University of Pittsburgh STEM Research Restart - Guiding Principles
Prepared by STEM Research Restart Working Group

Goal: Open up research in STEM-based laboratories at the University of Pittsburgh following the Covid-19-related shut down as quickly as possible while maintaining the health and safety of the community.

Philosophy:
1. Research is an essential function of the faculty, staff, and trainees of the University of Pittsburgh and the results of research are of great value to society. STEM Research has much to contribute to the health and well-being of the population, including solutions to Covid-19.
2. The safety of members of the University community and the greater population is of paramount importance.
3. Planning should be grounded in science and CDC guidance regarding both good laboratory practice with infectious agents and specific information about SARS-CoV-2 and its observed manifestations in Pittsburgh.
4. The careers and livelihoods of many faculty, staff, students, and others at the University depend on the ability to continue ongoing research and initiate new research activities.

Principles:
1. Follow recommendations from the University Environmental Health & Safety Office (EH&S).
2. All work should be conducted remotely except where campus access is essential for continuation of research.
3. Vulnerable individuals, including those 65 or older and those with underlying medical conditions (as described by the CDC) that are not well-controlled, are encouraged to continue remote work.
4. Each PI is responsible to work with their research group to ensure availability of appropriate PPE* and to develop and ensure compliance with an approved COVID mitigation plan for their lab that is consistent with the principles in this document.
5. Access to shared equipment, facilities, and areas should be minimized and each PI whose personnel uses them should document controls for ensuring social distancing and cleaning protocols for these spaces.
6. If a researcher is experiencing new symptoms consistent with a Covid-19 infection (as per CDC guidelines; e.g., shortness of breath, cough, sore throat, fever, sweating, chills, loss of taste or smell, muscle aches, nausea, or diarrhea), they must not come to work and should contact their supervisor.
7. As usual, it is each individual PI's ultimate responsibility for the safety of their lab members. The Covid-19 mitigation plan must be understood by all members of the group. Each group member must make it their responsibility to follow the plan to keep themselves and others safe.
8. If a lab member feels pressured into an unsafe situation or sees someone else doing something that potentially compromises their or another's health and safety, they should contact their Associate Dean for Research.
9. Access to the lab should be as equitable as possible for all members of the lab group.

*NOTE: We are working under the presumption that the University will be providing labs with general use PPE, including surgical-style (non-N95) facemasks and gloves. Any laboratory specific PPE outside that for Covid-19 mitigation – i.e., that which is typically needed for conducting that laboratory's research – should be purchased and provided by the PI.

General guidelines:
1. Low density in labs should be maintained
    a. Personnel density should be determined based on the layout of each lab such that a 6 ft social distance is easily maintained between individuals at all times
    b. In general, this density should be no more than 1 person/150 sq. ft for rooms larger than 150 sq. ft.
    c. In special work areas where 6 ft distancing is not possible, personnel must adopt UPMC Wolff Center guidelines for 'close contact'* (current guidelines: minimum of standard surgical ASTM level 1 mask [not N95] and eye protection; gowns and gloves may be required for specific research procedures).
2. Shift work should be considered to decrease the potential for close interactions among lab staff members.
3. Proper PPE and disinfectant use are mandatory.
4. At the beginning <u>and</u> the end of any shift period or workday the incoming and outgoing personnel, respectively, must wipe all actively used surfaces and equipment with appropriate cleaning or disinfectant materials.
5. Logs of when lab members are at work must be maintained to facilitate contact tracing if someone becomes infected with COVID-19.
6. Each PI must plan on how to shut research back down in a controlled manner if the University deems necessary. For those that require more than 24 hours to shut down, a detailed plan should be devised and provided as part of the restart documents.
7. Personnel entering a research facility are subject to any University of Pittsburgh screening procedures that are currently in place for specific entrances before being allowed to proceed to their research laboratory.

Governance:
1. Each PI is responsible for the creation of the Covid-19 mitigation plan for their research group and space(s).
2. The STEM Restart Template and any related appendix templates are to be completed by every PI of a STEM-based department who wishes to restart research on campus. Research may not commence until all approvals are secured back by the PI in writing.
3. In areas shared among multiple PIs, <u>each</u> PI must complete and included in their plan a Shared Lab Space Mitigation Plan. One PI should be selected to lead the coordination among the multiple PIs by collecting all PI's Shared Lab Space Mitigation Plans, reconcile any differences, and submit one final form. The coordinated form should be submitted by the lead PI to the relevant Department Chair for shared spaces wherein all PIs are from the same department. For shared spaces with PIs from more than one department, the coordinated form should be submitted by the lead PI to the Associate Dean for Research of the school in which the share facility is housed. The lead PI will also devise scheduling and other procedures that must be coordinated in the shared space.

4. The PI's Department Chair must review and address any concerns with the PI. Once the Department Chair approves the plan, she or he will send it on to their Associate Dean for Research for School Dean's office approval.
5. The Associate Dean for Research, potentially with the guidance of a committee, must approve the mitigation plan and inform the PI in writing before on-campus research by that PI may commence.
6. If there is a disagreement with measures required to obtain approval for a risk mitigation plan, the PI can appeal to the SVCR's Standards and Clearance Committee.

Oversight:
1. The risk mitigation plan must be posted physically in each lab and available electronically to all lab members. Each lab member must review the plan prior to coming to campus. We recommend that the PI hold a virtual lab meeting to discuss the plan with everyone at one time.
2. All members of the lab are responsible to ensure that all mitigation procedures are followed, and, as with any safety concern, are required to report to their direct supervisor if they observe practices that are unsafe and/or contrary to the mitigation plan.
3. Each PI is to name a "Lab Safety Officer". For smaller labs, this can be the PI. In all cases, this must be an individual that will be present in the lab after the restart, and not working remotely.
4. PIs and designated Lab Safety Officers are responsible for monitoring implementation and compliance with all mitigation procedures.
5. The Department Chair is responsible for appointing designee(s) to oversee that the plans from PIs in their department are properly being implemented. Typically, this will be the department's Safety Officer(s). The Associate Dean for Research is responsible for appointing designee(s) to oversee that Covid-19 mitigation plans are being properly implemented within the departments of their respective schools.
6. If there are questions or concerns, you should report these to your immediate supervisor, Department Chair, or the Associate Dean for Research for your school.

Guide to Chairs for reviewing startup plans

1. Missing information
- Are single-PI lab spaces all listed and with reasonable estimates of square footage?
- Does the area reported for a shared lab space correspond to that PI's portion or the whole lab?
- Are all appropriate shared lab spaces included in the plan?
- For faculty who are using animals, are their animal facilities listed?
- Are faculty listing kitchens, autoclave rooms, freezer farms, environmental chambers, cryogenics facilities, or other locations outside of their main lab area where their lab personnel will visit?
- Did field researchers include the Field Research Mitigation Plan? Are those in the field on more than day trips developing a proper housing, travel, social distancing, and hygiene plan?
- Do the shared labs have one PI selected to reconcile the mitigation plans among the users?
- Other department-specific questions?

2. Improper space use
- Are non-science spaces listed, such as conference rooms, kitchens, or coffee rooms?
- Are protocol items added by the PI in conflict with other parts of the plan or with EH&S guidelines/checklist?

- Do parts of an appendix conflict with the primary STEM restart form, especially items added to either form by the PI?
- If someone listed any departmental spaces (seminar rooms, lactation room, etc.) as being needed as part of their plan, will they be open/available for use?
- Other department specific questions?

3. Validating information
- Is the box checked for reading the EH&S checklist? Send back if it is missing. Note that this checklist must be completed on the first day of lab reopening. A copy should be sent to their Department Chair
- If the number of personnel is less than expected based on your knowledge of the group size, is it noted that some personnel will work from home or that the lab will work in shifts?
- Does the number of simultaneous personnel for each room yield 1 person per 150 sq ft or less? If not, or if work will be required within 6 ft for more than a few minutes, does the mitigation plan attain minimum guidelines? Current guidelines: minimum of standard surgical ASTM level 1 mask [not N95, but N95 is OK] and eye protection; gowns and gloves may be required for specific research procedures.
- If large numbers of personnel are listed, and the room cannot accommodate them all at one time, are multiple shifts being used?
- Other department-specific questions?

4. Coordinating information across PIs
- Are too many people listed as using non-lab shared spaces?
- Check use on kitchens and other non-scientific shared spaces; if equivalent facilities are assigned imbalanced use, reassign some PIs to under-utilized facilities.
- Did the lead PI for users of shared lab spaces reconcile plans?
- For common-use office space, does the usage across all PIs allow for social distancing?
- Check consistency of PI and collaborator cross-listing within your department. If anyone is listing another PI's individual lab as a shared space (*e.g.,* for use of an instrument), the other PI must have collaborators listed.
- Other department-specific questions?

Guide for PIs – Steps to Restart: Planning to Re-Open Research Labs

1) Assemble personnel lists, lab layout, shared resources, and consult this and any University-provided best practice guides to Covid-19 mitigation in research settings.

2) Receive invitation from your Department Chair to restart research. Invitation will include: 1) Research Restart Plan template, 2) Shared Lab Space Mitigation Plan template, 3) Field Research Mitigation Plan template and 4) EH&S checklist. Invitation will include links to University Resources explaining School, and University-wide mitigation Plans.

3) Complete and submit to your Department Chair the STEM Individual Lab Research Restart Plan and EH&S checklist.

   a. (If applicable) Complete Field Research Mitigation Plan and coordinate with site managers and other PIs involved in the work.

   b. (If applicable) Complete Shared Lab Space Mitigation Plan for any space(s) used by more than one PI. Each PI must fill this out for their own group's use. One PI for each shared space should be appointed as lead PI in order to collect the plans from all PIs in the space, check for compatibility (i.e. of social distancing, hygiene, scheduling, traffic control), and submit a coordinated plan to their Department Chair (for single department shared resources) or to the Associate Dean for Research for the school in which the resource is housed (for resources shared by PIs in more than one department).

4) Plan Approved? (If YES, continue to (5), if NO return to (3)).

5) Prepare lab space with Lab Safety Officer prior to access by other group members. Follow instructions on EH&S checklist for safe restart of laboratory equipment and environmental protections. Complete the EH&S checklist. Post Research Mitigation Plan, posters, decals, instructions for space usage, etc. Install log sheets for tracking space usage. Place PPE, masks, gloves, cleaning supplies where needed. Prepare decontamination station, if applicable.

6) Prepare all laboratory personnel for restart via remote platform (Zoom or similar).

   a. Introduce goals of mitigation and the role of the Lab Safety Officer. Distribute and discuss Research Mitigation Plans (including shared plans, field work plans, etc.).

   b. Train lab personnel in health monitoring and reporting potential cases of Covid-19.

   c. Train lab personnel in use of scheduling and location of applicable tracking and logging tools.

   d. Train lab personnel in use of PPE, gloves, and cleaning materials, including instructions for safe disposal.

   e. Lab personnel must complete any and all required Covid-19-related online training modules.

   f. Schedule in-lab training sessions.

   g. Lab Safety Officer reviews, discusses, and approves start-up schedule.

7) Lab Re-opening:

   a. In-lab training for and review of lab-specific Mitigation Plan. Certify completion for each lab personnel via an email sent from the PI and Lab Safety Officer to the Department Chair's designated individual who is responsible for oversight of Covid-19 implementation.

   b. Put the Individual Lab Research Restart Plan into practice.

  c. (If applicable) Record revisions to Mitigation Plan. (If applicable) Resubmit Plan if substantial changes are needed (e.g. additional personnel, added space, added shared resources, etc).

8) Continuing Lab Safety Officer Duties, in coordination with PI:

  a. Maintain lab access records in order to provide critical inputs for contact tracing in case of infection.

  b. Review, discuss, approve, and post weekly schedules.

  c. Ensure and monitor compliance with best practices: health monitoring, location tracking, scheduling, etc.

  d. (As needed) Revise the mitigation plan (see 7c).

  e. Track new notices from the University, School or Department and alert lab personnel to any necessary subsequent changes in the mitigation plan.