COVID-19 Safety Plan for: Frank Forward Electron Microscope Lab, Room 419

1. Risk Assessment

The virus that causes COVID-19 spreads in several ways. It can spread in droplets when a person coughs or sneezes. It can also spread if you touch a contaminated surface and then touch your face. The risk of person-to-person transmission increases the closer you come to other people, the more time you spend near them, and the more people you come near. The risk of surface transmission increases when many people contact the same surface and when those contacts happen over short periods of time.

Areas where there may be risks, either through close physical proximity or through contaminated surfaces. The closer together workers are and the longer they are close to each other, the greater the risk.

☐ 1.1 We have involved staff in the process of assessing risks and developing procedures -

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☐ 1.2 We have identified areas where people gather - in Room 419.

☐ 1.3 We have identified job tasks and processes where workers are close to one another:

- Receiving liquid nitrogen
- Receiving deliveries
- Receiving samples
- Etching samples
- Running instruments
- Assisting people with instrument troubleshooting

☐ 1.4 We have identified the tools, machinery, and equipment that workers share while working - there may also be equipment or materials provided to machinists by students/staff:

- Computers
- Instruments
- Lab equipment
- Telephone
- Chemicals
- Wet-lab equipment and supplies (e.g. beakers, utensils, small electrical equipment)
- Compressed gas tanks and transportation carts
• Broken glass containers and other containers
• Hand tools
• Instrument logbooks
• Operating manuals

☐ 1.5 We have identified surfaces that people touch often, such as doorknobs, elevator buttons, and light switches in Room 419 and 419A-E:

• Doors, door knobs, light switches
• Bench tops
• Desks
• Desk drawers
• Shelving
• Liquid nitrogen dewars
• Chairs
• Keyboards
• Mouse
• Monitors
• Room security alarm keypad

2. Protocols to Reduce the Risks

☐ 2.1 Review industry-specific protocols on worksafebc.com to determine whether any are relevant to your industry - from protocols for office areas:

• Only two people maximum at a time will be permitted in the EM lab, one of whom is the EM lab technician.

☐ 2.2 Frontline workers, supervisors, and the joint health and safety committee (or worker representative) - not applicable

☐ 2.3 Orders, guidance, and notices issued by the provincial health officer and relevant to your industry - not applicable

☐ 2.4 Your health and safety association or other professional and industry associations - not applicable.

☐ 2.5 General guidelines:

• Stay home if you feel unwell (see Policies).
• Stay home if you have provided care to or have been in contact with someone who has had COVID-19 in the past 14 days (see Policies as well).
• Avoid touching your face (eyes, nose and mouth).
• Wash your hands as indicated in the instructions under Cleaning and Hygiene Practices.
• Use hand sanitizer when hand washing is not possible. See the instructions under Cleaning and Hygiene Practices. Washing hands is more effective at preventing infection than hand sanitizer.
• Cough or sneeze into your upper sleeve; don't cover your mouth/nose with your hands.
• Wash your hands or use hand sanitizer after coughing or sneezing. Wash hands with soap and water whenever possible. Washing hands with soap and water is more effective at preventing infection.

☐ 2.6 Occupancy limit:

• Only the EM lab technician will be permitted and at most one other person will be permitted to work in the EM lab.
• Working alone - work in the EM lab does not require a working alone procedure.

☐ 2.7 Receiving items - wash hands if possible or use hand sanitizer after receiving items from other people (packages, samples, etc.). Washing hands with soap and water is more effective at preventing infection.

☐ 2.8 Wiping surfaces, equipment and tools:

• Wipe commonly touched surfaces with disinfectant wipes. Wipe down commonly touched tools, equipment and surfaces as identified above at the start of your shift and at the end. (At this stage one person beyond the EM technician will be allowed in the lab per day.)
• Dispose of wipes into the regular trash; do not reuse.

☐ 2.9 Assisting customers:

• Analysis requests and discussions need to be communicated by phone or email, not in person.
• Other staff/students accessing the EM lab - see Frank Forward Building Plan for Common Building Areas to Prevent Transmission of COVID-19, Section 1.13 Accessing the electron microscope lab.
• Signage - see Frank Forward Building Plan for Common Building Areas to Prevent Transmission of COVID-19, Section 4.9 Electron microscope lab (room 419).

☐ 2.10 Room 419 access restrictions:

• Building occupants may not access instrumentation or other facilities in room 419 without permission from the EM lab technician.

☐ 2.11 Hazard Elimination Measures:

• We have established and posted an occupancy limit for our premises - see Frank Forward Building Plan for Common Building Areas to Prevent Transmission of COVID-19, p. 1.
• In order to reduce the number of people at the worksite, we have considered work-from-home arrangements - all personnel at UBC have been directed not to work on campus unless they have permission through a specific exemption. The EM lab is an essential technical service that is required for phased return to research.
• Training of new users of the instrumentation will not be permitted until further notice.
• We have established and posted occupancy limits for common areas such as break rooms, meeting rooms, change rooms, washrooms, and elevators - see Frank Forward Building Plan for Common Building Areas to Prevent Transmission of COVID-19.
• We have implemented measures to keep workers and others at least 2 metres apart, wherever possible - see Frank Forward Building Plan for Common Building Areas to Prevent Transmission of COVID-19. For the EM lab see Section 1.13.

☐ 2.12 Engineering Controls:

• We have installed barriers where workers can’t keep physically distant from co-workers, customers, or others - no barrier is required for the EM lab. (People in the lab may not be confined to one location.) A table will be placed near the entrance to room 17 for staff to put items on for pick up by students/staff. This will permit items to be transferred back and forth without close personal contact.
• We have included barrier cleaning in our cleaning protocols - the table in the hallway is to be wiped with disinfectant wipes at the start of the work day, once again at midday at the end of the day; see the section on Cleaning and Hygiene Practices. (If no items or packages are placed on the table, the midday cleaning is not required.)
• We have installed the barriers so they don’t introduce other risks to workers - the table does not block exit or entry from or to the EM lab.

☐ 2.13 Administrative Controls:

• We have identified rules and guidelines for how workers should conduct themselves - see Frank Forward Building Plan for Common Building Areas to Prevent Transmission of COVID-19, Section 1, Physical distancing procedures for use of common areas and Section 3, Hygiene practices.
• We have clearly communicated these rules and guidelines to workers through a combination of training and signage - this document will be included with the training provided to the EM lab technician. The Frank Forward Building Plan for Common Building Areas to Prevent Transmission of COVID-19 plan will also be part of the required training. Other SRS training will be taken as it is made available. For signage see Frank Forward Building Plan for Common Building Areas to Prevent Transmission of COVID-19, section 4 and specifically section 4.9 for room 419.

☐ 2.14 Fourth Level Protection - Use of Masks:

• We have reviewed the information on selecting and using masks and instructions on how to use a mask - the worker must review the information on the websites:
Selecting and using masks:


How to use a mask:


- We understand the limitations of masks to protect the wearer from respiratory droplets. We understand that masks should only be considered when other control measures cannot be implemented:
  
  o Cloth masks may offer some level of protection to others by preventing the wide spread of droplets from the wearer. However, they are not a proven method of protection for the wearer as they may not prevent the inhalation of droplets.
  
  o Surgical masks, like cloth masks, offer limited protection to the wearer from the inhalation of droplets, but may offer some protection to others by preventing the wide spread of droplets from the wearer. They should be preserved for use by health care workers, whenever possible.
  
  o Disposable respirators such as N95 or P100 types must be used in accordance with the manufacturer’s instructions, and the use of these masks is regulated under the Occupational Health and Safety Regulation. Fit testing is required prior to use. Due to lack of availability, employers outside of health care should not consider these as part of their workplace controls to protect against the spread of COVID-19. Some dust masks may be similar in appearance to N95 disposable respirators; however, they are not manufactured to the same standards and would be similar to cloth masks in terms of protection.

- We have trained workers in the proper use of masks. N95 masks and other respirators require fit testing. You must be clean shaven to wear these types of respirators. Fit testing is normally valid for one year and is available from SRS.ubc.ca. However, WorkSafeBC is approved a two-year exemption for the time being. For use of masks that are not governed by occupational health and safety regulations review the information at the links above (selecting and using a mask and how to use a mask). These masks may be worn as a matter of personal choice by workers.

☐ 2.15 Cleaning and Hygiene Practices:

- We have reviewed the information on cleaning and disinfecting surfaces. Staff need to review the information at the following website on Cleaning and Disinfecting:
In brief, surfaces must be cleaned and disinfected. Dirt and debris must be cleaned off; soap and water are suitable. Check and follow the manufacturer's instructions for using a disinfection product. UBC janitors will likely be cleaning and disinfecting building common-area high touch surfaces such as exterior doors, washrooms and hallways. The EM lab the technician needs to clean and disinfect the areas identified as high-touch surfaces and shared tools, machinery and equipment in this document.

Our workplace has enough handwashing facilities on site for all our workers. Handwashing locations are visible and easily accessed - a women's washroom on the fourth floor is available. The sink in room 419 should be used by persons in the EM lab.

We have policies that specify when workers must wash their hands and we have communicated good hygiene practices to workers - hands must be washed when:

- When you arrive at work
- Before and after going on a break
- After using the washroom
- After handling packages or items received into the EM lab
- Before and after handling shared tools and equipment
- Before and after using masks or other personal protective equipment
- Wash hands for 20 seconds, rubbing all surfaces and then rinse well.
- If soap and water are not available (washing hands with soap and water is more effective at preventing infection) then an alcohol-based hand sanitizer is acceptable. Rub over all surfaces of your hands until they feel dry; do NOT wipe your hands on paper towels or other materials. That defeats the purpose. It must be in rubbed over and in contact with the skin for 10-15 seconds. Therefore a suitable volume is required (about 3 mL; about a rounded half teaspoon or a blob about the size of a quarter). See also:


We have implemented cleaning protocols for all common areas and surfaces - e.g., washrooms, tools, equipment, vehicle interiors, shared tables, desks, light switches, and door handles. This includes the frequency that these items must be cleaned (number of times per day) as well as the timing (before and after shift, after lunch, after use) - Washrooms and other areas/facilities shared by building occupants in general will be cleaned by UBC janitorial services. Surfaces identified for the EM lab in this document will be cleaned by the EM lab technician. Surfaces must be cleaned at the start of the workday and at the end of the workday. High-touch surfaces must be cleaned at midday as well.
• Workers who are cleaning have adequate training and materials - review the material on the website on Cleaning and Disinfecting referred to above. Once available SRS training on this will be taken as well.

• We have removed unnecessary tools and equipment to simplify the cleaning process - The EM technician must look over the work area and see if there are any shared items that are not necessary for the work. List items removed if any:

   Instrument manuals, logbooks, operating manuals, extra chairs for visitors, extra lab coats and safety glasses (there will be no sharing of personal items).

3. Policies

☐ 3.1 Our workplace policies ensure that workers and others showing symptoms of COVID-19 are prohibited from the workplace:

• Anyone who has had symptoms of COVID-19 in the last 10 days. Symptoms include fever, chills, new or worsening cough, shortness of breath, sore throat, and new muscle aches or headache.
• Anyone directed by Public Health to self-isolate.
• Anyone who has arrived from outside of Canada or who has had contact with a confirmed COVID-19 case must self-isolate for 14 days and monitor for symptoms. See:  

   http://www.bccdc.ca/health-info/diseases-conditions/covid-19/self-isolation

• Visitors are prohibited in the workplace.

☐ 3.2 Policy on violence prevention:

• Ensure workers have the training and strategies required to address the risk of violence that may arise as people in the department adapt to restrictions or modifications to the workplace. Ensure an appropriate violence prevention program is in place - All department personnel are required to take the UBC Preventing and Addressing Workplace Bullying and Harassment Training course and the Workplace Violence Prevention training course.

☐ 3.3 Policy on workers who start to feel ill at work:

• Workers must know the building address to provide to emergency personnel: 6350 Stores Road, Vancouver, V6T 1Z4. Anyone calling for emergency help on behalf of a sick worker should go to the building main entrance (north entrance facing the courtyard) to await emergency personnel and direct them to the sick/injured worker.
• Sick UBC-paid workers must call UBC first aid (604 822 4444), even with mild symptoms.
• Sick workers/students must wash or sanitize their hands, put on or be provided with a mask, and isolated. (Washing hands with soap and water is more effective at preventing infection.)
• If UBC first aid or paramedics so advise, the worker must go straight home and self-isolation protocols are to be initiated. See:
If the worker is severely ill (e.g., difficulty breathing, chest pain) 911 must be called. UBC first aid must be called next for UBC paid staff only.

- For UBC paid staff UBC first aid may be called. For unpaid personnel call 911; do not call UBC first aid.
- Another department employee must clean and disinfect any surfaces that the ill worker has come into contact with.

### 4. Communications Plans and Training

- **4.1** We have a training plan to ensure everyone is trained in workplace policies and procedures - This document and the Frank Forward Building Plan for Common Building Areas to Prevent Transmission of COVID-19 plan constitute training for EM lab technician. SRS training as it becomes available will be implemented.

- **4.2** All workers have received the policies for staying home when sick - this document constitutes training for policies on staying home when sick.

- **4.3** We have posted signage at the workplace, including occupancy limits and effective hygiene practices:
  - Post an 8.5" x 11" poster at the EM lab entrance indicating:
    
    MAXIMUM OCCUPANCY  
    FRANK FORWARD ROOM 419  
    2 PERSONS (one of who is the EM lab technician)
  

- **4.4** We have posted signage at the main entrance indicating who is restricted from entering the building - see Frank Forward Building Plan for Common Building Areas to Prevent Transmission of COVID-19 plan, Section 4.1.

- **4.5** Supervisors have been trained on monitoring workers and the workplace to ensure policies and procedures are being followed. SRS guidance will be implemented as it becomes available. In the meantime Michelle Tierney will check in with technical staff daily. Staff are required to fill in a daily login form with questions to indicate they are free of possible COVID-19 symptoms and
have not been knowingly exposed to the virus nor outside of Canada for 14 days. Staff may contact the LST co-chair (Bé Wassink), Michelle Tierney or the department head to discuss any concerns related to their work or their health and safety.

5. Monitor the Workplace and Update Plans as Necessary

☐ 5.1 We have a plan in place to monitor risks. We make changes to our policies and procedures as necessary - the EM lab technician will report weekly to Daan Maijer or Michelle Tierney to indicate if things are running well. If there are problems report as they arise. Report to the LST co-chair (Bé Wassink), the department head and/or Michelle Tierney. Changes to the safety plan will be made by the LST co-chair (Bé Wassink) and reviewed by the department head (Daan Maijer) and the SRS representative to APSC (Richard Colwell).

☐ 5.2 Workers know who to go to with health and safety concerns - workers may contact the department head, the LST co-chair, the JOHSC (the MTRL representative is Heli Eunike) and the SRS representative to APSC.

☐ 5.3 When resolving safety issues, we will involve joint health and safety committee - Richard Colwell will be contacted for advice. If there are serious concerns or conflicts contact the department head as well.

6. Assess and Address Risks from Resuming Operations

☐ 6.1 We have a training plan for new staff - not applicable.

☐ 6.2 We have a training plan for staff taking on new roles or responsibilities - not applicable.

☐ 6.3 We have a training plan around changes to our business, such as new equipment, processes, or products.

☐ 6.4 We have reviewed the start-up requirements for vehicles, equipment, and machinery that have been out of use - not applicable.

☐ 6.5 We have identified a safe process for clearing systems and lines of product that have been out of use - not applicable.