

CORES Newsletter

May 2019

Lab Safety

Beginning July 2019, a team will begin working with each lab to update their Chemical Hygiene Plan (CHP). The CHP has been simplified and standard SOPs have been written for commonly used reagents. The team will contact each lab to schedule a day and time convenient for them to meet. This is one of the many steps being taken to improve the safety on the WSU-Spokane campus.

Dry Ice Shipments

Ze Liu is the primary person who is certified to prepare dry ice shipments. Merle Heineke serves as her back up. The process for shipping samples on dry ice is:

- 1) The recommendation is to ship early in the week (Monday or Tuesday) as opposed to later in the week (Thursday or Friday). That allows an extra day in the event the shipment is delayed.
- 2) Dry ice shipments should be sent in new, properly marked boxes. The shipping company can refuse shipments in previously used boxes. Boxes are provided by Lab Services.
- 3) Ze should be notified 24 hours in advance to allow time to check that the proper size box and sufficient dry ice is available.
- 4) The sending lab must complete the Shipping Request Form found at: <https://spokane.wsu.edu/facilities/mailing-services/shipping-request-form/>. A copy must be printed to attach to the box.

NEW SERVICE – Biomedical Engineering and Design

A new service is available to promote and foster science on the WSU-Spokane campus. This group can help researchers and start-up businesses to leverage their resources by saving on cost and allowing them to innovate more efficiently. The website can be found under CORE facilities and is expected to be uploaded by the end of the week.

Contact Person: Will Clegern (86750 or wclgern@wsu.edu)

Vet Corner

Dear vivarium users,

I want to take this opportunity to introduce myself as the new veterinarian at WSU Spokane. I will be on campus full time starting in mid-August, although I have a few shorter trips planned between now and then. I had the chance to meet some of you this month during a brief visit, and I look forward to getting to know more of you and understanding how we can best serve your research needs in the coming months.

I was raised on a small farm outside of Portland, OR, where I grew up with a menagerie of animals. I wanted to be a veterinarian from a young age, but developed an increasing interest in research during the course of my education. I received my undergraduate degree from Willamette University in Salem, OR. I got my first introduction to biomedical research as an undergraduate research intern at OHSU studying arrhythmias and obesity in a rat model, and I've remained engaged in research in some capacity ever since. After my undergraduate education, I received my veterinary training just down the road in Pullman (Go Cougs!) and then completed a three year residency in Comparative & Lab Animal Medicine at Colorado State University, where I worked with a wide range of animals and animal models. I also served as the clinical veterinarian at the Denver VA during this time. I received ACLAM board certification in 2018 and am currently finishing my PhD at Colorado State University, where I study viral evolution and ecology in ruminant biosystems.

In our spare time, my husband and I enjoy running, biking, backpacking, and spending time outdoors with our dog. We are looking forward to returning to the Inland Northwest and exploring all that the Spokane area has to offer. I look forward to working with each of you in the coming months!

Sincerely,
Jennifer Kopanke, DVM, PhD

Vivarium

With the arrival of the new veterinarian, the structure of the vivarium will be changing. Rob Archuleta will move into the role of Supervisor. Another husbandry tech will be added to the staff due to the steadily increasing cage census.

Health Report: The most recent testing was completed in early May. Serology testing for all animals was negative. An expanded parasite panel was selected this time. It showed that several mouse and rat colonies were positive for *Entamoeba muris*. This finding has been reviewed with the Office of Campus Veterinarians. This parasite is not excluded for the Pullman campus and is considered inconsequential. It is eliminated through rederivation.

Additional information can be found at:

http://compath.com.au/user_assets/b21c8c49c47416ecb7ca59c6111614ffc1839244/2015_pdf-e_muris.pdf

Contact Person: Merle J Heineke (87889 or merle.heineke@wsu.edu)

Flow Cytometry

On Monday, May 20th, the Flow Cytometry equipment will be moved to PBS 401A. The service reps will be in on Tuesday, May 21st, to conduct Preventive Maintenance. The equipment will be unavailable on those days.

Contact Person: Ze Liu (87633 or ze.liu@wsu.edu)

Mass Spec

The second in a three-part series of educational seminars, focusing on the basic theory and application of LC Mass Spectrometry will be presented on May 20th. The seminar will include Introduction to LCMS Sample Prep and Introduction to LCMS Column Selection. The seminar will be followed by an answer and question period. Please contact Ze Liu to reserve a seat.

Contact Person: Ze Liu (87633 or ze.liu@wsu.edu)

Microscopy/Imaging/Histology

Microscopy:

Contact Person: Megan Chastain (megan.chastain@wsu.edu)

Histology:

In previous newsletters, we've discussed the basics of formalin fixation for general purpose histology. While formalin is the most commonly used fixative, it may not be the best fixative for all applications. Formalin fixation can lead to dehydration and shrinkage, and epitope masking is a major concern as antigen retrieval may not be possible for all targets. Some tissues cannot be properly preserved in formalin. Eyes should be briefly fixed in Davidson's solution, a combination of formalin, ethanol, and acetic acid that prevents brittleness that can result in artifactual retinal detachment [1]. While intestine can be properly fixed in formalin, Bouin's solution provides crisper nuclei and better preservation of connective tissue structure, ultimately resulting in sections which are easier to read [2].

Formalin may also not be the most appropriate fixative for your experimental assays. Glutaraldehyde is a far superior fixative for electron microscopy as it preserves the structural integrity of organelles [3]. Acetone is the preferred fixative for demonstrating enzyme activity in tissue sections, and is especially effective for otherwise unstable enzymes [4]. A word of caution, though: different fixatives will result in different solubilities for nucleic acids, fats, and proteins. Make sure to consider the chemistry taking place during fixation when choosing how to preserve your tissues.

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Genomics

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NMR

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