

**AIHA Yuma Pacific Southwest Section**  
**49<sup>th</sup> Annual Meeting**  
**January 17-19, 2024**

The 49th Annual Meeting of the AIHA-YPSW Section convened at the Best Western Island Palms on Shelter Island for the second consecutive year. The meeting was centered on the theme, "Exploring the Intersection of Technology, Worker Well-being, and OEHS Practice." Dr. Dan Anna delivered a concise overview of the technical program, outlining its overarching goals. The industrial hygiene profession is navigating transformations resulting from rapid advancements in energy systems, advanced manufacturing, robotics, data monitoring and analytics, and AI-driven technologies. These innovations have reshaped work environments, introducing new challenges to worker health, safety, and environmental considerations. The speakers were chosen to delve into the cross-industry, cross-community, and global workforce impact, offering insights into the evolving landscape of industrial hygiene and EHS practice.

The Thursday technical session kicked off with a presentation by Dr. Jacob Carr from NIOSH, offering a comprehensive overview of robotics in the workplace. Dr. Carr delved into the mission of NIOSH's Center for Occupational Robotics Research, focusing on the development of new knowledge, the assessment of potential benefits and risks associated with workplace robots, intervention strategies to prevent robot-related injuries, and the creation of guidance for safe human-robot interactions. He elaborated on several ongoing intermural and extramural research projects, highlighting the diverse partnerships actively involved in research related to workplace robotics.

Sheila McBride followed with a deep dive into the intricacies of the manufacturing process and safety-related considerations linked to large-scale lithium-ion battery production at the Panasonic Energy North America facility in Reno, Nevada. As she detailed the hazards and control measures inherent in the process, Sheila seamlessly wove in a discussion about the facility's organizational culture and its commitment to safety and health. Her presentation sparked an interactive and insightful question and answer dialogue that carried over into a scheduled morning break.

Dr. Marty Cohen concluded the morning session with a presentation rich in demonstrations, focusing on the integration of virtual reality into training. His engaging presentation featured 360-degree view videos that provided augmented reality tours of a construction site and a foundry. The demonstrations vividly illustrated how students could immerse themselves in the facility using VR headsets, enabling them to navigate and explore the environment. Augmented reality information overlaid on the scenes provided additional insights and details related to the various aspects of the facility tour.

The Thursday afternoon tour featured a visit to the laboratory facilities of the Contextual Robotics Institute (CRI) at the University of California, San Diego, in La Jolla. Dr. Henrik Christensen, the Director of CRI, welcomed the group of 44 tour attendees to their new building. Dr. Christensen provided an insightful overview of the facility and introduced the goals of CRI, emphasizing their commitment to advancing the development of practical robotic systems. The institute focuses on addressing critical challenges in autonomous systems, cyber-physical technologies, and medical robotics. The tour navigated through three primary lab facilities, where enthusiastic and passionate graduate students delivered comprehensive overviews of their ongoing work. They also provided brief demonstrations showcasing robotic solutions developed to tackle specific challenge problems. These ranged from stealthy manipulation through water to the design of flexible robotics aimed at reducing risk in colonoscopies, as well as innovations in autonomous scooter transportation. Upon returning to the Island Palms Hotel, the day concluded with a lively and engaging social hour.

Friday morning commenced with Dr. Jay Vietas from NIOSH discussing the impact of Artificial Intelligence (AI) on Health and Safety. Jay introduced the terminology associated with AI, delving into various types of AI, and offering examples of current AI applications and potential future uses. The discussion included specific use cases, exploring potential enhancements to worker safety and the utilization of Industrial Hygiene (IH) data. Dr. Vietas concluded with an overview of a management framework for AI and engaged the audience in a discussion about NIOSH's ongoing efforts and initiatives related to AI.

Dr. David Handelman from the Johns Hopkins University Applied Physics Laboratory joined the event remotely. His presentation, provided an overview of the potential for integrating robotics, AI, and augmented reality to create an environment where human-robot teams collaborate to address critical challenges. Through video examples, he showcased ongoing research on teaming between a medic and a Boston Dynamics robot for military battlefield medical response. Additionally, he demonstrated spoken command collaborations between a robot and a human, with augmented reality headsets providing supplementary information from the robot back to the human.

Before resuming the Friday morning technical session, Colin introduced Dr. John Howard to present the 2024 Clayton Award to John Henshaw—a well-deserved recognition following a positive, productive, and impactful career. Dr. Howard remained at the podium to share his insightful perspective on the influence of technology on the workplace. His focus extended to several disruptive technologies, including sensors, machine intelligence, generative AI, and exoskeletons. Dr. Howard provided a comprehensive overview of each disruptive technology, offering insights into their current state, challenges, and potential future directions. Importantly, each area discussed was intricately woven into the meeting's theme, establishing a cohesive bond with the individual presentations.

Donna Heidel concluded the series of technical presentations with a discussion on utilizing sensor technology and real-time occupancy data to enhance building management systems. She elaborated on the relevance to the new ASHRAE Standard 241, focusing on the Control of Infectious Aerosols. Standard 241 specifically addresses far-field transmission resulting from the inhalation of infectious aerosols emitted by an infected person and specifies the minimum equivalent clean airflow per person during periods of infection. She emphasized that, during these periods, the building ventilation system must transition from normal operation to infection risk mode.

Dr. Steven Lacey and Dana Hollins collaborated to present details on a feasibility study for a sensor technology laboratory accreditation program. Given the proliferation of sensor development and the absence of a currently accepted, recognized process to evaluate their performance, there exists a significant potential for quality lapses, jeopardizing safety and health efforts. The presentation included a brief historical perspective on accreditation concepts for sensors and outlined a framework for a prospective accreditation program.

Colin skillfully guided the formal meeting wrap-up, overseeing the symbolic passing of the gavel to Dan, marking the official installation of the new officers. Within the wrap-up discussion, there was an invitation for ideas to initiate the planning process for the 2025 meeting, led by Program Chair Jen Sahmel.

Although the formal meeting had adjourned, the social hour and banquet, attended by 41 meeting participants, stood as the true culminating events for the annual meeting. In summary, the 49th annual meeting of the YPSW AIHA was well-received with a total of 54 attendees, including five spouses/significant others and four speakers who remained throughout the meeting.