



2017 Expanding Research Partnerships: State of the Science

Center for Health, Work & Environment
colorado school of public health





DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

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Message from the Director, National Institute for Occupational Safety and Health

It is my pleasure to welcome you to the **2017 Expanding Research Partnerships: State of the Science Conference!** The Conference serves as an opportunity to showcase the best in occupational safety and health research and spotlight the important role of partnerships in the work that we do.

The theme of the **State of Science Conference** is "Expanding research partnerships." We will do this by bringing together extramural and NIOSH scientists to learn about the leading edge research being conducted across the field of occupational safety and health. The Conference will also foster new relationships, identify areas of mutual interest, and maximize collaborations to address priority worker issues.

In the National Occupational Research Agenda (NORA), science is conducted through partnerships. Now in its third decade, NORA continues to foster partnerships that stimulate innovative research and improved workplace practices. As you will note throughout the Conference, participation in NORA is broad, including stakeholders from universities, large and small businesses, professional societies, government agencies, safety and health practitioners, and worker organizations. I am hopeful that the State of the Science Conference will result in many new partnerships for the betterment of worker safety and health.

I would like to thank our partner, the Center for Health, Work & Environment at the Colorado School of Public Health, whose efforts have helped make the Conference possible. I would also like to thank the many scientific presenters, individuals, and organizations who have made the Conference agenda particularly exciting.

All the best for a successful and productive meeting and enjoy the Conference!

A handwritten signature in black ink, which appears to read "J. Howard".

John Howard, MD

Dear Colleagues,

On behalf of the Center for Health, Work & Environment at the Colorado School of Public Health, welcome to the State of the Science Conference. We are pleased to provide the venue for the event. It's a privilege to help convene hundreds of occupational health and safety professionals, advance knowledge, and build partnerships.

As a NIOSH-funded center that serves as a hub for education, research, and public health practice in our region, we understand the power of collaboration. Through r2p, we have learned that partnership is a vital part of achieving our mission to advance worker health, safety, and well-being. Fostering that spirit of collaboration is what this conference is all about.

I'd like to thank NIOSH for inviting us to share our campus for this historic meeting.

On behalf of our entire team, I thank you for joining us and for your commitment to expanding research partnerships. We look forward to learning more about the innovative research happening across the country and finding new ways to work together.

On a personal note, when you are in Colorado, please remember to stay hydrated and use sunblock. We are truly a mile high. Enjoy.

Sincerely,



Lee Newman, MD, MA
Director, Center for Health, Work & Environment
Professor, Colorado School of Public Health and School of Medicine
University of Colorado

Conference Planning Committee

Margaret Kitt, NIOSH, Chair

Sarah Felknor, NIOSH, Co-chair

Max Kiefer, NIOSH, Co-chair

Tricia Boyles, NIOSH, Coordinator

David Christiani, Harvard University

Michelle Haan, Colorado School of Public Health

Emily Novicki, NIOSH

Lee Newman, Colorado School of Public Health

John Piacentino, NIOSH

Christina Spring, NIOSH

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Table of Contents

Welcome Letters.....	I
Conference Planning Committee.....	III
Conference Program.....	2
Author Index.....	11
Presenter Abstracts	13
Posters.....	77
Floor Maps	107
Conference at a glance	Back Cover

Conference Program

Wednesday, June 21, 2017

8:00am – 10:00am Registration

8:30am – 8:45am WelcomeEducation 2 South - 1102

John Howard, NIOSH Director

Lee Newman, Director, Center for Health, Work & Environment

**8:45am – 9:45am The Third Decade of NORAEducation 2 South - 1102
(Moderator: Margaret Kitt)**

8:45am Review of the 2nd Decade – Sarah Felknor

9:05am Moving forward with the Third Decade – Lore Jackson Lee

9:25am The BNI approach – Paul Schulte

9:45am – 10:00am Break

**10:00am – 11:30am Opening PlenaryEducation 2 South - 1102
(Moderator: Sarah Felknor)**

10:00am Jennifer Marcum: Leveraging industrial and unemployment insurance data to target at-risk construction firms, Washington State

10:20am Megan Casey: Silicosis prevalence among Medicare beneficiaries, 1999–2014

10:40am Linda McCauley: Dehydration status and heat related symptoms in Florida farmworkers

11:00am Jennifer M. Lincoln: Improving PFD use among commercial fishermen: using partnerships to effect change

11:30am – 1:00pm Lunch/Networking

Food trucks and local venues - on your own

**1:00pm – 2:00pm Ignite Rapid PresentationsEducation 2 South - 1102
(Moderator: Lee Newman)**

1:00pm Amy Darragh: Virtual simulation training system (VSTS)

1:10pm June Spector: Heat exposure, injury risk, and productivity in agricultural workers

1:20pm Linda Sargent: Dose response of multi-walled carbon nanotube (MWCNT)-induced lung tumors

1:30pm Garrett Burnett: Lean and Broke: What we learned partnering on a national challenge with no money and no time

1:40pm Carisa Harris Adamson: Personal, psychosocial, and biomechanical risk factors for work disability from carpal tunnel syndrome: Findings from the NIOSH Consortium Studies

1:50pm Ellen Duysen: Using trusted research facilitators to assess tribal bison worker hazards

2:00pm – 3:30pm Concurrent Session 1

Session A World Trade Center.....Education 2 South - 1307 (Moderator: Allen Robison)

2:00pm James E. Cone: Ten-year cancer incidence in rescue and recovery workers and survivors of the World Trade Center disaster

2:25pm James E. Cone: Persistent post-9/11 hearing problems among World Trade Center Health Registry rescue and recovery workers, 2001 – 2007

2:50pm Mayris P. Webber: Maintenance and extension of a cohort of career firefighters as a non-WTC exposed comparison for the FDNY Firefighter Cohort

Session B Transportation, Warehousing, Utilities..Education 2 South - 2201 (Moderator: Dawn Castillo)

2:00pm Jennifer E Lincoln: A pilot study of healthy living options at 16 truck stops across the United States

2:25pm Guang Chen: Opinions on safety and its influence on driving behaviors: results from NIOSH national survey of U.S. long-haul truck driver health and injury

2:50pm Christopher Drucker: Detecting emergency vehicles: The use of in-vehicle driver support systems to improve transportation safety

Session C Manufacturing.....Education 2 South - 2305 (Moderator: Stephen Reynolds)

2:00pm Thais C. Morata: Promoting the implementation of evidence-based occupational safety and health practices in the manufacturing industry

2:25pm Christine R. Schuler: Effects of exposure, solubility and genetic factors on sensitization and chronic beryllium disease among short-term beryllium workers

2:50pm Tim Bushnell: The contributions of occupational safety and health to organizational productivity and environmental goals

Session D Total Worker HealthEducation 2 South - 2306
(Moderator: Anita Schill)

- 2:00pm Laura Punnett: Building labor-management partnerships for Total Worker Health in public sector healthcare facilities
- 2:25pm Laura Punnett: HearWell: A Total Worker Health™ approach to hearing conservation among transportation workers
- 2:50pm Glorian Sorensen: A Conceptual model to guide Total Worker Health® research and interventions

3:30pm – 3:45pm Break

3:45pm – 5:15pm Concurrent Session 2

Session E Economic BurdenEducation 2 South - 1307
(Moderator: John Piacentino)

- 3:45pm Regina Pana-Cryan: The economic burden of occupational illness
- 4:10pm Abay Asfaw: Impact of Nonstandard Work Arrangements on Earnings and Fringe Benefits: Evidence from the 2010 and 2015 National Health Interview Surveys
- 4:35pm Steve Wurzelbacher: Maximizing the use of workers' compensation systems to improve safety through partnerships

Session F Agriculture, Forestry, FishingEducation 2 South - 2201
(Moderator: Jeff Levin)

- 3:45pm Chandran Achutan: Attitude Changes in Farmers following a point-source hearing protection intervention
- 4:10pm Carolyn Reeb-Whitaker: Respiratory disease awareness and prevention in the US hop harvest industry
- 4:35pm Stephen Reynolds: Dairy bioaerosol exposures and inflammatory markers in workers: A panel study

Session G ConstructionEducation 2 South - 2305
(Moderator: Christine Branche)

- 3:45pm Ann Marie Dale: Promoting musculoskeletal disorder prevention efforts within a construction safety management program
- 4:10pm Mary Kathryn (MK) Fletcher: Partnering for hearing loss prevention in construction

4:35pm Emily J. Haas: Use of video exposure monitoring to increase worker proactive dust control practices: Evaluation of five worksite interventions

Session H Healthy Work Design.....Education 2 South - 2306
(Moderator: Paul Schulte)

3:45pm Mojtaba Yazdani: Improvement of human safety in fault-tolerant human and robot collaboration using convex optimization and receding horizon control

4:10pm Chia-Chia Chang: A conceptual and measurement model for worker well-being

4:35pm Glorian Sorensen: Design, construction, and management of a comprehensive employee research database: the PERDS study of the Harvard Center for Work, Health, and Wellbeing

6:30pm Social (Food and beverage available for purchase)

Thursday, June 22, 2017

8:30am – 10:00am Early Career Scientist Plenary.....Education 2 South - 1102
(Moderator: Dave Christiani)

8:30am Sophia Chiu: Respiratory and ocular symptoms among employees at an indoor waterpark resort — Ohio, 2016

8:50am Jaime Butler-Dawson: A longitudinal evaluation of kidney function among sugarcane workers in Guatemala

9:10am Feng-Chiao Su: Mixed exposures to cleaning and disinfecting chemicals among healthcare workers

9:30am Kathleen Attfield: Collaboration between NIOSH and California Department of Public Health to investigate occupational exposures in e-cigarette vape shops

10:10am – 11:40am Concurrent Session 3

Session I State SurveillanceEducation 2 South - 2206
(Moderator: Doug Trout)

10:10am Rebecca Jackson: State-based surveillance and public health practice: Overcoming challenges to using California workers' compensation claims data for public health surveillance

Steven A. Lavender, Ph.D., C.P.E.¹

Carolyn Sommerich, Ph.D.¹

Elizabeth Sanders, Ph.D.¹

Kevin Evans, Ph.D.¹

Jing Li, M.S.¹

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Hospital Patient Room Ergonomics: Getting it right for all hospital staff working in these spaces

The long term goal of this project is to reduce the physical demands, musculoskeletal injuries and discomfort experienced by healthcare workers in institutional settings. In many workplaces the awkward postures and motions exhibited by workers, and the effort required to complete work-related tasks bear a direct relationship to the layout and organization of the workspace. This is particularly true for hospital staff working in patient rooms. Given the boom in healthcare facility construction and remodeling there is an opportunity to address many of the room design parameters that create ergonomics issues for workers who provide direct patient care and other members of the hospital staff. Thus, the primary goal of this project was to create guidelines for hospital designers that address the ergonomics needs of the many different stakeholder groups working in patient rooms through a systems approach, largely driven by a participatory design process. Specifically, this project through a variety of participatory design methodologies: (1) Identified the work tasks that, due to patient room design parameters, ergonomically challenge the identified stakeholders (users); (2) Elicited stakeholder specific recommendations regarding ergonomic aspects of patient room design; (3) Identified patient room design parameters that impact the needs of patients and their visitors and family members, and elicited alterations in patient room design parameters that best support those needs; and (4) Attempted to resolve conflicts between stakeholder groups with regard to patient room design parameters, thereby, allowing for a clear set of design recommendations for patient rooms. In sum, this process has yielded a set of guidelines that should be useable and useful to designers, planners, hospital administrators, and others interested in developing ergonomic, efficient, and effective med/surg patient room designs that meet the needs of all hospital staff while at the same time meeting the needs of the patients and their visitors.