

Continuity of Operations Plan (COOP) for Cox Lab

Department of Biochemistry

(please check specific department/college/university policies as needed, see <http://covid19.wisc.edu>;
Lists of items are not exhaustive but intended to help think through local situation)

This template addresses three areas: (1) Contacts and background information, (2) Planning to operate under different risk levels, (3) Planning to operate with disruption or shutdown.

CONTACTS AND BACKGROUND

Staffing

1. Essential personnel

Name	Primary phone	Secondary phone	Email
Sindhu Chitteni-Pattu			Schittenipat@wisc.edu
Neema Mbele			Mbele@wisc.edu
Takeshi Shinohara			Tshinohara@wisc.edu
Miguel Osorio Garcia			Osoriogarcia@wisc.edu
Zachary Romero			zromero@wisc.edu
Nina Bonde			Jocic@wisc.edu
Kanika Jain			Kjain5@wisc.edu
Steven Bruckbauer			Steven.bruckbauer@gmail.com
Camille Henry			Chenry7@wisc.edu
Elizabeth Wood			Eawood@wisc.edu
Abigail Watson (undergraduate)			ajwatson2@wisc.edu

Request that undergraduate, Abigail Watson return to lab: IPiB student Miguel Osorio-Garcia is the supervisor for requested undergraduate, Abigail Watson. They have already worked together for over 2

years, and Abigail has mastered all techniques required for her Phase II experiments. Both Abigail and Miguel will work the afternoon shift, but discuss experimental design and data interpretation virtually.

2. Non-essential Personnel

Name	Primary phone	Secondary phone	Email
Michael Cox			mcox@wisc.edu

External resources

- Bio safety contact – Elizabeth Wood eawood@wisc.edu
- Chem safety contact – Elizabeth Wood eawood@wisc.edu
- Facilities contact – Julie Kennedy. Email: jakennedy4@wisc.edu

Continuity of authority

Who is responsible for the lab, and who are two backup decision-makers in case the responsible individual is unable to make decisions on operation or shutdown? Provide name, email, and best emergency phone number for each.

- (PI) Michael M Cox, mcox@wisc.edu
- Lab manager Elizabeth A Wood eawood@wisc.edu
- Postdoc Camille Henry Chenry7@wisc.edu

Communication Plan

All members of the lab communicate via email, phone(text), and Webex.

Remote Data access, exchange, and security

All personnel are using the Biochem server for Data access and exchange.

Research Priorities:

- Maintenance of bacterial strains and proteins and generation of new strains and purified proteins: Most of our new strains are constructed by **Elizabeth Wood**. Proteins are purified by many members of the lab, particularly **Zachary Romero**, **Miguel Osorio-Garcia**, **Nina Bonde**, **Kanika Jain**, and **Camille Henry**. Strains and proteins not being used for priority experiments are frozen and stored in -80° freezers located in 333, 337, and 337B. The three freezers do not normally need maintenance but are the most important pieces of equipment we have and need to be monitored occasionally to ensure they do not malfunction.
- Maintenance of essential equipment: Our spectrophotometers (room 337) are maintained by **Elizabeth Wood** and **Zachary Romero**. Protein purification equipment (two ACTA devices) are maintained by **Miguel Osorio-Garcia**. Our EM grid shadower (room 303) is maintained by **Sindhu**

Chitteni-Pattu. Additional equipment (PCR machines, centrifuges, incubators and shakers, balance) are maintained by **Elizabeth Wood**. All of these duties require small amounts of time periodically and will be carried out during assigned shifts of the named individuals.

3. Wet-lab experiments: **Zachary Romero, Miguel Osorio-Garcia, Kanika Jain, Nina Bonde, Camille Henry, Steven Bruckbauer, Takeshi Shinohara, Neema Mbele, Serena Wan, Sindhu Chitteni-Pattu, Abigail Watson, and Elizabeth Wood** will perform experiments that are essential to complete the Aims of (1) a federally funded NIH RM1 grant directed at understanding the repair of postreplication DNA gaps and (2) a federally funded R01 grant directed at understanding of the molecular basis of extreme resistance to ionizing radiation. A renewal for the latter grant will be due this October. The first four individuals listed are graduate students and their experiments are essential for them to complete their theses. Henry, Bruckbauer, and Shinohara are postdocs who are preparing for new careers. All researchers in the lab will conduct experiments with non-pathogenic bacteria and with proteins and enzymes isolated from them. **Steven Bruckbauer and Takeshi Shinohara** carry out irradiation experiments that require occasional (once a week) access to the Linac facility in the Department of Medical Physics. **Sindhu Chitteni-Pattu** will carry out electron microscopy experiments using a TEM housed in Materials Science. **Miguel Osorio-Garcia** will carry out experiments that will make use of the new Cryo-EM facility. All personnel are expected to work efficiently with the minimum amount of time possible spent in the laboratory. All personnel will work on a staggered schedule so that no more than one person per 350 ft.² is present in the laboratory space at any given time. Experiment design and data analysis will be performed from home. Those personnel making use of facilities housed outside the department will do so only when they have an approved appointment, will carefully follow all rules of the host facility, and will wear mask, gloves, and lab gown when walking to and from those facilities.

What to do if someone feels unwell?

The following plan assumes that proper social distancing and hygiene has been practiced in the lab and in the research building at all times so that the prospects of COVID spread are minimized. The lab has a contactless thermometer that will be used to check all researcher temperatures every day. If any researcher in the lab exhibits an elevated temperature or feels unwell, they will conform to the following protocol:

1. They will immediately seek testing for COVID-19.
2. They will remain at home and quarantine; if symptoms are severe they will consult with a doctor.
3. They will notify researchers in the lab and on the floor. Any researchers who have been in the lab at the same time (within the past two weeks) will also stay home and quarantine until the affected researcher has a COVID test result. A positive COVID test will be reported to the lab PI, department chair and to other department PIs.
4. If the COVID test is positive, all researchers in the lab will quarantine for two weeks. The lab itself will be closed and locked. Any shared facilities that the researcher has used will be disinfected.
5. Research in the lab will resume only if (a) no other researcher develops symptoms in that two week interval, (b) no other cases have been reported on the same research floor, and (c) after disinfection of all common lab surfaces.

OPERATIONS UNDER DIFFERENT RISK LEVELS

1. Operation as normal Normal operation is not anticipated for the foreseeable future.
2. Operation with limited risk – e.g., no known cases in the municipality.
 - General SOPs in place for minimizing community spread (see below).
 - Particular vigilance for
 - Hand washing and personal hygiene
 - Space sanitization according to space-specific procedures
 - Social distancing
 - Symptom monitoring (see above)
 - Lab meetings per videoconferencing.
 - Heightened communications - Look for text and email messages from PI
3. Operation with heightened risk – e.g., known cases on campus.
 - Labs will be staffed only by essential employees who need to work at the bench and for limited hours. Lab meetings will be held by videoconferencing during regular lab meeting schedule.
 - General SOPs in place for minimizing community spread (see next page).

All lab personnel now have offices at home. They work there on any projects that can be done by computer, including writing, data analysis and learning new skills from online tutorials.

General SOPs for Minimizing community spread:

Current SOPs in the lab require daily surface sterilization of work spaces using 70% EtOH, and frequent hand washing. In addition, we will implement the following steps to minimize the possibility for virus transmission:

1. We will strictly enforce access to all laboratory spaces by authorized lab personnel only. All other personnel entering laboratory spaces must seek permission by PI first. This includes facility personnel, as well as personnel from external contractors. Exceptions are emergency situations that pose immediate risk, such as fire.
2. Occupancy of all labs that are assigned to the PI will be limited to ensure adequate distancing to 6 ft, as currently recommended by the CDC. Specifically:
 - a. 0205-337 – no more than four people at a time
 - b. 0205-333 – no more than two people at a time
 - c. 0205-337A, 337B, 337C, 337D, and 333A. These are small rooms adjoining the primary lab space. Only one person at a time will be permitted and they will come from primary lab so will not add population density.
3. Only healthy personnel, regardless of the level of symptoms, are allowed to enter the lab spaces.
4. Upon entering any laboratory space, personnel must wash hands immediately and in accordance with CDC guidelines, before touching any surfaces (see above).
5. Working surfaces will be sterilized with 70% Ethanol prior to assuming work.
6. In-person communication will use at least 6 feet distancing and wearing masks.
7. Whenever two or more people are present in 0205-337 or 0205-333 at the same time, they must wear a mask that covers the nose and mouth.

8. Upon entering and leaving any laboratory space, personnel must sanitize door handles and other common surfaces (e.g. light switches).

Because the Cox lab occupies the third floor of the DeLuca Labs building with other labs, the following additional SOPs have been agreed upon and will be followed by all labs:

9. Traffic flow:

-Hallways must accommodate bidirectional traffic. Lab personnel will minimize their use of the hallways, avoid using hallways when someone else is in the hallway, wear masks that cover the nose and mouth and maintain a 6 ft of distance from others.

10. Restrooms:

-The 3rd floor has two restrooms. Only one person will be allowed in the restroom at any one time and 10 minutes will be required between uses to replenish the air. The interior and exterior door handles will be sanitized by spraying and wiping with 70% ethanol at least four times a day. Lab personnel will minimize their use of the restrooms, wash their hands when they are finished, and use a paper towel to exit.

11. Lunch / break rooms:

- Lab personnel will minimize their use of the floor lunchroom by either eating at home or using lab-specific break rooms when possible. The floor lunch room is limited to two occupants at a time as per departmental guidelines and lab-specific break rooms are limited to one occupant at a time. Surfaces touched in either room (dining table, refrigerator handle, microwave handle and controls) will be sanitized with 70% ethanol before and after use.

12. Elevators:

- Lab personnel will minimize their use of the elevator by taking stairs, with the exception of those physically unable. Only one occupant will ride the elevator at a time, and a mask will be worn. Elevator buttons should not be pressed with fingers whenever possible. Gloves used for lab work should not touch any surfaces in the elevator.

13. Shared equipment

-All surfaces, including keyboard, mouse, instrument controls, and benches will be sanitized before and after use by spraying with 70% ethanol and wiping.

-Equipment used for >1 hour (e.g. spectrophotometers) will be scheduled online using Google calendar.

-High-touch surfaces such as door handles will be sanitized 4 times per day by spraying with 70% ethanol and wiping.

14. Self-monitoring for COVID-19 symptoms.

-All Cox lab members are expected to conduct self-monitoring each day before entering the building. Self-monitoring will follow the most recent WIDHS guidance:

<https://www.dhs.wisconsin.gov/covid19/symptoms.htm> and include the symptoms listed below. Temperatures should be taken at least 30 minutes after eating, drinking or exercising and at least 6 hours after taking medications that may lower temperature ex. aspirin, acetaminophen (Tylenol), NSAIDs (ibuprofen/advil).

If self-monitoring detects symptoms, the researcher will stay home and consider contacting his/her healthcare provider if any of the following symptoms are experienced:

- Cough
- Shortness of breath
- Fever $\geq 100.4^{\circ}\text{F}$
- Chills
- Repeated shaking with chills
- Or two or more of the following symptoms:
 - Sore throat
 - New loss of taste or smell
 - Muscle aches
 - Headache

Resource from OSHA, <https://www.osha.gov/Publications/OSHA3990.pdf>,

Maintaining the community of the lab:

The group meets regularly – at least once a week – via Webex to discuss lab issues of all types. The PI communicates with lab members regularly by email, phone and slack. Email, text and slack communications also occur frequently among lab members and with the PI.

SCENARIO PLANNING FOR DIFFERENT LEVELS OF DISRUPTION

Instructions: Listed below are three potential scenarios that might result from COVID-19. Under the scenarios listed, provide a step by step response detailing how your lab would respond to the scenario. In addition to the 3 scenarios listed, additional lab specific scenarios can be added, if needed. The section, “other concerns” provide additional information that might should be included in your COOP.

Scenario 1 - Disruption: Several members of the lab are out sick / unavailable for an extended period, and some suppliers or internal dependencies are at risk; Add as many steps/bullets as needed.

- In general, the plan would conform to the steps listed above for individuals who feel ill or who experience an elevated temperature. Any researcher who feels ill will seek testing for COVID-19. Positive tests will be reported as described above.
- If several members of the lab are out sick and test positive for COVID 19, the entire lab will quarantine for two weeks after ensuring that lab freezers and equipment items are secured and ongoing experiments are halted.
- Research in the lab will resume only if (a) no other researcher develops symptoms in that two week interval, (b) no other cases have been reported on the same research floor, and (c) after disinfection of all common lab surfaces.

Scenario 2 - Suspension: Students not allowed on campus; research and lab activities suspended; infrastructure support systems remain operational; Add as many steps/bullets as needed.

- Once suspension is announced, ongoing experiments will be halted, reagents and freezers secured. Equipment will be shut down or placed in an idle state for the period of suspension. The laboratory will be locked.
- All researchers will remain at home.

- Any researcher who experiences symptoms related to COVID-19 will seek testing and report the result to the PI
- Positive COVID test results will be reported to the department chair and department PIs

Scenario 3 - Shutdown: For a campus shutdown planned for longer than two weeks, or else if the campus is inaccessible, we cannot assume critical infrastructure would be available or is at least unreliable. Place all instruments and experiments in a safe idle state that does not require services. Additional details in this scenario relate to equipment shutdown and the like.

- Ongoing experiments will be halted. Reagents and freezers will be secured. Equipment will be shut down or placed in an idle state.
- Researchers will remain at home.
- PI will continue to communicate with lab personnel via Webex , Zoom, and email.

Other concerns to consider in scenario planning

What facilities are at risk of harm to the facility, its contents, to campus or to the public (e.g., animals that must be fed, samples that must be secured, equipment or hazardous materials that must be maintained or shut down)?

- Critical reagents for the Cox lab research program are in the –80 degree freezers, which are all on emergency power. None of these place the community at risk.
- All lab equipment (other than freezers and refrigerators) can and will be shut down.
- No staff is required in this lab during a shutdown, although a periodic check to ensure no freezers have malfunctioned is highly desirable.

If the lab must be staffed to avoid risk or harm, who will act as the primary minimum essential personnel to keep it operating? If the lab mustn't be staffed, state that it will shut down to ensure no risk or harm. Provide name, email, and best emergency phone number for each.

- Responsible lab personnel and their contact information is provided above under Continuity of Authority and are repeated here
 - a. (PI) Michael M Cox, mcox@wisc.edu
 - b. Lab manager Elizabeth A Wood eawood@wisc.edu
 - c. Postdoc Camille Henry Chenry7@wisc.edu