



CMOP Undergraduate Intern Mentoring Opportunity

Deadline: **March 28, 2011**

Selections Announced: **April 1, 2011**

Name/Title/Institution(s) of senior mentor(s): Paul Tratnyek, Professor, OHSU

Name/Title/Institution(s) of frontline mentor(s): Ali Salter-Blanc, Graduate Student OHSU

Project Title: Pathways of 1,2,3-trichloropropane degradation by reductive dechlorination

Context for Project:

1,2,3-trichloropropane (TCP) is an emerging contaminant and likely human carcinogen. Past use of TCP as a solvent and current use in chemical synthesis has resulted in groundwater contamination at several sites. Although TCP is not currently regulated at the national level, a notification level is enforced in the state of California, and the US Environmental Protection Agency is currently considering TCP for national regulation.

Brief Description.

TCP is very recalcitrant to many common forms of remediation. Recently, we have shown reduction by zerovalent zinc (ZVZ) to be a promising method of TCP remediation. At this time, the mechanisms of this process are not fully understood. The goal of this summer internship is to further explore the pathways of TCP degradation by reductants such as ZVZ. **Proposed Outcomes/Broader Impact:**

Proposed timeline (within a 10 week span):

This project will have a significant impact, as the pathways of TCP degradation are largely unknown. Knowledge gained in this study will contribute to the fundamental understanding of TCP dechlorination. Ultimately, this knowledge will be useful for those potentially implementing ZVZ-based technologies for remediating TCP-contaminated groundwater.