in 2014. This is based on cumulative total PDF downloads and full-text HTML views from publication date on Taylor & Francis Online to the current date. Moreover, the most cited JAIC article is "Salts in the deterioration of porous materials: An overview," by A. Elena Charola, which appeared in Volume 39(3), in 2000. The "most cited" figures on Taylor & Francis Online and article listings are derived from CrossRef data. We would like to congratulate and express gratitude to the authors who have made this possible and who chose to publish their work in JAIC.

Finally, we are looking for volunteers to contribute as book reviewers. If you are interested and need additional information, please contact us.

—Julio del Hoyo-Meléndez, JAIC Editor-in-Chief, jdelhoyo@muzeum.krakow.pl

Allied Organizations

AAM Announces its New Strategic Plan 2016–20

AAM's 2016-2020 strategic plan, the result of an 18-month effort of its staff and board of directors, has been released to the public. During the planning process, they gathered input from more than 500 AAM members and non-members via 30 formal listening sessions. Focus areas include: diversity, equity, accessibility, and inclusion, along with financial sustainability and P-12 education. These areas are central to a plan that is based upon access, thought leadership, excellence, advocacy, and global thinking. The plan is downloadable at http://aam-us.org/docs/default-source/default-document-library/english.pdf?sfvrsn=0.

AAM Publishes White Paper on Direct Care

Direct Care of Collections: Ethics, Guidelines and Recommendations was published by AAM in April 2016. It "provides field-wide guidance on the use of proceeds from the sale of deaccessioned objects" and focuses on the phrase "direct care."

AAM note that members of the Task Force have discussed the white paper at several meetings, and will also be attending these events:

- September: American Association for State and Local History Annual Meeting, "Direct Care White Paper: What it Means to Your Museum"
- October: Mid-Atlantic Association of Museums Annual Meeting, "Deaccessioning: Challenges for Museums in Ethics and Law"

You can download the white paper at www.aam-us.org/docs/default-source/default-document-library/direct-care-of-collections-ethics-guidelines-and-recommendations-pdf.pdf.

Health & Safety Committee

The Dangers of Dust Bunnies – Protect Yourself During IPM-related Cleaning

Integrated Pest Management (IPM) programs prioritize non-chemical control measures and recommend housekeeping and cleaning to both eradicate and prevent infestations. Dust often provides harborage for pests (insects, rodents, feral birds), so deep cleaning is frequently a first step in pest control. Areas that need deep cleaning may have accumulated dust over many years or even decades, and people working in such areas should be aware of the potential threats. This article provides recommendations for personal safety when cleaning spaces with high dust levels.

Dust bunnies may not sound very threatening, but dust exposure can cause or contribute to serious health problems. Dust may cause eye and skin irritation, and can contribute to a variety of health issues including asthma and pneumoconiosis. The dangers posed by dust exposure may be masked (pardon the pun) by the technical terms for nontoxic dust — nuisance or inert dust. Nontoxic dust can be much more than a nuisance and can target the eyes, skin, and respiratory system.

The content of dust varies with location, but all indoor dust is a mixture of components from outdoor and indoor sources. This means indoor dust can contain: soil and exhaust pollutants, particles from asbestos and lead paint, fibers and skin flakes, as well as fungi spores and bacteria. Dust particles range in size from about 1 - 75µm in diameter (on average a human hair is about 75µm); any dust particulates above 10µm are classified as nuisance. Inhalable dust particles are less than 10µm and respirable dust particles are less than 2.5µm. OSHA (Occupational Safety & Health Administration) sets the limit for respirable dust exposure at 5 mg/m^3 (about half the weight of a chicken feather), or 15 mg/m^3 for total dust. These are time weighted averages for an 8-hour work shift.

The risks from dust exposure are heightened in areas that have current or past pest infestations. In these situations, dust is likely to contain droppings and urine – and possibly living pests. Droppings and urine are linked to serious health concerns including asthma and gastroenteritis (roaches), hantavirus (rodents), histoplasmosis and cryptococcosis (pigeons).

Vacuums with HEPA (High Efficiency Particulate Air) or ULPA (Ultra Low Penetration Air) filters are ideal for deep cleaning because they will trap and contain the hazardous particles in dust. Although insects cannot pass through the filter, they can escape through the hose. After vacuuming an area with an active (or suspected) infestation, place the vacuum bag in a sealed trash bag and discard at the end of each work day. For extra convenience, line the vacuum canister (such as a shop vac) with a plastic bag before inserting the vacuum bag. All brushes and hoses should be cleaned with soap and warm water at the end of the day, and it also may be helpful to clean the wheels and exterior of the vacuum.

When cleaning an area with visible dust, wearing PPE (personal protective equipment) will reduce the chance for harmful dust exposure. For typical indoor dust, OSHA recommends an air purifying respirator with N95 rating (either an elastomeric face-piece respirator or a filtering face-piece, also known as a disposable particulate respirator) as well as safety goggles. If there is only a small gathering of dust bunnies, this should be sufficient protection.

If the dust bunnies have formed large marauding bands, or if the area had (or has) a pest infestation, extra protection is needed. In addition to respirator and eye protection, the National Parks Service recommends synthetic gloves, long pants and long-sleeve shirt (or coveralls), and closed-toe shoes.

Infestations require specific protection protocols to prevent the

spread of pests. After cleaning, you should remove/change clothes so that you do not spread the dust or infestation. Disposable PPE should only be used once and then discarded appropriately. When dealing with these types of spaces, it is helpful to have a large supply of trash bags on hand to quarantine clothing, supplies, and trash.

People with dust-related allergies, asthma, or other health concerns should use robust protection even when dealing with low levels of dust. Hazards from dust with elevated levels of asbestos, mold spores, or other toxic substances are beyond the scope of this article, and require additional PPE as well as different procedures that vary with toxicity of the material and regulations. (federal and state). Some links to additional resources are included at the end of the article.

Dealing with pest infestations can be complicated and stressful, but there is no need for harmful exposure to dust bunnies. Beyond the benefits for pest control and human health, dust mitigation will significantly reduce risks for combustion fires. So stay safe, and protect yourself from dust bunnies!

PPE Recommendations

Type of Threat	Type of Protection	Specifications	Removal Protocol
Dust	Eye	Safety goggles – eyecup or cover-type	Clean with soap and warm water after use.
Dust	Respiratory	Filter mask with N95 rating	Bag and dispose after use.
Infestation	Skin	Long-sleeve shirt and long pants, or coveralls	Change clothes immediately after leaving the infested space. Work clothes should be bagged and then cleaned with hot water and dryer.
Infestation	Hands	Nitrile or other synthetic gloves	Wash/disinfect gloves before removing then wash hands with soap and warm water.
Infestation	Feet	Closed-toe shoes – either waterproof boots or washable sneakers	Sneakers should be bagged immediately after leaving the infested space and then cleaned with hot water and dryer. Boots can be cleaned with soap and warm water after use.

—Laura Mina, Associate Conservator, The Costume Institute, Metropolitan Museum of Art, and member of the AIC H&S Committee (Laura.Mina@metmuseum.org)

ADDITIONAL RESOURCES

Dust in museums

Nazaroff, W.W., M. P. Ligocki, L. G., Salmon, G. R. Cass, T. Fall, M. C. Jones, H. I. H. Liu and T. Ma. 1993. *Airborne Particles in Museums*. Marina del Rey, Calif: Getty Conservation Institute. https://www.getty.edu/conservation/publications_resources/pdf_publications/pdf/airborne.pdf

Lloyd, H., C. M. Grossi and P. Brimblecombe. 2011. "Low-technology dust monitoring for historic collections." *Journal of the Institute of Conservation* Vol. 34, No. 1:106-116. https://www.nationaltrust.org.uk/documents/low-technology-dust-monitoring-for-historic-collections.pdf

Jacobsen, M-L. "Dust: a method for sampling and analyzing dust on museum objects." http://www.conservationphysics.org/mm/posters/poster_jacobsen.pdf

Dust safety

CDC fact sheet on nontoxic dust http://www.cdc.gov/niosh/npg/npgd0480.html

OSHA guide for eye protection from dust https://www.osha.gov/SLTC/etools/eyeandface/ppe/dust.html

CCOHS fact sheet about effects of dust on the lungs http://www.ccohs.ca/oshanswers/chemicals/lungs_dust.html

Hazards magazine article and infographic about dust http://www.hazards.org/dust/dust.htm

CDC guide for putting on and removing PPE to avoid contamination http://www.cdc.gov/hai/pdfs/ppe/PPE-Sequence.pdf

Rodents (Hantavirus)

https://www.nps.gov/public_health/zed/hanta/hanta_worker_pro.htmhttps://www.nps.gov/public_health/zed/hanta/hanta_worker_pro.htm

https://www.nps.gov/museum/publications/conserveogram/02-08.pdf

Feral birds

http://southernnevadahealthdistrict.org/health-topics/pigeons.php

IPM information with a museum focus

http://museumpests.net/

Mold and mildew are not typically included as "pests" in IPM, and so are not addressed in this article. For information about safely cleaning spaces with mold and mildew:

https://www.osha.gov/SLTC/etools/hurricane/mold.html (scroll down for specific recommendations for different scale areas)

Hazardous dusts are not included in this article. The CDC provides pocket guides for many types of hazardous dust:

Asbestos http://www.cdc.gov/niosh/npg/npgd0041.html

Lead http://www.cdc.gov/niosh/npg/npgd0368.html

The AIC Health & Safety Committee provides information online at www.conservation-us.org/healthandsafety

Respirator guide: http://www.conservation-wiki.com/w/images/6/64/H%26S-Using_Filtering_Facepiece_Respirators.pdf

Glove guide: http://www.conservation-wiki.com/w/images/5/5b/H%26S_PPE_Chemcial_Selection_Guide_1_Page.pdf

If you have a question about health and safety in your conservation work, contact the Health & Safety Committee at HealthandSafety@conservation-us.org.