

RESEARCH INTEGRITY'S RAMPING UP RESEARCH CHECKLIST

5/4/2020

Guidance for Principal Investigators, Post-docs, and Graduate Students on how to safely and logically restart your research activities

You are encouraged to modify this checklist to make it specific to your research laboratories

Laboratory COVID-19 protocols

Guiding principles

- Regularly check the [Michigan Tech COVID-19 FAQ](#) area for updates.
- Review [Research Ramp Up Planning document](#) from Vice President for Research Dave Reed.
- Follow the Center for Disease Control's guidelines "[What to do if you are sick?](#)"

Establish social distancing protocols¹ for

- Shared office spaces
- Break areas/food preparation areas
- Research Laboratories
- Field locations

Review the use of cloth face coverings, filtering facepieces (i.e. N95's), and respirators

- Follow the guidance on [using, providing, and cleaning cloth face coverings](#).
- Follow the guidance for the [voluntary use of filtering face masks](#) such as N95's.
- Follow the guidance for [wearing filtering face mask protection](#) if it is required and for any activities that use a half mask, full mask, or air-supplied respirators.

Establish cleaning guidelines for your laboratory

- Follow the [EPA](#) and [CDC](#) guidance on cleaning products; when using these products
 - Confirm appropriate PPE are being worn
 - Be aware if the cleaning product is flammable, corrosive or toxic, and
 - Follow any manufacturer's instructions for commercial products
- Approved disinfectants include:
 - 95% ethanol² with a 30 seconds contact time. (note a flammable liquid)
 - 70% isopropanol² with a 30 second contact time (note a flammable liquid)
 - 2 - 10% bleach solution with a 1 minute contact time (note an eye and skin corrosive)
 - COVID cleaning products sold at University Chemical Stores
 - Other products on the [EPA list](#) of approved COVID-19 disinfectants.

- ❑ Establish a regular laboratory cleaning schedule.
 - ❑ Provide daily cleaning of work surfaces at the beginning and end of each work day
 - ❑ Provide frequent cleaning for high touch point areas such as doorknobs, light switches, refrigerator handles, computer keyboards, etc.
 - ❑ Confirm that any cleaning product will not damage instrument controls, especially touch screens
- ❑ Review personal hygiene practices in the laboratory
 - ❑ Wash hands frequently; wash after sneezing, coughing, or touching potentially contaminated surfaces and when entering or leaving the laboratory
 - ❑ Wash hands, including fingers and nails, for 20 seconds with soap, rinse with warm water, and dry with disposable towels.
 - ❑ Avoid touching your face (eyes, mouth, nose) unless hands have been washed.
- ❑ Avoid wearing gloves as a general practice; glove selection must be hazard-specific and gloves must be replaced when visibly contaminated and discarded after completing the specific task.

Resupplying your laboratory

Prepare for supply chain disruptions and limited availability³

- ❑ Prioritize your research and determine what is critical to start now and what can wait
- ❑ Consider the following that may slow down ramping up your research projects
 - ❑ Recognize that order placement may be slower as the volume of requests increases
 - ❑ Plan for limited Personal Protective Equipment availability (including N95's, face shield, and gloves)
 - ❑ Plan for some reagents having limited availability
 - ❑ Plan for some consumables having limited availability
- ❑ Continue to use University Chemical Stores (UCS) for purchasing all laboratory chemicals and reagents
 - ❑ Chemstores is currently accepting chemical orders; they will be processed closer to the University's official reopening of laboratories
 - ❑ Plan for potential limited window sales of high demand items from UCS's stockroom inventory
 - ❑ Laboratories should continue to place bulk orders of non-chemical supplies and equipment through their normal purchasing channels (credit cards and purchase requisitions)

Shared facilities and projects approved by a regulatory committee (IACUC, IRB, IBC)

Review any Shared Facilities restrictions

- ❑ Contact the shared facility in advance and confirm that they are open for normal business
- ❑ Review if they have restricted schedules to accommodate social distancing

Review Recombinant DNA and other Biological Research projects

- ❑ Biological research projects with no, or minimal risk (BSL-1) and previously approved BSL-2 research projects may resume in accordance with the laboratory research guidelines provided in this document.
- ❑ For new projects related to the study of COVID 19, contact David Dixon dcdixon@mtu.edu to arrange for expedited IBC review.

Review Human Subject Research (HSR) projects

- ❑ Ramping up of HSR studies or study procedures that involve person-to-person contact, interaction, and/or interaction with participants/human subjects will be guided by the University communication of current institutional research activity category and level of restrictions in place. *Institutional research activity categories are listed on page 2 of the [Research Ramp Up Planning](#) document.*
- ❑ HSR ramp up will be based primarily on person-to-person direct contact, interaction, and/or intervention necessary to conduct the research. For example:
 - ❑ *Studies that include in-person interaction but can maintain social distancing would be allowed to begin sooner than those that cannot maintain social distancing; or*
 - ❑ *Studies that require multiple visits to campus/laboratories would start after those that only require one-time visits.*
- ❑ Specific **HSR Ramp Up Guidance and COVID Requirements** will be released prior to the removal of Stay Home Stay Safe restrictions. The guidance will include a document that categorizes common Michigan Tech HSR research study activities and procedures into corresponding institutional research activity categories, again available on page 2 of the [Research Ramp Up Planning](#) document.
- ❑ Please direct questions specific to human subject research to the human research protections program director at irb@mtu.edu.

Review Animal Subject Research projects

- The Animal Care Facility (ACF) may have restricted access guidelines to accommodate social distancing. Further information will be released directly to PIs that utilize the ACF
- If animal orders need to be placed, allow sufficient time for ordering/receiving - commercial vendors may have limited availability and/or shipping may be delayed
- Ensure all materials used in procedures are available prior to starting (surgical supplies, pharmaceuticals, consumables, etc)
- Field research projects that involve vertebrate animals should follow University guidelines regarding field activities
- Direct any questions about animal research to iacuc@mtu.edu

To do before you start working in the laboratory or the field

Review laboratory safety protocols

- Update your laboratory safety manual to incorporate new COVID-19 related working protocols
 - Ensure all lab researchers have reviewed any new protocols
- Review/update your hazard analysis/Job Safety Analysis/Job Hazard Analysis
- If the lab requires a [Chemical Hygiene Plan](#), review/update your [Standard Operating Procedures](#)
- Review your [working alone in the laboratory](#) policies
 - Hazardous activities require 2 workers in the laboratory
 - Depending on the hazard level other laboratory activities may require established check-in/check out procedures, and/or having regular monitoring, (cell phone, check-ins, interlaboratory communications, etc), and/or have real-time monitoring (Zoom, etc.)
- Review your shared Personal Protection Equipment (PPE) policies
 - All shared PPE must be sanitized between reuse, alternatives to sharing PPE include:
 - Assigning PPE for individual use
 - Using disposable PPE

Survey the laboratory for unsafe conditions

- Mitigate any chemical leaks, spills, or releases
- Mitigate any biological leaks, spills, or releases
- CAREFULLY open all cabinets, drawers, refrigerators/freezers, and other storage areas to survey for shifted, leaking, or compromised containers
- Cleanup/put away chemicals, supplies equipment, glassware, and other items left out during the shutdown
- Manage any expired, outdated, peroxide-forming, self-reactive, or other reagents with a limited lifespan

- Review the container integrity and storage conditions of any air-sensitive, water-sensitive, and pyrophoric chemicals
- Review the storage conditions of any temperature sensitive chemicals and materials
- [Secure, correctly label](#), and/or [request a pickup](#) of Hazardous Wastes
- Manage any medical or biological wastes
- Run the eyewash (collect water as needed) until clear; record date on the log sheet
- Replace missing and expired items in first aid kit(s)
- Replace missing and expired items in chemical spill control kits

Confirm the fume hood is operating as normal

- If your fume hood is on a schedule, confirm everyone in the lab understands the schedule for both weekdays and weekends
- If your fume hood is on a schedule and you have local override control, confirm everyone in the lab understands how this works
- If your fume hood is only locally controlled, confirm everyone in the laboratory knows how to operate the hood

Review equipment operation safety

- Review equipment manuals for safe start-up procedures
- Review equipment state and safely release or mitigate any stored up energy sources
- Follow up on any missed weekly, monthly, or quarterly equipment maintenance
- Review start-up procedures for any compressed gas cylinders, gas generation stations, and/or gas distribution systems

Review biological safety

- Review and update any [Operating Procedures](#)
- Confirm your Biological Safety Cabinet (BSC) is operating correctly
 - Confirm your BSC has a current inspection sticker
 - Follow up on any missed weekly, monthly, or quarterly BSC maintenance
- Validate that sterilization equipment is operating correctly
- Replace expired cleaners and sanitizing chemicals

Review field research safety

- Update your field safety manual to incorporate new COVID-19 related working protocols
 - Ensure all field researchers have reviewed any new protocols
- Follow Michigan Tech's guidance on [COVID-19 related travel restrictions](#).
- Review Michigan Tech's [Field Research Safety guidance](#).
- Establish social distancing protocols in vehicles, boats, field camps, and research sites¹
- Review working alone in the field policies
 - Setup check-in/check out procedures
 - Review options for 2-way field communication (radios, cell phones, satellite phones, SPOT satellite communication devices)
- Evaluate field first aid kits and first aid training

- Replace missing and expired items in field first aid kit(s)
- Acquire additional first aid kits as needed for social distancing
- Review first aid training records for all field researchers
- Review required safety training, manufacturer's equipment manuals, and standard operating procedures for
 - Operating specialty vehicles including vehicles with trailers, ATV/UTVs, tractors, snowmobiles, and boats
 - Using power and hand tools
 - Conducting field chemical manipulations
 - Conducting other hazardous activities
- Follow up on any missed weekly, monthly, or quarterly equipment maintenance

NOTES

¹Social distancing rules may be in place

- Social distancing can include non-overlapping work schedules
- The 6-foot distancing between people
- Limiting the number of people allowed in a research space, conference room, office, or other common room
 - If you post an occupancy limit label it "Social Distancing Room Occupancy" to distinguish it from Fire Occupancy
- Limiting the number of people traveling in the same vehicle, on a boat, or other modes of transportation

Also, see OSHA COVID-19 guidance [here](#) and [here](#).

²Since many researchers already have ethanol or isopropanol in the laboratory these are convenient and effective disinfectants if other EPA recommended commercial disinfectants are not available. Remember that these alcohols are flammable. Use cautiously on a limited number of surfaces at a time and avoid generating excessive aerosols. The best practice is to wipe surfaces with a disposable towel soaked with alcohol and allow the surface to air dry. Wear appropriate gloves and safety glasses to protect skin and eyes.

³Supplies, reagents, and consumables used by medical professionals and COVID-19 researchers may be limited to researchers; in addition, the global supply and distribution network has been disrupted