

Big Bangs and Black Holes

Past, Present, and Future Opportunities and Challenges for Industrial Hygiene

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The Industrial Hygiene profession has taken on many new challenges in the recent past dealing with new and exciting emerging technologies, such as Nanotechnology, Advanced Manufacturing, Synthetic Biology, Advanced Robotics, and the rapidly changing nature of work and the workplace. Protecting workers as these new technologies emerge requires development of new skills that can be very challenging, but also exciting and rewarding – a Big Bang. However, in the midst of these new developments, we must continue to deal with workplace health and safety challenges best described as ‘legacy’ issues. In the first century AD, the Roman Scholar Pliny the Elder perceived health risks to those working with zinc and sulfur. Here we are, nearly 2,000 years later, we still struggle with managing and eliminating basic hazards, exposures, and risk issues – if allowed, this can be a Black Hole. We know that work related lung disease creates a huge emotional and economic burden for any country, and we know there are effective interventions. Silicosis, often considered an ‘old’ industrial disease is still a challenge in the US, and even more so as other countries race toward advanced industrialization. The light at the end of the tunnel is not the train coming at us; rather it is an opportunity for our profession to lend our talents to aligned pursuits such as Product Stewardship and Sustainability. In that way, our Big Bang can include a meaningful contribution to worker health while helping new technologies advance and providing guidance to developing economies so that legacy diseases do not become an element of the Workplace of the Future.