15th Annual Southeast Mine H&S Conference
Please Join Us for the NIOSH Preconference Workshop on November 2, 2021

A New Decade of Health & Safety Research

This NIOSH workshop aims to share new ways that hazards can be identified and addressed to meet current trends and risks acknowledged among experts. New applications and data analytics are improving the way operations can run; to that end, the sessions within this workshop offer tools, technologies, and analyses that protect workers' health, remove workers from potential risks in their working environment, and show ways to tailor interventions that organizations can use to prevent health and safety incidents.

TOPIC	DISCUSSION POINTS	PRESENTERS	TIME
Introduction	Introduction of presenters and attendees	All	8:00–8:15 am
Preventing slips, trips, falls, and musculoskeletal disorders	This session will discuss: • Musculoskeletal disorders (MSDs) and risk factors associated with them • NIOSH tools that are available to help mine workers identify and reduce risk factors for MSDs • STF hazards commonly found at surface mines • Resources and tools NIOSH developed to identify and remediate STF hazards • Updates in material handling research	Mahiyar Nasarwanji	8:15 – 9:30 am
Break			
Identifying the impact of heat stress in the mining industry	This session will discuss: • Overview of the effects of heat exposure on the body and mind • NIOSH tools and products that are available to help mineworkers identify and mitigate effects of heat exposure and heat stress • What's next for mineworker heat stress research	Kristin Yeoman and Brianna Eiter	9:45 – 11 a.m.
Lunch			
Preventing hearing loss in mining	This session will discuss: • Overview of noise and it's negative impact on hearing • Noise hazards commonly found in mining • Hearing conservation programs in mining: criteria, success, and suggestions for improvement • NIOSH tools for reducing noise exposure and subsequent occupational hearing loss: Demonstration and discussion	Amanda Azman	Noon–1:15 pm
Break			
Fatigue research and measurement in the mining industry	This session will discuss: • What fatigue is, and what we do and don't know about US mineworker risk • Different types of fatigue measurement strategies: Pros and Cons • Mitigation solutions backed by science • What's next for mineworker fatigue research	Tim Bauerle	1:30 – 2:45 pm
Break			
Technology readiness of collision avoidance and warning systems	This session will discuss: • Current sensing technology used in CXSs • Some of the gaps in CXSs • Considerations for mine operators when purchasing a CXS	Jacob Carr	3:00 – 4:15 pm
Wrap-up			4:15 – 4:30 pm

Presenter Bios

Mahiyar F. Nasarwanji, Ph.D., C.P.E. Dr. Nasarwanji is an Associate Service Fellow on the Health Hazards Prevention Branch at the National Institute for Occupational Safety and Health (NIOSH) Pittsburgh Mining Research Division (PMRD) located in Pittsburgh, Pennsylvania. Mahiyar's interests are in improving work environments and products to make them safe and suitable for a diverse user population based on the principles of human factors and ergonomics. His current work focuses on the prevention of manual material handling injuries, slips, trips and falls and musculoskeletal disorders in the mining industry. Mahiyar has a Bachelor's of Engineering in Mechanical Engineering from the University of Mumbai and earned both his Master's and Doctoral degrees in Industrial Engineering from the University at Buffalo with a focus on human factors and ergonomics.

Kristin Yeoman, M.D, MPH received her medical degree from the George Washington University, and her Master of Public Health from the University of North Carolina, Chapel Hill. She completed training in Internal Medicine at the University of Colorado, Denver. After residency, she worked in clinical medicine for the Indian Health Service, Veterans Affairs, a community health center, and overseas for Doctors Without Borders. She joined the Centers for Disease Control and Prevention in 2011 and moved to the CDC's National Institute for Occupational Safety and Health in 2013. Since 2013, she has performed research to understand health issues among miners and other high-risk western occupations, and she is currently the Principal Investigator of a study to assess the performance effects of heat stress among miners.

Brianna Eiter, Ph.D. is a Cognitive Psychologist with the National Institute for Occupational Safety and Health (NIOSH) Spokane Mining Research Division (SMRD). In the ten years that Brianna has worked at NIOSH, she has been involved in research projects focusing on hazard recognition and risk perception, informational needs of the underground coal miner, and fatigue risk management for small surface mines. Her recent work has involved creating VR work environments and developing training tools to address hazard recognition and risk assessment abilities. Brianna has 20 years of experience in her research area of expertise which is human cognition and the use of eye-tracking to measure human behavior. Brianna graduated with a Bachelor's degree from Lehigh University and then went to Binghamton University where she earned both her Master's and Doctoral degrees in Cognitive Psychology.

Amanda Azman, Au.D. Dr. Amanda Azman is a research audiologist with the National Institute for Occupational Safety and Health. Her work, within the Pittsburgh Mining Research Division, Health Hazard Prevention Branch, is currently focused on evaluating and improving existing hearing conservation programs in mining. She has worked directly with miners, mine management, and manufacturers of mining equipment, on various noise issues as well as strategies for decreasing worker occupational noise exposure and subsequent hearing loss. She also manages the NIOSH hearing loss prevention mobile audiometric test trailer. The trailer is driven to various mines and outreach events to provide free hearing tests, general hearing loss prevention information, and guidance on selection and use of hearing protectors. Dr. Azman has worked for NIOSH since 2007, enjoying hearing loss prevention research and especially working with miners at their jobsites.

Tim Bauerle, Ph.D. is a research behavioral scientist in the Miner Health Branch with the National Institute for Occupational Safety and Health (NIOSH) Spokane Mining Research Division (SMRD). He holds a doctorate in Industrial and Organizational Psychology from the University of Connecticut, with concentrations in Occupational Health Psychology and Quantitative Research Methodology. In general, his research has touched broadly on designing, assessing, and evaluating psychosocial workplace interventions to improve the health and safety of workers. Currently he serves as the Principal Investigator of the "Rise and Mine" project, the goal of which is to develop toolkits that enable industry leaders in choosing and applying successful fatigue mitigation strategies that will better support their workers to be well-rested and ready through every shift.

Jacob Carr, Ph.D. leads the Mining Technologies Team within the NIOSH Pittsburgh Mining Research Division's Mining Systems Safety Branch. He holds a B.S. and an M.S. in Mining Engineering from the University of Nevada, Reno and a Ph.D. in Energy and Mineral Engineering from Penn State. Jacob has conducted research on collision avoidance and warning systems, proximity detection systems, electromagnetic interference, refuge alternatives, underground illumination, automation and robotics, and COVID-19 contact tracing. In his current role, he leads a multi-disciplinary team conducting research on advanced and emerging health and safety technologies for the mining industry. In addition, he serves as the Assistant Coordinator for the NIOSH Center for Occupational Robotics Research (CORR), a NIOSH-wide virtual center with the mission of providing scientific leadership to guide the development and use of occupational robots that enhance worker safety, health, and wellbeing.