The U.S. Department of Labor has announced a proposed delay in the effective date of the rule entitled Occupational Exposure to Beryllium, from March 21, 2017, to May 20, 2017.

The announcement follows a White House memorandum, entitled "Regulatory Freeze Pending Review," issued Jan. 20, 2017, that directed the department to undertake a review of any new or pending regulations and temporarily postpone the date that they would take effect. The proposed delay will allow the Occupational Safety and Health Administration an opportunity for further review and consideration of the rule, in keeping with the White House memorandum. OSHA published the final rule on Jan. 9, 2017, and, in response to the memorandum, previously announced the effective date would be postponed to March 21, 2017.

OSHA Finds ‘Serious’ Mold Growth in Salem VA Hospital Building

The Salem VA Hospital has been cited for serious workplace violations in regards to mold.

OSHA investigators discovered the problem in Building 75 and have given the hospital 30 days to correct the issue.

Two employees have reported health issues in regards to the mold, according to OSHA area director Stanley Dutko.


Mercury Spill Responses

Despite measures to educate the public about the dangers of elemental mercury, spills continue to occur in homes, schools, health care facilities, and other settings, endangering the public’s health and requiring costly cleanup. Mercury is most efficiently absorbed by the lungs, and exposure to high levels of mercury vapor after a release can cause cough, sore throat, shortness of breath, nausea, vomiting, diarrhea, headaches, and visual disturbances (1).

Children and fetuses are most susceptible to the adverse effects of mercury vapor exposure. Because their organ systems are still developing, children have increased respiratory rates, and they are closer to the ground where mercury vapors are most highly concentrated (2). To summarize key features of recent mercury spills and
lessons learned, five state health departments involved in the cleanup (Iowa, Michigan, Missouri, North Carolina, and Wisconsin) compiled data from various sources on nonthermometer mercury spills from 2012 to 2015.

Assessment of Personal Airborne Exposures and Surface Contamination from X-ray Vaporization of Beryllium Targets at the National Ignition Facility

This study presents air and surface sampling data collected over the first two years since beryllium was introduced as a target material at the National Ignition Facility. Over this time, 101 experiments with beryllium-containing targets were executed. The data provides an assessment of current conditions in the facility and a baseline for future impacts as new, reduced regulatory limits for beryllium are being proposed by both the Occupational Safety and Health Administration and Department of Energy. This study also investigates how beryllium deposits onto exposed surfaces as a result of x-ray vaporization and the effectiveness of simple decontamination measures in reducing the amount of removable beryllium from a surface. Based on 1,961 surface wipe samples collected from entrant components (equipment directly exposed to target debris) and their surrounding work areas during routine reconfiguration activities, only one result was above the beryllium release limit of 0.2 μg/100 cm² and 27 results were above the analytical reporting limit of 0.01 μg/100 cm², for a beryllium detection rate of 1.4%. Surface wipe samples collected from the internal walls of the NIF target chamber, however, showed higher levels of beryllium, with beryllium detected on 73% and 87% of the samples during the first and second target chamber entries (performed annually), respectively, with 23% of the samples above the beryllium release limit during the second target chamber entry. The analysis of a target chamber wall panel exposed during the first 30 beryllium-containing experiments (cumulatively) indicated that 87% of the beryllium contamination remains fixed onto the surface after wet wiping the surface and 92% of the non-fixed contamination was removed by decontaminating the surface using a dry wipe followed by a wet wipe.
Personal airborne exposures assessed during access to entrant components and during target chamber entry indicated that airborne beryllium was not present in workers' breathing zones. All the data thus far have shown that beryllium has been effectively managed to prevent exposures to workers during routine and non-routine work.

Read more: Journal of Occupational and Environmental Hygiene Accepted author version posted online: 28 Feb 2017 (Available with an AIHA membership)

Malignant Mesothelioma Mortality

Malignant mesothelioma is a neoplasm associated with occupational and environmental inhalation exposure to asbestos* fibers and other elongate mineral particles (EMPs) (1–3). Patients have a median survival of approximately 1 year from the time of diagnosis (1). The latency period from first causative exposure to malignant mesothelioma development typically ranges from 20 to 40 years but can be as long as 71 years (2,3). Hazardous occupational exposures to asbestos fibers and other EMPs have occurred in a variety of industrial operations, including mining and milling, manufacturing, shipbuilding and repair, and construction (3). Current exposures to commercial asbestos in the United States occur predominantly during maintenance operations and remediation of older buildings containing asbestos (3,4). To update information on malignant mesothelioma mortality (5), CDC analyzed annual multiple cause-of-death records† for 1999–2015, the most recent years for which complete data are available.

Read more: https://www.cdc.gov/mmwr/volumes/66/wr/mm6608a3.htm?s_cid=mm6608a3_e
Temperature Rise Within a Mobile Refuge Alternative - Experimental Investigation and Model Validation

Mine Safety and Health Administration (MSHA) regulations require underground coal mines to install refuge alternatives (RAs). In the event of a disaster, RAs must be able to provide a breathable air environment for 96 h. The interior environment of an occupied RA, however, may become hot and humid during the 96 h due to miners’ metabolic heat and carbon dioxide scrubbing system heat. The internal heat and humidity may result in miners suffering heat stress or even death. To investigate heat and humidity buildup with an occupied RA, the National Institute for Occupational Safety and Health (NIOSH) conducted testing on a training ten-person, tent-type RA in its Safety Research Coal Mine (SRCM) in a test area that was isolated from the mine ventilation system.

Read more: https://www2a.cdc.gov/nioshtic-2/BuildQyr.asp?s1=20049118&f1=%2A&Startyear=&Adv=0&terms=1&EndYear=&Limit=10000&sort=&D1=10&PageNo=1&RecNo=1&View=f&

Computational Fluid Dynamics Analysis of the Venturi Dustiness Tester

Dustiness quantifies the propensity of a finely divided solid to be aerosolized by a prescribed mechanical stimulus. Dustiness is relevant wherever powders are mixed, transferred or handled, and is important in the control of hazardous exposures and the prevention of dust explosions and product loss. Limited quantities of active pharmaceutical powders available for testing led to the development (at
University of North Carolina) of a Venturi-driven dustiness tester. The powder is turbulently injected at high speed (Re approximately 2 × 10^4) into a glass chamber; the aerosol is then gently sampled (Re approximately 2 × 10^3) through two filters located at the top of the chamber; the dustiness index is the ratio of sampled to injected mass of powder. Injection is activated by suction at an Extraction Port at the top of the chamber; loss of powder during injection compromises the sampled dustiness.

Read more: https://www2a.cdc.gov/nioshtic-2/BuildQyr.asp?s1=20049505&f1=%2A&Startyear=&Sort=1&EndYear=&Limit=10000&sort=&D1=10&PageNo=1&RecNo=1&View=f&

Drug That Fights Aging, Cancer, and Radiation Could Reach Market in 5 Years

Scientists have made a major breakthrough in fighting the aging process, treating cancer, and chronic illness, as well as protecting us during future space travel; and the drug could be on the market within five years. “This is the closest we are to a safe and effective anti-ageing drug that’s perhaps only three to five years away from being on the market if the trials go well,” lead scientist Professor David Sinclair, of the Harvard Medical School said of the research, as cited by Sky News.

DNA damage is a key contributor to the aging process, the onset of cancer, and various degenerative diseases, and is also one of the major side effects of radiation exposure.


Fukushima News: Deadly Nuclear Radiation Levels Cause Robot Failures to Mount at Power Plant

Even six years after a nuclear crisis struck Fukushima in Japan, radiation levels at Fukushima continued to reach the extreme levels. While most of this data is collected through cameras and robots, there is now a
shadow of doubt about the future of these robots.

Tokyo Electric Power Company Holdings Inc. (TEPCO), the operator of the Fukushima Daiichi plant, failed to get a comprehensive report in its attempt to find nuclear debris in a containment vessel with the help of the PMORPH survey robot – developed by Hitachi-GE Nuclear Energy and the International Research Institute for Nuclear Decommissioning (IRID) – on Thursday.


Assessment of Fungal Diversity in a Water-Damaged Office Building

Recent studies have described fungal communities in indoor environments using gene sequencing-based approaches. In this study, dust-borne fungal communities were elucidated from a water-damaged office building located in the northeastern region of the United States using internal transcribed spacer (ITS) rRNA gene sequencing. Genomic DNA was extracted from 5 mg of floor dust derived from 22 samples collected from either the lower floors (n = 8) or a top floor (n = 14) of the office building. ITS gene sequencing resolved a total of 933 ITS sequences and was clustered into 216 fungal operational taxonomic units (OTUs). Analysis of fungal OTUs at the 97% similarity threshold showed a difference between the lower and top floors that was marginally significant (p = 0.049).

Read more: https://www2a.cdc.gov/nioshtic-2/BuildQyr.asp?s1=20048855&f1=%2A&Staryear=&Adv=0&terms=1&EndYear=&Limit=10000&sort=&D1=10&PageNo=1&RecNo=1&View=f&
Inter-Laboratory Comparison of Three Earplug Fit-Test Systems

The National Institute for Occupational Safety and Health (NIOSH) sponsored tests of three earplug fit-test systems (NIOSH HPD Well-Fit, Michael & Associates FitCheck, and Honeywell Safety Products VeriPRO). Each system was compared to laboratory-based real-ear attenuation at threshold (REAT) measurements in a sound field according to ANSI/ASA S12.6-2008 at the NIOSH, Honeywell Safety Products, and Michael & Associates testing laboratories. An identical study was conducted independently at the U.S. Army Aeromedical Research Laboratory (USAARL), which provided their data for inclusion in this report. The Howard Leight Airsoft premolded earplug was tested with twenty subjects at each of the four participating laboratories. The occluded fit of the earplug was maintained during testing with a soundfield-based laboratory REAT system as well as all three headphone-based fit-test systems.

Read more:
https://www2a.cdc.gov/nioshtic-2/BuildQyr.asp?s1=20048857&f1=%2A&Sta
ryear=&Adv=0&terms=1&EndYear=&Limit=
10000&sort=&D1=10&PageNo=1&RecNo=1 &View=f&

Fluid Replacement Advice during Work in Fully Encapsulated Impermeable Chemical Protective Suits

A major concern for responders to hazardous materials (HazMat) incidents is the heat strain that is caused by fully encapsulated impermeable chemical protective suits. In a research project, funded by the US Department of Defense, the thermal strain experienced when wearing these suits was studied. One
particular area of interest was the fluid loss of responders during work in these suits as dehydration may be an additional health concern to the heat strain. 17 City of Raleigh firemen and 24 students were tested at two different labs. Subjects between the ages of 25 and 51 were used for human subject trials in a protocol approved by the local ethical committee. Six different Level A HazMat suits were evaluated in three climates: moderate (24°C, 50% RH, 20°C WBGT), warm-wet (32°C, 60% RH, 30°C WBGT), and hot-dry (45°C, 20% RH, 37°C WBGT, 200 W/m² radiant load) and at three walking speeds: 2.5km/hr, 4 km/hr, and 5.5 km/hr. 4km/hr was tested in all three climates and the other two walking speeds were tested in the moderate climate. Weight loss data was collected to determine fluid loss during these experiments. Working time ranged from as low as 20 minutes in the hot-dry condition to 60 minutes (the maximum) in the moderate climate, especially common at the lowest walking speed. The overall results from all experiments showed that fluid loss ranged from 0.2 liter to 2.2 liter during these exposures, with the average fluid loss being 0.8 Liters, with 56% of the data between 0.5 liter and 1 liter of fluid loss. Further analysis showed that a suggestion of drinking 0.7 Liter per hour would safely hydrate over 50% of responders after one work-rest cycle. Applying this fluid volume over three work-rest cycles only put 11% of responders at risk of hypohydration versus the 57% at risk with no fluid intake.

Read more: Journal of Occupational and Environmental Hygiene Accepted author version posted online: 28 Feb 2017 (Available with an AIHA membership)

**Noise**

**DOT Map Highlights Transportation Noise Sources**

The U.S. Department of Transportation’s Bureau of Transportation Statistics (BTS ) released its first National Transportation Noise Map last week. Data represents weighted 24-hour equivalent sound levels and will be used to track trends in transportation-related noise from aviation and highways. Rail and maritime noise sources are planned for future versions of the map.

According to the study, more than 97 percent of the U.S. population may be exposed to highway and aviation noise at levels below 50 decibels (equivalent to a refrigerator humming), while 10 percent experience noise levels greater than 80
decibels or more (equivalent to a garbage disposal or lawn mower).

Try This Test for Hidden Hearing Loss

Do you have trouble hearing people in noisy places? If you do, a regular hearing test won’t necessarily detect a problem with your ears. But a new type of test, which you can try right here, should give a different result. The test, developed for the Associated Press by the Mailman Center for Child Development at the University of Miami, is just a recording that asks you to repeat a few sentences. The trick is that with each sentence, a staticky background noise gets louder and louder. I made it most of the way to the end of the track, but if you start having trouble on the second or third sentences, you may have hidden hearing loss.

Read more: http://vitals.lifehacker.com/try-this-test-for-hidden-hearing-loss-1793261946

Hearing Loss in the Workplace

Mining, military, music, construction, manufacturing, carpentry... all these occupations have one thing in common: they’re among the noisiest professions. The Centers for Disease Control and Prevention (CDC) estimates 22 million Americans are exposed to hazardous noise levels at work, making hearing loss the most common work-related injury. The Department of Labor estimates $242 million is spent annually on worker’s compensation for hearing loss disability.

But even quiet workplaces aren’t any guarantee you won’t be working with colleagues who have hearing loss -- or
won’t develop it yourself somewhere along the way. Regardless of what side of the desk you’re sitting on, hearing loss in the workplace presents a unique set of challenges and implications for employees and employers alike.

**Preventive Medicine**

**Facebook Artificial Intelligence Spots Suicidal Users**

Facebook has begun using artificial intelligence to identify members that may be at risk of killing themselves. The social network has developed algorithms that spot warning signs in users’ posts and the comments their friends leave in response.

After confirmation by Facebook’s human review team, the company contacts those thought to be at risk of self-harm to suggest ways they can seek help. A suicide helpline chief said the move was "not just helpful but critical". The tool is being tested only in the US at present. It marks the first use of AI technology to review messages on the network since founder Mark Zuckerberg announced last month that he also hoped to use algorithms to identify posts by terrorists, among other concerning content.

**Not All Bug Repellents Are Equal**

Pay attention to the ingredients of bug sprays and other repellents, because they’re not equally effective at warding off mosquitoes that carry diseases like Zika virus, researchers say. Products with DEET or oil of lemon eucalyptus, which contains an ingredient known as PMD, are more effective at repelling the Aedes aegypti mosquito that carries Zika, chikungunya, yellow fever and dengue, researchers found. Wearable devices advertised as mosquito repellents should largely be avoided, their data suggest.
Can Salted Doorknobs Prevent Superbug Infections?

Over the last millennium, salt has undergone a major status shift, from exotic delicacy that drove humans to war to kitchen condiment taken so for granted that 90 percent of Americans consume too much of it without even trying. But new research suggests that salt may be on the verge of yet another reinvention—this time in the world of disease control.

New Technique Uses Gold Nanoparticles to Rapidly Detect Ebola

Researchers from the University at Albany have developed a test that can detect the presence of Ebola virus from a urine sample, much faster and more cost-effectively than current methods. The technique, developed by biochemist Mehmet Yigit, relies on biomarkers and gold nanoparticles, which if triggered turn the sample red to indicate infection, or purple to indicate no infection.

Certain biomarkers for Ebola can be found in urine, and the gold nanoparticles are functionalized with DNA receptors that can bind to these Ebola biomarkers and trigger a chain reaction, Yigit, assistant chemistry professor at UAlbany told Bioscience Technology.

Read more:
Pipe-Climbing Bacteria Might Spread Infection from Hospital Sinks

Bacteria can thrive in p-traps, those “U bends” below sink drains that collect everything from errant earrings to lost toothpaste tube caps. That’s a big problem, especially in hospitals where sinks have been linked to a slew of bacterial outbreaks. To determine exactly how the pathogens spread, scientists built a row of five sinks in a setup similar to that in many hospitals, with all of them draining into the same pipe. After sterilizing all the sink components and separating the countertops with Plexiglas shields, the scientists seeded p-traps with harmless, fluorescent bacteria to see where the microbes traveled. With the daily addition of a nutrient broth to mimic liquids commonly poured into hospital sinks—like extra intravenous fluid and leftover beverages—the bacteria flourished, shimmying up the pipe at a rate of about 2.5 centimeters per day to contaminate sink drain covers.


Environmental Health

Defense Secretary James Mattis Breaks With Other Cabinet Members on Climate Change

Secretary of Defense James Mattis has asserted that climate change is real, and a threat to American interests abroad and the Pentagon’s assets everywhere, a position that appears at odds with the views of the president who appointed him and many in the administration in which he serves.
In unpublished written testimony provided to the Senate Armed Services Committee after his confirmation hearing in January, Mattis said it was incumbent on the U.S. military to consider how changes like open-water routes in the thawing Arctic and drought in global trouble spots can pose challenges for troops and defense planners. He also stressed this is a real-time issue, not some distant what-if.

Read more: http://www.huffingtonpost.com/entry/james-mattis-climate-change_us_58c92f8ae4b01c029d77a713

25 Cities Now Committed to 100% Renewables

Madison, Wisconsin and Abita Springs, Louisiana are transitioning to 100 percent renewable energy following respective city council votes on Tuesday.

Madison and Abita Springs are the first cities in Wisconsin and Louisiana to make this commitment. They join 23 other cities across the United States—from large ones like San Diego, California and Salt Lake City, Utah to smaller ones like Georgetown, Texas and Greensburg, Kansas—that have declared similar goals.

Madison is the biggest city in the Midwest to establish 100 percent renewable energy and net-zero carbon emissions. The Madison Common Council unanimously approved a resolution to allocate $250,000 to develop a plan by January 18, 2018 that includes target dates for reaching these goals, interim milestones, budget estimates and estimated financial impacts.


PV Glass, a Building Material That Pays for Itself

Sooner or later, you will be making decisions about the renovation of your old building to improve its energy efficiency, or on a new construction subject to stringent green building codes.
Army Industrial Hygiene News and Regulatory Summary

The key to achieve outstanding results is found in a new material that goes beyond any conventional construction materials you may have seen. This new energy-generating material will pay for itself as it decreases your O&M costs. This architectural solution is already boosting the real estate industry towards an innovative and sustainable future. Too good to be true?

Read more: http://nreionline.com/development/pv-glass-building-material-pays-itself

Fort Bragg Leads Army's Clean Energy Efforts

Fort Bragg doesn't have the large clean energy projects of some other military installations. You won't find sprawling fields of solar panels, like at Fort Stewart, Georgia; or a large biomass plant that supports the installation's entire energy needs, like at Fort Drum, New York.

But what the nation's largest military installation lacks in scale, it makes up for in diversity. In addition to power provided by outside utilities, Fort Bragg is creating energy with geothermal wells, solar panels and, in the future, a hydroelectric turbine on the Little River.

Fort Bragg, long a leader in a variety of Army programs, has become a test bed of sorts for renewable energy sources and energy-efficient improvements, according to Audrey Oxendine, chief of energy and utilities on Fort Bragg.


Ergonomics

Environmental Ergonomics in an Office Workplace

The definition of ergonomics has expanded to include not only the physical layout of workstations, but also the environment in which workers spend their workdays.
Think of how fortunate you are to have an office job. Only a century ago, office jobs were uncommon, reserved mainly for the elite. The majority of people worked at jobs that required tedious and strenuous activities for most of the day. It was during this time that the field of ergonomics (or human factors) was born. By applying simple biomechanical principles, early ergonomists were able to identify and combat the sources of many musculoskeletal disorders.

Read more:
http://ehstoday.com/health/environmental-ergonomics-office-workplace

Safety

Effects of Organizational Safety Practices and Perceived Safety Climate on PPE Usage, Engineering Controls, and Adverse Events Involving Liquid Antineoplastic among Nurses

Purpose: Antineoplastic drugs pose risks to the healthcare workers who handle them. This fact notwithstanding, adherence to safe handing guidelines remains inconsistent and often poor. This study examined the effects of pertinent organizational safety practices and perceived safety climate on the use of personal protective equipment, engineering controls, and adverse events (spill/leak or skin contact) involving liquid antineoplastic drugs.

Method: Data for this study came from the 2011 National Institute for Occupational Safety and Health (NIOSH) Health and Safety Practices Survey of Healthcare Workers which included a sample of approximately 1,800 nurses who had administered liquid antineoplastic drugs during the past seven days. Regression modeling was used to examine predictors of personal protective equipment use, engineering controls, and adverse events involving antineoplastic drugs.
Energy Control Planning: A Guide to the Key Lockout/Tagout Considerations

The overall process of isolating equipment from energy can be planned and executed in such a way as to identify and mitigate hidden risks.

Energy is useful. If controlled correctly it can create value and be put to good use. However, it is, by its very thermodynamic nature, potentially harmful and must be carefully contained within the domain in which it has been designed to remain. If it escapes, for any reason, people can be hurt.

Normally, during the routine operation of plant equipment, energy is confined and contained within the equipment by various means. Usually, a good strong and robust mechanical integrity program ensures that the energy – whatever it may be – stays where it is meant to be. Occasionally however, equipment must be shut down for maintenance or cleaning or some other transient reason. Then human beings can and do interact with equipment that may still carry energy.

Read more:
http://ehstoday.com/safety/energy-control-planning-guide-key-lockouttagout-considerations

Nurses Eat Their Young": A Novel Bullying Educational Program for Student Nurses

Bullying is a known and ongoing problem against nurses. Interventions are needed to prepare nursing students to prevent and mitigate the bullying they will experience in their nursing practice. The purpose of this article is to describe the development process and utility of one such intervention for use by nursing faculty with nursing students prior to their students’ entry into
the profession. The educational program was critiqued by an advisory board and deemed to be relevant, clear, simple, and non-ambiguous indicating the program to have adequate content validity. The program then was pilot tested on five university campuses. Faculty members who implemented the educational program discussed (1) the program having value to faculty members and students, (2) challenges to continued program adoption, and (3) recommendations for program delivery.


Engagement Is Key to Improving Safety, Ergonomics and Wellness for Aging Workers

How effectively is your organization engaging its aging workers? The measures you take to understand and address the emerging needs of workers as they go through the aging process will go a long way to helping your firm meet its productivity objectives and achieve or maintain operational excellence. According to the U.S. Department of Labor, workers aged 45 – 55 now comprise 44 percent of the workforce; more than one in five workers is over 55. While many employers benefit from the knowledge, experience and reliability of these individuals, they need to recognize how aging affects workers and examine ways to enhance worker safety and maintain productivity.

Read more: http://ehstoday.com/safety-leadership/engagement-key-improving-safety-ergonomics-and-wellness-aging-workers

Appreciate Employees Any Day of the Year

Employee Appreciation Day is March 3, and even though employees should be recognized regularly for their performance and work milestones, a survey of over 3,400 workers around the world by global
employee recognition and engagement leader O.C. Tanner shows that receiving recognition even just once a year, such as on Employee Appreciation Day, can make a significant difference in many facets of the workplace.

Results of the study, “Influencing Greatness: Giving, Receiving and Observing Recognition,” indicate that while people understand the importance of giving recognition, many don’t make a habit of it. Nearly one third of those surveyed – 29 percent – admit they haven’t given any recognition in the past month. Furthermore, it appears that even though fewer non-managers give recognition than their managerial counterparts, the non-managers who offer “attaboys” do so more often.

Read more: http://ehstoday.com/safety-leadership/appreciate-employees-any-day-year

Ultraviolet (UV)-Reflective Paint with Ultraviolet Germicidal Irradiation (UVGI) Improves Decontamination of Nosocomial Bacteria on Hospital Room Surfaces

An ultraviolet germicidal irradiation (UVGI) generator (the TORCH™, ClorDiSys Solutions, Inc.) was used to compare the disinfection of surface coupons (plastic from a bedrail, stainless steel, and chrome-plated light switch cover) in a hospital room with walls coated with ultraviolet (UV)-reflective paint (Lumacept) or standard paint. Each surface coupon was inoculated with methicillin-resistant Staphylococcus aureus (MRSA) or vancomycin-resistant Enterococcus faecalis (VRE), placed at 6 different sites within a hospital room coated with UV-reflective paint or standard paint, and treated by 10 minute UVC exposure (UVC dose of 0–688 mJ/cm² between sites with standard paint and 0–553 mJ/cm² with UV-reflective paint) in 8 total trials. Aggregated MRSA concentrations on plastic bedrail surface coupons were reduced on average by 3.0 log₁₀ (1.8 log₁₀ Geometric Standard Deviation [GSD]) with standard paint and 4.3 log₁₀ (1.3 log₁₀ GSD) with UV-reflective paint (p = 0.0005) with no significant reduction differences between paints on stainless steel and chrome. Average VRE concentrations were reduced by ≥4.9 log₁₀ (<1.2 log₁₀ GSD) on all surface types with UV-reflective paint and ≤4.1 log₁₀ (<1.7 log₁₀ GSD) with standard paint (p<0.05). At 5 aggregated sites directly exposed to UVC
light, MRSA concentrations on average were reduced by $5.2 \log_{10} (1.4 \log_{10} \text{GSD})$ with standard paint and $5.1 \log_{10} (1.2 \log_{10} \text{GSD})$ with UV-reflective paint ($p = 0.017$) and VRE by $4.4 \log_{10} (1.4 \log_{10} \text{GSD})$ with standard paint and $5.3 \log_{10} (1.1 \log_{10} \text{GSD})$ with UV-reflective paint ($p<0.0001$). At one indirectly exposed site on the opposite side of the hospital bed from the UVGI generator, MRSA concentrations on average were reduced by $1.3 \log_{10} (1.7 \log_{10} \text{GSD})$ with standard paint and $4.7 \log_{10} (1.3 \log_{10} \text{GSD})$ with UV-reflective paint ($p<0.0001$) and VRE by $1.2 \log_{10} (1.5 \log_{10} \text{GSD})$ with standard paint and $4.6 \log_{10} (1.1 \log_{10} \text{GSD})$ with UV-reflective paint ($p<0.0001$). Coating hospital room walls with UV-reflective paint enhanced UVGI disinfection of nosocomial bacteria on various surfaces compared to standard paint, particularly at a surface placement site indirectly exposed to UVC light.

Read more: Journal of Occupational and Environmental Hygiene Accepted author version posted online: 28 Feb 2017 (Available with an AIHA membership)

### Assessing Jurisdictional Risk

One of the most important and often underused aspects of emergency management is the jurisdictional risk assessment (JRA). A JRA is the assessment of the past, current and future risks to the health, safety and property of the people within that jurisdiction. Too often, emergency managers either use recent history that they have experienced for their planning or use another similar or nearby jurisdiction’s risk assessment, which may be flawed.

There are several purposes for performing a thorough all-hazards JRA. First, it can allow a jurisdiction to determine what the highest frequency/highest impact risks are. This will be based on research into historical events in the jurisdiction, review of current threats and the rise of potential future risks.

Army Develops Life-Saving Device That Warns Medics Before Patients Go Into Shock or Bleed Out

The device, called the Compensatory Reserve Index, can save lives, including soldiers wounded on the battlefield, by showing medics when a patient is about to go into hemorrhagic shock, according to a release from the Military Health System. Hemorrhagic shock is the leading cause of death among trauma victims.

Now, the CRI has been cleared by the U.S. Food and Drug Administration to be used in hospital settings and in treatment before a patient gets to the hospital.

Read more: https://www.armytimes.com/articles/army-develops-life-saving-device-that-warns-medics-before-patients-go-into-shock-or-bleed-out

Driverless Trucks Poised to Join Military Operations

After more than a decade of development, the Army is poised to integrate autonomous and semi-autonomous tactical wheeled vehicles into its fleets.

An Army requirements oversight council met Feb. 10 to decide if the service will proceed with fielding two kinds of kits and
Army Industrial Hygiene News and Regulatory Summary

making them programs of record, said Bernard Theisen, program manager for automated ground resupply at the Tank Automotive Research Development and Engineering Center.

Gaining AROC approval will move the technology from the lab to the acquisition community, which will request funding and begin the process of fielding it for noncombat vehicles of all sizes.

It’s an important step in the Army’s vision to expand the use of autonomous vehicles on battlefields, which may one day include tanks and mobile artillery, Theisen said.

Read more:

Nanotechnology

Lung Bioactivity of Vapor Grown Carbon Nanofibers

Vapor grown carbon nanofibers (VGCFM-H) is an example of a two dimensional carbon based nanoparticle. In the present study, male C57Bl/6J mice were exposed to VGCFM-H (10-80 ug) by pharyngeal aspiration; dispersion medium (DM) was used as the vehicle. At 1, 7 and 28 days post-exposure, lung lavage and histopathology studies were conducted. VGCFM-H cytotoxicity was assessed by measuring acellular lavage fluid lactate dehydrogenase (LDH) activity, and determined that VGCFM-H exposure produced dose-dependent increases in LDH activity which decreased over time. Using polymorphonuclear leukocytes as a marker, VGCFM-H-exposure produced dose-dependent lung inflammation which decreased over time. Histologically, the incidence and severity of pulmonary inflammation was confirmed to be dose-dependent, and inflammatory infiltrates were characterized by increased numbers of alveolar macrophages with small numbers of neutrophils.

Read more:
https://www2a.cdc.gov/niosh/tic-2/BuildQyr.asp?s1=20049475&f1=%2A&StartYear=&Adv=0&terms=1&EndYear=&Limit=10000&sort=&D1=10&PageNo=1&RecNo=1&View=f&
The Federal Budget: What It Could Mean for Occupational Safety, Health and the Environment

While the initial proposed budget is never the final budget, President Donald Trump’s preliminary budget has many in environment, health and safety worried. White House Budget Director Mick Mulvaney calls “FY 2018 America First - A Budget Blueprint to Make America Great Again” – President Donald Trump’s first budget – “fairly compassionate.” But with a number of federal programs aimed at the elderly, children, workers and the environment facing deep cuts or complete elimination, environment, health and safety (EHS) professionals and others are concerned, particularly when combined with several Executive Orders signed since Trump took office.


President Donald Trump Gives Federal Agencies 90 Days to Review Existing Regulations and Create a List of Rules That Should Be Rescinded or Replaced

President Donald Trump gives federal agencies 90 days to review existing regulations and create a list of rules that should be rescinded or replaced.

President Donald Trump on Feb. 24 signed the Enforcing the Regulatory Reform Agenda executive order, which gives all federal agencies 90 days to produce a list of regulations to be rescinded or replaced.
Senate Approves Measure to Kill OSHA Statute of Limitations Change for Recordkeeping Violations

On March 22, 2017, the U.S. Senate passed a measure to revoke OSHA’s modification to the six-month statute of limitations for recordkeeping violations. Under the Obama Administration, OSHA issued a new rule to extend the statute of limitations for recordkeeping violations from six months to five years. The changed recordkeeping regulation went into effect in January 2017, but a bill is now on its way to President Trump who is expected to sign the bill and revoke the new regulation.

Read more:

NIOSH Releases Updated Hazard Assessment Software

The latest version of the Enhanced Video Analysis of Dust Exposures (EVADE) software available for free from the National Institute for Occupational Safety and Health (NIOSH) now offers more ways to reveal hazards on the job.

EVADE 2.0 can pull together video footage and exposure data on dust, diesel and gases, as well as sound into one display for a more comprehensive view of the hazards miners face. The software synchronizes all the incoming data files to show changing exposure levels alongside the video.
Occupational Safety and Health Network Now Tracks Sharps Injuries and Blood and Body Fluid Exposures

The National Institute for Occupational Safety and Health (NIOSH) releases two new modules that allow for the tracking of sharps incidents and blood and body fluid exposures among healthcare workers using a system uniquely available for U.S. healthcare facilities on a free, voluntary basis. The system, Occupational Health Safety Network (OHSN), collects existing injury data (e.g., date of injury or illness, location of incident, description of illness, days away from work, and other data collected in OSHA logs) among healthcare personnel to (1) help identify job titles at highest risk for injury in their own facility, (2) develop interventions for the safety and health of hospital staff, and (3) objectively measure impact over time.

Read more: https://www.cdc.gov/niosh/updates/upd-03-27-17.html

ALERT: Deadly, Highly-Resistant Fungal Infection Reported in 5 States

The Centers for Disease Control and Prevention has confirmed that over 30 people across five states are sickened by a serious and sometimes fatal fungal infection that has been spreading worldwide since its discovery in 2009.

According to CDC’s maps of cases in the United States, a total of 35 people were infected by the fungus *candida auris*. Out of those, 28 live in New York, three in Illinois, two in New Jersey, one in Maryland and one in Massachusetts.
March DOEHS-IH SUPER STARS

Fort Jackson is our next rising star! While attending the DOEHS-IH Initial Course, the installation's IH personnel developed and began implementing a plan similar to Ft Knox IHPO. As a result of this training, Fort Jackson IH team is mastering the Army IH Business Practices. The Army Enterprise continues to promote the use of Army IH Business Practices based on data from trend and gap analyses compiled over many years. The Army IH Business Practices provide DOEHS users with a more functional and less administratively heavy approach to capturing data and help to standardize use across the Army.
WELCOME TO THE OUR NEW EMBEDDED INTERACTIVE LECTURES:
We are diligently moving our material into this new format. Some offerings are already available. Why will you like it?
- Users do not have to adjust computer compatibility settings
- Users do not have to delete cache/cookies
- Course grade comes from knowledge checks in lecture
- Unsuccessful students can reattempt immediately

This month’s featured self-development material on blackboard:

- **Non-Engineering Controls**
  - Non-Engineering Control Basics (1.5 hr) **NEW INTERACTIVE LECTURE WITH EMBEDDED KNOWLEDGE CHECKS**

- **Health Hazard Evaluation & Risk Communication**
  - 2017 HAZWOPER 8hr Refresher Course **NOW AVAILABLE**
  - Hazard Communication (HAZCOM) (1 hr)
  - Introduction to Risk Communication for OHS Professionals (1.0 hr) **NEW INTERACTIVE LECTURE WITH EMBEDDED KNOWLEDGE CHECKS**
  - Public Affairs for the OHS Professional: Communicating with the Media (1 hr)

- **Ergonomics**
  - Applied Ergonomics (40 hr) must request password to enroll
  - Industrial Workplace Ergonomics for the DOEHS Users (Intermediate - 1 hr)

Interested in receiving certificates for FREE webinars?

AIHA CIH Prep Webinars email: mrupert@sevenenhse.com to receive certificates:
- Episode 4: Professional Ethics for Industrial Hygiene - http://cc.callinfo.com/play?id=ahds00
- Episode 3: Principles in Epidemiology & Biostatistics - http://cc.callinfo.com/play?id=96h1ws

AIHA HPECC Webinars You can view the HPECC recordings at the below links and get certificates!
- "Direct Reading Instruments for the Practicing IH" http://cc.callinfo.com/play?id=5y7jxy
- "Expedient Engineering Controls for Epidemics and Terrorism Events" http://cc.callinfo.com/play?id=8elyth
- "You've got something on your face (and hands)" http://cc.callinfo.com/play?id=38yaj
- "Lessons learned in selecting an all-hazards suite of direct reading instruments" http://cc.callinfo.com/play?id=4yuvrz
- Computational Fluid Dynamics, Can It Truly Benefit the Industrial Hygienist or Is It Just Colorful Fluid Dynamics? http://cc.callinfo.com/play?id=d1n5xp

Don’t want to miss any more opportunities like these? Join HPECC on Facebook today. https://www.facebook.com/groups/AIHA.HPECC/
Upcoming Training

**Certificates just for listening!**

**Catch up on the 2016-2017 episodes of**

**Manage Your IH Monster**

**Registration & Recordings Currently Available**

https://aiph-dohs.ellc.learn.army.mil

- Lab interfaces
- Taming That SHOP Monster
- Cancer in the Military
- Taming The SEG Monster
- Don’t Be Afraid of The Big Bad Budget
- De-Mystifying The Metrics
- All About ANOVA
- Business Objects At its Best
- Magical Medical Surveillance

**Face to Face Training Opportunities:**

The 2017 Blueprint Reading and Design Review Course & 40hr Industrial Ventilation Course are FULL!

- May 15-19, Intermediate Industrial Hygiene Topics Course (APG, MD)

**COUNTDOWN UNTIL PHASE 2!!!** Phase 1 online work due date: APR 21

**2018 Sign up rosters NOW OPEN!**

- 2018 Industrial Ventilation 40hr Course APR 30-MAY 4 APG, MD
- 2018 Blueprint Reading & Design Review Course APR 16-30 APG, MD

Self-enroll at https://aiph-dohs.ellc.learn.army.mil
ARMY INDUSTRIAL HYGIENE NEWS AND
REGULATORY SUMMARY

Registration & Recordings Currently Available
https://aihn-dohs.ello.learn.army.mil
Dial in: 210-249-4234 or DSN 421-3272
(overseas DSN 312)

2017

Mar 15th 0900 ET
Magical Medical Surveillance
Dial-In Access Code 12560#

April 11th 0900 ET (Special Ed.)
Leveraging Locations
Dial-In Access Code 67180#

May 3rd 0900 ET
Re-Invigorating Radiation
Dial-In Access Code 74477#

July 12th 0900 ET
Chase Away IH
Managerial Nightmares
Dial-In Access Code 47140#

Sept 12th 0900 ET
Data Integrity:
When IH Data Goes to Court
Dial In Access Code 33655#

Nov 8th 0900 ET
Speedy Ventilation Data Entry
Dial In Access Code 79292#
Army Industrial Hygiene News and Regulatory Summary

2017

IH LEADERS WEBINARS

April 26th 0900 ET
Go Army Ed Funding For The IH
Dial-In Access Code 29314#

June 21st 0900 ET
Army Career Tracker For the IH
Dial-In Access Code 57601#

Aug 23rd 0900 ET
The IH Career Program CP12
Dial-In Access Code 11665#

Oct 25th 1100 ET
SMART Objectives for the IH
Dial in Access Code 26506#

COMING THIS FALL:
HAZARDOUS DRUGS WEBINAR
5 EPISODE SERIES
Face to Face Training Opportunities: (APG, MD bldg. 6008 28 seats)

2017 Army DOEHS-IH Initial COURSE DATES:
- Jun 12-16 DON'T WAIT TO SIGN UP!
- Aug 14-18
- Oct 16-20

DOEHS-IH Super Stars:

Fort Jackson is our next rising star! While attending the DOEHS IH Initial Course, the Ft Jackson IH team developed and began implementing a plan exactly like the Ft Knox IHPC has done. These IH teams are mastering Army IH Business Practices. Army enterprise is promoting use of Army IH Business Practices based on trend and gap analysis done over many years. ABP provides DOEHS users with a more functional and less administratively heavy approach to capturing our data and helps standardize use across the Army.

Legally Defensible Start Dates
User Process Method Naming consistent with DOEHS naming
SEGs based on Common Process
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.