**Date Posted:** April 25, 2025

**Topic:** New 2025 Summer Research Experience for an Undergraduate at Purdue University, West Lafayette, Indiana

**Project Title:** Expediting Household Recovery from Chemical Contamination Caused by Disasters

**About:** This research experience for an undergraduate student will focus on better understanding environmental property contamination caused by chemical disasters and the remediation of the property. The undergraduate student will work with Professor Whelton and Environmental and Ecological Engineering (EEE) PhD student Cristiane Ferrarezzi. The student will be involved in two efforts: (1) The student will step in to help review Home Environmental Testing Reports already being submitted to the research team by households impacted by the January 2025 wildfires in California. The student will help log, code, and analyze the reports to detect trends and inconsistencies. Reports are submitted for various tests such as combustion byproducts, metals, asbestos, VOCs, SVOCs, and other contaminants. As part of this position, the undergraduate student will also review the literature associated with property contamination, home environmental testing, and existing industry standards. (2) Separately, the undergraduate student will also assist in an ongoing laboratory-based experiment where household items are being exposed to petroleum contaminated drinking water and their ability to be decontaminated will be evaluated. This involves the PhD student using an already developed gas chromatography-mass spectrometry method, and the undergraduate student would assist in creating samples for this activity. For both efforts, the student will read and analyze relevant literature and contribute to a final technical poster and/or presentation and potentially data analysis to be used in a subsequent publicly available report.

**Concepts, Payment, Training:** Concepts and topics associated with the position include materials, environmental and analytical chemistry, water, air, and soil, environmental sampling, data entry, data analysis, data interpretation, and reporting. The position will be paid as a stipend and this is full-time employment. This position is fully funded by a U.S. National Science Foundation grant related to disasters that ends in 2026. The student will receive all laboratory training needed to conduct this work and also receive training on Human Subjects Research so they can properly execute their efforts.

**Duration and Location:** The proposed position start date is May 19, 2025 or sooner. The end date is August 15, 2025. This is an in-person position (not remote, not virtual) and the position is based in West Lafayette, Indiana.

**How to Be Considered:**Persons interested should submit a resume and statement of interest (1 paragraph maximum) to Professor Andrew Whelton at [awhelton@purdue.edu](mailto:awhelton@purdue.edu). Applications will be reviewed until the position is filled. There is interest to select a student for this position as soon as possible so that hiring can be initiated. Prior experience in a wet chemistry laboratory is a plus, but not required.