

Biosafety and Biosecurity Month 2019 @UMD

Beyond the Lab: Increasing the Visibility of Biosafety and Biosecurity



LABORATORY PROFESSIONAL HIGHLIGHT

Meet Angela R. Jones, Ph.D.



Dr. Angela Jones serves as Director of the Professional Master's Program in Bioengineering. She is also a Keystone Instructor Senior Lecturer.

What is your current research/focus and what biological hazards do you manage?

The lab that I maintain is a teaching lab for the Fischell Department of Bioengineering. It is used for all wet-lab experiments for multiple classes within our

"The biggest challenge is a lack of self-awareness."

program. It's most frequently used for the introductory bioengineering class, Biology for Engineers Laboratory (BIOE 121), which I lead. Given it is an introductory course, I try to keep the biological hazards to a minimum, work with K12 E. coli, S. cerevisiae, and mouse3T3 cells, all BSL1. That said, all of our research labs are BSL2, so we follow BSL2 standards in the teaching lab in order to prepare students for later research experiences.

How do you incorporate biosafety in day-to-day tasks of the lab?

Ensuring the students are wearing appropriate PPE for lab is a big part of maintaining an environment where safety is maintained. The teaching assistants check before at the start of lab, and students are not permitted to work unless they

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WHAT IS THE... "IBC"?

The Institutional Biosafety Committee (IBC) is an institutional committee created under the NIH Guidelines to review research involving recombinant DNA and synthetic nucleic acid research. At UMD, the IBC reviews all Biological research on and off campus. The IBC is made up off several plant and animal experts, a biosafety officer, and at least 2 community members. UMD IBC Meetings occur on the second Wednesday monthly and is open to the public.

For more information regarding UMD IBC and meetings, please visit <https://essr.umd.edu/research-safety/biological-safety/institutional-biosafety-committee> or contact Biosafety@umd.edu.



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**ENVIRONMENTAL SAFETY,
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are dressed appropriately, which might mean borrowing some rather unflattering pants from our stash! The teaching assistants also make sure students are aware of the potential hazards of each lab - biological, physical, and chemical. This means that I need to make sure the teaching assistants are aware as well! Before the semester starts, I put my teaching assistants through a training week where they perform all the labs for the semester under my guidance. I also make sure all their (including the online Laboratory Teaching Assistant Training) prior to the start of the semester and communicate the potential hazards of each laboratory exercise, weekly.

Have you had to manage a particular biosafety-related challenge?

The biggest challenge is a lack of self-awareness. Students move their goggles to their forehead or they touch their face/hair/backpack while wearing gloves. We have to be extra vigilant with these novice researchers! Students tend to apologize when their unsafe-behavior is identified, but I know I would rather a student say, "I'll remember next time," instead of apologizing. This conveys a completely different mindset and is indicative of a person that understands the importance of safety in the lab.

"We have to be extra vigilant with these novice researchers!"

How do you promote a culture of safety within your lab group?

I model the behavior that I expect of everyone in the lab, and I require the teaching assistants do as well. I also try to explain why I have the rules I have in the lab. You need to wear gloves because we're working with chemicals that are irritating to skin; you need to wear goggles because you only have one pair of eyes, and I want you to have both of them when the semester ends; no eating or drinking in the lab because -yuck - you do not want to eat whatever we might find in the lab.



Want to Win a Prize?

Send a picture or an email of you promoting laboratory Biosafety and Biosecurity for a chance to win a prize! Email us at biosafety@umd.edu.



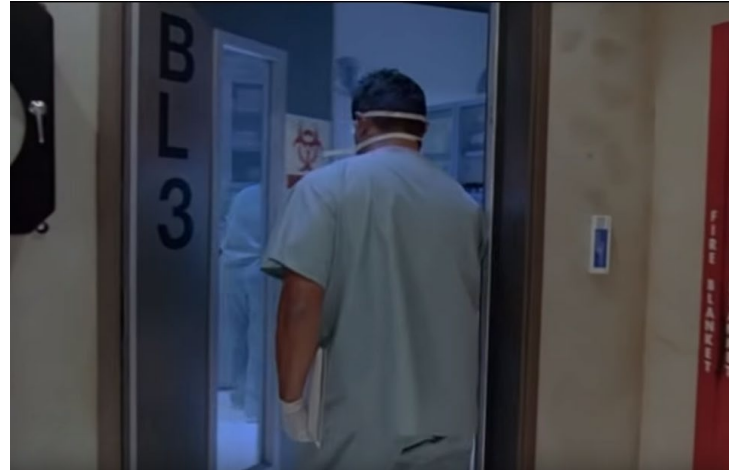
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POP-CULTURE WRONGS IN BIOSAFETY

One of the best movies that highlights practically every biosafety faux pas is the 1995 thriller *Outbreak*...

If you're an avid science nerd, you probably cringe at the scientific inaccuracies portrayed in TV Shows and films. One of the best movies that highlights practically every biosafety faux pas is the 1995 thriller *Outbreak*, starring Dustin Hoffman, Rene Russo and Morgan Freeman. While we acknowledge that it IS Hollywood, movies such as these can provide an interesting retrospect as to how far biosafety has co-evolved with rapid, scientific advancement. Presented below are two screenshots from *Outbreak* – how many biosafety violations can you spot?

Directors, producers, screenwriters and the like have also recognized the importance of scientific accuracy of their works as well. Shows such as the *X-Files*, *House*, and the 2011 movie *Contagion* all have had scientific consultation before premiering. Who knows – maybe you could become the scientific consultant for the next blockbuster hit!



- Before entering the BSL-2, you can clearly see that it's propped open, right where anyone (and everyone, it seems) can pop right in. So much for containment!
- Unnecessary use of N95 – There's no need for a respirator in these conditions. All biological work should be done in the biosafety cabinet (right behind him!). If an N95 is required, anyone who performs work must have the N95 properly fitted before using.
- No gloves – Let's hope that the rest of the personnel have better PPE and handwashing practices. It's important that you designate "Gloves vs. no gloves" areas to avoid touching contaminated surfaces.
- "Oh hey, just gonna walk right into the BSL-3." There's no antilock, security mechanisms, donning/doffing areas, etc.
- Once inside the "BSL-3", there is a woman who has just regular scrubs and an N95, which she takes off in the middle of the lab!

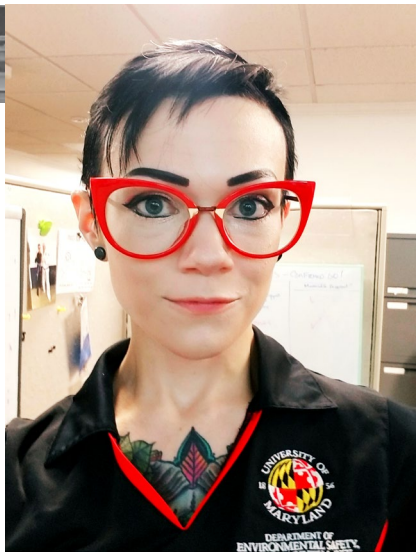


Check out the clip here: <https://youtu.be/-idi7g4Hm1s>



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MEET YOUR BIOSAFETY TEAM MEMBERS



Marissa Painter
Role: Biosafety Specialist

Your interest in Biosafety?

My interest in biosafety started when I was a junior undergrad. My background is in microbiology and biochemistry; however, I knew I couldn't just focus on one organism, pathogen, or biological process to study/make a career out of. Biosafety allows me to experience many different and exciting areas of research in the biological realm, while keeping people, animals, and the environment safe at the same time.

What do you do for Biosafety?

As a Biosafety Specialist, I am the "boots-on-the-ground" representative for UMD Biosafety. I manage the primary containment program, provide training in general biosafety and hazardous shipping, perform annual/as needed laboratory audits across campus, and I assist in developing guidance documents, SOPs, and other biosafety-related resources.

What do you do in your free time?

In my free time, I enjoy studying the Russian language and Slavic linguistics. I am also an active 2 stripe blue belt in Brazilian Jiu-Jitsu. I also enjoy watching classic samurai movies and campy B-rated horror films from the 80s with my husband, Kyle. We're the proud parents of an English Bulldog named Boog and a black cat named Willow.

Where can I find you on campus?

You can find me in the Seneca building in the main ESSR office, or you may see me popping in and out of laboratories, performing audits or equipment inventory.



Jamie Pope
Role: Quality Assurance Specialist, IBC

Your interest in Biosafety?

I have always had an interest in Biology, its applications in clinics and the laboratories, and how we can make our world better. Biosafety is just an extension to that ideal. We in Biosafety concentrate on the prevention of loss of biological integrity, focusing both on our environment and human health.

What do you do for Biosafety?

My official title is IBC Quality Assurance Specialist. What that means is that my position mainly focuses on IBC quality control and administration.

What do you do in your free time?

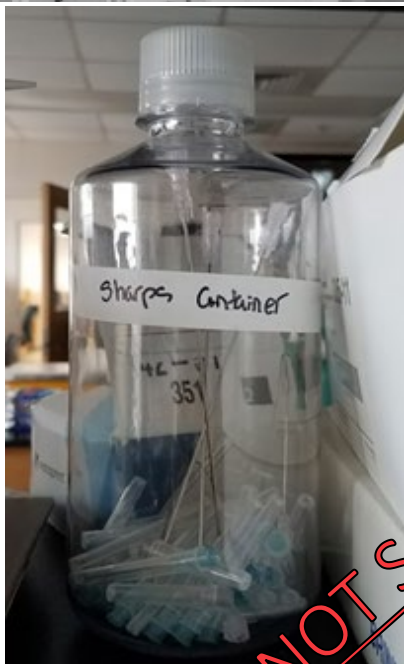
I like to spend my free time with family and friends. Most days you can find me out and about usually at a festival or just exploring the amenities of the city.

Where can I find you on campus?

You can generally find me in the Department of Environmental Safety, Sustainability and Risk, Seneca Building #812, 4716 Pontiac Street, Suite 0103 - Biological Research Safety, College Park, MD 20742.



"SAFE" VS. "NOT SAFE"



NOT SAFE



NOT SAFE



NOT SAFE



SAFE!!!

Waste disposal: Please seal waste containers when they are 3/4 full and schedule a pickup with Environmental Affairs. Do not overfill waste containers or store trash on the floor in open bags. Reach out for assistance if your trash is out of control!



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Please join UMD
Biosafety for an

ICE Cream SOCIAL

.....
To Celebrate
Biosafety and
Biosecurity Month!
.....

**MONDAY
OCTOBER 21ST
1-3 PM**

Space is Limited! RSVP @
<https://forms.gle/zpc6zcWJoar7zhP7>

.....
A. James Clark
Hall Room 1101



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ABSA INTERNATIONAL OCTOBER 2019

Biosafety and Biosecurity Month



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The Association for Biosafety and Biosecurity



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