

SESSION I. August 7th 2:30-4:45, South Ballroom

Hired and Contract Ag Workforce – Sustainable Solutions

Chair: Marc Schenker, MD, MPH, University of California Davis, WCAHS

Vulnerable and underserved populations make up a substantial majority of the agricultural workforce in the West. These workers are at great risk of occupational injury and poor health outcomes. All of the NIOSH Ag Centers have considerable research and outreach activities that aim to reduce these adverse outcomes. With this in mind, the goal of the *Hired and Contract Ag Workforce* session is threefold: 1) to enhance collaborations of people working on common challenges, both research and outreach, of improving health and safety among hired and contract agricultural workers; 2) to share knowledge of unique approaches appropriate for improving the health of hired and contract agricultural workers; and 3) to learn about effective approaches to addressing sensitive health issues such as sexual harassment and mental health among vulnerable workers. In addition to presentations from Ag Center members on their research activities, a panel will discuss the translation of research to practice at the community level.

- **Engagement through Promotores de Salud**
Mary Jo Ybarra-Vega, MS, LMHC, Outreach/Behavioral Health Coordinator,
Moses Lake/Quincy Community Health Center
- **Mental and Physical Health of Immigrant Workers in CAFOs and Field Ag**
Athena Ramos, PhD, CS-CASH, University of Nebraska Medical Center
- **Occupational Health and Safety of U.S. Farmworkers in the High Plains**
Anita Pena, PhD, HICAHS, Colorado State University
- **Diversity within the Forestry and Logging Workforce**
Vanessa Casanova, PhD, SW Ag Center, University of Texas
- **Panel: Sustainable Models of Research and Translation to Improve Farmworker Health**
Moderator: Xóchitl Castañeda, Health Initiative of the Americas, at the School of Public Health, University of California Berkeley
Panelists composed of previous speakers

SESSION II. August 7th, 2:30-4:45, Room 250

Prevention through Design in New Technologies

Chairs: Aaron Yoder, PhD, MS, CS-CASH, & Chandran Achutan, MS, PhD, University of Nebraska

This session will discuss the usability and feasibility of new injury prevention technologies that have been or are in the process of being developed and implemented. Presenters will provide information on current and emerging issues that may be addressed by new technologies; methods of engaging agricultural workers to use new technologies; innovative testing methods; the use of feedback protocols; and collection of quantitative and qualitative performance measures. The presentations will be followed by a panel discussion composed of the speakers.

- **Introduction** - Brad Husberg, Director, CDC/ NIOSH
- **Etiquetas Bilingües de Pesticidas/Bilingual Pesticide Safety Project: Research>> Translation>>Commercialization**
Kit Galvin, MS, CIH, PNASH, University of Washington
- **New Pesticide Application Technologies**
Edward Kasner, PhD, PNASH, University of Washington
- **Design Solutions for Prevention of Musculoskeletal Disorders in Ag**
Fadi Fathallah, PhD, and Victor Duraj, WCAHS, University of California Davis
- **Evaluation of Foldable ROPS Universal Lift-assist Design**
Paul Ayers, PhD, HICAHS, Colorado State University
- **ATV Crush Protection Devices**
Farzaneh Khorsandi, PhD, WCAHS, University of California Davis
- **Robotics and AI in Agriculture: Innovations and Safety & Health Needs**
Karen Lewis, MS, Washington State University

SESSION III. August 8th, 8:30-10:45, South Ballroom

Western Climate Change and Amplified AgFF Worker Health Risks

Chairs: Richard Fenske, PhD, PNASH, Univ. of Washington and Kent Pinkerton, WCAHS, Univ. of California Davis
Climate change brings with it increased risk of catastrophic wildfires, flooding, drought, and sea level rise as well as extreme heat days, which will become more frequent, resulting in increased air pollution, changes in vector-borne diseases, as well as the impact of heat itself. Climate change encompasses all aspects of agriculture from planting to harvesting, crop rotation, crop types and growing season. Near-term and long-term consequences of climate change on worker health will be explored in this session, as well as ideas for active solutions. This session will focus on the following goals: 1) examine current challenges in occupational health and safety related to extreme heat, changes in air pollution and increases in vector-borne diseases; 2) evaluate the consequences of climate projections on future occupational health hazards; outline next steps in regard to education regarding climate change in the Western United States.

- **Climate Impacts on Human Health and Adaptation Strategies**
Heidi Roop, PhD, Climate Impacts Group, University of Washington
- **Heat Stress in Agricultural Workers: Traumatic Injury Risk and Future Considerations**
June Spector, MD, PNASH, University of Washington
- **Heat Stress among California Farm Workers**
Marc Schenker, MD, WCAHS, University of California Davis
- **Assessing Heat Effects among Migrant and Seasonal Farmworkers: A Multi-State Study**
Kai Zhang, PhD, South West Ag Center, Health Science Center at Houston, University of Texas
- **Health Hazards Associated with Drought**
Jesse Bell, PhD, CS-CASH, University of Nebraska Medical Center
- **Panel: Air pollution from Wildfires and its Impact on Agricultural Workers**
Coralynn Sack, MD, DEOHS & Department of Medicine, University of Washington
June Spector, MD, PNASH, University of Washington
Roger Ottmar, PhD, USDA Forest Service Pacific Northwest Research Station, Seattle WA
Kent Pinkerton, PhD, WCAHS, University of California Davis

SESSION IV. August 8th, 8:30-10:45, Room 250

Surveillance of AgFF Injury, Illness and Economic Impacts

Chair: Risto Rautiainen, PhD, MS, CS-CASH, University of Nebraska

Surveillance involves ongoing systematic collection, analysis, and interpretation of health data and timely dissemination of the findings to those who need to know. Understanding the changing nature of farming, populations at risk, exposures, risk factors, and characteristics of injuries is essential for successful prevention. Surveillance of farm-related injuries and illnesses is challenging, however. There is no single system that identifies these incidents comprehensively. The large number, small size, and geographic dispersal of farm operations, and the diversity of the populations at risk pose challenges. The goal of this panel is to discuss strategies to develop sustainable, cost-effective systems for the surveillance of injuries and illnesses in agriculture. The panelists will discuss innovative methods including analyses of 'big and small data' from existing administrative databases, automated online surveys, and media tracking services.

- **Monitoring Agricultural Injuries from Media Reports**
Bryan Weichelt, PhD, National Children's Center for Rural and Agricultural Health and Safety
- **Analyses of Agricultural Injury Data from Administrative Databases**
Erika Scott, PhD, Northeast Center for Occupational Health and Safety
- **Injury and Illness Surveys to Self-employed Farmers and Ranchers**
Risto Rautiainen, PhD, University of Nebraska Medical Center
- **Improving Fatality Surveillance for the US Fishing Industry**
Samantha Case, MPH, NIOSH Western States Division
- **Bureau of Labor Statistics Injury Surveillance**
Marika Litras, PhD, US Bureau of Labor Statistics
- **Migrant and Seasonal Farmworker Enumeration Methodology**
Alice Larson, PhD, Larson Assistance Services
- **Panel: Smart Surveillance – Developing Sustainable, Cost-effective Systems for the Surveillance of Injury and Illness in Agriculture.** *Panelists composed of previous speakers*

SESSION V. August 8th, 1:30-3:45, South Ballroom

Animal Agriculture and the One Health Approach

Chair: David Douphrate, PhD, MPT, MBA, CPE, CSP, SW Ag Center, University of Texas

One Health is the integrative effort of multiple disciplines to attain optimal health for people, animals, and the environment. The One Health concept recognizes that human health is connected to the health of both animals and the environment. Within the One Health framework, livestock operation productivity and efficiency involves a triad of interactions between the animal, equipment and environment, and worker. To date, research emphasis has been placed on the animal or production practices, with very little research attention placed on the worker, and his/her interaction with the animal or environment. This session will address how worker health research is implemented within a One Health framework.

- **A One Health Model for Dairy Farming- Feasible and Scalable?**
Peter Rabinowitz, MD, PNASH, University of Washington
- **The One Health Paradigm: Challenges and Opportunities for Developing Successful Interventions to Improve Poultry and Human Health**
Matthew W. Nonnenmann, PhD, CIH, Great Plains Center for Agricultural Health, University of Iowa,
- **One Health: Why We Care® in the Swine Industry**
Heather Fowler, VMD, PhD, National Pork Board
- **Panel: Worker Health in a One Health Framework**
Panelists composed of previous speakers (and Bison representative)
- **Panel: Addressing Worker and Livestock Safety During Livestock Handling Activities**
Elena Austin, PhD, PNASH University of Washington
Robert Hagevoort, PhD, SW Center for Ag Health, Injury Prevention and Education, New Mexico State University

SESSION VI. August, 8th, 1:30-3:45, Room 250

Forestry – Integrating Safety in a Time of Rapid Change

Chair: Marcy Harrington, MPA, PNASH, University of Washington

There is an upswing in demand for forest products and land management that occupational health and forest management professionals need to be prepared to address. These trends are driven by the threat of wildfire and expanded demand for US timber. The forestry sector relies on a small and largely unskilled workforce in need for training, technology, and management solutions, especially in a time of rapid change. Currently transforming the West is a new logging technology - winch-assisted steep slope logging. This is opening up the West's steep slopes to harvesting and presents new safety challenges. In forestry services (forest maintenance), immigrant Latino workers conduct high hazard, intense manual labor tasks. This industry of small subcontractors is underserved and hidden from the regulatory eye and the workforce at high risk for injury and work abuses.

New Technologies Transforming Logging

- **Winch-assisted Machine Logging on Steep Slopes**
John Garland, PhD, PNASH, University of Washington
- **Mechanized Planting in the Southwest**
Vanessa Cassanova, PhD, SW Ag Center, University of Texas at Tyler
- **GPS and Location Services for Situational Awareness**
Rob Keefe, PhD, University of Idaho

Workforce Development Needs in the Forestry Sector

- **NW Logger Needs Assessment and Coming Industry Initiatives**
John Garland, PhD, PNASH, University of Washington
- **Mixed-methods Analysis of Logging Injuries in MT and ID**
John Rosecrance, PhD, HICAH, Colorado State University
- **Logging Machine Operators, Health and Safety Training**
Anabel Rodriguez, PhDc, SW Center for Ag Health, Injury Prevention and Education, University of Texas at

Panel: Immigrant Latino Workforces in Forestry Services

Carl Wilmsen, PhD, Executive Director, Norwest Forest Worker Center
Vanessa Casanova, PhD, SW Center for Ag Health, Injury Prevention and Education, University of Texas at Tyler
Butch de Castro, PhD, PNASH, University of Washington

SESSION VII. August 9th, 8:30-10:45, South Ballroom

Best Practices in Engagement and Research to Practice (r2p)

Chair: Amanda Wickman, MBA, South West Ag Center, University of Texas at Tyler,

This session will feature proven techniques for research and outreach that not only reach but also engage AgFF populations. Presenters from the western United States will share best practices for engaging partners and workers in agriculture, forestry and fishing sectors through safety and health outreach and research. Successful research to practice approaches will be described. A panel of experts will conclude the session by discussing what they 'like' and 'dislike' about social media as an engagement tool.

- **Latino Farmworker Health Outcomes: Engaging Youth and Families in Research and Prevention**
Michael Merten, PhD, South West Ag Center, Oklahoma State University
- **Partnering with AgriBusiness Leaders to Raise the National Agri-Safety Culture**
Barb Lee, PhD, National Children's Center for Rural and Agricultural Health and Safety
- **Research to Practice – CHIPS Project: Incorporating results into education**
Teresa Andrews, MS, Western Center for Agricultural Health and Safety, University of California Davis
- **Panel: Community-Engaged Research Methods with the Yakima Farmworker Community**
Elizabeth Torrez, BS, El Proyecto Bienestar (The Well Being Project), University of Washington
Ester Min, PhD(c), Asthma Research and the Home Air Pediatric Intervention (HAPI), University of Washington
Orly Stampfer, Reducing Woodsmoke in a Highly Impacted, Multicultural Rural Setting, University of Washington
Kori VanDerGeest, MS, Water Quality, Nitrates and Community Messaging, University of Washington
- **Panel: Best Practices for Using Social Media to Connect with AgFF Stakeholders**
Whitney Pennington, MPH, HICAHS, Colorado State University
Shelbie Powell, MPH, South West Ag Center, University of Texas Health Science Center at Tyler
Ellen Duysen, MPH, Central States Center for Agricultural Safety and Health, University of Nebraska Medical Center

SESSION VIII. August 9th, 8:30-10:45, Room 250

Occupational Health Research in the Commercial Fishing Industry

Chair: Jennifer Lincoln, PhD, NIOSH Western States Division, University of Washington

The commercial fishing industry is recognized as one of the most hazardous work settings. Many operations are characterized by strenuous labor, long work hours, harsh weather, and moving decks with hazardous machinery and equipment. To date, NIOSH scientists and others have published regional and fishery-specific analyses of fatalities and traumatic injuries, and made recommendations to prevent them. Little research has examined occupational health-related issues in the US commercial fishing industry, such as chronic and infectious disease, fatigue, musculoskeletal injuries/illnesses, and thermal load from PPE. This session will highlight researchers' recent efforts to better understand such health issues.

- **Occupational Health Studies in Commercial Fishing and Offshore Seafood Processing Industries**
 - **Impact of Thermal Load on PFD Use Among Shrimp Fishermen**
Ann Carruth, DNP, RN, Southeastern Louisiana University
 - **Chronic Health Risks in Commercial Fishermen: A Cross-Sectional Analysis from a Small Rural Fishing Village in Alaska** - Debra Cherry, MD, MPH, PNASH, University of Washington
 - **Fatigue and Sleep Deprivation: A Review of the Commercial Fishing Literature**
Jennifer M. Lincoln, PhD, CSP, NIOSH Western States Division
 - **Linking Data Sources To Explore Chronic Health Conditions, Infectious Disease, and Musculoskeletal Injury/Illness Among Alaskan Fishermen**
Laura Syron, PhD, MPH, NIOSH Western States Division
 - **Health-related Results from the Fishermen Led Injury Prevention Program**
Laurel Kincl, PhD, CSP, Oregon State University
- **Participatory Research Methods to Engage Fishing Industry Stakeholders**
 - **Interviewing Corporate Safety and Health Managers to Understand Seafood Companies' Challenges and Successes.** Laura Syron, PhD, MPH, NIOSH Western States Division
 - **Fishermen Led Injury Prevention Program: An Example of Community-Based Participatory Research**
Laurel Kincl, PhD, CSP, PNASH, Oregon State University