expose student towards fundamental principles of research methodology such as literature review, data collection and analysis. Through field trips and local interactions with schools and local stakeholders, the student/s will be exposed to the real-world aspects of research and obtain an understanding of stakeholder needs. This experience will expose the student to how to undertake applied research in academic environments based on real world stakeholder needs.

Pre-requisites:

Strong passion for water, environment, equity and social justice.