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Current Issues in the Assessment of Respiratory Protective Devices: Non-Traditional Workers and Public Use – A Virtual Workshop

August 4th– 5th, 2020

Speaker Biosketches

Maryann D'Alessandro, PhD, MS

Maryann has served as the Director of the National Institute for Occupational Safety and Health (NIOSH) National Personal Protective Technology Laboratory (NPPTL) since March 2012. She also served as the Associate Director for Science for NPPTL from 2003-2012. Maryann provides leadership to the NIOSH Personal Protective Technology (PPT) Core and Specialty Program and the Public Safety Program where she serves as the Manager leading the effort to align PPT initiatives with user needs across all workplace industry sectors. Within the PPT Program, Maryann has served as the catalyst for aligning surveillance, research, standards, certification, outreach and intervention activities to improve workplace safety and health. Prior to joining NIOSH in 2003, she had a short academic career at the University of Pennsylvania's Department of Bioengineering and served in various U.S. Army research and development organizations for 15 years. Maryann holds Electrical Engineering degrees from the Florida Institute of Technology (B.S.), Fairleigh Dickinson University (M.S.), and Georgia Institute of Technology (Ph.D.).

Emiel DenHartog, PhD, MSc

Emiel DenHartog has a Masters' degree in Experimental Physics from the University of Utrecht in the Netherlands and PhD in Medical Physics from the Erasmus University, Rotterdam, The Netherlands. After his PhD he went to work for more than 15 years in the Defense research on evaluation and innovation of military protective clothing systems. where he studied modeling human heat exchange in extreme environments. Over time he moved towards the impact of protective clothing on the human body (e.g. Chemical, Biological, Ballistics, camouflage, flame retardance) and became program manager of the protective clothing research for the Ministry of Defense in The Netherlands, also actively collaborating within the EU on research projects as well as contributing to NATO activities around protective clothing.

In 2013, he moved to North Carolina State University since then he has been Associate Director of the Textile Protection And Comfort Center (TPACC) and Associate Professor in the Textile Engineering, Chemistry and Science department in the Wilson College of Textiles at NC State University. In his research, he studies the interaction between clothing and the human body to optimize protection, performance and comfort. Recently his work has developed on the local interaction of fabrics and materials with the skin and the effects of the local microclimate on skin health. The focus of the work is on using and developing test and evaluation methods for

functional textiles to demonstrate and quantify protection, performance, health and comfort of clothing and textiles. He actively collaborates with a wide range of scientists providing measurement and evaluation support on anything related to improvements on human health, performance and comfort. In 2019, he received the NC State award as University Faculty Scholar (UFS) for his contributions to research and education in this field.

He teaches classes on Clothing Biophysics and Textile Testing and publishes on comfort and protection evaluations of textiles and clothing. Since 2015 he has been member of the National Academy of Sciences Institute Of Medicine (IOM) standing Committee on Personal Protective Equipment for Workplace Safety and Health (COPPE) advising NIOSH/NPPTL on their testing and research agenda. Since 2019 he has been the Director of Graduate Programs at the Wilson College of Textiles and Associate Head of Department of Textiles Engineering, Chemistry and Science.

Joseph W. Domitrovich, PhD

Exercise Physiologist
U.S. Forest Service

Ayse Gurses, PhD, MS, MPH

Ayse P. Gurses, PhD, MS, MPH is a professor in the Johns Hopkins Schools of Medicine, Bloomberg Public Health, and Whiting Engineering. She is the founding Director of the Armstrong Institute Center for Health Care Human Factors in the Johns Hopkins Medicine. Formally trained in industrial and systems engineering and public health, she uses a combination of engineering and public health methodologies in her work. She has extensive experience in research on patient safety, health care worker safety, human-centered design, human factors and systems engineering, health services research, and implementation science.

Dr. Gurses has been a principal or co-principal investigator on several federally funded research grants and contracts, totaling over $10M. She is the author of over 120 peer-reviewed publications. Her articles have been highly cited by the global literature and the topic of laudatory editorials, and received multiple “Best Paper” awards. She is the recipient of numerous awards including the Federation of Associations in Behavioral and Brain Sciences Foundation Early Career Investigator Award (for major research contributions to the sciences of mind, brain, and behavior), the University of Wisconsin-Madison Forward Under 40 award, the Liberty Mutual Award for the Best Paper in the journal ‘Ergonomics,’ and the International Ergonomics Association/ Liberty Mutual Best Paper Award in Occupational Safety and Ergonomics. Dr. Gurses serves as the Scientific Editor of Applied Ergonomics, a top-level journal in the field of human factors engineering. She is also the Editor for the Sociotechnical Systems Analysis Department of the IIE Transactions in Healthcare Systems Engineering.

Stephanie Holm, MD, MPH

Dr. Holm is Co-Director of the Western States PEHSU. Dr. Holm received her medical degree in 2011 from the University of Pittsburgh. She is board certified in both pediatrics and

occupational/environmental medicine (trained at Children's Hospital and Research Center Oakland and University of California San Francisco, respectively). She also completed a year of pediatric pulmonary training at Oakland before leaving to further pursue her interests in pediatric research and pediatric environmental medicine. She was the PI on THE AQUA study, a dual cohort study of asthmatic children with and without cigarette exposure, which measured particulate matter levels in children's home environments in order to correlate these with features and behaviors of the household and its occupants. As part of her work with the Region 9 PEHSU, she reviewed literature relevant to disinfectant use and toxicities in early care and education environments. Dr. Holm completed an MPH in epidemiology at UC Berkeley in 2017 and is currently pursuing a PhD in epidemiology while continuing her research activities.

Claire Huson, CIH

Claire Huson is a certified industrial hygienist with 35 years of experience in occupational health and safety in a variety of industries and settings. She is the director of the Safety, Health and Environmental Management (SHEM) Office's Policy and Special Studies Division, which is located in the Bureau of Overseas Buildings Operations within the U.S. Department of State. SHEM's focus is the safety of employees at U.S. embassies and consulates around the world and the American families who accompany them. Ms. Huson joined SHEM more than 20 years ago and, in that time, severe air pollution at overseas locations has become widespread and the source of great health concerns particularly for the families. These concerns may even impact the ability to staff postings and perform important overseas work. In 2013, she teamed with medical staff responding on site to an extended period of extreme air pollution in Beijing, China. Shortly thereafter, they formed the Department's Air Pollution Working Group to promote a multifaceted approach to this complex problem. SHEM continues to develop guidance on air pollution exposure reduction measures and evaluate their effectiveness.

Jim Johnson, PhD, CIH, QEP

James S. Johnson is a certified industrial hygienist and qualified environmental professional who has operated JSJ and Associates on a part-time basis since 1978. JSJ and Associates is a small consulting firm specializing in occupational safety and health and hazardous material issues. Many of the firm's projects since 1978 have involved a variety of personal protective equipment work activities with tasks on firefighter respiratory protective equipment routinely addressed. Dr. Johnson worked at the Lawrence Livermore National Laboratory (LLNL) from1972 through 2006. His position from November 2000 to 2006 was section leader of the Chemical and Biological Safety Section of the Safety Programs Division. Throughout his career at LLNL, Dr. Johnson was involved with respiratory protection and personal protective equipment as a respiratory program administrator, research scientist, and division and section manager. He is an AIHA fellow; a past member of the NFPA Technical Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment; a past member of the NFPA Respiratory Protection Equipment Committee; past chair of the International Society for Respiratory Protection (ISRP), past ISRP Americas Section Chair, and past ISRP Journal Editor.

Currently Dr. Johnson is the Subcommittee Chair of the ASTM Subcommittee F23.65 on respiratory protection. The recent relocation of the ANSI Z88 Secretariat from the American Society of Safety Professionals (ASSP) to ASTM has expanded the visibility and participation in respiratory standards development. New work items initiated to support the COVID-19 pandemic will address facial covering performance, emergency responder elastomeric respirator performance, and elastomeric respirator decontamination test methods. He also continues to provide his expertise on respiratory program improvements, Hanford Tank Farm, use of toxic materials, beryllium, as well as providing expert witness consultation on respiratory protection. He has coauthored a number of respirator articles as well as authored several chapters on respiratory protection in the past several years. Dr. Johnson continues to be a strong advocate for the inclusion of elastomeric half facepiece respirators in the Strategic National Stockpile as well as routine use in health care.

Rachael M. Jones, PhD, MPH

Rachael M. Jones is interested in research questions about how people - workers and communities - come into contact with stressors in their environment, and how those stressors can be mitigated or eliminated if they pose a threat to health. A lot of her work has used mathematical models to describe these contacts or exposures, but in recent years she has expanded her research methodologies to include: 1) statistical methods to characterize exposures and their determinants, such as for epidemiologic studies, 2) qualitative methods, 3) simulation experiments and 4) field-based studies. One of the stressors of great interest to her is infectious agents, such as encountered by healthcare workers providing care to patients with infectious diseases. She has sought to explore the processes by which infectious diseases are transmitted from person to person, the risk of infection (including the burden of occupationally-acquired infections among healthcare workers), and strategies for managing and preventing disease transmission. In addition, she is increasingly interested in strucural problems that create and sustain unhealthy work, particularly among low-wage workers. She is always interested in building research collaborations to explore questions and areas that are new to her.

Bill Kojola, MS

Industrial Hygienist, retired
AFL-CIO

Andrew Levinson, MPH

Deputy Director
Directorate of Standards and Guidance
Occupational Safety and Health Administration

Barbara Materna, PhD, CIH

Barbara Materna is the Chief of the Occupational Health Branch, in the California Department of Public Health, a position she has held for the last 18 years. Dr. Materna is a Certified Industrial Hygienist whose career in occupational health has primarily been in state and local government

public health programs. Some of the worker health topics she has studied include perchloroethylene in dry cleaning, exposures to wildland firefighters, occupational lead poisoning, lung disease in flavor manufacturing workers, aerosol transmissible diseases, respiratory protection for healthcare workers, and Valley fever. She has a Ph.D. in Environmental Health Sciences from the University of California at Berkeley.

Richard Metzler, MSIE

Richard W. Metzler has over 44 years' experience in the Federal safety and health product approval programs. He is a respiratory protection consultant and past Director of NIOSH, National Personal Protective Technology Laboratory (NPPTL). His experience includes managing laboratories and establishing Federal regulations, national and international respiratory protective equipment standards. Rich holds a Bachelor of Science Degree in Systems Engineering from Wright State University in Dayton, Ohio, and a Master's degree in Industrial Engineering from the University of Pittsburgh.

Rich an Honorary member, past Director, and past President of the International Society for Respiratory Protection (ISRP); member ANSI/ASTM International F23.65 Practices for Respiratory Protection Committee, served as Chairman ANSI/ASSE/Z88.2 Practices for Respiratory Protection Subcommittee; member and past Chairman AIHA Respiratory Protection Committee; past Administrator US ANSI ISO, TC 94/SC 15 TAG - Respiratory Protective Devices, and past Chairman for the air-purifying respirator standards project group. Rich led regulatory reform efforts at NIOSH promulgating 42 CFR 84 respirator approval regulations and standards for CBRN respiratory protective devices.

Mark Nicas, PhD, MPH, CIH

Dr. Mark Nicas is an Emeritus Adjunct Professor, School of Public Health, University of California, Berkeley. He has a PhD and MPH in Environmental Health Sciences from the University of California at Berkeley, a MS in Genetics from the University of Wisconsin, and a BS in Biology/Chemistry from the City College of New York. He has been a professional industrial hygienist for over 40 years and is a Certified Industrial Hygienist. His academic research has been in three areas: (1) exposure and risk assessment for pathogens including M. tuberculosis, C. immitis and influenza virus, (2) the mathematical modeling of exposure intensity to airborne chemical toxicants, and (3) variability in the efficacy of respiratory protection.

Jeff Peterson

Branch Chief
National Personal Protective Technology Laboratory, NIOSH

Kevin Riley, PhD, MPH

Kevin Riley is the Director of Research and Evaluation at LOSH. He has over a decade of experience conducting worker- and community-engaged research. He leads LOSH efforts to investigate job hazards among workers in various industries and sectors, with the goal of

informing public policy and improving workplace H&S programs. In 2015, he authored a report on the injury experiences of workers in the low-wage labor market and the barriers they face in accessing workers' compensation, based on analysis of data from a groundbreaking survey of low-wage workers in Los Angeles, New York, and Chicago. In addition, he has conducted research among long-haul truck drivers, live-in domestic workers, day laborers, airport workers, and garment workers, as well as patients in community-clinic settings.

Dr. Riley also coordinates LOSH evaluation activities, documenting the impacts of its worker safety and health training programs. Targeted evaluation initiatives have included assessment of worker training to support Cal/OSHA's outdoor heat illness prevention standard and examination of managers' perceptions of the value and impact of hazmat-related safety training. Dr. Riley serves as Associate Director of the Western Region Universities Consortium, a partnership of four university-based hazmat training programs funded by the National Institute of Environmental Health Sciences (NIEHS) Worker Training Program. In this role, he provides direction and oversight to consortium programs based in Southern California and throughout EPA Regions IX and X. Prior to joining LOSH, Dr. Riley served as Co-Founder and Public Health Coordinator of the UCLA Mobile Clinic Project, where he conducted extensive program planning and evaluation, as well as training sessions for new clinic students and staff. He received his PhD in Sociology from UCLA and his MPH from the UCLA School of Public Health. He is an active member of the Occupational Health Section of the American Public Health Association.

Jeff Stull, MS

Jeffrey Stull is president of International Personnel Protection, Inc. He is a member of several NFPA committees on PPE as well as the ASTM International committee on protective clothing. Mr. Stull was formerly the convener for international work groups on heat/thermal protection and hazardous materials PPE as well as the lead U.S. delegate for International Standards Organization Technical Committee 94/Subcommittees on Protective Clothing and Firefighter PPE. He participates in the Interagency Board for Equipment Standardization and Interoperability and co-authored the book, "PPE Made Easy."

Jonathan Szalajda, SIE, MEng

Deputy Director
National Personal Protective Technology Laboratory, NIOSH

Moderator Biosketches

Melissa A. McDiarmid, MD, MPH, DABT, *Planning Committee Chair*

Melissa McDiarmid, M.D., M.P.H. is Professor of Medicine and Director of the University of Maryland, School of Medicine's Occupational Health Program. She received her B.A. degree in 1975 from the University of Maryland Baltimore County, in Biological Sciences; her M.D. from the University of Maryland at Baltimore in 1979; and her M.P.H. from The Johns Hopkins School of Public Health 1986 where she also completed fellowship training in Occupational Medicine. She is board-certified in Internal Medicine, Occupational Medicine and Toxicology. She maintains professional society affiliations as a Fellow of the Collegium Ramazzini, American College of Physicians, American College of Occupational and Environmental Medicine and American College of Preventive Medicine and as Member of the American Public Health Association and the Society of Occupational and Environmental Health. Dr. McDiarmid was Director of the Office of Occupational Medicine for the U.S. Occupational Safety & Health Administration (OSHA) in Washington, D.C., a position she held from 1991 until 1996. A principal career focus for Dr. McDiarmd has been that of environmental reproductive and developmental hazards. While at OSHA she guided the reproductive health effects aspects of several standards including those for cadmium, butadiene and methylene chloride. She has co-chaired the NIOSH/NORA work group on Reproductive Health. Dr. McDiarmid has authored numerous journal articles and book chapters on occupational and environmental medicine topics related to: healthcare workers, medical surveillance and management, reproductive hazards and occupational cancers.

John R. Balmes, *Planning Committee Member*

Dr. John Balmes received his MD degree from Mount Sinai School of Medicine in 1976. After internal medicine training at Mount Sinai and pulmonary subspecialty, occupational medicine, and research training at Yale, he joined the faculty of USC in 1982. He joined the faculty at UCSF in 1986 and is currently Professor in the Divisions of Occupational and Environmental Medicine and Pulmonary and Critical Care Medicine at Zuckerberg San Francisco General Hospital (ZSFG). His major academic activities include several collaborative epidemiological research projects, various advisory and editorial committees, Director of the UC Berkeley-UCSF Joint Medical Program, Director of the Northern California Center for Occupational and Environmental Health (a consortium of programs at UC Berkeley, UC Davis, and UCSF). Since 2008 he has been the Physician Member of the California Air Resources Board.

Howard J. Cohen, PhD, MPH, *Planning Committee Member*

Howard J. Cohen, P.H.D., M.P.H. is Professor of Occupational Safety and Health Management at the University of New Haven and Adjunct Professor of Chemical Engineering at the University of Rhode Island. He received his BA from Boston University and earned both his PhD in Industrial Hygiene and his MPH at the University of Michigan. He is board certified in the comprehensive practice of industrial hygiene by the American Board of Industrial Hygiene.

Prior to joining the University of New Haven faculty in 1994, Dr. Cohen spent sixteen years as Corporate Manager of Industrial Hygiene at Olin Corporation, a Fortune 200 company with nearly 20,000 employees. Among the most recognized industrial hygienists in the US, Dr. Cohen was Editor-in-Chief of the American Industrial Hygiene Association Journal from 1991–2003 and currently serves as a member of the Editorial Board of Journal of Occupational and Environmental Hygiene. He is the current Chair of the ANSI Z88.2 Committee on Respiratory Protection and Chair of the American Industrial Hygiene Association Committee on Respiratory Protection. A member of the Industrial Hygiene Roundtable, he has served as Treasurer of the American Board of Industrial Hygiene. Dr. Cohen has received numerous professional awards including the 1989 Warren A. Cook Award for outstanding scholarship from the University of Michigan and the 1990, 1992 and 2002 John M. White Award for excellence in respiratory protection from the American Industrial Hygiene Association. He shared the 2003 Adolf G. Kammer Award for Authorship from the American College of Occupational and Environmental Medicine and the 2004 President's Award from the American Industrial Hygiene Association. His published writings address the assessment of workplace respiratory hazards, the characterization of specific airborne particulates, and the development and implementation of respiratory protection programs.

Robert Harrison, MD, MPH, ***Planning Committee Member***

Dr. Robert Harrison has been with the California Department of Public Health and on the faculty at the University of California, San Francisco in the Division of Occupational and Environmental Medicine since 1984. He established the UCSF Occupational Health Services where he has diagnosed and treated thousands of work and environmental injuries and illnesses. He has designed and implemented numerous medical monitoring programs for workplace exposures, and has consulted widely with employers, health care professionals, and labor organizations on the prevention of work-related injuries and illnesses. Dr. Harrison has led many work and environmental investigations of disease outbreaks. He has served as a technical and scientific consultant to Federal OSHA and CDC/NIOSH, and was a member of the California Occupational Safety and Health Standards Board. He is currently the Director of the NIOSH-funded Occupational Health Internship Program, and Associate Director of the UCSF Occupational and Environmental Medicine Residency Program. His research interests include the collection and analyses of California and national data on the incidence of work-related injuries and illnesses. Dr. Harrison has authored or co-authored more than 50 peer-reviewed journal articles, and more than 40 book chapters/contributed articles/letters to the editor. He is the co-editor of the most recent edition of the textbook Occupational and Environmental Medicine (McGraw-Hill Education, New York, NY, 2014).

Daniel K. Shipp, ***Planning Committee Member***

Daniel K. Shipp was president of the International Safety Equipment Association (ISEA), the association for personal protective equipment and clothing, from 1993 until his retirement in 2017. ISEA represents manufacturers and distributors of the full range of PPE for workers in

manufacturing, construction, utilities, health care and other industries, and is accredited by the American National Standards Institute (ANSI) as a standards-developing organization. As the chief staff officer of ISEA, Shipp represented US safety equipment manufacturers before Congress and US regulatory agencies, as well as global industry and government forums. He has served as a member of the National Academies Committee on Personal Protective Equipment (COPPE), the Board of the Americas Section of the International Society for Respiratory Protection, and the Board of Directors of the National Safety Council, as well as the NIOSH NPPTL PPE Conformity Assessment Working Group.

Tener G. Veenema, PhD, MPH, MS, RN, *Planning Committee Member*

Tener Veenema, P.H.D., M.P.H., R.N., F.A.A.N., is an internationally recognized expert in disaster nursing and public health emergency preparedness. As president and chief executive officer of the Tener Consulting Group, LLC, Dr. Veenema served as senior consultant to the U.S. Government, including the departments of Health and Human Services, Homeland Security, and Veterans Affairs, the Administration for Children and Families, and most recently the Federal Emergency Management Agency (FEMA). Her decision-support software and information technology applications for disaster response have been presented at conferences around the globe. Her scholarship includes the leading international text in the field, Disaster Nursing: Disaster Nursing and Emergency Preparedness for Chemical, Biological and Radiological Terrorism and Other Hazards (Springer, 3rd Edition, 2013), and two nationally award-winning Disaster e-Learning Courses, Red Cross ReadyRN Disaster and Emergency Preparedness for Health Services (American Red Cross, 2007) and ReadyRN (Elsevier, MC Strategies, 2008). Dr. Veenema received master's degrees in nursing administration (1992), pediatrics (1993), and public health (1999) and a PhD in health services research and policy (2001) from the University of Rochester School of Medicine and Dentistry. She is a member of the American Red Cross National Scientific Advisory Board and is an elected Fellow in both the National Academies of Practice and the American Academy of Nursing. Dr. Veenema was awarded the Florence Nightingale Medal of Honor from the International Red Crescent (Geneva, Switzerland), the highest international award a nurse can receive.Her areas of expertise include disaster nursing, public health emergency preparedness, children and disasters, public policy and environmental health, health policy, leadership & decision-making, and clinical decision support systems.