October 2019,
Issue 97

Army Industrial Hygiene News and Regulatory Summary

Hazardous Substances

Blood DNA Methylation Biomarkers of Cumulative Lead Exposure in Adults

Special Interest Articles:

Background

Lead is a ubiquitous toxicant following three compartment kinetics with the longest half-life found in bones. Patella and tibia lead levels—validated measures of cumulative exposure—require specialized X-ray-fluorescence-spectroscopy available only in a few centers worldwide. We developed minimally invasive biomarkers reflecting individual cumulative lead exposure using blood DNA methylation profiles—obtainable via Illumina 450K or IlluminaEPIC bead-chip assays.

Methods

We developed and tested two methylation-based biomarkers from 348 Normative Aging Study (NAS) elderly men. We selected methylation sites with strong associations with bone lead levels via robust regressions analysis and constructed the biomarkers using elastic nets. Results were validated in a NAS subset, reporting specificity, and sensitivity.

Findings

Participants were 73 years old on average (standard deviation, SD = 6), with moderate lead levels of (mean ± SD patella: 27 ± 18 µg/g; tibia:21 ± 13 µg/g).

Read more:
https://www.nature.com/articles/s41370-019-0183-9

Contents:

Derivation of Time-Activity Data Using Wearable Cameras and Measures of Personal Inhalation Exposure among Workers at an Informal Electronic-Waste Recovery Site in Ghana

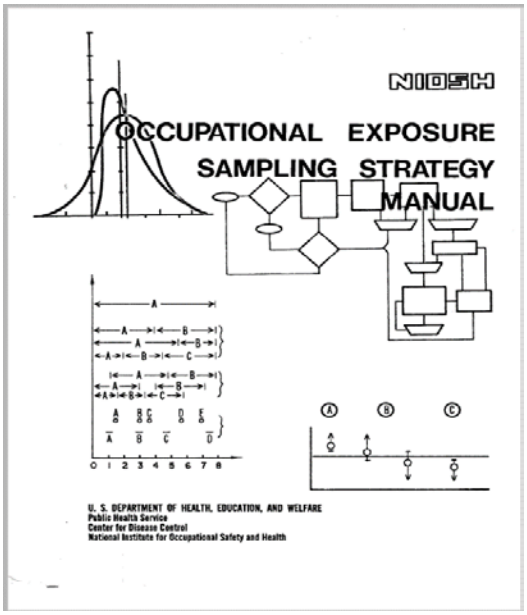
Objectives
Approximately 2 billion workers globally are employed in informal settings, which are characterized by substantial risk from hazardous exposures and varying job tasks and schedules. Existing methods for identifying occupational hazards must be adapted for unregulated and challenging work environments. We designed and applied a method for objectively deriving time-activity patterns from wearable camera data and matched images with continuous measurements of personal inhalation exposure to size-specific particulate matter (PM) among workers at an informal electronic-waste (e-waste) recovery site.

Methods
One hundred and forty-two workers at the Agbogbloshie e-waste site in Accra, Ghana, wore sampling backpacks equipped with wearable cameras and real-time particle monitors during a total of 171 shifts. Self-reported recall of time-activity (30-min resolution) was collected during the end of shift interviews. Images (N = 35,588) and simultaneously measured PM2.5 were collected each minute and processed to identify activities established through worker interviews, observation, and existing literature.

Read more:
https://academic.oup.com/annweh/article/63/8/829/5537141

Development of Respirable Virtual-Cyclone Samplers

Health-based aerosol sampling should reflect how particles penetrate and deposit in various regions of the human respiratory system. Therefore, size-selective sampling should be adopted when monitoring aerosol concentration in the atmosphere. However, cyclone samplers, the most commonly used respirable sampler type in the workplace, show specific particle size-dependent bias toward the international respirable convention. Additionally, cyclone samplers are vulnerable to the dust loading effect resulting in an underestimation of respirable particulate matter. In the previous study, a virtual cyclone has been employed to overcome the dust loading effect, but still had the disadvantage of high aerosol penetration of large particle sizes. Therefore, in this work, the effects of key dimensions of virtual cyclones including chamber width (or inlet width), chamber size and inlet height on the separation performance were further studied and the configurations of virtual cyclones were modified to best fit the ISO/CEN/ACGIH respirable convention. Experimental results demonstrated that a better match with the ISO/CEN/ACGIH respirable convention curve can be achieved by increasing the chamber width to over 20 mm. Moreover,



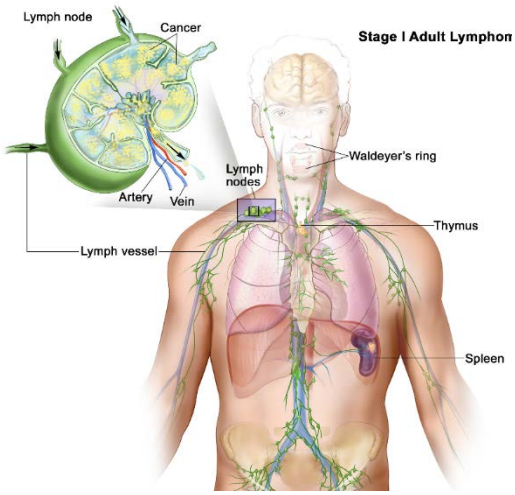
the new virtual cyclones can operate at a flow rate up to 21.5 L/min to collect more respirable particulate matter for the increasingly stringent respirable dust standards. The new virtual cyclones demonstrate accurate and constant measurement of the respirable dust for exposure assessment.

Read more: Journal of Occupational and Environmental Hygiene, Published online 24 Oct 2019 (Available with AIHA membership)

Estimation of Source-Specific Occupational Benzene Exposure in a Population-Based Case–Control Study of Non-Hodgkin Lymphoma

Objectives

Occupational exposures in population-based case–control studies are increasingly being assessed using decision rules that link participants' responses to occupational questionnaires to exposure estimates.



We used a hierarchical process that incorporated decision rules and job-by-job expert review to assign occupational benzene exposure estimates in a US population-based case–control study of non-Hodgkin lymphoma.

Methods

We conducted a literature review to identify scenarios in which occupational benzene exposure has occurred, which we grouped into 12 categories of benzene exposure sources. For each source category, we then developed decision rules for assessing probability (ordinal scale based on the likelihood of exposure > 0.02 ppm), frequency (proportion of work time exposed), and intensity of exposure (in ppm). The rules used the participants' occupational history responses and, for a subset of jobs, responses to job- and industry-specific modules.

Read more:
https://academic.oup.com/annweh/article/63/8/842/5554882

California Updates Resources Ahead of Lead Poisoning Prevention Week

In recognition of Lead Poisoning Prevention Week from Oct. 20 to 26, the California Department of Public Health has updated its resources for protecting workers from lead poisoning. CDPH's Occupational Lead Poisoning Prevention Program recently published a new web page intended to help shooting range operators reduce lead exposure and contamination and to help workers protect themselves from lead hazards. OLPPP warns that recovering lead from bullet traps or cleaning shooting ranges can expose workers to high levels of lead. The program also alerts employers that even low levels of lead can cause

health damage over time. OLPPP has also recently updated its health-based guidelines for blood lead levels in adults (PDF). The guidelines are intended to be a reference for the care of adults and adolescents exposed to lead at work.

Read more:
https://aiha.org/news/california-updates-resources-ahead-of-lead-poisoning-prevention-week

Comparison of Microwave-Assisted Digestion and Consensus Open-Vessel Digestion Procedures for Evaluation of Metalliferous Airborne Particulate Matter

Metal occupational exposure limits mainly focus on total content of the respective metals of interest. The methods applied for trace metal analysis in occupational health and safety laboratories are usually standardized to pragmatic consensus digestion schemes, ensuring comparability of results. The objective of the present study entailed the evaluation of a recently developed HNO_3-only microwave-assisted digestion procedure by comparison with the German consensus hot-block digestion and other national digestion schemes. An inter-laboratory comparison test with participation of nine national occupational health and safety laboratories from Europe and North America was organized. For adequate emulation of what workers are at risk of inhaling four different industrial metal processing workplace dusts (electronic recycling, high-speed steel grinding, cylinder head cleaning, and battery combustion ash) were homogenized and sieved to the particle size < 100 µm diameter at IFA.

Read more:
https://academic.oup.com/annweh/article-abstract/63/8/950/5585785?redirectedFrom=fulltext

Assessing Variability of Antineoplastic Drugs Handling Practices In Clinical Settings

The United States Pharmacopeia (USP) Chapter <800> guidelines will be adopted in the U.S. and Canada in 2019, requiring regular surface sampling for antineoplastic drug (AD) surface contamination as a means of environmental surveillance. USP Chapter <800> does not provide guidance on when and where to sample. Research to support

the development of such guidance within a broader sampling strategy is limited. This study was conducted to help address some of the underlying information gaps by identifying surfaces pharmacy and nursing staff are likely to contact, presenting a potential dermal exposure risk. Observations were conducted at one regional and one urban clinic, providing insight into inter- and intra-worker variability and between-clinic differences based on size and patient load. Thirteen surfaces in the compounding pharmacies and 14 surfaces in the patient administration were initially selected for video observations. Following a preliminary assessment to eliminate surfaces that were touched infrequently or not at all, five commonly touched surfaces in the compounding pharmacy areas (vials, syringes, IV lines, IV bags, waste bags) and six commonly touched surfaces in the patient administration area (yellow containment bag, IV bag, IV line, patient port, computer workstation) were assessed further. Variability between healthcare staff and clinics in pharmacy staff was low for both the mean frequency and duration of touch to surfaces. Differences between clinics in frequency of contact among nursing staff in patient administration areas were significant (two-way ANOVA) for five of the six surfaces. Duration of contact was not significantly different except for duration of touching the IV pump. These insights will be used to give guidance in selecting locations for a longitudinal surveillance study and help tailor worker training to reduce exposure risks.

Read more: Journal of Occupational and Environmental Hygiene, Published online 17 Oct 2019 (Available with AIHA membership)

Radiation

Blood-Collection Device Makes Radiation Testing Quick and Easy

A University of Arizona College of Medicine - Phoenix research team has developed a blood self-collection device to quickly estimate a person's exposure to radiation in the event of a nuclear accident or attack.

Led by Jian Gu, PhD, and scientists at the medical school's Center for Applied NanoBioscience and Medicine (ANBM), the study reports development of a system for packaging critical components of a traditional blood-collection kit to create an integrated fingerstick blood collector for

radiation countermeasures.

https://www.eurekalert.org/pub_releases/2019-10/uoah-bdm101619.php

Read more:

Ventilation

Efficacy of an Ambulance Ventilation System in Reducing EMS Worker Exposure to Airborne Particles from a Patient Cough Aerosol Simulator

The protection of emergency medical service (EMS) workers from airborne disease transmission is important during routine transport of patients with infectious respiratory illnesses and would be critical during a pandemic of a disease such as influenza. However, few studies have examined the effectiveness of ambulance ventilation systems at reducing EMS worker exposure to airborne particles (aerosols). In our study, a cough aerosol simulator mimicking a coughing patient with an infectious respiratory illness was placed on a patient cot in an ambulance. The concentration and dispersion of cough aerosol particles were measured for 15 min at locations corresponding to likely positions of an EMS worker treating the patient. Experiments were performed with the patient cot at an angle of 0° (horizontal), 30°, and 60°, and with the ambulance ventilation system set to 0, 5, and 12 air changes/hour (ACH). Our results showed that increasing the air change rate significantly reduced the airborne particle concentration ($p < 0.001$). Increasing the air change rate from 0 to 5 ACH reduced the mean aerosol concentration by 34% (SD = 19%) overall, while increasing it from 0 to 12 ACH reduced the concentration by 68% (SD = 9%). Changing the cot angle also affected the concentration ($p < 0.001$), but the effect was more modest, especially at 5 and 12 ACH. Contrary to our expectations, the aerosol concentrations at the different worker positions were not significantly different ($p < 0.556$). Flow visualization experiments showed that the ventilation system created a recirculation pattern which helped disperse the aerosol particles throughout the compartment, reducing the effectiveness of the system. Our findings indicate that the ambulance ventilation system reduced but did not eliminate worker exposure to infectious aerosol

particles. Aerosol exposures were not significantly different at different locations within the compartment, including locations behind and beside the patient. Improved ventilation system designs with smoother and more unidirectional airflows could provide better worker protection.

Read more: Journal of Occupational and Environmental Hygiene, Published online 22 Oct 2019 (Available with AIHA membership)

PPE

The Effect on Fit of Multiple Consecutive Donning and Doffing of N95 Filtering Facepiece Respirators

Background
N95 filtering facepiece respirators (FFRs) are widely used in healthcare to reduce transmission of airborne infectious diseases. These respirators are generally described as single use or limited reuse devices, but cost and operational issues mean that they may be donned and doffed multiple times. There is scant research on the effect of this practice on adequacy of fit.

Objective
The purpose of this study was to measure the effect on respirator fit of multiple donning and doffing of N95 FFRs.

Methods
This was an experiment in which 16 women and 9 men employed by the National Institute for Occupational Health (NIOH),

Johannesburg, donned their same N95 FFR six times. All 25 were trained in the correct wearing of the devices before the experiment.

Read more:
https://academic.oup.com/annweh/article-abstract/63/8/930/5554877?redirectedFrom=fulltext

Noise

NIOSH Updates Standard Testing Procedure for PAPRs with Hoods or Helmets

NIOSH has updated the standard testing procedure for the determination of the noise level test for powered air-purifying respirators with hoods or helmets. The purpose of the update is to establish the procedure for ensuring that operational noise levels of PAPRs submitted to the agency for approval or extension of approval do not exceed established maximum certification requirements. NIOSH's procedure is intended to describe the test in sufficient detail so that a person who is knowledgeable in the appropriate technical field can select equipment with the necessary resolution, conduct the test, and determine whether a product passes the test.

Read more: https://aiha.org/news/niosh-updates-standard-testing-procedure-for-paprs-with-hoods-or-helmets

Preventive Medicine

People Who Eat More Meals at Home Have Lower Levels of Harmful PFAS in Their Bodies

A home-cooked meal has many benefits, including healthier ingredients and fewer processed foods. But there's another reason to avoid eating out all the time. Preparing meals at home can reduce your exposure to harmful PFAS chemicals that are commonly found in take-out and fast

food packaging, according to a new study by researchers at Silent Spring Institute.

Read more:
https://www.eurekalert.org/pub_releases/2019-10/ssi-pwe100319.php

Chemical Burns from Vaping? Lung Damage Resembles Mustard Gas Exposure, Mayo Clinic Doctors Say

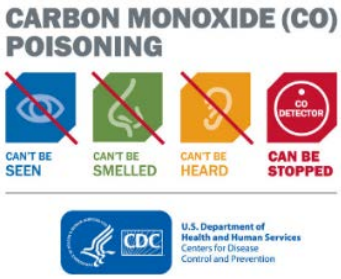
Doctors from the Mayo Clinic analyzed lung tissue samples from patients who became ill after vaping and determined the damage to their lungs resembles chemical burns, such as those from mustard gas, a chemical agent used during World War I.

Samples from 17 patients – 13 men and four women – were studied. All had a history of vaping nicotine or marijuana products; about 70 percent had a history of the latter. The findings were published Wednesday in The New England Journal of Medicine.

Read more:
https://www.foxnews.com/health/chemical-burns-vaping

Light-Based Strategy Effectively Treats Carbon Monoxide Poisoning In Rats

Carbon monoxide (CO)--which is produced by cars and trucks, as well as fires and explosions--is a toxic, colorless, and odorless gas, and there are more than 50,000 admissions to US emergency rooms due to CO poisoning each year, with many cases involving damaged airways and lungs. Investigators at Massachusetts General Hospital (MGH) recently developed a phototherapy strategy that was highly effective for removing CO in rats and improving the animals' health.



Read more:
https://www.eurekalert.org/pub_releases/2019-10/mgh-lse101019.php

Vaping-Related Illness Has a New Name: EVALI

EVALI

The vaping-related condition that has sickened hundreds of people has a new name: EVALI, or e-cigarette or vaping product use-associated lung injury. The new name, noted Friday in newly issued guidance for clinicians from the Centers for Disease Control and Prevention, is a sign of the rapidly evolving investigation into the illness, which has sickened 1,299 people across 49 states, Washington, D.C., and the U.S. Virgin Islands. The case count has continued to climb week after week.

Read more:
https://www.scientificamerican.com/article/vaping-related-illness-has-a-new-name-evali/

Chemicals in Consumer Products during Early Pregnancy Related to Lower IQ

Exposure during the first trimester of pregnancy to mixtures of suspected endocrine-disrupting chemicals found in consumer products is related to lower IQ in children by age 7, according to a study by researchers at the Icahn School of Medicine at Mount Sinai and Karlstad University, Sweden, published in Environment International in October. This study is among the first to look at prenatal suspected endocrine-disrupting chemical mixtures in relation to neurodevelopment.

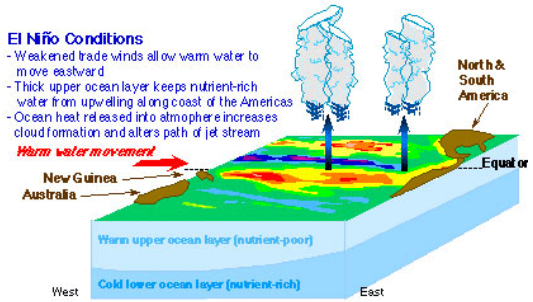
Scientists measured 26 chemicals in the blood and urine of 718 mothers during the first trimester of their pregnancies in the study of Swedish mothers and children, known as SELMA. These chemicals included

bisphenol A (BPA), which is found in plastic food and drink containers, as well as pesticides, phthalates, and other chemicals found in consumer products.

Read more:
https://www.eurekalert.org/pub_releases/2019-10/tmsh-cic102319.php

Environmental Health

Study Finds El Niños Getting Stronger



Climate change is making stronger El Niños, which change weather worldwide and heat up an already warming planet, a new study finds.

Scientists examined 33 El Niños—natural warming of equatorial Pacific that triggers weather extremes across the globe—since 1901. They found since the 1970s, Niños have been forming farther to the west in warmer waters, leading to stronger El Niños in some cases.

Read more:
https://www.insurancejournal.com/news/national/2019/10/29/546758.htm

A Regression-Based Model to Predict Chemical Migration from Packaging to Food

Packaging materials can be a source of chemical contaminants in food. Process-based migration models (PMM) predict the chemical fraction transferred from packaging materials to food (FC) for application in prioritisation tools for human exposure. These models, however, have a relatively limited applicability domain and their predictive performance is typically low. To overcome these limitations, we developed a linear mixed-effects model (LMM) to statistically relate measured FC to properties of chemicals, food, packaging, and experimental conditions. We found a negative relationship between the molecular weight (MW) and FC, and a

positive relationship with the fat content of the food depending on the octanol-water partitioning coefficient of the migrant.

Read more:
https://www.nature.com/articles/s41370-019-0185-7

Where to Install Renewable Energy in US to Achieve Greatest Benefits

A new Harvard study shows that to achieve the biggest improvements in public health and the greatest benefits from renewable energy, wind turbines should be installed in the Upper Midwest and solar power should be installed in the Great Lakes and Mid-Atlantic regions. When adjusting for energy produced, the benefits ranged from $28 per MWh of energy produced from wind in California, to $113 per MWh of wind in the Upper Midwest and for utility-scale solar in the Great Lakes and Mid-Atlantic. The study in Environmental Research Letters by the Center for Climate, Health, and the Global Environment at the Harvard T.H. Chan School of Public Health (Harvard C-CHANGE) provides a guide for policymakers, businesses, and utilities on where to install renewable energy in the U.S. to maximize their health and climate benefits.

Read more:
https://www.eurekalert.org/pub_releases/2019-10/htcs-wti102419.php

Study Finds Topsoil Is Key Harbinger of Lead Exposure Risks for Children

Tracking lead levels in soil over time is critical for cities to determine lead contamination risks for their youngest and most vulnerable residents, according to a new Tulane University study published in the Proceedings of the National Academy of Sciences.

The study, which focuses on New Orleans but could serve as a model for cities around the world, is the first to show how long-term changes in soil lead levels have a

corresponding impact in lead blood levels in children.

Read more:
https://www.eurekalert.org/pub_releases/2019-10/tu-sft100919.php

Air Infiltration in Low-Income, Urban Homes and Its Relationship to Lung Function

Previous research has found increased home ventilation, which may affect health by altering the composition of indoor air, is associated with improvement of respiratory health, but evidence linking home ventilation to objectively measured lung function is sparse. The Colorado Home Energy Efficiency and Respiratory health (CHEER) study, a cross-sectional study of low-income, urban, nonsmoking homes across the Northern Front Range of Colorado, USA, focused on elucidating this link. We used a multipoint depressurization blower door test to measure the air tightness of the homes and calculate the annual average infiltration rate (AAIR). Lung function tests were administered to eligible participants. We analyzed data from 253 participants in 187 homes with two or more acceptable spirometry tests.

Read more:
https://www.nature.com/articles/s41370-019-0184-8

Ergonomics

Whole-Body Vibration Associated with Dozer Operation at an Australian Surface Coal Mine

Bulldozers are used extensively on surface mine sites and have been previously identified as being associated with high amplitude whole-body vibration exposures. Previous investigations of this equipment have involved either a very

small number of measurements, or measurements of very short duration (or

both); or the data obtained were incompletely reported. This research reports 69 measurements (median duration 440 min) obtained from 15 different dozers during operation at a surface coal mine. More than one-third of vertical vibration measurements exceeded the ISO2631.1 Health Guidance Caution Zone when expressed as VDV(8). Considerable variability in measurement amplitudes was found. This was also true within measurements obtained from the same dozers on different shifts suggesting, by a process of elimination, that the remaining variability in whole-body vibration amplitude is a function of some combination of task characteristics, geology, and operator behaviour; rather than equipment-related variability, such as maintenance, suspension, seating, or track design. Short-comings in the evaluation methods provided by ISO2631.1 are highlighted.

Read more:
https://academic.oup.com/annweh/article-abstract/63/8/881/5529040?redirectedFrom=fulltext

Safety

California Establishes Interim Cleanup Standards for Fentanyl Labs

California Gov. Gavin Newsom has signed into law Assembly Bill 1596, the Fentanyl Contaminated Property Cleanup Act, which establishes interim standards for the cleanup of fentanyl labs until permanent standards can be developed by the state or federal government. As a result of this legislation, local health officers will be provided with directions on how to provide adequate notice to property owners and renters of property contaminated by fentanyl as well as guidance on overseeing the cleanup of these properties. The law also requires homeowners to notify potential renters or buyers that an overdose occurred on the premises.

Read more:
https://aiha.org/news/california-establishes-interim-cleanup-standards-for-fentanyl-labs

Of All Professions, Construction Workers Most Likely to Use Opioids and Cocaine

Construction workers are more likely to use drugs than workers in other professions, finds a study by the Center for Drug Use and HIV/HCV Research (CDUHR) at NYU College of Global Public Health.

The study, published in the journal Drug and Alcohol Dependence, shows that construction workers are the most likely of all occupations to use cocaine and misuse prescription opioids (taking them for nonmedical purposes), and the second most likely to use marijuana.

Read more:
https://www.eurekalert.org/pub_releases/2019-10/nyu-oap102519.php

Workplace Quality, Not One Factor, Determines Worker Health, Job Safety: Study

The terms and conditions of employment — including pay, hours, schedule flexibility and job security — influence employees' overall health as well as their risk of being injured on the job, according to new research from the University of Washington.

The analysis takes a comprehensive approach to show that the overall pattern of employment conditions is important for health, beyond any single measure of employment, such as wages or contract type.

Read more:
https://www.insurancejournal.com/news/national/2019/10/03/544206.htm

Worker Safety Gear Developers Move Into the Digital Age

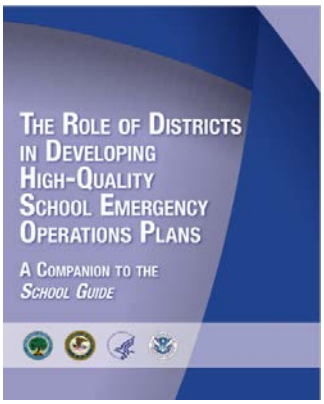
Wireless technology is moving even the most basic safety gear into the digital age: Sensors in fall protection harnesses can warn workers they're not hooked in; shirts embedded with heart-rate monitors can alert supervisors when workers must rest; earmuffs designed for hearing protection can notify employees when noises are so loud they should leave.

Companies developing the gear say the equipment will improve safety by warning workers and supervisors quickly about emerging hazards and improve productivity by automating or digitizing safety reports now done on paper.

Read more:
https://news.bloombergenvironment.com/safety/worker-safety-gear-developers-move-into-the-digital-age-6

Emergency Preparedness

New Guide Covers School Emergency Plans



The U.S. Department of Education, the U.S. Department of Justice, U.S. Department of Homeland Security, and the U.S. Department of Health and Human Services recently released The Role of Districts in Developing High-Quality School Emergency Operations Plans, a guide to emergency operations plans. The guide addresses a variety of topics, including the roles and responsibilities of schools, school districts, and community partners regarding school safety, along with prevention and mitigation techniques.

Read more:
https://www.facilitiesnet.com/emergencypreparedness/alerts/New-Guide-Covers-School-Emergency-Plans--44995

Deployment Health

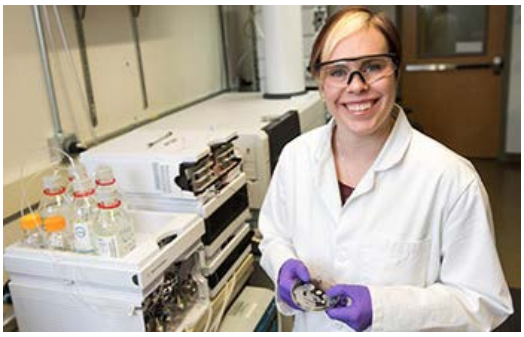
3 Soldiers Killed In Training Accident at Fort Stewart in Georgia

A crash during an early morning training exercise resulted in the deaths of three U.S. Army soldiers and injured three more at Fort Stewart, in Georgia, on Sunday, according to Fort Stewart officials.
The soldiers were riding a Bradley Fighting Vehicle when, around 3:20 a.m., it flipped over and rolled into water, according to a news release from Fort Stewart.
The three soldiers who were killed were pronounced dead on the scene. The three who were injured were taken to Winn Army Community Hospital. Two were released later in the day and another was transferred to Memorial Health University Medical Center in nearby Savannah with non-life threatening injuries.

Read more:
https://www.mprnews.org/story/2019/10/20/npr-3-soldiers-killed-in-training-accident-on-fort-stewart-in-georgia

Nanotechnology

Nanoparticles May Have Bigger Impact on the Environment than Previously Thought



Over the last two decades, nanotechnology has improved many everyday products, from microelectronics to sunscreens. Nanoparticles (particles just a few hundred atoms in size) are ending up in the environment by the ton, but scientists are still unclear about the long-term effects of these super-small particles.
In a first-of-its-kind study, published in *Chemical Science*, researchers have shown that nanoparticles may have a bigger impact on the environment than previously thought.

Read more:
https://nsf.gov/discoveries/disc_summ.jsp?cntn_id=299374&org=NSF&from=news

Picoscience and a Plethora of New Materials

1 picometer = 1 x 10^{-12} m

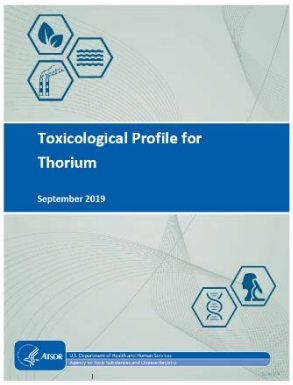
The revolutionary tech discoveries of the next few decades, the ones that will change daily life, may come from new materials so small they make nanomaterials look like behemoths. These new materials will be designed and refined at the picometer scale, which is a thousand times smaller than a nanometer and a million times smaller than a micrometer (which itself is smaller than the width of a human hair). To do this work, scientists will need training to operate an array of new equipment that can measure and guide such exquisitely controlled materials. The research involves designing the materials theoretically, fabricating them, and characterizing their properties.

Read more:
https://nsf.gov/discoveries/disc_summ.jsp?cntn_id=299356&org=NSF&from=news

Regulatory Research & Industrial Hygiene Professional News

ATSDR

Final Toxicological Profiles for Silica, Thorium Published



The Agency for Toxic Substances and Disease Registry has published final toxicological profiles for silica and thorium. ATSDR's toxicological profile for silica describes the health effects of exposure to both crystalline silica and non-crystalline amorphous silica. A section that discusses populations with potentially high exposures details the variety of industries and occupations in which workers are at risk for high occupational exposures to silica. These include metal, nonmetal, and coal mines and mills; hydraulic fracturing operations; construction; rubber and plastics; counter

manufacture and installation; and automobile repair.

Read more: https://aiha.org/news/final-toxicological-profiles-for-silica-thorium-published

EPA

EPA Identifies Potential Risks to Workers Who Handle the Herbicide Paraquat

EPA has published draft human health and ecological risk assessments for paraquat dichloride, an herbicide currently used to control weeds and grasses in agricultural and commercial settings. These draft risk assessments represent the next step in EPA's regulatory review of paraquat as part of the Federal Insecticide, Fungicide, and Rodenticide Act registration review process. The agency's draft human health risk assessment describes potential risks to workers who apply paraquat or enter treated fields after application.

Read more: https://aiha.org/news/epa-identifies-potential-risks-to-workers-who-handle-the-herbicide-paraquat

OSHA

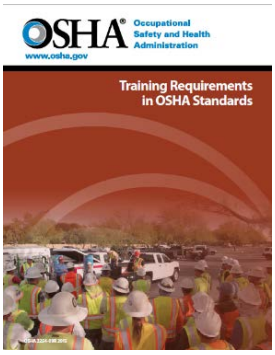
New OSHA Weighting System in Effect for Workplace Inspections

OSHA is using a new system to prioritize workplace inspections and enforcement activities, the agency announced in a press release. The new OSHA Weighting System, or OWS, went into effect on Oct. 1 and incorporates factors such as types of hazards to be inspected and abated, according to the agency. The new system also considers agency priorities, the impact

of inspections, and initiatives such as OSHA's Site-Specific Targeting program, which schedules inspections based on injury and illness data submitted by employers.

Read more: https://aiha.org/news/new-osha-weighting-system-in-effect-for-workplace-inspections

OSHA Considers New Online Model for Outreach Training Program



OSHA is considering adopting a new online delivery model for its Outreach Training Program, which educates workers and employers on how to recognize, abate, and prevent job-related hazards in the construction, general, and maritime industries, and at disaster sites. The agency is requesting feedback regarding whether the potential new model would address issues associated with the existing model.

According to the Federal Register, OSHA's concerns about the existing model include inconsistent training quality and insufficient monitoring and oversight available to the agency. The new model to administer online classes for the program, the Online Outreach Training Program Consortium Model, is intended to provide safeguards against some of these issues.

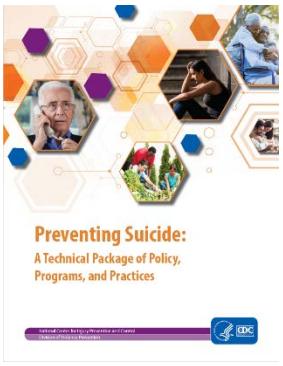
Read more: https://aiha.org/news/osha-considers-new-online-model-for-outreach-training-program

NIOSH

NIOSH "Workplace Solutions" Documents Address Hearing Protection, Legionella, Cold Stress

Three new "Workplace Solutions" documents published last week by NIOSH offer recommendations regarding protections for workers from noise, Legionella, and cold. Written for a general audience, the Workplace Solutions series summarizes the current understanding of specific hazards, describes relevant regulations and nonregulatory guidance, provides short case studies that illustrate the application of protections, and offers recommendations for both employers and workers.

Read more: https://aiha.org/news/niosh-workplace-solutions-documents-address-hearing-protection-legionella-cold-stress



NIOSH recently published a new web page focused on ways to prevent suicide in the workplace. According to the agency, some occupations have higher rates of suicide than others. For example, an analysis of data from 2012 and 2015 published last year in CDC's Morbidity and Mortality Weekly Report found that construction and extraction was the major occupational group with the highest male suicide rate. The occupational group with the highest female suicide rate was arts, design, entertainment, sports, and media. Earlier this year, a study published in the Journal of the American Veterinary Medical Association found a higher than expected number of suicide deaths among U.S. veterinarians.

Read more: https://aiha.org/news/new-niosh-page-collects-information-on-suicide-and-occupation

APHC

Training

COMPETENCY VERIFICATION SELF ASSESSMENTS

- Curious about how you stand professionally?
- Not sure what specifics to target with self development?
- Looking for free exam prep questions?

No lessons, lectures, certificates, just sets of short quizzes to help bridge the gaps.

SELF-ENROLL NOW ON BLACKBOARD

Registration/Sign-up Rosters at https://aiph-dohs.ellc.learn.army.mil

Analytical Chemistry
Basic Science & Math
Biohazards
Health Hazards
Indoor/Outdoor Air
Noise
Sampling
Survey Equipment
Thermal Stressors
Toxicology
Industrial Work Environments

IMPORTANT NOTE: DATE CHANGES HAVE TAKEN PLACE

2020 Training Schedule (traditional classroom events)
Aberdeen Proving Ground North Campus, Maryland

December 9-13, 2019 Army DOEHRS-IH Initial Course (1st Quarter)-Mallette Training Facility, APG-N Campus Room 13

February 24-28, 2020 Army DOEHRS-IH Initial Course (2nd Quarter)-Mallette Training Facility, APG-N Campus Room TBD

April 20-24, 2020 Army IH Professional Practice Course - Mallette Training Facility, APG-N Campus Room 23 & 11

April 27-May 1, 2020 Blueprint Reading & Design Review -location pending

May 4-8, 2020 Healthcare & Laboratory Ventilation Course- 10A & 115

May 11-15, 2020 Industrial Ventilation Course - Mallette Training Facility, APG-N Campus Room Rm 10A & 115

May 18-22, 2020 Army DOEHRS-IH Initial Course (3rd Quarter)- Mallette Training Facility, APG-N Campus Room 24

August 17-21, 2020 Army DOEHRS-IH Initial Course (4th Quarter)- Mallette Training Facility, APG-N Campus Room 24

RESERVE SEATING QUOTAS NOW

Registration/Sign-up Rosters at
https://aiph-dohs.ellc.learn.army.mil

This monthly summary is published by the Industrial Hygiene Program Management Division for the Army Public Health Center.

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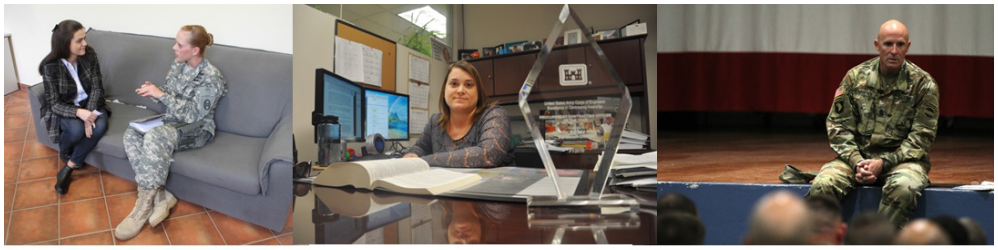

Professional Development and Career Programs

For Army Industrial Hygienists and Industrial Hygiene Technicians, Professional Development is through the Army Safety and Occupational Health (SOH) Career Program, known as Career Program 12 (CP-12).

Career Programs were established to ensure there is an adequate base of qualified and trained professional, technical, and administrative personnel to meet the Army`s current and future needs.

Planned training and development are essential elements to building a successful career.