PACIFIC NORTHWEST AGRICULTURAL SAFETY AND HEALTH CENTER
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Student Opportunities

2023-2024 Academic Year

The Pacific Northwest Agricultural Safety and Health Center (PNASH) conducts research and promotes best safety and health practices for Northwest producers, workers, and communities in farming, fishing, and forestry.

Connect with PNASH to gain experience on:
- Farmworker health
- Participatory research
- Exposure science
- Industrial Hygiene
- Environmental & occupational epidemiology

Research Opportunities for Current Students: 4 Projects

Project: Respiratory Health and Indoor Air Quality in the Cannabis Industry

Faculty Mentor: Dr. Chris Simpson, simpson1@uw.edu

This research project aims to evaluate and prevent exposures that lead to of occupational lung diseases, particularly work-related asthma.

Student Opportunities

1. Lab rotation opportunity spring quarter, or potentially MS thesis project – evaluation of a novel thermal desorption tube for sampling of terpenes in cannabis workplaces and the ambient environment.

2. MS or PhD project - respiratory exposures and health outcomes in cannabis workers. Project would involve collection of particulate matter and VOC samples in cannabis farms, and administering health questionnaires and conducting lung function and airway inflammation tests on cannabis workers.

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Project: A Multi-Level Approach to Heat-Related Illness Prevention in Agriculture

Faculty Mentor: Dr. June Spector, spectj@uw.edu

This project is seeks to develop and evaluate a multi-level approach to prevent heat illness by providing training tools and resources for employers, supervisors, and workers.

Student Opportunities

1. Lab rotation opportunity Fall or Winter or potential MS thesis project: Heat stress has a large impact on agricultural workers, and there are unanswered questions about how best to organize work in the field and strategic placement of shade structures to minimize heat stress for agricultural workers. We collected three consecutive days of worker-relevant heat exposure data in apricot and grape blocks in Eastern Washington during Summer 2022 to address the objectives:
    I. Compare worker-relevant temperature, humidity, and solar radiation exposures near different crops, under a shade structure, and in an open area in the field;
    II. Characterize gradient in temp/humidity down a crop row and up a ladder (representative worker locations) using low cost sensors;
    III. Compare gold standard monitor (WBGT) with low-cost sensor (Kestrel D2 Drop) measurements.

    We are looking for a student that has some experience analyzing data and has an interest in Ag safety and health to help analyze these already-collected data. This work has the potential to influence best practices and worker health and safety policies.

2. We also have an opportunity for a master's or PhD level student to contribute to an ongoing project examining the relationship between housing conditions and sleep among H2A and crop workers in WA state. We measured worker housing conditions, namely humidity and temperature during sleep hours via Kestrel Drops, and access to cooling and crowding via questionnaire. Worker sleep quality/quantity was measured directly from participants during sleep hours via Actigraph. Our main objectives for this project include:
    I. Describe variability in environmental housing conditions encountered by WA state crop workers.
    II. Examine the association between crop worker housing conditions and sleep quality/quantity.

    We are looking for a student that has some experience analyzing data and has an interest in Ag health to help analyze these already-collected data. These analyses will help to inform how housing conditions may impact crop worker health and safety, especially the risk of developing heat-related illness. This work has the potential to influence best practices and worker housing policies.

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Project: Engineering Solutions to Reduce Pesticide Exposure on Northwest Fruit Farms

Faculty Mentor: Edward Kasner, ejkasner@uw.edu
This project aims to minimize the causes of pesticide exposure by evaluating emerging pesticide application technologies and safety practices.

Student Opportunity - For Winter or Spring (masters project/thesis, lab rotation, or independent study): Deployment and analysis of new survey to characterize adoption of emerging application technologies among Northwest fruit growers and impacts on occupational safety and health. Labor-intensive fruit commodities can put farmworkers and their families at disproportionate risk of pesticide-related illness through pesticide handling, drift, or the take-home exposure pathways. Robots, drones, sensors, autonomous tractors, and other digital technology are quickly changing the landscape of agriculture, including claims related to reducing pesticide use and exposure. This work builds off prior work on pesticide application safety from two previous PNASH cycles focuses on capturing current and planned uses for these new technologies in the Pacific Northwest and center worker expertise and skills in the next generation of pesticide application safety personnel and technology. RA funding available.

Project: Fishermen Led Injury Prevention Program (FLIPP) for Lifejackets Mobile Program

Faculty Mentor: Laurel Kincl, laurel.kincl@oregonstate.edu and Edward Kasner, ejkasner@uw.edu

The FLIPP for Lifejackets study seeks to promote lifejacket us among commercial fishermen in WA and OR. They will be conductive interviews with fishermen to learn their perspectives and experiences related to vessel safety including use of lifejackets and collaborating with a wide range of fishing stakeholders about how best to plan the FLIPP for Lifejackets program.

Student Opportunity: For Winter or Spring, seeking graduate student to conduct surveys with fishermen to support project activities with fishermen and fishing safety stakeholders, and help coordinate research and outreach activities to implement the FLIPP mobile van program. Not a funded opportunity; could be independent study, research rotation, practicum, or capstone activity.

Project: Co-development and evaluation of risk communication messages for farming, fishing, or forestry workers and communities

Faculty Mentor: Edward Kasner, ejkasner@uw.edu

The PNASH Outreach Core supports translation of research findings, develops safety resources, and collaborates with stakeholders improve the health and safety farming, fishing, and forestry workers and their communities.

Student Opportunity - Working in collaboration with PNASH faculty, staff, and agricultural stakeholders and research teams to develop risk communications and educational tools to build awareness of hazards and improve occupational and environmental health. Not a funded opportunity; could be independent study, research rotation, practicum, or capstone activity.

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About Us

The PNASH Center partners with employers, workers, and communities in farming, fishing, and forestry to establish research priorities and transfer solutions to the workplace through training, outreach, and participatory research.

A few current projects include:

- Evaluating sensor technology to improve situational awareness among forestry workers
- Implementing an intervention to promote the use of lifejackets among commercial fishermen
- Developing best-practices guide to reduce respiratory exposures within the cannabis industry

Industries:

- Farming
- Fishing
- Forestry

Visit our website to learn more about our current projects:
deohs.washington.edu/pnash/

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Follow us on social media for news & updates

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Pilot Project Program

The Pilot Project Program offers small grants to support new and expanded research, intervention, and education related to PNASH's core projects in Alaska, Idaho, Oregon, and Washington.

Applications open in June with up to $30,000 in funding:
For early-career investigators, e.g. PhD students.
https://deohs.washington.edu/pnash/pilot23

PNASH AgFF Student Research Interest Group

The PNASH Student Agriculture, Fishing, and Forestry Research Interest Group organizes a student-focused forum to discuss occupational health and safety research and opportunities. Once a quarter, students who are involved or interested in PNASH research can share ideas and call upon the expertise of faculty, staff, and students.

Contact:

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