NIOSH Science and Service Awards 2024

Alice Hamilton Award for Occupational Safety and Health

Service Excellence Award

r2p®

Bullard-Sherwood Research to Practice (r2p) Award

PLAIN LANGUAGE AWARD

DIA

The Director's Intramural Award

James P. Keogh Award

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April 2024

NIOSH Science and Service Awards 2024

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

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James P. Keogh Award for Outstanding Service in Occupational Safety and Health

This award recognizes a current or former NIOSH employee for exceptional service in the field of occupational safety and health.

James P. Keogh, MD, worked throughout his life for peace and social change. He sought to safeguard workers through education about hazards, and he advocated workplace protections.

Dr. Keogh's earliest work in academic medicine identified dimethylaminopropionitrile as the causal agent in an outbreak of bladder neuropathy in the 1970s. Dr. Keogh could determine this because—unlike many of the clinicians initially contacted by the workers—he took their complaints seriously and applied clear public health principles to his investigation.

Throughout his life, he listened carefully to workers, characterized hazards and diseases, and then fearlessly worked to identify compensation for the individual and prevention strategies for others. Dr. Keogh was instrumental in including construction workers in the Maryland Occupational Safety and Health lead standard, a full decade before the federal standard included them. He was a leading medical educator who always focused on the need to incorporate clinical compassion with public health prevention. His most outstanding legacy, however, was his fierce determination to put knowledge into practice to benefit the worker.

James P. Keogh Awardee

Thais Morata

Thais Morata, PhD, is a Senior Research Audiologist in the NIOSH Division of Field Studies and Engineering, Engineering and Physical Hazards Branch, Noise and Bioacoustics Team. Dr. Morata is recognized as a world-renowned expert in occupational hearing loss. She completed her early education in Brazil in 1987 where she taught an undergraduate program in audiology. In 1990, she received her doctoral degree in Communication Sciences and Disorders and Environmental Health at the University of Cincinnati. For her dissertation, she evaluated workers in a rotogravure printing facility and demonstrated for the first time that hearing loss can be related to occupational exposure to solvents. While exposures to organic solvents had been studied in animal models, her research spawned a new concept in occupational hearing loss prevention: combined exposures. Dr. Morata was the first in her field to demonstrate that combined exposure to noise and solvents could produce a synergistic effect—one plus one can be greater than two.

Dr. Morata came to NIOSH in 1990. Her ground-breaking work led to changes not only in NIOSH policies and priorities but also affected national and international occupational safety and health policies. The American Conference of Governmental Industrial Hygienists included ototoxic chemical exposures among the threshold limit values and recommended chemically exposed employees be enrolled in hearing conservation and medical surveillance programs. In Brazil and Australia, worker compensation legislation and worker health and safety standards addressed ototoxic chemical hazards.

Dr. Morata has produced over 125 peer-reviewed publications, 75 trade articles, book chapters, proceedings papers, 21 NIOSH Science Blogs and over 200 conference presentations. She holds many leadership and collaborative positions and serves as a Founding Associate Editor for the International Journal of Audiology and Founding Editorial Board Member for the Cochrane Systematic Reviews on Occupational Safety and Health.

Thanks to her vision, NIOSH was one of the first US federal agencies to collaborate with Wikimedia. In 2016, NIOSH and partner universities adopted the Wiki Education Foundation platform to train students to expand the reach of safety and health information. Her Wiki efforts also include World Hearing Day and the International Year of Sound where she led campaigns resulting in over 150 million visitors and over 1,300 articles edited.

Dr. Morata is responsible for creating the Safe-in-Sound™ Excellence in Hearing Loss Prevention Award Program. She is a champion for immigrant workers and her latest work aims to provide NIOSH resources in multiple languages and to a larger global audience.

Dr. Morata's work is invaluable to NIOSH and the field of occupational safety and health. The results of her evidence-based research and research outputs have already had a demonstrable effect on knowledge, policy, and practice to improve worker safety and health, and can be expected to have even greater impact in the future.

Previous James P. Keogh Awardees

2023: Jonathan Szalajda

2022: Alan Echt

2021: Maryann D'Alessandro

2020: Christopher Coffey

2019: Leslie Nickels

2018: Pete Kovalchik

2017: Diane Porter

2016: Thomas R. Waters

2015: Kathleen Kreiss

2014: Albert E. Munson

2013: Michael Attfield

2012: Alice Suter

2011: Linda Rosenstock

2010: James W. Collins

2009: John Howard

2008: Mitch Singal

2007: Steven Sauter

2006: Marilyn Fingerhut

2005: Rosemary Sokas

2004: Dawn Castillo

2003: James A. Merchant

2002: Philip J. Landrigan

2001: William Edward Halperin

2000: Richard A. Lemen

Alice Hamilton Award for Occupational Safety and Health

This award recognizes the scientific excellence of NIOSH technical and instructional materials. Categories include Behavioral and Social Science, Communication and Guidance, Engineering and Control, Epidemiology and Surveillance, Exposure and Risk Assessment, Methods and Laboratory Science, and Research Service.

The annual award honors Dr. Alice Hamilton (1869– 1970), a pioneering researcher and occupational physician. Many early laws to improve workers' health derived from the work of Alice Hamilton, MD. Born into a prominent Indiana family (her sister was the well-known classicist, Edith Hamilton), Dr. Hamilton graduated from the University of Michigan Medical School in 1893. After joining the Women's Medical School of Northwestern University in 1897, she moved into Jane Addams' Hull House in Chicago and opened a well-baby clinic for poor families in the neighborhood. There she began to study the underlying social problems related to their pains, strange deaths, lead palsy, "wrist drop," and many widowed women. In 1908, Dr. Hamilton published one of the first articles on occupational health in the United States. Two years later, she began exploring occupational toxic disorders. Relying primarily on "shoe leather epidemiology," and the emerging science of toxicology, she pioneered occupational epidemiology and industrial hygiene in the United States. Her scientifically persuasive findings caused sweeping reforms to improve the health of workers. In 1919, Dr. Hamilton became assistant professor of industrial medicine at Harvard Medical School and the school's first female faculty member. While there, she served two terms on the Health Committee of the League of Nations. Upon retiring from Harvard at age 66, she became a consultant to the U.S. Division of Labor Standards and president of the National Consumers League.

Alice Hamilton Award Finalists

Finalists are listed alphabetically by nomination title.

Behavioral and Social Science

Simone Mariotti Roggia, Fernanda Zucki, Adrian Fuente, Adriana Bender Moreira de Lacerda, Wei Gong, Krystin Carlson, and Thais C. Morata

Audiological tests used in the evaluation of the effects of solvents on the human auditory system: a mixed methods review

Semin Hear 2023; *44*(4):437-469

Ruiling Liu, Geoffrey M. Calvert, Kristi R. Anderson, Helen Malcolm, Lauren Cimineri, Hannah Dupont, and Marisol Martinez

Opioid prescriptions among the World Trade Center Health Program population

BMC Health Serv Res 2023; *23*:1323

Hope M. Tiesman, Scott A. Hendricks, Douglas M. Wiegand, Barbara Lopes-Cardozo, Carol Y. Rao, Libby Horter, Charles E. Rose, and Ramona Byrkit

Workplace violence and the mental health of public health workers during COVID-19

Am J Prev Med 2023; *64*(3):315-325

Communication and Guidance

Meghan Kiederer, Trudi McCleery, Evan Lybrand, Bradley Coop, Daniel Magnafichi, Jaclyn Cichowicz, Megan Casey, and Joseph Cauley

How to tell if your N95® respirator is NIOSH approved

NIOSH 2023; Video; Pittsburgh, PA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2023-120

Geoffrey M. Calvert, Kristi Anderson, John Cochran, James E. Cone, Denise J. Harrison, Peter T. Haugen, Gerald Lilly, Sandra M. Lowe, Benjamin J. Luft, Jacqueline M. Moline, Joan Reibman, Rebecca Rosen, Iris G. Udasin, and Aditi S. Werth

The World Trade Center Health Program: an introduction to best practices

Arch Environ Occup Health 2023; *78*(4):199-205

Eric J. Esswein, David Caruso, Kyla Hagan-Haynes, John E. Snawder, Laura Styles, Robert Harrison, Jordon Plotsky, and Jeff Knight

You've got this! Understanding hazards, risks, and controls for safer fluid transfers in oil and gas extraction

NIOSH 2023; Video; Denver, CO: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2023-122

Engineering and Control

Drew Thompson and Chaolong Qi

Characterization of the emissions and crystalline silica content of airborne dust generated from grinding natural and engineered stones

Ann Work Expo Health 2023; *67*(2):266-280

Stella E. Hines, Paul Thurman, Eileen Zhuang, Hegang Chen, Melissa McDiarmid, Sricharan Chalikonda, Sara Angelilli, Hope Waltenbaugh, Meghan Napoli, Emily Haas, Caitlin McClain, Margaret Sietsema, and Rohan Fernando

Elastomeric half-mask respirator disinfection practices among healthcare personnel

Am J Ind Med 2023; *66*(12):1056-1068

Wei Gong, William J. Murphy, Deanna K. Meinke, Huiling Amy Feng, and Mark R. Stephenson

Evaluating earplug performance over a 2-hour work period with a fit-test system

Semin Hear 2023; *44*(4):470-484

F. Selcen Kilinc-Balci, Zafer Kahveci, and Patrick L. Yorio

Impact of surface tension on the barrier performance of gowns and coveralls

Am J Infect Control 2023; *51*(12):1392-1400

Epidemiology and Surveillance

Abay Asfaw

Association between reasons for not working and reporting of major depression and anxiety symptoms among U.S. adult population during the COVID-19 pandemic

J Workplace Behav Health 2023; *38*(3):293-320

Miriam R. Siegel, Carissa M. Rocheleau, Brittany S. Hollerbach, Amel Omari, Sara A. Jahnke, Lynn M. Almli, Andrew F. Olshan, and the National Birth Defects Prevention Study

Birth defects associated with paternal firefighting in the National Birth Defects Prevention Study

Am J Ind Med 2023; *66*(1):30-40

Matthew R. Groenewold, Rachael Billock, Hannah Free, Sherry L. Burrer, Marie Haring Sweeney, Jessie Wong, Antionette Lavender, Gabriel Argueta, Hannah-Leigh Crawford, Kimberly Erukunuakpor, Nicole D. Karlsson, Karla Armenti, Hannah Thomas, Kim Gaetz, Gialana Dang, Laurel Harduar-Morano, Komi Modji, and Sara E. Luckhaupt

Excess risk of SARS-CoV-2 infection among in-person nonhealthcare workers in six states, September 2020–June 2021

Am J Ind Med 2023; *66*(7):587-600

Alysha R. Meyers, Steven J. Wurzelbacher, Edward F. Krieg, Jessica G. Ramsey, Kenneth Crombie, Annette L. Christianson, Lian Luo, and Susan Burt

Work-related risk factors for rotator cuff syndrome in a prospective study of manufacturing and healthcare workers

Hum Factors 2023; *65*(3):419-434

Exposure and Risk Assessment

David B. Richardson, Klervi Leuraud, Dominique Laurier, Michael Gillies, Richard Haylock, Kaitlin Kelly-Reif, Stephen Bertke, Robert D. Daniels, Isabelle Thierry-Chef, Monika Moissonnier, Ausrele Kesminiene, and Mary K. Schubauer-Berigan

Cancer mortality after low dose exposure to ionising radiation in workers in France, the United Kingdom, and the United States (INWORKS): cohort study

BMJ 2023; *382*:e074520

Brie Hawley Blackley, Randall J. Nett, Jean M. Cox-Ganser, Robert Reid Harvey, and Mohammed Abbas Virji

Eye and airway symptoms in hospital staff exposed to a product containing hydrogen peroxide, peracetic acid, and acetic acid

Am J Ind Med 2023; *66*(8):655-669

Warren R. Myers, Weihua Yang, Kenneth J. Ryan, Michael S. Bergman, Edward M. Fisher, Jhy-Charm Soo, and Ziqing Zhuang

Total outward leakage of half-mask respirators and surgical masks used for source control

J Occup Environ Hyg 2023; *20*(12):610-620

Methods and Laboratory Science

Kevin T. Strickland, Michael S. Bergman, Susan Xu, and Ziqing Zhuang

A manikin-based assessment of loose-fitting powered air-purifying respirator performance at variable flow rates and work rates

J Occup Environ Hyg 2023; *20*(7):279-288

Cornelius Rimayi and Ju-Hyeong Park

Adjustment of matrix effects in analysis of 36 secondary metabolites of microbial and plant origin in indoor floor dust using liquid chromatography-tandem mass spectrometry

Buildings 2023; *13*(5):1112

Zafer Kahveci, F. Selcen Kilinc-Balci, and Patrick L. Yorio

Evaluation of fluid leakage at the coverall and glove interface in single and double glove conditions

Am J Infect Control 2023; *51*(10):1145-1150

Research Service

Sophia K. Chiu, Scott E. Brueck, Douglas M. Wiegand, Hannah L. Free, and Hannah Echt

Evaluation of low-frequency noise, infrasound, and health symptoms at an administrative building and men's shelter: a case study

Semin Hear 2023; *44*(4):503-520

Jessica F. Li, Dallas S. Shi, Dylan T. Neu, Sophia Chiu, and Melissa Charles

Evaluation of occupational exposures to illicit drugs in forensic laboratories

Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, HHE 2021-0115-3388, 2023; 1-48

Brianna M. Eiter, Zoë J. Dugdale, Tashina Robinson, Carol T. Nixon, Heather Lawson, Cara N. Halldin, and Casey Stazick

Occupational safety and health of women in mining

J Womens Health 2023; *32*(4):388-395

Alice Hamilton Awardees and Honorable Mentions

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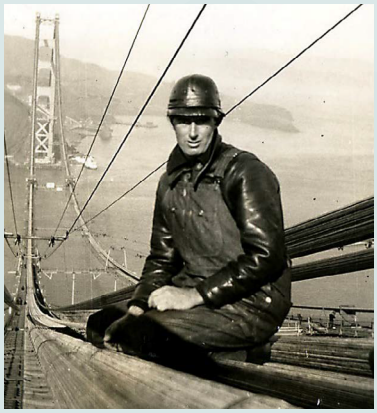
J Womens Health 2023; *32*(4):388-395

Bullard-Sherwood Research to Practice Award

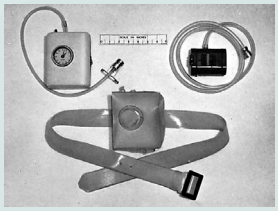
This award recognizes outstanding efforts by NIOSH scientists and their partners in applying occupational safety and health research to prevent work-related injury, illness, and death. It highlights efforts that demonstrate noteworthy impact through partnerships.

The award is named in honor of two distinguished inventers who made significant improvements in workplace injury and illness prevention.

Edward W. Bullard designed the first "hard hat" as protective headgear for miners with his "Hard Boiled Hat," so-called due to the steam used to harden it during manufacturing. Later, he adapted his helmet to protect workers building the Golden Gate Bridge from falling rivets, leading to the bridge site becoming the first designated "Hard Hat Construction Area." Mr. Bullard also designed and sold another helmet specifically to protect sandblasting workers at the bridge site. Similar to the Hard Boiled Hat, this helmet included a hood, or "canopy," a see-through window, and an air supply. The helmets helped to prevent death and injury during the project and in the years since. Even so, 11 workers died at the bridge site—including 10 in 1937 when a scaffold collapsed. Today, about six million hard hats are sold annually throughout the world. Mr. Bullard's family-owned company still produces many of those hard hats, as well as modern sandblasting helmets.



A Golden Gate construction worker wears a Bullard "Hard Boiled Hat" in this photograph, circa 1936. Credit: Labor Archives and Research Center, J. Paul Leonard Library, San Francisco State University



The personal air sampler system designed by R. Jeremy Sherwood, as it appeared in a 1960 Annals of Occupational Hygiene article announcing its invention. From: Sherwood RJ, Greenhalgh DMS [1960]. A personal air sampler. Ann Occup Hyg 2:127–132.

R. Jeremy (Jerry) Sherwood merged research and industrial hygiene by inventing the first practical personal sampling pump in the late 1950s. Until then, sampling occurred in a specific area, or while an industrial hygienist followed a worker while carrying bulky equipment. Using the newly developed personal sampling pump, Mr. Sherwood demonstrated that area sampling often severely underestimated worker exposures. Soon, personal sampling pumps became the staple that they are today. He also developed a miniature sampler for sulfur dioxide that became commercially available and was widely used throughout Europe. Finally, his research on respirators led to the first fit testing. While at the International Labour Organization and later at the World Health Organization, Mr. Sherwood trained others in occupational safety and health, particularly in developing countries, benefiting workers around the world.

Bullard-Sherwood Research to Practice Award Finalists

Finalists are listed alphabetically by project name.

Knowledge

American Indian and Alaska Native Worker Safety and Health Strategic Plan

Dalsey E, Foley R, Hatcher S, Steege A, Hill R, Hagan-Haynes K, Franklin C

Exposure Control Interventions for the Fire Service

Fent K, Horn G, Kerber S, Smith D, Mayer A, Bennett A, Poist L, Mansen D, Couste P

Feasibility Assessment of Elastomeric Respirators in US Healthcare Delivery

Fernando R, Haas E, McClain C, Hines S, Sietsema M, Hornbeck A, Greenawald L

Bullard-Sherwood Research to Practice Awardees and Honorable Mentions

Knowledge Awardee

Exposure Control Interventions for the Fire Service

Fent K, Horn G, Kerber S, Smith D, Mayer A, Bennett A, Poist L, Mansen D, Couste P

Firefighters face complex and hazardous exposures at work. In 2023, the International Agency for Research on Cancer's Monograph 132 classified the occupational exposure of firefighting as carcinogenic, highlighting the importance of exposure and contamination control in the fire service. While fire departments across the United States and abroad have implemented various types of exposure controls into policies and procedures, these measures have not necessarily translated into action on the fireground. There is a clear need to thoroughly, but concisely explain why these control measures are needed and how they are effective.

Drawing upon a long history of research collaboration regarding firefighter exposures and controls, NIOSH, Underwriters Laboratories Fire Safety Research Institute (FSRI), Illinois Fire Service Institute, and Skidmore College partnered to develop the review article *Hierarchy of contamination control in the fire service: Review of exposure control options to reduce cancer risk*. NIOSH, FSRI, and Skidmore College then used the information in this article to develop *Comprehensive Cancer Prevention Strategies for the Fire Service*, a free online Fire Safety Academy (FSA) training course specifically for firefighters and fire officers. Using plain language and visual aids, this interactive course explains the hierarchy of contamination controls, encourages use of the controls, provides additional resources, and helps firefighters enroll in the National Firefighter Registry (NFR) for Cancer.

As of December 2023, the article has been viewed more than 5,000 times, and the training course has been completed by 2,200 registered firefighter students. Additionally, 270 firefighter students accessed the NFR enrollment web portal directly from the FSA course. These numbers are expected to continue to increase as more of the over 113,000 registered firefighter students take the course.

Knowledge Honorable Mention

Feasibility Assessment of Elastomeric Respirators in U.S. Healthcare Delivery

Fernando R, Haas E, McClain C, Hines S, Sietsema M, Hornbeck A, Greenawald L

During infectious disease pandemics, nationwide shortages of N95® filtering facepiece respirators have forced healthcare systems to consider alternatives, such as reusable elastomeric half mask respirators (EHMRs).* Though frequently used across multiple industries, EHMR use has been less common in healthcare settings. As such, it became crucial to understand user perceptions and organizational characteristics within healthcare systems contributing to the successful integration of reusable respirators.

To address this knowledge gap, NIOSH designed and implemented a multi-year and multi-phase research effort to explore the feasibility of integrating EHMRs into healthcare settings. As part of this effort, NIOSH collaborated with the University of Maryland Medical Center (UMMC) and Allegheny Health Network to understand healthcare personnel experiences using EHMRs, develop EHMR implementation guides, and further evaluate healthcare personnel experiences using EHMRs. This work influenced a change in EHMR management practices at UMMC with the creation of a central sterile processing department, shifting the responsibility from healthcare personnel to the healthcare organization to store, maintain, disinfect, and distribute EHMRs. Subsequently, healthcare settings consulted this information to develop their own EHMR implementation plans including updates to respiratory protection programs.

Additionally, NIOSH collaborated with the Strategic National Stockpile to collect public feedback on the nationwide distribution strategy of EHMRs and solicited interest from healthcare settings to provide individual and organizational input. The Strategic National Stockpile provided 96,000 EHMRs to 43 organizations across 17 states that separately volunteered to participate in NIOSH research. NIOSH engaged with organizations for one year where initially 0% were using EHMRs as their primary respirator. By the end of the year, approximately 22% were using EHMRs as their primary respirator and had incorporated EHMRs into their respiratory protection programs.

*N95 is a certification mark of the U.S. Department of Health and Human Services (HHS) registered in the United States and several international jurisdictions.

Plain Language Award

The Plain Writing Act of 2010 requires that federal agencies provide clear communication that the public can understand and use. NIOSH encourages plain language in all of its communication products.

Established in 2017, this award recognizes NIOSH fact sheets, brochures, infographics, and web topic pages that demonstrate excellence in applying plain language principles.

Awards are given in two categories:

Before and After: Recognizes a revised NIOSH-branded brochure, infographic, fact sheet, or web topic page that includes both an original, difficult-to-read version and the revised version that uses plain language principles. Judges consider the improvements.

Original: Recognizes a NIOSH-branded brochure, infographic, fact sheet, or web topic page created originally using plain language principles.

Plain Language Award Finalists

Finalists are listed alphabetically by product name.

Before and After

Cardiovascular Disease and Work

Shockey T, Mobley A

Noise and Occupational Hearing Loss

Brogan U, Mobley A, Tyrawski J, Byrne D, Gong W, Graydon P, Masterson E, Morata T, Themann C, Zechmann E

Original

Leave Lead At Work

Couch J, Rinsky J, Grimes R, Carlson K, Reynolds L, Burnett G, Tsai R, Afanuh S

World Trade Center Health Program Updates

Hurwitz E, Gardner A, Litwiller Z, Burgos C, Wolfe R

Plain Language Awardees and Honorable Mentions

Before and After Awardee

Noise and Occupational Hearing Loss

Brogan U, Mobley A, Tyrawski J, Byrne D, Gong W, Graydon P, Masterson E, Morata T, Themann C, Zechmann E

Noise and Occupational Hearing Loss is the main NIOSH web topic page on occupational hearing loss. Exposure to loud noise or certain chemicals while at work can damage workers' hearing but is preventable. Although occupational hearing loss is common and permanent, health and safety professionals, employers, and workers can all help prevent it.

The reorganized and rewritten web topic page makes it easier for users to navigate and understand. Despite reducing the total number of pages from 63 to 21, the team added content to the website to address important gaps. These gaps include ototoxic chemicals (chemicals that can damage hearing), and clear explanations of the causes of occupational hearing loss, how to tell if workers are at risk, and how to prevent it.

Rewriting reduced the number of long sentences, passive voice, and jargon. The revised *Noise and Occupational Hearing Loss* web topic page now serves as a one-stop shop for clear information for workers, employers, public health professionals, and researchers.

Before and After Honorable Mention

Cardiovascular Disease and Work

Shockey T, Mobley A

Work is a social determinant of health. However, many people are unaware that their job may impact their health, including their cardiovascular health and related risk factors. The revised, streamlined *Cardiovascular Disease and Work* web topic page (formerly titled *Cardiovascular Disease and Occupational Factors*) clearly explains three points about cardiovascular disease: 1) how work is a risk factor, 2) what occupations and industries may be more at risk, and 3) what workers and employers can do to prevent it.

The revised web topic page better reflects the current research, information, and resources related to occupational cardiovascular disease. It provides easy and practical ways to lower work-related risks, such as taking short activity breaks during the workday, participating in screening programs, and forming workplace committees dedicated to identifying and reducing sources of stress in the workplace.

The information is divided into five sections: 1) Work-Related Cardiovascular Disease Risk Factors, 2) Occupational Groups with the Poorest Cardiovascular Health Measures, 3) Occupations at Higher Risk for Cardiovascular Disease, 4) Ways to Prevent Work-Related Cardiovascular Disease, and 5) Publications.

Original Awardee

Leave Lead At Work

Couch J, Rinsky J, Grimes R, Carlson K, Reynolds L, Burnett G, Tsai R, Afanuh S

Leave Lead At Work is a hybrid plain language document that combines the best of infographics and traditional fact sheet information. With an infographic front page and fact sheet back page, workers can easily see why it is important to learn about lead exposures. Then they can flip over the page to learn which easy-to-understand actions they can take to protect themselves and their loved ones.

Highlighting the importance of take-home lead, the document defines the problem, conveys the health effects, and walks workers through steps they can implement before, during, and after work, and at home to reduce potential lead exposures outside of work. The document divides the information into different times of the workday, giving workers tips for each portion of the day. This approach allows workers to easily identify where the information could be applied. It also contains simple but crucial information about sharing the employee's lead work not only with their healthcare provider but the healthcare provider of everyone in the home, including pediatric and obstetrics and gynecology practitioners.

Original Honorable Mention

World Trade Center Health Program Updates

Hurwitz E, Gardner A, Litwiller Z, Burgos C, Wolfe R

The *World Trade Center Health Program Updates* fact sheet was designed and distributed to Program members to honor the 9/11 Day of Remembrance and share Program updates and news. Acknowledging the 9/11 Day of Remembrance promotes cultural sensitivity, honors the memory of those impacted, and highlights the values that drive the Program.

The fact sheet uses plain language principles to enhance reader comprehension and engagement. The goal was to communicate important Program updates effectively to ensure that Program members could understand and act upon the provided information by visiting the World Trade Center Health Program website through the QR code displayed on the fact sheet.

Service Excellence Award

These awards focus on both the management and operations side of the Institute and recognize NIOSH staff who provide excellent administrative and managerial support to the Institute's mission and projects.

The awards recognize distinction in four categories:

Excellence in Administration recognizes one current NIOSH employee or group of NIOSH employees each year for exceptional administrative support. This award honors the contributions made by employees in administrative occupations to increase the effectiveness or efficiency of a division, laboratory, or office.

Excellence in Leadership recognizes one current NIOSH employee per grade grouping (GS-14 and above, GS-11 to GS-13, and GS-9 and below) each year for exceptional personal leadership. This award honors the efforts made by employees to exhibit leadership at NIOSH.

Excellence in Workforce Development recognizes one current NIOSH employee or group of NIOSH employees each year for exceptional contributions that promote development of the NIOSH workforce. This award acknowledges those who mentor, teach, promote, or design activities that develop the workforce.

Excellence in Workforce Diversity recognizes one current NIOSH employee or group of NIOSH employees each year whose actions promote the creation and support of a diverse NIOSH workforce. This award acknowledges those whose efforts promote the recognition and value of diversity, including recognition of health equity issues.

Service Excellence Award Finalists

Finalists are listed alphabetically by nominee or team name.

Excellence in Administration

Diana Cavalier

Latasha Fields

Peter Grandillo

Rosmarie Hagedorn

Amanda Keenan

NIOSH Fiscal Resources Management Office: Regina Emerson, Polly Fiorini, Wilhemina Hartsfield, Keisha Kuma, Karen Reuther, Katherine Terell, Timothy Velas, Towanda Willis

Excellence in Leadership:

GS-14 and above

Cherie Estill

Kenny Fent

Lee Greenawald

Deborah Hirst

Susan Moore

Jonisha Pollard

GS-11 to GS-13

Brendan Demich

Vadisha Parasram

Aaron Reeder

Chih-yu Tseng

Jennifer Tyrawski

Grace Vixama

GS-9 and below

Daniel Farwick

Excellence in Workforce Development

National Personal Protective Technology Laboratory Workplace Satisfaction Committee's Workforce Development Team: Christian Coby, Maryann D'Alessandro, Patrick Dempsey, Mihili Edirisooriya, Barbara Ginsburg, Lacy Hannon, Colleen Miller, Frank Palya, Jeff Peterson, Jonisha Pollard, Heather Reed, Adam Smith, Jonathan Szalajda, Brooke Vollmer, Justin Wehring, Dawn Zubasic

Excellence in Workforce Diversity

Blueprint in Action Network: Nick Gipson, Barbara Jenkins, Brenda Jones, Tim Kreimer, Micah Niemeier-Walsh, Kathleen Rogers

Deborah Hirst

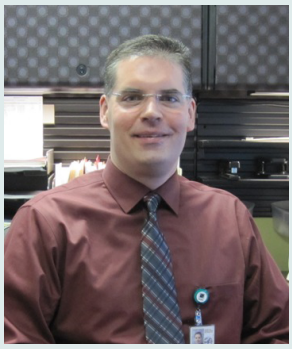
Marilyn James

National Personal Protective Technology's Laboratory Recruitment Excellence and Diversity Team: Susan Moore, Nora Payne, Hom Sharma

Service Excellence Awardees

Excellence in Administration Awardee

Peter Grandillo, NIOSH Office of Extramural Coordination and Special Projects



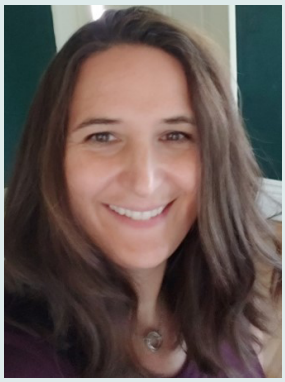
Mr. Peter Grandillo is a program analyst in the NIOSH Office of Extramural Coordination and Special Projects. His exceptional support to leadership, development of tools and systems, and administration of grants have significantly contributed to the efficient processing and management of over 150 grants.

Mr. Grandillo plays a leading role in efforts to modernize, update, and maintain NEAT, a key grant database's structure to ensure database integrity and accuracy. NEAT's functionality allows the office to quickly respond to queries about program funded grants, CDC queries on grants funded by state for use in new CDC fact sheets, and questions from congressional staffers and other agencies on funding of specific topics. His knowledge of NEAT and other grant systems, analytical skills, and attention to detail are critical and invaluable.

Mr. Grandillo's dedication to continuous improvement and exceptional contributions help ensure efficient and effective grants administration and critical tasks meet deadlines. He develops tools to minimize staff burden, provides expert analytical input, and generates resources for making funding recommendations to the NIOSH Director. His proactive and continuous improvement approach, creativity, and quality work have led to the development of sustainable systems and tools that will contribute to efficient and effective grant administration moving forward.

Excellence in Leadership: GS-14 and above Awardee

Susan Moore, PhD, NIOSH National Personal Protective Technology Laboratory



Dr. Susan Moore is the Associate Director for Science for the NIOSH National Personal Protective Technology Laboratory and plays a crucial role in achieving a division priority of scientific excellence. In recent years, the expectations for scientific execution have substantially expanded, creating new challenges for ensuring scientific excellence. Dr. Moore not only met expectations but has significantly exceeded them in numerous ways. For example, she developed an internal guidance document to assure standardized communication and to guide terminology selection for information involving face-worn products used for particulate hazards.

Dr. Moore drove development of three new and modernized three previously established standard operating procedures. This had a very notable impact that drastically reduced the workload on division research staff at a time when administering research projects has dramatically increased. She also established a resource that documents crucial considerations when conducting research compliant with IT requirements.

Dr. Moore determined the need for these materials based on challenges her division staff and leadership were experiencing. The development of these materials required many hours of time coordinating and communicating with colleagues and peers inside and outside of the division and NIOSH. Her outstanding efforts and dedication to collaboration and coordination substantially improved the quality and acceptance of the products that she produced. Dr. Moore is a strong leader, excellent communicator, and is highly motivated and committed to improving scientific excellence.

Excellence in Leadership: GS-11 to GS-13 Awardee

Aaron Reeder, NIOSH National Personal Protective Technology Laboratory

Mr. Aaron Reeder is a Deputy Lab Manager in the NIOSH National Personal Protective Technology Laboratory (NPPTL). Mr. Reeder demonstrates exceptional leadership in laboratory safety and modernization across NPPTL to help ensure its exemplary standing in respirator certification and testing.

Mr. Reeder has taken a lead role in procurement for laboratory equipment and identifies equipment needs, assists branch leadership with budgeting, and leads several complex purchase request packages. He also serves as the technical lead for the NIOSH Respirator Approval Program testing labs, providing leadership and mentorship, troubleshoots testing and equipment issues, assesses respirator failures, and identifies new equipment and research needs. In addition, he has taken a lead with laboratory IT and data security needs by representing NPPTL in NIOSH IT initiatives.

Mr. Reeder serves as the primary NPPTL representative to interface with the NIOSH facilities management office. He reviewed blueprints and building designs to ensure the needs were met for the Respirator Approval Program and are adaptable to the needs of future NPPTL research. He was also assigned to the role of NPPTL Standard Testing Procedure Coordinator to oversee the maintenance and update of over 187 publicly available NIOSH standard testing procedures. Through his outstanding leadership the process now is more consistent and efficient.

Mr. Reeder is a remarkable leader and a key resource with an excellent work ethic. Through his leadership, he has improved safety and modernized laboratory equipment and procedures, respirator test procedures and decade-old systems have been improved and publicly updated.

Excellence in Leadership: GS-9 and below Awardee

Daniel Farwick, NIOSH Division of Field Studies and Engineering

Mr. Dan Farwick is the sole engineer technician for the Engineering and Physical Hazards Branch in the NIOSH Division of Field Studies and Engineering. He supports 36 engineers and industrial hygienists, maintains inventory of all field instrumentation for branch surveys and lab instruments, prepares equipment, and fit tests researchers.

Mr. Farwick was one of the first users in his branch to pioneer the use of 3D printing to improve prototyping capabilities, repair instrumentation, and enhance the equipment. Mr. Farwick's dedication to improving laboratory experiments is evident in his venture into robotic programming by recognizing the need for improved precision in repeat measurements. As a result, he programmed a robot to enhance the accuracy of data collection for a funded National Occupational Research Agenda project to reduce dust exposures from abrasive materials generated during grinding.

Mr. Farwick's exceptional contributions address significant challenges of supporting engineering research by using a 3D printer and software to revolutionize the prototyping process for researchers. His mastery of these tools enables him to repair instruments and equipment quicker with significant government savings. Through his innovative use of technology, the pace of research has accelerated, providing invaluable support to NIOSH and the occupational safety and health research community.

For over 39 years, Mr. Farwick has served the branch with great distinction. He exemplifies service through his above-and-beyond daily performance and extraordinary dual expertise in both cutting-edge prototyping and robotics programming, both highlighting his invaluable impact on research endeavors.

Excellence in Workforce Development Awardee

NIOSH National Personal Protective Technology Laboratory's Workplace Satisfaction Committee's Workforce Development Team

Christian Coby, Maryann D'Alessandro, Patrick Dempsey, Mihili Edirisooriya, Barbara Ginsburg, Lacy Hannon, Colleen Miller, Frank Palya, Jeff Peterson, Jonisha Pollard, Heather Reed, Adam Smith, Jonathan Szalajda, Brooke Vollmer, Justin Wehring, Dawn Zubasic

The National Personal Protective Technology Laboratory (NPPTL) takes great pride in its inclusivity and positive regard for all employees. NPPTL recognizes the correlation of its mission to the importance of keeping staff educated, engaged, motivated, and retained by coordinating initiatives to ensure that it meets current and future workforce needs, reduces turnover, and improves workforce development.

To achieve this goal, the NPPTL Workplace Satisfaction Committee's Workforce Development Team volunteered to develop and execute a multifaceted plan to assist employees in maximizing their workforce development and increasing workplace morale. This effort included compiling and disseminating information on resources and CDC-sponsored trainings monthly. The team made decisions about workforce training, education, and development through a collaborative process to align with workforce development goals. This work enhanced scientific growth and expertise through workforce development sessions and shadowing opportunities. While over 90% of the workforce participated in the most recent session, employees have the opportunity to revisit the development opportunity on demand through recorded sessions.

Team members continuously went above and beyond the scope of their respective duties to identify and implement creative and meaningful training and education opportunities for the workforce. At the same time, they continue to perform their professional duties as unique and dedicated leaders, and scientific and administrative staff.

Excellence in Workforce Diversity

NIOSH National Personal Protective Technology Laboratory Recruitment Excellence and Diversity Team

Susan Moore, Nora Payne, LT Hom Sharma

The National Personal Protective Technology Laboratory (NPPTL) Recruitment Excellence and Diversity Team developed an NPPTL Candidate Recruitment and Selection standard operating procedure (SOP) to complement related NIOSH hiring and recruiting tools. This SOP supports the NIOSH goal to achieve workforce that represents the full spectrum of U.S. workers. Reaching this goal supports the advancement of persons with disabilities, minorities, and other under-represented groups within the NIOSH workforce and provides foundational support to ensure that NIOSH addresses health and safety issues experienced by these workers.

The team worked with numerous entities across NIOSH and NPPTL to obtain input and review of the SOP. They revised the SOP after each review type. This approach built a greater understanding and appreciation for the value the SOP offered.

In addition to the development of the SOP, the team identified a digital tool to administer the SOP to selection officials. They presented the SOP at NIOSH's 2023 Blueprint in Action Summit to promote its use throughout NIOSH. Select attributes include candidate recruitment procedures, constituting the selection panel, scheduling and conducting interviews, and post-hire surveys. The SOP has helped facilitate multiple hires.

Director's Intramural Award for Extraordinary Science

Science excellence is the foundation upon which NIOSH generates new knowledge to assure safe and healthful work for all.

This award recognizes the outstanding contributions and dedication of NIOSH staff to science excellence. The award honors experienced scientists, early career scientists, and scientific support staff whose collective body of work has resulted in significant contributions to the NIOSH mission.

The **Lew Wade Distinguished Career Scientist Award** recognizes a permanent employee or fellow who has made extraordinary scientific contributions to their field of work.

The **Early Career Scientist Award** recognizes a permanent employee or permanent fellow not on a training fellowship who has received an initial terminal degree in a scientific discipline in the past five years.

The **Scientific Support Award** recognizes technical or administrative staff who are permanent employees or permanent fellows who provide invaluable contributions to the successful completion of NIOSH scientific activities.

Director's Intramural Award for Extraordinary Science Finalists

Finalists are listed alphabetically.

Lew Wade Distinguished Career Scientist

Kevin H. Dunn

Emily Haas

Aaron Sussell

Early Career Scientist

Jennie Cox

Melissa Edmondson

Justin Haney

Scientific Support

Susan Afanuh

Donald Booher

Ronald Jacksha

Director's Intramural Award for Extraordinary Science Awardees

Lew Wade Distinguished Career Scientist

Emily J. Haas, PhD

Research Health Scientist

NIOSH National Personal Protective Technology Laboratory

Dr. Emily Haas demonstrates an exceptional ability to develop and implement practical, effective results that address difficult problems. As a principal investigator, she has exceled in studying processes often seemingly unyielding to investigation—that is, those intricate intersections of the organization, the worker, and technology. Dr. Haas has been selected to lead efforts in areas such as safety climate assessments in hazardous workplaces; ways to tailor leadership, communication, and engagement practices using a workplace health safety management system; personal protective technology integration to minimize worker exposure to infectious diseases and other contaminants; and high-visibility surveillance efforts that have been a part of NIOSH's strategic initiatives.

Her solutions have achieved widespread implementation with several interventions, discoveries, and process improvements integrated into corporate strategic plans and standards. Despite the varied nature of their applications, Dr. Haas's solutions share common characteristics: they have reduced harm to workers and have been accepted as authoritative by industry partners. The greatest ongoing challenge for occupational safety and health professionals is to convert policies, procedures, and practices into everyday solutions that promote worker safety and health. In the span of just one decade, Dr. Haas has successfully worked with impacted partners to overcome this challenge and has proven herself to be a key driver within NIOSH to merge engineering and behavioral research to reduce worker risks.

Early Career Scientist

Jennie Cox, PhD

Research Industrial Hygienist

NIOSH Division of Field Studies and Engineering

Dr. Jennie Cox earned a PhD in Industrial Hygiene from the University of Cincinnati in 2018. Dr. Cox has only been at NIOSH since February of 2021 as a Research Industrial Hygienist. However, as a well-respected subject matter expert on aerosols, Dr. Cox's passion for the NIOSH mission is evident in the vast amount of accomplishments she has achieved in her short time with the agency.

As a member of her Division's Field Research Branch, she has generated and obtained funding for a new line of research into illicit drug exposures, developed and published a collaborative critical review in the evaluation of SARS-CoV-2 (the virus that causes COVID-19) sampling methods, generated a new innovative project to promote NIOSH's communication with a diverse workforce, and co-leads an effort to promote inclusiveness.

One of her most noteworthy accomplishments includes leading the publication of the scientific journal article "Transmission of SARS-CoV-2 in the workplace: Key findings from a rapid review of the literature." In her time at NIOSH, Dr. Cox provided technical assistance in collaboration with other subject-matter experts within aerosol-related research for the COVID-19 Emergency Preparedness and Response, Disaster Science Responder Research Program. Her focus and dedication to improving safety and health in the workplace is evident in her willingness to collaborate to accomplish mission goals within NIOSH and CDC.

Scientific Support

Donald Booher

Biomedical Engineering Technician

NIOSH Division of Field Studies and Engineering

The NIOSH Health Hazard Evaluation (HHE) Program is a congressionally mandated program that evaluates workplace safety and health issues across the country and is easily the most field-based program within NIOSH.

Behind every single HHE and emergency response that goes into the field is Mr. Donald (Donnie) Booher. As a Biomedical Engineering Technician for more than 30 years, Mr. Booher is a highly sought after resource for all things field-related. From 9/11, to the anthrax attacks, to Deepwater Horizon to the recent Ohio train derailment and Maui wildfires, Mr. Booher led the logistical coordination, shipping, and often the selection of equipment and PPE to not only protect the NIOSH emergency responders but to help them effectively accomplish their scientific missions.

While almost all of Mr. Booher's work and accomplishments occurred behind the scenes, those that work with him never fail to sing his praises and express their gratitude for his often Herculean efforts to ensure the success of the mission. Mr. Booher embodies all this award is meant to celebrate and more. The countless HHE program project officers and NIOSH emergency responders are truly grateful for Mr. Booher's contributions and scientific support.

NIOSH Nominations for the 2023 Charles C. Shepard Science Award

CDC/ATSDR established the Charles C. Shepard Science Award in 1986 in honor of Charles C. Shepard, MD, an internationally recognized microbiologist whose career was marked by a pursuit of scientific excellence. He served as chief of the Leprosy and Rickettsia Branch at CDC for more than 30 years, until his death on February 18, 1985. The Charles C. Shepard Science Award recognizes excellence in science at CDC and Agency for Toxic Substances and Disease Registry.

An award is presented for outstanding scientific publications in the following categories: Assessment, Prevention and Control, Laboratory Science, Data Methods and Study Design, and Health Equity Science. An award is also presented for Lifetime Scientific Achievement.

2023 NIOSH Nominations for Outstanding Scientific Publications

Assessment Category

Blackley BH; Groth CP; Cox-Ganser JM; Fortner AR; LeBouf RF; Liang X; Virji MA; Determinants of task-based exposures to alpha-diketones in coffee roasting and packaging facilities using a Bayesian model averaging approach, Front Public Health 2022 Jun; 10:8789075

Chiu SK; Hornsby-Myers J; Iverson C; Trout D; A cluster of health symptoms after a law enforcement operation: a case study, Saf Health Work 2022 Dec; 13(4):507-511

Kelly-Reif K; Bertke S; Daniels RD; Richardson DB; Schubauer-Berigan MK; Nonmalignant respiratory disease mortality in male Colorado Plateau uranium miners, 1960-2016, Am J Ind Med 2022 Oct; 65(10):773-782

Park J-H; Lee E; Fechter-Leggett ED; Williams E; Yadav S; Bakshi A; Ebelt S; Bell JE; Strosnider H; Chew GL; Associations of emergency department visits for asthma with precipitation and temperature on thunderstorm days: a time-series analysis of data from Louisiana, USA, 2010-2012, Environ Health Perspect 2022 Aug; 130(8):87003

Data Methods and Study Design Category

Yeoman K; Weakley A; DuBose W; Honn K; McMurry T; Eiter B; Baker B; Poplin G; Effects of heat strain on cognitive function among a sample of miners, Appl Ergon 2022 Jul; 102:103743

Health Equity Science Category

Siegel MR; Rocheleau CM; Broadwater K; Santiago-Colón A; Johnson CY; Herdt ML; Chen I-C; Lawson CC; Maternal occupation as a nail technician or hairdresser during pregnancy and birth defects, National Birth Defects Prevention Study, 1997-2011, Occup Environ Med 2022 Jan; *79*(1):17-23

Laboratory Science Category

Cohen RA; Rose CS; Go LHT; Zell-Baran LM; Almberg KS; Sarver EA; Lowers HA; Iwaniuk C; Clingerman SM; Richardson DL; Abraham JL; Cool CD; Franko AD; Hubbs AF; Murray J; Orandle MS; Sanyal S; Vorajee NI; Petsonk EL; Zulfikar R; Green FHY; Pathology and mineralogy demonstrate respirable crystalline silica is a major cause of severe pneumoconiosis in U.S. coal miners, Ann Am Thorac Soc 2022 Sep; *19*(9):1469-1478

Coyle JP; Derk RC; Lindsley WG; Boots T; Blachere FM; Reynolds JS; McKinney WG; Sinsel EW; Lemons AR; Beezhold DH; Noti JD; Reduction of exposure to simulated respiratory aerosols using ventilation, physical distancing, and universal masking, Indoor Air 2022 Feb; 32(2):e12987

Sriram K; Lin GX; Jefferson AM; McKinney W; Jackson MC; Cumpston JL; Cumpston JB; Leonard HD; Kashon ML; Fedan JS; Biological effects of inhaled crude oil vapor V. Altered biogenic amine neurotransmitters and neural protein expression, Toxicol Appl Pharmacol 2022 Aug; 449:116137

Prevention and Control Category

Myers W; Ajewole S; Xu S; Yorio P; Hornbeck A; Zhuang Z; Laboratory assessment of bacterial contamination of a sterile environment when using respirators not traditionally used in a sterile field environment, Infect Control Hosp Epidemiol, 2022 Dec; 43(12):1867-1872

2023 NIOSH Nominee for the Shepard Lifetime Scientific Achievement Award

Andrew B. Cecala, BS, MBA

Mr. Andrew Cecala has 43 years of experience working for the federal government in mining health and safety research, beginning under the U.S. Bureau of Mines. When the Bureau of Mines was defunded in 1996, the mining health and safety research programs were incorporated into NIOSH, and he has been with NIOSH since then. During this time, he authored 160 publications, including 44 peer-reviewed papers, with 107 primary authorships. A consistent focus of his research has been in the area of health hazards prevention—specifically on reducing exposure to respirable dust for workers in the mining industry. Mr. Cecala is a globally recognized expert in dust monitoring and engineering control, and his contributions to the research in this area have dramatically reduced workers' exposure to respirable dust.

Throughout his career, Mr. Cecala has shown outstanding vision by opening new areas of applied research to solve occupational health problems. His groundbreaking research on the enclosed cab filtration and pressurization systems is just one example. He led a team of researchers in several complex tasks in both field and lab studies to determine the causes of workers' overexposure when operating mobile mining equipment outfitted with enclosed cabs. These research findings influenced the creation of the International Society of Environmental Enclosure Engineers and the creation of a standard from the International Organization for Standardization for enclosed cab systems. His research led to additional work focused on the adoption of sensor technologies for use inside enclosed cabs and environmental enclosures, greatly improving the industry's ability to monitor and control acceptable air quality for workers in these areas.

Another example of Mr. Cecala's vision is the development of two editions of the *Dust Control Handbook for Industrial Minerals Mining and Processing*. These NIOSH publications, each around 250 pages in length, were the result of monumental multiyear efforts to produce a seminal work on dust control that gathered a diverse committee representing industry, manufacturing, and government. This handbook details and illustrates the most effective scientifically proven control technologies for lowering workers' exposure to dust during all stages of mining and mineral processing in the industrial minerals mining sector, and it is largely the fruit of Mr. Cecala's decades of world-class research in this area.