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Environmental Health & Safety

Website

<http://ehs.columbia.edu>

Irving Medical Center

Phone: (212) 305-6780

rsocumc@columbia.edu

Morningside and
Manhattanville

Phone: (212) 854-8749

ehrs@columbia.edu

Radiation Safety

Phone: (212) 305-0303

rsocumc@columbia.edu

A Training Module Specifically for PIs: Principal Investigator Research Safety Responsibilities

By Christopher Pitoscia, Director, EH&S

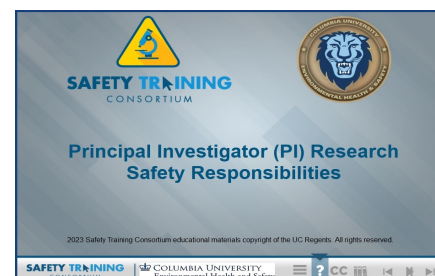
Laboratory research is critical to driving scientific advancements, innovation, and discovery. At the heart of successful laboratory operations are the Principal Investigators (PIs) who lead these endeavors. PIs play a pivotal role not only in conducting groundbreaking research but also in ensuring the health and safety of their laboratory personnel. Recognizing this vital responsibility, EH&S is pleased to announce the introduction of a training module tailored specifically for laboratory research Principal Investigators.

This comprehensive training module has been developed in collaboration with the [Safety Training Consortium](#), a higher education organization founded by member universities, for the purpose of developing safety training for the research community. The Consortium has helped shape this training to equip PIs with the necessary tools, skills, and knowledge to fulfill their unique responsibilities for supporting the health and safety of laboratory personnel, in addition to their research goals.

The module focuses on several key areas:

- Understanding the PI's Role in Health and Safety: The training module begins by providing a clear understanding of the PI's crucial role in ensuring the health and safety of laboratory personnel. It emphasizes the need for PIs to integrate safety practices into their research goals, fostering a culture of safety throughout their laboratories.
- Identifying and Assessing Laboratory Hazards: The module highlights the importance of risk assessment, hazard identification, and the implementation of appropriate control measures to mitigate risks effectively.
- Modeling Safe Behaviors and Empowering Researchers: PIs will learn how to lead, by example, in important areas of laboratory safety. This includes using and ensuring the availability of safety and personal protective equipment (PPE) and establishing clear communication channels for reporting incidents or concerns.
- Promoting a Culture of Safety: PIs will discover strategies to foster a culture of safety within their laboratories. They will learn effective ways to communicate safety expectations, provide training and mentoring to personnel, and encourage open dialogue on safety issues.

The new module offers numerous benefits to Principal Investigators, enabling them to fulfill their dual roles as researchers and advocates for health and safety. By prioritizing safety, PIs can cultivate a culture of excellence, collaboration, and innovation that drives discovery while protecting the well-being of everyone in their laboratory.



Emergency Preparedness at CUIMC

By Yvonne Wojcicki, Executive Director, Campus Life Safety and Regulatory Compliance

Emergency Preparedness at CUIMC is a continuous collaborative effort among the research, administrative, educational, and clinical communities. The foundation is our interdisciplinary Emergency Management Operations Team - EMOT for short.

The CUIMC EMOT is co-chaired by Richard Medina, Director of Operations for Public Safety, and Yvonne Wojcicki, Executive Director of Campus Life Safety & Regulatory Compliance. The Vice Chair and leadership liaison is Patrick Burke, Vice President of Facilities Management, Operations & Planning. EMOT comprises representatives from various CUIMC departments such as Facilities Management, IT, Environmental Health & Safety, Columbia Doctors Faculty Practice, the Institute of Comparative Medicine, Human Resources, and Student and Campus Services, as well as our partner institutions, New York-Presbyterian and New York State Psychiatric Institute. The team meets regularly to plan for potential emergencies and discuss coordination and response in the event of an actual disaster.

Periodically, EMOT members break out to lead and/or work on emergency management initiatives. In 2019, for example, a program was instituted to help investigators and research staff safeguard the contents of their -80 °C freezers. Emergency contingency freezers were purchased and placed in secure, card access-controlled locations across campus with backup power and 24/7 temperature monitoring and alarm systems. A round-the-clock reservation system was instituted, and this asset safeguard program took off. Researchers love this program! It continues to be one of the most popular and successful examples of the CUIMC community partnering in preparedness.

With the many lessons learned from the COVID-19 pandemic, one of CUIMC's EMOT focal points in this new care, learning, and work landscape is discussing the best approaches to communicating emergency information. As a first step, CUIMC's EMOT was expanded to include representatives from the four CUIMC schools to keep students and educators current in strategic, mission-driven emergency management endeavors. Another EMOT working group was formed and reintroduced emergency lanyard cards containing on-the-go 24/7 telephone numbers and procedures for what to do in a medical or fire emergency across all CUIMC sites. The group looked at the CUIMC Welcome Program's coverage of emergency preparedness content for new hires and incorporated creative microlearning videos addressing safety and security in every work setting. Finally, the Public Access Defibrillator (PAD) program was expanded with new AED units installed in the lobbies of the Black and VP&S buildings.

Emergency preparedness program enhancements will continue with intensity and cadence this summer and fall. Protocols will be reexamined and made more comprehensive; the emergency management website will be strengthened, and new communication strategies will be launched.

For more information about emergency management at CUIMC, please contact Yvonne Wojcicki at yw2366@cumc.columbia.edu.

Collaboration Works, Thanks to the EII (EH&S, IACUC and ICM)!

By Kathleen Crowley, Vice President, EH&S

Cross-functional collaboration, the process of departments working together to improve the delivery of services and reduce burden on the University research community, is a core tenet of the EII Working Group, short for EH&S, IACUC and ICM. The Offices of Environmental Health and Safety, the Institutional Animal Care and Use Committee and the Institute of Comparative Medicine have been partnering since 2014, meeting regularly to review a shared agenda and discuss matters impacting Columbia research.

Why is collaboration so important? Productive partnerships are essential to promote innovation and to foster strong relationships. This process has improved the way the EII offices work together and solve problems. This has led to improved communication, more effective and efficient processes, and greater impact on the common goal of burden reduction and support, of both the research community and the offices themselves!

Some examples of the impacts of this collaboration include: shared preparation for the University's triennial AAALAC survey; performance of exposure assessments for noise and anesthetic gases; the use and approval of satellite research laboratories and the use of controlled substances; identification of and work with newly recruited University faculty; timely exposure assessments following accidents or incidents, and facilitating Investigator relocations, such as the occupancy of the Jerome L. Greene Science Center in Manhattanville and the ongoing relocation of CUIMC investigators in the Eye Institute Annex (EIA) to HHSC and VP&S/Black buildings.

To quote Bill Nye the Science Guy, "Good things are going to happen if we think together and work together."

COLUMBIA UNIVERSITY IRVING MEDICAL CENTER

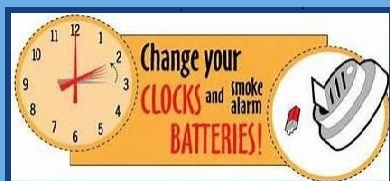
CALL 911 IMMEDIATELY and then Public Safety if you have a medical or fire emergency.

Public Safety (24/7)
212-305-7979 (CUIMC)
212-854-5555 (Morningside)
212-853-3333 (Manhattanville)

NYP Security (24/7)
212-305-2222

Facilities Management (24/7)
212-305-4357, Option 3

Environmental Health & Safety
212-305-6780
Afterhours, call Public Safety



Fall Back on November 5, 2023

HAZ Waste QR Codes

EH&S has deployed a new sign on all chemical fume hoods across the Morningside and Medical Center campuses. This sign (pictured below) contains two “how-to” QR codes.



The first QR code links to the 5 Ls of Hazardous Waste Management as a quick resource for managing hazardous waste to ensure safety and compliance. The second QR code links directly to the hazardous waste pickup and supply request, so the laboratory can easily request pickups as needed. QR code signs will be found in the lower left corner of fume hood sashes.



Uranyl Compound Use in Laboratories

By Emily Chou, Health Physicist

Uranyl acetate and uranyl nitrate are water-soluble uranium compounds primarily used for staining tissue for imaging in electron microscopy, where biological samples are treated with 1% to 5% aqueous solutions of these compounds. Commercial preparations are usually obtained by treating metallic uranium, present in depleted uranium, with acetic or nitric acid. These commercial stocks have a specific activity of 0.37- 0.51 $\mu\text{Ci/g}$ (14-19 kBq/g). Uranyl acetate and uranyl nitrate are classified as both toxic and radioactive.

Although uranyl compounds are classified as both toxic and radioactive, purchasing of these natural uranium compounds is not regulated and a Radioactive Material (RAM) Permit is not technically required to purchase or use uranyl acetate or nitrate. However, there is no exemption for the disposal of waste containing uranyl compounds, which must follow New York State Department Environmental Conservation radioactive waste disposal guidelines. Accordingly, laboratories that would like to use uranyl compounds should request a radioactive materials permit for these compounds so that the waste and inventory are managed properly in the laboratory.



Do not dispose of uranyl compound waste down the drain or in regular trash containers. Liquid waste must be collected in a designated radioactive liquid waste container, while items contaminated with uranyl electron microscopy staining compounds must be placed in a designated radioactive solid waste container. All waste containers should be properly labeled and stored when not in use. If the laboratory uses both uranyl acetate and uranyl nitrate, they must be collected separately due to their different chemical properties. Laboratories are strongly advised to refrain from mixing staining compounds or hazardous chemicals (oxidizers, corrosives, flammables, etc.) with uranyl acetate or uranyl nitrate since it will classify the waste as mixed, or both radioactive and chemically hazardous. If laboratories are using methanol or ethanol, it must be diluted enough to not be flammable and not considered mixed waste.

Uranyl compound users must take [TC7050, Radiation Safety for Uranyl Compound Users](#), in Rascal. This new online training is tailored to the research use of uranyl compounds and its completion fulfills the initial and annual refresher requirements.

Please contact Radiation Safety at rso-ehrs@columbia.edu with any questions about the use of uranyl compounds or radiation safety training requirements.

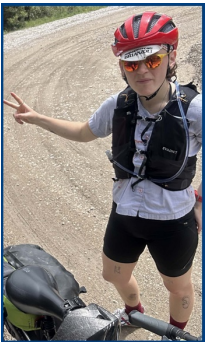
Best Practices for Chemical Storage

By Sarah Aloe, Safety Advisor II

Managing hazardous materials in the laboratory following best practice guidelines can help reduce the risk of hazardous material releases and exposures.

Chemicals can have many hazardous characteristics that can harm human health and the environment. In most laboratories, there is an abundance of chemicals, including chemical waste, that can be dangerous if not managed properly. While there are risks to working with chemicals in the laboratory, one manageable way laboratories can lower the risk of chemical releases and subsequent hazardous situations is by following best practices for chemical storage. (Continued on page 5)

Meet the EH&S Staff



Lu Salamy

Safety Advisor

Lu Salamy has been a Safety Advisor at EH&S for one year. Growing up in a small town in New Hampshire, Lu developed a love for the outdoors. They are an avid cyclist, preferring to ride their bike to work from Brooklyn and taking their bike on overseas vacations. When they do have to take the subway from Brooklyn to EH&S, Lu enjoys reading books in a wide variety of genres. Lu loves to learn new concepts and see the world from others' views. They identify with nutria, always busy and chewing on something. Being on their bike so much, they want to learn more about bike maintenance. Recently, they helped a neighbor with planting new grass and building raised beds for a late season garden. Lu believes the world needs more community supported agriculture, and they are working to see that happen, at least in their neighborhood. They are very community oriented, their first job being at a co-op grocery in New Hampshire.

They are enjoying living in Brooklyn as there are so many activities and it is a great community. They have volunteered as a soccer coach for teens, and also enjoy playing on a queer soccer team, which they state is their favorite sports team. "Rippin brookie lips" (aka, fly fishing) is another hobby to keep them busy when they aren't riding a bike.

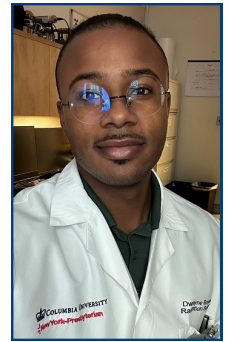
Lu likes to wind down by lying face down on the floor and playing a song on repeat for 30 minutes. Motivated by sunny days, big hills, and big sandwiches they can enjoy biking and then refuel. When Lu isn't working, they love telling secrets and eating ice cream. Their favorite piece of professional advice is to ask questions and be persistent. With a cheerful outlook, Lu will always look to make lemonade out of lemons!

Welcome Eye Institute Research Laboratories

EH&S extends a warm and enthusiastic welcome to the researchers of the Eye Institute as they relocate their laboratories to the Hammer Health Sciences Building and the Presbyterian Hospital building. With invaluable assistance from the University's hazardous waste vendor, 8,375 pounds of chemicals were safely moved from the Eye Institute to Hammer— a weight equivalent to approximately 13 male alligators! This relocation presented the Eye Institute with an excellent opportunity to responsibly dispose of chemicals that were no longer in good condition, aged "legacy" chemicals, and chemicals that were simply no longer required. The estimated total amount of waste disposal exceeded 500 pounds! As the researchers embrace this new chapter, EH&S is eager to continue providing exceptional service and looks forward to working with the laboratories.

Dwayne Bryant

Health Physicist



Dwayne Bryant grew up in Deerfield, NJ, where he fondly remembers the annual harvest festival with rides, games, live music, and fireworks. He joined EH&S as a Health Physicist on February 18, 2021, and works with the Clinical Radiation Team. His experience working at a roller rink in New Jersey, doing everything from selling tickets and snacks to being the DJ, has prepared Dwayne to be ready for any task. His cheerful personality is infectious, and he is rarely seen without a smile! His positive attitude allows him to accomplish any challenge he attempts. As a gamer, his favorite sports team is Red Bull eSports, and his gaming skills have taken him to a competitive level in fighting games. When he isn't gaming, he enjoys working out and chatting with his friends.

Music is another avenue of relaxation for Dwayne. He attends live shows of his favorite musicians and enjoys listening to many genres. Currently he is working on his master's degree in medical physics, but once he completes his coursework, he would like to learn more about cognitive psychology. Dwayne's favorite piece of professional advice is to be patient with yourself in all things. He finds people often focus on where they are currently instead of what they have already managed to accomplish, noting that all great achievements require time.

New York City is a wonderful place to live, but Dwayne would like to live in Philadelphia, as it still has the big city feel but is more affordable. Like many people, he would like to see the world change, so everyone has access to food and clean water. Dwayne identifies with having a personality like a dog as he is friendly, approachable, and social. His favorite roommate, Momo the cat, might have an issue with his choice! With his good-natured personality, it is easy to understand why his favorite quote is from Marcus Aurelius, "Dwell on the beauty of life. Watch the stars, and see yourself running with them."

Legacy Chemicals in Your Laboratory

Laboratories commonly inherit stock chemicals from prior occupants, including researchers, grad students, and post-docs who formerly occupied their research spaces. These chemicals may be well past expiration date and may have been stored in less-than-optimal conditions for an extended period of time. In addition to taking up valuable space in the laboratory, some chemicals can pose additional hazards as they age. Take a proactive step towards a safer, cleaner, and more sustainable laboratory environment by reaching out to EH&S to schedule a clean out of legacy chemicals. Contact hazmat@columbia.edu.

There is No “I” in Team, But There is a “U” in Success!

By Daniela D'Armetta, Manager for Training and Development, HR

It has been said that there is no letter “I” in the word team. This statement holds true as research shows that 85% of success in the workplace depends on an employee’s ability to get along with others. An employee has great potential to contribute towards a team’s ability to thrive, however, success will lie in identifying and utilizing those skills. A leader might wonder, “in what ways can an employee tap into their best self?”.

One consideration is to uncover an employee’s DISC blend and understand how their blend interfaces with others in the workplace. Team EH&S utilizes DISC assessments and blends to learn employee’s leading behaviors and how these various traits can cohesively come together, which in turn increases self-awareness, productivity, and reduces conflict.

Another consideration is to practice intentional team building and elevating team spirit. Team EH&S proudly hosts many festivities and initiatives to encourage creativity, cohesiveness, and provide recognition. Each summer the team gathers off-site for an afternoon to enjoy a “Summerfest”, with barbeque food and outdoor activities such as cornhole, ring toss, bingo, etc. The team also recognizes employee milestones such as anniversaries, birthdays, and promotions, and awards employees who have worked above and beyond the call of duty.

Team EH&S Summerfest 2023 at Lamont-Doherty Earth Observatory



Additionally, Team EH&S has launched a Kindness Campaign, formalizing the practice of workplace positivity and kindness. Wellness initiatives and creativity outlets are offered such as yoga, meditation, sand art, and a kindness board. The team also participates in “Kudos for Colleagues” where an employee is spotlighted to receive kudos, reflections, and kind messages from their colleagues.

Ultimately, Team EH&S values the opportunity for team members to recharge through shared experience. Each employee holds the magic to engage and contribute, and the investment in team cohesiveness reinforces the important contribution every employee makes to the overall workplace.

(Best Practices for Chemical Storage continued from page 3)

Important steps for storing chemicals are outlined below:

- Always keep chemical containers properly labeled and closed when not in use.
- Evaluate chemicals for compatibility and separate incompatible chemicals to prevent an unintended reaction.
- Store hazardous chemicals below eye level to prevent knocking containers off high shelves and increasing the risk of bodily exposure.
- Do not store chemicals in direct sunlight, as sun can damage the integrity of the container over time.
- Do not store glass bottles directly on the floor or in areas of high foot traffic, to prevent containers from being kicked over and breaking.
- Do not store chemicals in the cabinet below the sink, where a leak can damage the containers.
- Do not store corrosive chemicals on metal shelves.
- Do not permanently store chemicals in a chemical fume hood. When items are not in use and stored in chemical fume hoods, they can block proper air flow and impact the function of the fume hood. If chemicals are being used in the fume hood, close the containers, and return them to a permanent storage location once the experiment is complete.

When space is an issue for storing chemicals and chemical waste, consider reorganizing the lab space to store non-hazardous items (e.g., pipette tip boxes) in areas where chemicals should not be stored, such as under the sink, on high shelves, or in direct sunlight. This can make space for properly storing chemicals in other areas of the lab.

Additionally, if chemicals must be stored on the floor, they should be kept in a secondary container at all times. Secondary containers can also be used to separate incompatible chemicals, and to create a barrier for storing corrosives on metal shelves. It is important that the material of the secondary container is compatible with the chemical stored in the container. EH&S offers complementary small and large secondary containers to laboratories to aid in safe chemical storage. Please reach out to labsafety@columbia.edu to request a secondary container for your laboratory to ensure best practices are followed.

Reproductive Health Resource Update

By Mercedes Courter, Health and Safety Specialist

There are a number of factors to consider when it comes to research safety and reproductive health. What chemicals and/or biological agents are used in the laboratory? Are any of them classified as teratogenic, carcinogenic, or fetotoxic? What administrative and engineering controls does the lab have, and is the researcher trained on how to properly use them? Whether you or your partner are currently pregnant or planning to be, these are important questions to ask as early as possible during the family planning process.

Did you know that Environmental, Health and Safety offers reproductive health consultations for members of the research community who are family planning, pregnant, or post-pregnancy? The consultations are meant to help navigate some of the inquiries listed above, as well as provide additional information on any hazardous materials that a researcher may encounter in their work area at Columbia. By making sure this information is accessible, EH&S aims to empower researchers and their families to make informed decisions on how best to protect themselves, and you're their unborn child.

EH&S also works to evaluate other environmental conditions, such as excessive noise and physical hazards, as well as the current controls in place to mitigate them. Based on assessment findings, EH&S can offer recommendations for adjustments to both engineering and administrative controls as needed.

To advance these efforts, EH&S is pleased to announce the launch of a new webpage dedicated to providing a wealth of resources and information on reproductive health in research and laboratory environments. The [Research Safety & Reproductive Health](#) page is meant to give Columbia researchers easy access to resources that cover general recommendations for safety before and after pregnancy, guidance on chemical, biological, and radiological hazards, and quick links to Environmental, Health & Safety resources, such as ChemWatch Safety Data Sheets (SDS), safety manuals, and radiation safety pregnancy declaration forms. Users will be able to take the information from these resources and an EH&S consultation to their health care provider. Together, a thorough plan of action can be developed to address any potential hazards throughout the pregnancy, including during lactation periods.

If you and/or your partner are pregnant or considering pregnancy, EH&S is committed to ensuring your health and safety in the laboratory. In conjunction with seeking guidance from their health care providers, students, faculty, and staff can request a pregnancy consultation with Occupational Safety by completing a [Hazard and Risk Assessment survey](#) and a member of the team will follow up directly. All reproductive health consultations are confidential!

EH&S looks forward to assisting the Columbia research community during the exciting steps of the family planning process and hopes that these new resources are useful tools.

Waste Anesthetic Gas (WAG) Training



Environmental Health & Safety (EH&S) has launched a new training module for laboratories whose work involves the use of anesthetic gas. The use of anesthetic gases can generate waste anesthetic gases (WAGs), which can pose a health hazard. WAGs are small amounts of volatile inhalational anesthetic gases that leak from the specimen breathing circuit into the air of operating rooms during delivery of anesthesia for surgical procedures. Exposure to WAGs can cause nausea, dizziness, headaches, fatigue, and irritability, as well as sterility, miscarriages, birth defects, cancer, and liver and kidney disease, among operating room staff or their spouses (in the case of miscarriages and birth defects). At Columbia University, the most used inhalational anesthetic for animal research is isoflurane. The new course, [TC6850: Waste Anesthetic Gas](#) training is now live on RASCAL. The training covers safe handling and use of anesthetic gases in research. All laboratory personnel working with/around anesthetic gases are required to complete the course.

EH&S New Team Members

Calista Bryant - Safety Advisor
Holland Howard - Safety Advisor

EH&S Fun Fact

There are 1010 chemical fume hoods and 559 biological safety cabinets on Columbia University campuses

EH&S Milestone Anniversaries

Daniela D'Armetta - 10 years
Pam Shively - 5 years

Editorial Staff: Kathleen Crowley, Chris Pitoscia, Pam Shively, Sonia Torres
Please share questions or comments with us at newsfeedback@columbia.edu