

Environmental Health & Safety

*SafetyMatters***Inside this issue:**

RESEARCH IN THE TIME OF COVID-19

RADIATION SAFETY COMMITTEES

COLUMBIA'S STUDENT-OPERATED VOLUNTEER AMBULANCE SERVICE: OVER 40 YEARS OF DEDICATION TO THE COLUMBIA COMMUNITY

RADIATION SAFETY: EXPLODING THE MYTHS

MEET THE EH&S STAFF

ENSURING PROPER SUSTAINABILITY PRACTICES FOR COLUMBIA AND AFFILIATES

ENVIRONMENTAL HEALTH & SAFETY

[HTTP://EHS.COLUMBIA.EDU](http://ehs.columbia.edu)

IRVING MEDICAL CENTER
PHONE: (212) 305-6780
EHS-SAFETY@COLUMBIA.EDU

IRVING MEDICAL CENTER
RADIATION
PHONE: (212) 305-0303
RSOCUMC@COLUMBIA.EDU

MORNINGSIDE AND
MANHATTANVILLE
PHONE: (212) 854-8749
EHS@COLUMBIA.EDU



Soon Again to be
Printed on
Recycled Paper

Research in the Time of COVID-19

by Christopher Pitoscia, Associate Director

From an EH&S perspective, a positive aspect of the COVID-19 pandemic has been the elevation of safety to the forefront of daily life. Core principles of practice for a safety professional – engineering controls, administrative controls and personal protective equipment – have become an inescapable part of our routines, language and culture. While a return to a new normal may be in sight, safety is here to stay, and by thoughtfully keeping these principles in mind, laboratories can become safer than they were before COVID, which would be a true silver lining.

Perhaps the most obvious example is the ubiquity of face coverings and masks, which are now everywhere. For the last 18 months, everyone has become conditioned to not leave home without one, and the use of face coverings has been demonstrated to be an effective control against the spread of COVID-19. Lab coats, gloves and protective eyewear should be treated the same way. The use of personal protective equipment in the laboratory should be second nature. Whenever entering the laboratory, don a lab coat, and whenever handling chemicals or other hazardous materials, add gloves and protective eyewear. By making these habits routine, researchers can remove any question of whether or not a lab coat is needed at a particular time – just go ahead and put it on and keep it on.

Likewise, the routine cleaning of high-touch surfaces and shared equipment has become ritualized and ingrained as part of the world's response to the pandemic. Cleaner surfaces are safer surfaces with less potential to spread COVID and other infectious materials by fomite. Again, the same is true in the laboratory. Good housekeeping is good science and a clean and orderly laboratory is a safer laboratory. Make it a daily habit to straighten, organize and clean benchtop areas and equipment after use or at the end of every workday to ensure residual hazardous materials are removed and containers are safely stored.

It has also become increasingly clear as the pandemic has worn on, that ventilation must be a key component of infection prevention strategies. More fresh air and enhanced filtration have become the norm. Ventilation in the laboratory has always been important, and the lesson for laboratory researchers is clear – utilize chemical fume hoods and biosafety cabinets when these engineering controls are appropriate, and utilize them properly. Ensure hoods and cabinets are operating properly, are free of clutter and keep the sash in its correct position. Visit EH&S' fume hood use procedures page [here](#) for a refresher.

Prevention is perhaps the most important of all safety principles, whether in reference to COVID-19 or the laboratory in general. The COVID vaccines are the best defense against ongoing spread of disease and any member of the research community that has not already received their vaccine should plan to do so as soon as possible. In the laboratory, prevention can take the form of careful planning and risk assessment before research begins, as well as the elimination or substitution of hazardous materials with safer alternatives, whenever possible. Taking a moment before a day's experiments to review safety procedures is a healthy way to begin working, and conducting a thorough risk assessment – [with the assistance of EH&S, if needed](#) – before working with new hazards, should be a part of everyone's routine.

Finally, if you are newly returning from an extended period of remote work, especially if returning to an already active laboratory, EH&S has developed [a shortened version of the ramp-up checklist](#) that researchers may find particularly useful.

Keep up the good work, Columbia, to move past the pandemic and to continue to keep safety a part of daily life.

When working in the laboratory: eating, drinking or applying cosmetics is prohibited.

Proper work attire (e.g., long pants, closed toe shoes) and PPE (e.g., laboratory coat, gloves and eye protection) must be worn when working in the laboratory.

Remember to periodically flush your laboratory cup sinks and floor drains with water to prevent odors from migrating into your laboratory.

For Lab Fire Safety Prevention tips, check out FDN(wh)Y Me

<https://research.columbia.edu/content/fdnwhy-me>

Radiation Safety Committees

by Yvette Acevedo, Senior Coordinator for Radiation Safety Committees

Columbia University is an institution that receives, possesses and transfers radioactive materials for research and clinical use. For this reason, the University is required by the rules and regulations set forth in the New York City (NYC) Department of Health Code, Article 175, "Radiation Control", to obtain a specific license for these activities and to establish a Radiation Safety Committee to govern them. The Radiation Safety Committee is responsible for providing guidance and support to the research and clinical communities by monitoring the use of radiation and establishing policies and procedures to ensure that such work is conducted safely and in compliance with applicable regulations. The Radiation Safety Committee also oversees the EH&S Radiation Safety Program.

There are two Radiation Safety Committees at Columbia University. The Joint Radiation Safety Committee ("JRSC") at CUIMC and the Radiation Safety Committee ("RSC") at the Morningside Campus. The JRSC supervises and oversees the use of radioactive materials and ionizing radiation-producing equipment used in research and clinical applications at Columbia University Irving Medical Center, NewYork-Presbyterian Hospital (NYP), Allen Hospital and New York State Psychiatric Institute (NYSPI). The RSC supervises and oversees the use of radioactive materials and radiation-generating devices for the Morningside Campus, Manhattanville Campus, Barnard College, Lamont-Doherty Earth Observatory and Nevis Laboratories.

The membership of each Committee includes representatives from each of the departments where radiation sources are used, as well as radiation safety officers, other individual contributors, and representatives of management - at the RSC this includes individuals from both the University and Barnard College, and at the JRSC includes CUIMC, NYP, and NYSPI. The JRSC also includes a representative from the NYP nursing service. The Committees meet at least once in each calendar quarter to conduct business.

The Joint Radiation Safety Committee oversees two subcommittees: the Human Use Sub-Committee (JRSC/HUS) and the Radiation Use Quality Assurance Sub-Committee (RUQAS), which each meet monthly.

The JRSC/HUS is responsible for the review, approval or disapproval of research studies using experimental ionizing radiation in human subjects. This review ensures that any radiation applied to a human research subject that is not part of their normal clinical care is appropriate, and that the risks are properly communicated so patients can provide informed consent.

The RUQAS is tasked with oversight of the Quality Assurance Program for clinical radiation use, as required by NYC regulations. The RUQAS verifies ongoing compliance with quality assurance and radiation safety programs and maintains readiness for regulatory inspection.

The duties performed by the Radiation Safety Committee are essential in assessing the needs of the University's radiation users and their satisfaction, while ensuring that radiation safety policies and procedures are implemented and followed in a safe and efficient manner.

For more information on the Radiation Safety Committees and Human Use Research visit: <https://research.columbia.edu/human-research-radiation-safety>.

Radiation Safety: Exploding the Myths

by Dennis Farrell, Health Physicist

The Radiation Safety Program not only ensures the safe use of radiation and radioactive materials to protect both staff and patients, but also educates by dispelling the many myths that are associated with radiation in the hospital setting.

Myth 1: “Radiation is all bad”: False! Radiation is all around us. Humans are exposed to radiation from the soil underfoot (Radon), cosmic radiation, and even trace amounts of radiation in food and water. Cell phones, and smoke detectors are another source of background radiation. According to The Radiological Society of North America, the average person receives about 3mSv per year of radiation.

Myth 2: “Medical radiation will make a patient radioactive.” False! Radiation Therapy is one of the leading forms of treatment of cancer in the 21st century. This therapy is targeted and only treats the diseased area and a small margin around it. External beam radiation therapy focuses on a specific site and does not travel through the body, unlike chemotherapy. Some cancers require radioactive material to be taken orally or injected but for the most part, with proper distance, this radiation does not spread to those nearby.

Myth 3: “Medical imaging can reduce fertility”: False! Studies have shown that the risk to fertility for both men and women from radiologic imaging is zero. Cases of infertility from medical imaging are unknown. However, because radiation effects accumulate over the years from radiological exams, a lead apron is worn to reduce the small amounts of scattered radiation workers and patients are exposed to.

Myth 4: “Treatment will cause skin burns”: False! Advances in technology have allowed radiation oncologists, through the use of physics, to increase depth dose penetration thus sparing the skin the severe burning that was so common many years ago. There will be, however, some skin reaction in the area being treated.

Myth 5: “I am going to feel sick and I am going to lose my hair”: False! Because radiation therapy is a local treatment only the local area is affected. If a breast or lung is being treated no hair will be lost. If, however, a patient is being treated to the whole brain, temporary hair loss is very possible. Feeling sick is a possibility in some treatments but more efficient beams and better patient support care most often controls that “sick” feeling.

Myth 6: “Microwaved food is radioactive”: False! Some people believe this because they have confused radiation with electromagnetic waves. Radioactivity is a process by which unstable atomic nuclei lose energy by emitting radiation. A microwave oven sends waves through the food causing its molecules to oscillate thus warming the lunch or dinner inside.

Radiation has improved everyday lives with technologies from cell phones to microwaves. Its increased use in medicine has made patients’ lives healthier and longer. It is certainly not to be feared.

Smoke Alarms at Home



nfpa.org

Fire Safety Minute

- ◆ Remember to check the batteries in your smoke alarms at least twice a year while changing the clocks for *Daylight Savings Time*.
- ◆ Check the expiration dates on your smoke alarms and make sure to change detectors every 10-years.
- ◆ Talk to your household members and make an emergency action plan in case of fire or other home emergency.
- ◆ Determine a meeting, or muster, point to ensure all household members have safely escaped.

Columbia's Student-operated Volunteer Ambulance Service: Over 40 Years of Dedication to the Columbia Community

by Vincenzo DiNatale, Guest Contributor, CUEMS EMT, Columbia College '23

CUEMS is a student-operated, New York State-certified, basic-life support volunteer ambulance corps that provides free pre-hospital emergency medical care to Columbia University's Morningside Heights and Manhattanville campuses and the surrounding areas 24 hours a day, 7 days a week. CUEMS has been in service since 1968 and was formerly known as the Columbia Area Volunteer Ambulance (CAVA). Today, the corps has about 40 active members and responds to over 1,200 calls annually.

In 1962, when a Columbia affiliate was severely injured in a laboratory accident, bystanders attempted to treat and transport the staff member. This incident led to the formation of CUEMS; for a few years, CUEMS consisted primarily of medically untrained volunteers around campus. In 1972, when the Dean of Columbia College Henry Coleman was shot repeatedly by a suspended student, CUEMS was able to transport Coleman to the hospital just in time to save his life. Coleman recovered fully from the incident. Shortly afterward, CUEMS received their first official ambulance and in time, became an integral part of the Columbia community and a highly recognized ambulance service in New York City.

Today, CUEMS is dedicated to serving the Columbia community and ensuring that all affiliates and anyone in the surrounding area have access to free and rapid care. CUEMS has two ambulances and has one in service 24/7 when classes are in session. Because every member of the corps has every location on campus committed to memory, CUEMS considers its fast response times a point of pride! This unique skill can save patients several, possibly critical, minutes compared to other ambulances.

If you are interested in becoming a member of the corps, CUEMS conducts a [membership application process](#) at the beginning of the fall and spring semesters. Requirements for membership are an EMT certification, a driver's license, and four remaining semesters at the University, which may include summer semesters. CUEMS also sponsors students to become NYS certified EMTs at no cost. Sponsorship covers tuition and necessary equipment for the EMT certification course. Applications for sponsorship are accepted at the start of every semester, including the summer!

In the event of a medical emergency on or near the Morningside and Manhattanville campuses, call (212)-854-5555 for Columbia University Emergency Medical Service (CUEMS), a free ambulance service!



In addition to state-certified training, CUEMS also holds regular drills to continue emergency medical education and hone required skills. *Photos: Diane Bondareff*

CUEMS Training in Action!



Meet the EH&S Staff

*M*ercedes Ortiz-Ocampo lived in the Dominican Republic until her family moved to the USA when she was ten years old. The things she misses most about her hometown are the beautiful beaches and clear waters. Her first job was as a cashier at Mays 14th Street Department Store. She loves living in NYC because it is “alive”, the City That Never Sleeps.

Mercedes has been at Columbia University for 32 years. Prior to joining EH&S as an Administrative Assistant, Mercedes worked in the Institutional Review Board (IRB) office for 13 years in an administrative role. She is a people person and friendly, which serves her position at EH&S well, as she will probably be the first face you see or voice you hear when you contact the department. She sees herself as relating to a hummingbird, always humming, or singing to songs. Mercedes is motivated by her family and spends much of her free time with them, either playing dominoes on a Saturday night or gardening with her mother.

Mercedes, like many New Yorkers, is a fan of the Yankees. She enjoys listening to soft music and watching a good TV show to unwind after work. Michelle Obama is the person she admires most because she is an accomplished lady. Poverty is the world crisis Mercedes wishes she could change; she believes a child should never be hungry. She would like to learn more about global warming and how each of us can help our environment. The best professional advice Mercedes wishes she had followed was “stay in school and become a professional”. Her new role as submitting new C-14 applications to the FDNY is proving to be an exciting addition to her other duties at EH&S.

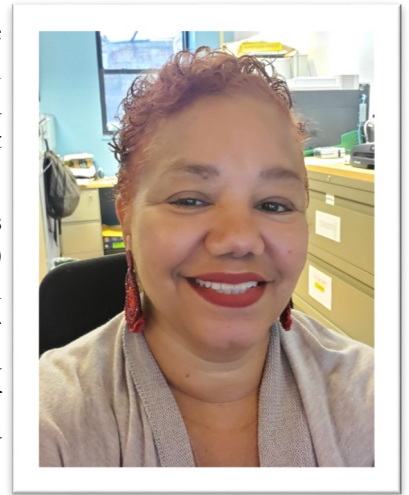


Photo: Mercedes Ortiz-Ocampo

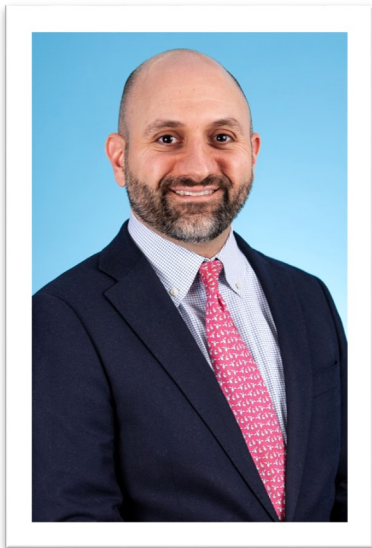


Photo: Jon Paul Aponte

*C*hris Pitoscia grew up in Holmdel NJ, close enough to the PNC Bank Arts Center to hear live music in his backyard on nights when the wind blew in the right direction. As an Associate Director at EH&S, he celebrated his seventeenth anniversary with the department in August. His first work experience was as a parking attendant at Delicious Orchards, a busy farm market in Colts Neck, NJ. Chris has had the opportunity to visit many incredible cities in the world but thinks Kailua-Kona, Hawaii would be an ideal place to live because of the year-round sunshine and natural beauty. As enticing as living there would be, the family man in him would never be that far away from his loved ones and friends.

His dedication to his family is obvious as he spends time with his wife, daughter and friends as much as possible. His wife and daughter accompanied Chris as he represented EH&S in the NYC Parade of Heroes in July, a “once in a lifetime” experience. He does manage to hit the links and play golf whenever he gets the chance and describes his passion for the game as a “bit of an obsession!”. His other favorite activity is listening to live music. After a long day at EH&S, Chris enjoys dinner with his family and reading bedtime stories with his young daughter. His family is his motivation and he is dedicated to them.

His favorite quote is from Robert Hunter, “Once in a while you get shown the light in the strangest of places if you look at it right”. This saying ties into patience, which allows him to consider problems thoughtfully and not lose sight of the big picture. If he could make one change in the world it would be that no one would ever go hungry. Being from the east coast, he is a fan of the NY Jets and Yankees. Chris is also fascinated by the physics of the early universe.

Ensuring Proper Sustainability Practices for Columbia and Affiliates

by Jon Paul Aponte, Safety Advisor II

EH&S is currently in the process of piloting a survey to gauge sustainability practices in laboratories. This survey is to ensure groups are disposing individual waste streams into the proper receptacles and will focus on the management of regular rubbish, plastic/metal, uncontaminated glass, regulated medical waste (RMW) and sharps. The survey will also investigate best practices such as chemical fume hood sash closure when not in use, turning off laboratory lighting when unoccupied and ensuring all windows are closed. This survey is currently being tested and adjusted at the New York Psychiatric Institute (NYSPI) and will soon be rolled-out in the Zuckerman Institute at Manhattanville.

Proper waste management is important for many environmental reasons, but safety and compliance are also major considerations. For instance, improper waste management can lead to lost time and money for the University at large, or in some cases, could lead to regulatory findings such as if hazardous waste were found in an unapproved container or waste stream. Sharps bins will be checked for any non-sharps as these containers should not be used for the routine disposal of paper or plastic or other non-sharps. RMW “red bag” containers will be checked for sharps, uncontaminated materials and general rubbish. Sharps in an RMW bag can lead to punctures and exposures to the people that handle them. The same will also be true for rubbish bins and uncontaminated glass receptacles. This survey is meant to be a conversation between EH&S and the labs, and no corrective actions will be generated.

There are many resources for the University Community to help with some of the basic principles of sustainability. Sustainable Columbia is dedicated to keeping the University at the cutting-edge of environmental practices and is a valuable resource for understanding the intricacies of waste and recycling. The Sustainable Columbia website can be found [here](#) and personnel are encouraged to look through it and to reach out with any questions. For laboratory-specific waste management, the EH&S Hazardous Materials and Sustainability webpage can be found [here](#). For questions or particular guidance on laboratory waste management, please reach out to a Safety Advisor at labsafety@columbia.edu for assistance.

Meet the *Newest* EH&S Staff Members



Clockwise from bottom left: An Nguyen, Health and Safety Specialist II; Angie Tung-Yee Tse, Safety Advisor; Regina Ines Calvo Gonzales Prada, Radiation Safety Program Coordinator; Brian Kim, Associate Health Physicist (Research); Dwayne Bryant, Associate Health Physicist (Clinical); David Skorodinsky, Systems Analyst; Robert Giordano, Safety Advisor; Samira Joussef Pina, Biological Safety Officer. *Photo:* Jon Paul Aponte

Editorial Staff: Kathleen Crowley, Chris Pitoscia, Pam Shively, Jon Paul Aponte

Photography, Graphics, Design, Lay-out: Jon Paul Aponte

Please share questions or comments with us at newsfeedback@columbia.edu