

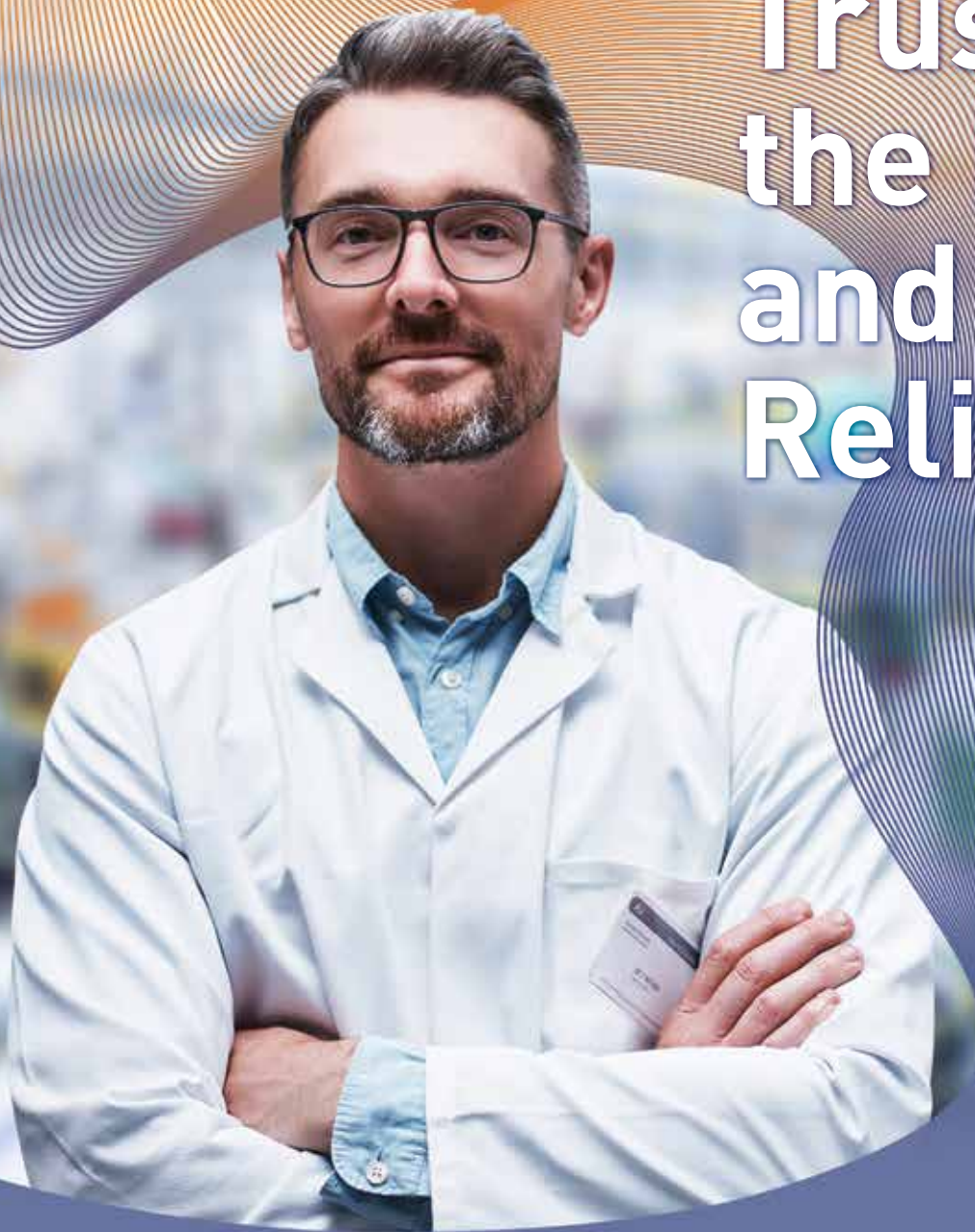
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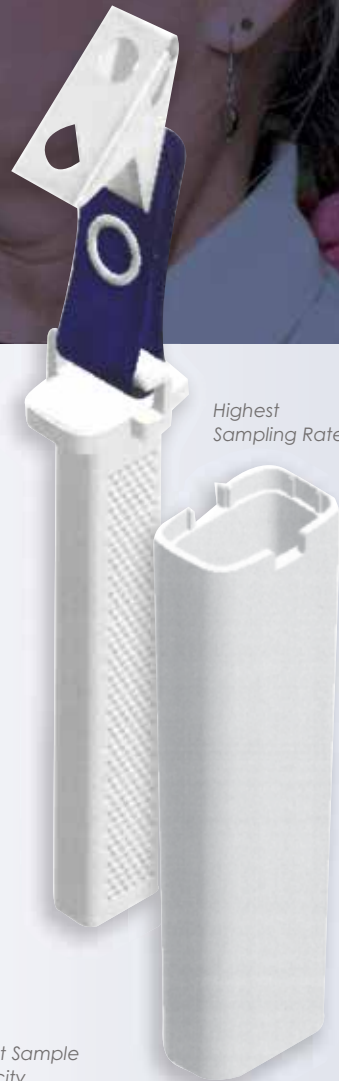


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Welcome to the 20th annual *AIHA Buyer's Guide*, your comprehensive resource for industrial hygiene, safety, and environmental products and services. The *Buyer's Guide* offers all the information you need to make your purchasing decisions.

Companies are listed first in alphabetical order with complete mailing addresses, website addresses, and phone numbers. Companies that participate in AIHA's Hamilton Club—an exclusive program for corporations actively involved in AIHA's initiatives via sponsorship, advertising, foundation support, and more—are

designated by the Hamilton Club logo. For more information, visit <http://bit.ly/hamiltonclub>.

The categorical listing that follows the alphabetical listing provides the names of companies that offer products or services in specific categories. The categories appear in alphabetical order.

Finally, new this year is an index of articles that have appeared in this year's volume of *The Synergist*. The index, including short summaries, begins on page 24.

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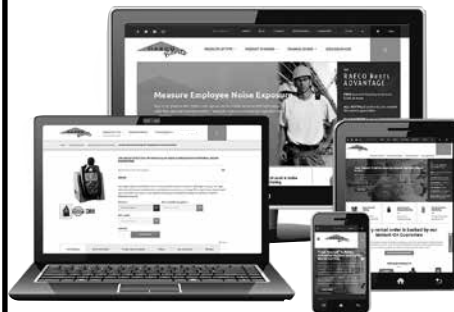
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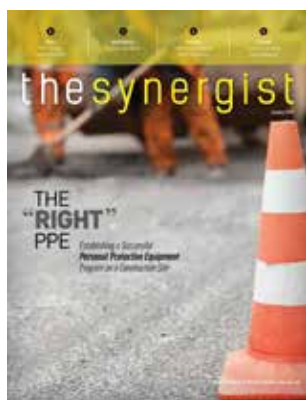
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2019 Articles Index

This index lists the titles and short descriptions of feature articles published in *The Synergist* from January through November 2019. To access the digital *Synergist*, visit **synergist.aiha.org**; PDF archives are available in the AIHA.org Member Center at **<http://bit.ly/archives-synergist>** (log-in required).



JANUARY

The “Right” PPE: Establishing a Successful Personal Protective Equipment Program on a Construction Site

With nearly one in five worker deaths in the U.S. last year attributed to the construction industry, the right personal protective equipment is crucial for worker safety. A sound PPE plan

is essential to address the hazards created on a construction site and their impact on operations.

By Jeff Behar and Paul E. Allen

Part of the Sample: What Wall Deposits Mean for Your Samples—And What You Should Do About It

When sampling for aerosols with a sampler that contains a filter, particles do not always reach the filter or stick to it. For total dust samples, OSHA and NIOSH require all particles that pass through the opening of a sampler to be included in the assessment of worker exposure. Serious underestimation of exposure can ensue if non-filter “wall deposits” are excluded.

By Martin Harper

Revealing Hidden Risks: Tools for Enterprise Risk Management

Over the past ten years, the public has become all too familiar with events where companies either failed to anticipate, or didn’t properly manage, enterprise risk. It is critical for health and safety practitioners to understand these failures of enterprise risk management as well as traditional accident metrics.

By Jeanne Fallon-Carline and Gretchen N. Hancock



FEBRUARY

The Dual-Employer Relationship: Who Is Responsible for Temp Worker Safety?

Regulatory agencies in the United States and elsewhere are now paying closer attention to the oversight of temporary workers. Recent guidance from both federal OSHA and the state of California clarifies that temp

agencies and host employers are jointly responsible for the health and safety of temporary workers.

By Lorraine Sedlak and David Hicks

Leveling the Field: Standards for Direct-Reading Instruments for Toxic Gases and Vapors

As new measurement technologies are developed, electrochemical and related sensors for gases and vapors have become more durable, selective, and sensitive, such that they can be used in workplace safety and health protection systems. The development of standards is now under way for detectors of toxic gases and vapors.

By Martin Harper

Quartz-Busters: A Potential Application of Direct-Reading Instruments for Meeting Requirements of OSHA’s Silica in Construction Standard

OSHA representatives hope that the new Silica in Construction Standard will encourage and catalyze technological innovation for the detection of respirable silica. To that end, the authors of this article field-tested four commercially available direct-read dust monitors that utilize light scattering technology at an active construction site.

By Francisco Trujillo, Donald Ewert, and Corey Bender



MARCH

Mortal Exposures: Industrial Hygiene in the Death Care Industry

In 2017, more than 2.7 million people died in the United States. What happened to their bodies after they died? They were cared for by workers in America's death care industry—those employed by funeral homes, cemeteries, and crematoria.

By Eva M. Glosson and Kat Gregersen

Active Health and Safety: Looking Forward to the New American Standard for Occupational Health and Safety Management Systems

ANSI/ASSP Z10, originally approved in 2005, is now on its third revision, due in mid-2019. The upcoming revision is structured to be compatible with ISO 45001 to help users achieve conformance with both standards.

By Thomas Slavin

A Nomogram for Lab Hoods: Simple Visual Tool Provides Quick Approximations of Operating Conditions

Important parameters for lab hood performance are linked by complex equations. Using a simple nomogram allows occupational health and safety professionals to quickly and easily determine approximate values when two or more parameters are known.

By D. Jeff Burton



APRIL

Performing Legionella Source Risk Assessments: A Hazard Analysis Tool for Data Interpretation

The author presents a model to evaluate the combined effectiveness of control measures against *Legionella* and other waterborne pathogens in building potable water systems. The model allows users to evaluate

a water system's susceptibility to *Legionella* amplification and to prioritize corrective actions or improvements for systems found to be at high risk.

By J. David Krause

Protecting Home Healthcare Aides: Challenges and Opportunities for Safe Patient Handling and Mobility

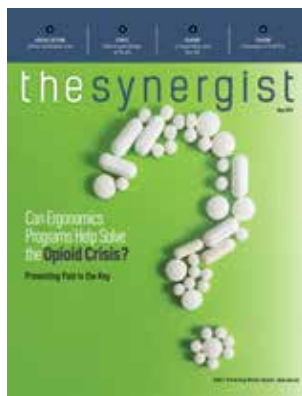
Providing care in the home is one of the most cost-effective and efficient mechanisms for maintaining patient health, but home healthcare workers are among the most vulnerable workers in the United States.

By James D. McGlothlin and Colin J. Brigham

Forgotten Workers: Improving OHS for Workers in Small-Scale Factories in Bangladesh

Doctors Without Borders has operated occupational health clinics in the urban slums of Dhaka since 2013. In recent years the organization has increased efforts in the region to assess hazards, design and implement interventions, and measure hazard mitigation.

By Gary Bangs, William S. Carter, and Rashed Md Mahfuzullah



MAY

Can Ergonomics Programs Help Solve the Opioid Crisis? Preventing Pain Is the Key

Most of the national response to the crisis focuses on preventing overdose deaths, on providing the best treatment for people with opioid addiction, and on changing prescription practices to prevent new cases of opioid

overuse. But we are never going to stop the influx of new opioid users only by changing prescription practices; we need to dig deeper and attack the roots of the problem.

By Ann Marie Dale, Brad Evanoff, Matt Macomber, Mary O'Reilly, Jonathan Rosen, and Scott Schneider

Electronic Cigarettes and the IH: Updated White Paper Covers Latest Research

AIHA's white paper on e-cigarettes was recently updated to discuss the latest research on e-cigarette hazards. How should industrial hygienists and safety and health professionals address the occupational and public health concerns associated with e-cigarettes?

By Cheri Marcham and Jack Springston

NAFTA's Lessons: Will the New North American Trade Agreement Improve Worker Protections?

Late in September 2018, the United States, Mexico, and Canada negotiated a new trade agreement. Most stakeholders—including labor and business groups—seem to favor a new agreement, but there are still many concerns about whether workers in all three countries will be better protected by the new agreement than they had been by NAFTA.

By Barbara Dawson



JUNE/JULY

Legionella Regulations in New York: How Much Progress Have We Made?

The state of New York and New York City were the first in the United States to implement legislation regarding the prevention of legionellosis in building water systems. Despite these regulations, reported cases of illness in New York are increasing and

large-scale outbreaks continue to occur. How can we address the continued rise of legionellosis in the United States?

By Megan Canright, Madeleine Rebullida, David Kahn, and John Martinelli

The Number-One Response Priority: Responsibilities for OEHS Professionals in an Incident Command System, Part 2

Disasters present a plethora of hazards to those tasked with responding to them. Part 1 of this article showed that OEHS professionals have the mindset necessary to improve the safety of the response and the skills and instruments necessary to become directly involved on the ground. This article explores the roles and deliverables in further detail.

By Aaron Riutta, Dana Stahl, and Brian Haynack

A New Approach to the Exposure Sciences: The Promise of Total Exposure Health

As industry continues to move toward greater automation, an increasing number of work environments have removed the human from the exposure or the exposure from the human. But is our work force becoming healthier as a result of this freedom from occupational exposures?

By Richard Hartman and Mark Oxley



AUGUST

Pure Management: How to Apply Risk-Based Thinking in Laboratories

ISO/IEC 17025 introduces the concept of “risk-based thinking,” a management model that places responsibility for defining and organizing a laboratory’s policies and procedures directly on laboratory management.

How should labs implement

risk-based thinking to meet the standard’s requirements?

By Bob Lieckfield, Jr.

Sampling for Drugs in Uncontrolled Environments: Assessing Hazardous and Highly Potent Drug Exposures in Nontraditional Workplaces

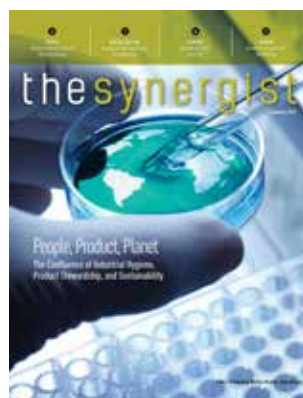
Illicit manufacture and use of opioids have led to concerns that workers in uncontrolled environments as well as the general public are at risk for potential exposures. What can we learn from the pharmaceutical industry about assessing exposure risks to hazardous drugs, including illicit drugs, in these uncontrolled environments?

By Matthew J. Meiners and Donna Heidel

A New Method for Whole-Air Sampling: NIOSH Method 3900 for Sampling Volatile Organic Compounds Using Evacuated Canisters

Whole-air sampling into evacuated canisters requires no prior knowledge of air concentrations. Canisters can handle chemical air concentrations ranging from sub-part per billion to part per million, and the technique is amenable to a wide range of compounds.

By Ryan F. LeBouf, Dru A. Burns, Anand Ranpara, and Alan Rossner



SEPTEMBER

People, Product, Planet: The Confluence of Industrial Hygiene, Product Stewardship, and Sustainability

Product stewardship has become an increasingly viable career path for industrial hygienists and other professionals engaged in sustainability as well as occupational and

environmental health and safety. To get a sense of the ways IH, sustainability, and product stewardship intersect, *The Synergist* interviewed three professionals with experience in each of these vocations.

An Interview with Mitch Fonda, Kevin Gara, and John Hott by Ed Rutkowski

From Consciousness to Conscience: The Convergence of Sustainability and Industrial Hygiene

Demonstrating a robust and effective health and safety program is foundational in organizational sustainability. Documented compliance with applicable regulations, development of comprehensive risk management strategies, and status reporting around key program performance indicators are other examples of the direct link between IH and sustainability.

By Mary O'Reilly and Bob Deist

A Modeling Toolbox for Product Stewards: How to Develop an Aptitude for Exposure Assessment Modeling

With the growth of industry's sustainability and product stewardship programs, traditional industrial hygiene practices may increasingly extend beyond the workplace environment. The same approaches for assessing risk and identifying risk management options may also apply to downstream users of chemicals and products.

By Steven Jahn and John A. Lowe



Digital Extra: The Respirator Fit Capability Test: Enhancing the Efficacy of Filtering Facepiece Respirators

In 1919, the United States Department of Mines initiated the nation's first respirator certification program. In observance of this anniversary, *The Synergist* and NIOSH present this digital supplement to the September 2019 issue, which discusses the development of a new voluntary standard for ensuring the proper fitting of respirators.

By Christopher Coffey and Colleen Miller



OCTOBER

The Journey to "Be Well": Implementing Total Worker Health in Eugene, Oregon

In the last few years, Eugene, Ore. has proven to be an ideal environment for implementing the NIOSH Total Worker Health initiative. The city serves as an excellent example of how medium-sized or small organi-

zations can engage with TWH.

By Liz Hill, Dede Montgomery, and Randi Bowers-Payne

First Choice: Consensus Standards, Technology, and the IH Professional

The National Technology Transfer and Advancement Act requires that government agencies use consensus standards developed by nonprofit standards development organizations whenever possible. Consensus standards have begun to appear with more regularity in federal directives, guidelines, regulations, and requirements by citation or by reference.

By Kenn White and Mike Brisson

Take Control of Your Development: A Guide to Planning Your Career

A critical tool for every professional (not just early-career professionals) is a formal development plan—a roadmap that helps ensure you meet your personal and professional goals. Even seasoned professionals need to review their development plans and their career progression.

By Michael A. Finnamore



NOVEMBER

Dermal Sensitizers: What Our Immune System Might Already Know

Skin sensitization is one of the most frequent hazards in the workplace, yet one of the most perplexing to predict and prevent. If sensitized, a worker may be required to avoid being exposed again to a distinct compound or a class of

chemicals by completely changing his job post or rotating to another building.

By Samantha Connell and Selene Araya

Battling the Reptilian Brain: Work-Management Tips for Overcoming Distractions

Distractions are all around us. Between work assignments, meetings, emails, family issues, social media, and the current political climate, it's a wonder any of us accomplish anything. Fortunately, becoming a top performer in a world of distractions is quite simple. We just need to refine a few basic skills: maintaining our focus, saying no, and managing our time.

By Carl O. Sall

Cost Estimates for OEHS Recommendations: Techniques for Pricing Out Health and Safety Matters

As with all disciplines, cost estimates have specialized vocabulary, approaches, equations, and levels of expertise. We may be at the lower levels of such expertise, but our abilities should be sufficient to provide useful rough estimates.

By D. Jeff Burton

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ENTERPRISE RISK MANAGEMENT STRATEGIC FRAMEWORK

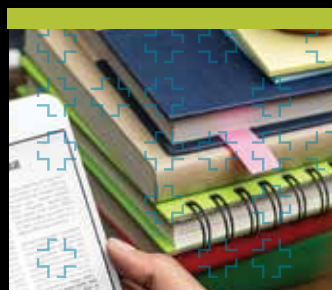
AIHA's new Enterprise Risk Management Strategic Framework establishes a baseline for all IH/OH professionals on what risk management means within the sphere of safety and environmental health. Tap into the fundamental definitions, concepts, methodologies, and communications strategies necessary to participate in your organization's enterprise risk management process. Visit <http://bit.ly/aihaermframework>.



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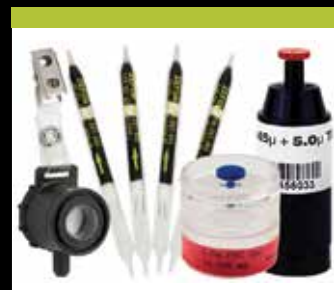
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