COVID-19 Workspace Safety Plan – Lab Specific

*Use of this template:* All light italicized grey font are instructional and must be removed before final copy is approved.

This workspace safety plan will assist Principal Investigators who wish to continue or resume research activities in their lab. This plan will include a review of activities to be undertaken in the lab to ensure effective controls are in place to prevent the spread of COVID-19. Principal Investigators are responsible for ensuring this document reflects current government guidance and notices which can be found, along with information about UBC’s response to the pandemic at https://covid19.ubc.ca/.

This plan must be reviewed by your Local Safety Team, and signed by your Unit Head/Director. Once complete, the plan can be submitted with your online application to return to research.

**Resources to Consult**

The following guidance documents and resources were used in the development of this plan:

- Preventing Exposure
- Personal Protective Equipment
- Physical Distancing Guidelines
- Reporting COVID-19 Exposure
- Communications Resources
- UBC Research Resumption webpage
- WorksafeBC

**Section #1: Lab information**

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<thead>
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<th>Department</th>
<th>Mechanical Engineering</th>
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<tr>
<td>Faculty</td>
<td>APSC</td>
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<tr>
<td>Building(s)</td>
<td>Rusty Hut – CEME Laboratories</td>
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<tr>
<td>Lab(s)/workspace(s)</td>
<td>RH 121 &amp; RH 121A Renewable Resources Lab</td>
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**Introduction to Your Lab**

The Renewable Resources Lab is situated in RH121, a room about 40m^2 in floor area. It is a sole use lab, not shared with any others. There are presently three students in the lab group, comprising one PhD, one MASc and one MEng. The main research area is on laser optical metrology.

**Section #2 - Risk Assessment**

1. **Lab/workspace Occupancy (under proposed COVID-19 operations)**

   The one PhD student will be the sole user of the lab. The other two students do not need to work in the lab and should not enter.

   **Confirm that you have discussed each employee's comfort level** with returning to work and have addressed any concerns, or will require further assistance in doing so. PhD Student [Name] has
confirmed his interest and desire to work in the lab so as to complete his thesis research. He does not have any concerns about returning to his workplace.

- PhD student [redacted] wishes to work up to 12 hours/week in lab RH121.
- The other two students in the lab group can to work from home and will not be enter RH121.

We are currently requesting for a single occupant to return to research in RH122 and RH122A. [redacted] is currently a PhD student and requires the use of an optical table. The title of their project is “Defocused Speckle Imaging for Remote Surface Motion Measurements”. [redacted] is expected to graduate in 5 months and we are requesting for a 3-month exemption.

2. Hazard Identification
Describe what hazards exist in your lab/workspace; both research-related (chemicals, heavy machinery) and COVID-19-related (areas that require closer personal interaction, equipment/instruments that cannot maintain social distancing i.e. that require >1 person to operate)

The lab has laser equipment. The student is a senior PhD student with long experience and careful habits. He has completed all the required Laser Safety certificates and training requirements. Laser safety glasses are already in stock and will be cleaned before initial use and will consistently be used by one student.

When working in the lab, all established safety training and protocols for safe use of lab equipment must be followed. All activities will be confined within the worker’s capabilities. No heavy lifting or the use of power tools are permitted.

There will be only a single occupant working in this space. Social distancing is not required unless going into hallways or bathroom areas. In these cases, the student will practice UBC and Departmental physical distancing protocols.

3. Employee (HQP, research staff, other) Input/Involvement
Detail how you have involved frontline workers (HQP and research staff) and Joint Occupational Health and Safety Committees (JOHSC) and/or Local Safety Teams (LST) in identifying risks and protocols as part of this plan.

A printed hardcopy of the workplace safety plan will be posted on the lab door.

- Your plan must be approved by your Head/Director
- Final plans will be posted to UBC’s COVID-19 Safety Plan website. An alert noting the plan availability and link to this final posting must be included on the main root site of your department or faculty.
Section #3 – Hazard Elimination or Physical Distancing
The following general practices shall be applied for all UBC buildings and workspaces:

- Where possible, workers (HQP, research staff, others) are instructed to work from home.
- Anybody who has travelled internationally, been in contact with a clinically confirmed case of COVID-19 or is experiencing “flu like” symptoms must stay at home.
- All employees are aware that they must maintain a physical distance of at least 2 meters from each other at all times.
- Do not touch your eyes/nose/mouth with unwashed hands.
- When you sneeze or cough, cover your mouth and nose with a disposable tissue or the crease of your elbow, and then wash your hands.
- All employees are aware of proper handwashing and sanitizing procedures for their workspace.
- Supervisors must ensure large events/gatherings (> 50 people in a single space) are avoided.
- Supervisors must ensure that all workers have access to dedicated onsite supervision at all times; via their own presence, members of safety committees, campus security or other. When working alone, HQP and staff must be aware of working alone procedures and how these have been adapted for COVID-19.
- All staff wearing non-medical masks are aware of the risks and limitations of the face covering they have chosen to wear or have been provided to protect against the transmission of COVID-19. See SRS website for further information.
- Note transportation/vehicle guidelines if applicable: 1 Person per vehicle, unless the vehicle is large enough to maintain 2m between occupants.

4. Scheduling
For those required or wanting to resume work at UBC, detail how you are rescheduling employees (e.g. shifted start/end times) in order to limit contact intensity at any given time at UBC.

Discuss your working alone procedures and how they will be adapted for this safety plan. Also describe how you will track those entering/leaving work i.e. sign in/sign out process:

- At this time shift-work is not permitted.
- Sign in/out processes can range from paper sign up sheets on lab door to ‘fob’ system with online tracking.
- Coordinate starts/ends within shared labs (e.g. lab shared with two other research groups) to remain below the lab’s maximum occupancy.

Only one student will be using the lab, so no rotation schedule is required.
Before entering the lab, the student must contact the PI via telephone to advise expected entry and exit times. The occupant will keep a cell phone in their pocket at all times so they can use to call out for assistance if needed. On completion of work the student will call the PI to check out.

5. Occupancy limits, floor space, and traffic flows
APSC recognizes that labs are dynamic environments and it may be challenging to adhere to physical distancing guidelines. Nonetheless, controls must be in place to keep personnel spaced at least 2m apart at all times. Clear communication of this to employees, monitoring of implementation, in addition to physical controls (signage) are needed.

As such: Using floor plans and/or photographs of your lab/workspace:
1) Identify and list the rooms and maximum occupancy for each workspace/area;  
2) Illustrate a 2 metre radius circle around stationary workspaces/benches/instruments and common areas or equivalent approach to social distancing; and 
3) Illustrate one-way directional traffic flows

- Set up directional movements so people are moving in one direction of travel if possible 
- Where fire code and function allow, prop doors between communicating spaces open to limit the need to touch doorknobs. Alternatively, consider installing hands-free door foot openers, auto door sensors, or door openers that can be activated by elbow. 
- How have you reduced occupancy in your workspace/lab, especially high-traffic areas such as hand-washing areas? Did you use the 25-33% range? 
- Are you able to separate incoming and outgoing worker entry/exit? 
- Consider changes to accommodate 2m distancing on shared instruments, frequently-used materials & reagents, common areas, offices

1) There will be only a single occupant working in RH1221 & RH122A. Social distancing is not required unless going into hallways or bathroom areas. In these cases, the worker will practice UBC and Departmental physical distancing protocols. In addition, the worker and the Mech LST have been provided with Safe Working Procedures (SWP), which include physical distancing procedures. The SWP also highlights the right to refuse unsafe work. 
2) There will be only one occupant allowed in the room, therefore this is not applicable. 
3) One way directional traffic flows will be placed in the hallway and lobby areas by UBC staff.

Section 4 – Engineering Controls

6. Cleaning and Hygiene
Detail the cleaning and hygiene regimen required to be completed by HQP, research staff and the PIs for common areas/surfaces (Custodial has limitations on cleaning frequency, etc.).

Outline specific cleaning processes and schedule for high-touch equipment, specialized/sensitive equipment or other unique circumstances to your lab/workspace. Detail how and what types of cleaning products and disposal options you will provide. If possible, include cleaning stations/infrastructure on your lab photos/plan.
- **Cleaning and sanitization** are crucial to maintain a safe lab/workspace. Provide as much detail as possible on your cleaning plans i.e. when, who, how, provide a checklist, etc. Identify and discuss what surfaces/areas need to be cleaned.

- **Discuss how you plan on providing the required supplies and training** (in addition to that provided by UBC SRS). Consider signage i.e. ‘ready for use’ vs ‘needs cleaning’, having ‘hot zones’ for smaller equipment/tools (bins to collect soiled equipment so others don’t use it).

- In dry labs and office areas where sinks are not available, place hand sanitizer stations adjacent to exit doors and signage suggesting the use of sanitizer after touching shared items such as knobs, printers, keyboards, etc.

- **Discuss how you will ensure safe disposal of used cleaning supplies and if applicable, any hazardous waste needs** (from previous operations or adapted to new plan).

The sole occupant will be responsible for cleaning. Both the inside and outside door knobs of the lab will be cleaned with alcohol hand sanitizer daily. A supply of alcohol and hand tissues will be kept by the lab door. Handwashing will be available in the washroom.

Work surfaces will be cleaned prior to initial use. Before using any equipment, the user will clean any items before initial use. The equipment will be consistently used by one occupant.

### 7. Equipment Removal/Sanitization

Detail your appropriate removal of unnecessary tools/equipment/access to areas and/or adequate sanitation for items that must be shared that may elevate risk of transmission, both research-related (i.e. instruments, tools) and general (i.e. coffee makers in break rooms)

- Consider assignment of key pieces of equipment and label with the name of the assigned employee. Consider especially larger pieces of equipment that require >1 person to operate.
- If equipment cannot be individually assigned, then consider and explain your sanitation regime (or reference it above)
- Consider closing breakrooms or limiting access via a sign-up sheet

There will be only one occupant working in RH122 and RH122A at all given times. No equipment will be shared with another user.

All breakrooms including the use of fridges, microwaves and coffee machines will be closed during Phase 1.

### 8. Safety Infrastructure Requests (Partitions, Plexiglass installation)

Describe any needs for safety infrastructure i.e. physical barriers, plexiglass installation required for your lab/workspace and if possible include them on your photos/room plan.

- Refer to Worksafe’s “Designing Effective Barriers” guidance

There will be only one occupant working in RH122 and RH122A at all given times. No physical barriers are required.

### Section 5 – Administrative Controls
9. Communication & Training Strategy for Employees
Describe how you (the PI) have or will communicate the risk of exposure to COVID-19 in the workplace to your HQP/research staff/other employees and the safety controls in place to reduce such risk.

Personal guidance will be given by the PI to the student during an online training session before first lab admission. Reference will be made to WorkPlaceBC website “What workers and employers need to know about COVID-19. If the student is experiencing any flu like symptoms he has been instructed to stay home and to follow the advice of the BC Health Authorities.

Detail how you will ensure that all employees successfully complete the Preventing COVID-19 Infection in the Workplace online training and orientation to your specific safety plan.

Student will be asked to affirm that he has completed the online training and also will be asked to give a verbal summary of the contents.

- Outline the expectations for all employees returning to the workplace and describe how an employee would raise concerns
- Clearly indicate that employees with symptoms MUST stay home
- How have you adapted to new risks in terms of training for existing and new staff
- All processes must be documented

10. Signage
Detail the type of signage you will utilize and how it will be placed (e.g. floor decals denoting one-way walkways and doors, ‘cleanliness state’ of equipment/instruments, hand-washing guidance). See WorksafeBC for signage guidelines and templates.

- Use decals: In spaces where one direction of travel can be assigned, assign a clockwise direction of travel using tape on floors for people to move around safely, otherwise practice walking on the right and yielding to oncoming traffic.

There will be only a single occupant working in RH1221 & RH122A, therefore floor decals are not required within the lab. However, floor decals and signage will be placed in hallways, lobby and bathroom areas by UBC staff.

11. Emergency Procedures & Reporting
PIs must ensure that all employees entering the lab should be aware of the Building Emergency Response Plan (BERP) and have access to it. If applicable, detail your strategy to amend your lab’s emergency response plan procedures during COVID-19.

The Building Emergency Response Plan (BERP) and BERP amendments for Rusty Hut (CEME Laboratories) can be found at http://safety.mech.ubc.ca/resources/.

12. Monitoring
Describe how you will monitor your workplace (supervisor, departmental safety representative, other) and update your plans as needed; detail how employees can raise safety concerns (e.g. via the JOHSC or Supervisor).

Workplace will be monitored by recording all entrance and exit times. Student will be requested to raise all safety concerns first with the PI, and if not satisfied to the departmental Safety Officer.

- Identify the person(s) responsible for implementing and then monitoring compliance with the plan.

Monitoring will be coordinated with the Mechanical Engineering department monitoring plan. In addition, the PI will monitor activities.

Safety concerns can be raised to the PI, LST, or JOHSC.

Section #6 – Personal Protective Equipment (PPE) & Critical Supplies

13. Personal Protective Equipment and Critical Supplies
UBC has a central process for purchasing PPE. Describe what PPE/CS you will require for your lab.

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<thead>
<tr>
<th>#</th>
<th>Type of PPE</th>
<th>Activity and PPE Use Rationale</th>
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<tbody>
<tr>
<td>1</td>
<td>Hand sanitizer</td>
<td>For general hand hygiene</td>
</tr>
<tr>
<td>2</td>
<td>Cleaning wipes</td>
<td>For cleaning work surfaces and door knobs</td>
</tr>
<tr>
<td>3</td>
<td>Face masks</td>
<td>For use when walking outside the lab, if student desires</td>
</tr>
<tr>
<td>4</td>
<td>Vinyl gloves</td>
<td>For handling lab equipment, if student desires</td>
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- If applicable list any other protective controls such as access to showers/laundering facilities
- Discuss how you will safely dispose of soiled PPE
Acknowledgement

I confirm that this Safety Plan has been shared with all workers (HQP, research personnel, etc.) who will be accessing this space both through email and will be made available as a shared document. Workers can either provide a signature or email confirmation that they have received, read and understood the contents of the plan.

Date: 5 June 2020
Name (Manager or Supervisor): Gary S Schajer
Title: Professor

Department/School Head/Director Approval

Steve Feng, Department Head

June 10, 2020
Name, Title
Date

Signature
Appendix

Please attach any maps, pictures, departmental policies or risk assessments applicable UBC Guidance documents, where necessary, and other regulatory requirements referred to in document.

APSC specifically requests photographs of your current lab layout, as well as your proposed usage layout i.e. where HQP will work, what areas will be closed off, where signage will be placed, etc. If floor plans of your lab/shared workspace is available, please append these as well.

- **Safe Working Procedure are attached**
Safe Work Procedures in RH 121 Renewable Resources Lab

1. Before entering lab, telephone the Principal Investigator (PI) Gary Schajer at 604 731 8390 to advise expected entry and exit times.

2. When arriving at the Rusty Hut building, enter at the west entrance and go directly to lab RH 121. Look out for any other people walking nearby and take evasive action to avoid coming within 2m of them, further if possible.

3. After entry to RH 121, clean both inside and outside door knobs with alcohol sanitizer. Then clean own hands with alcohol sanitizer or else wash hands in restroom. A supply of alcohol sanitizer and hand tissues will be kept by the lab door.

4. Do not enter any other lab within the Rusty Hut. Limit walking within the building to visits to the restroom for handwashing, etc.

5. Do not admit visitors to RH 121. If someone comes with an enquiry, speak to them through the closed door.

6. While present in RH 121, leave the main entrance door unlocked so as to enable unimpeded access to the lab should an emergency occur that requires urgent outside assistance.

7. Keep a cell phone in your pocket at all times so that you can summon assistance if needed. If appropriate, call out for assistance. The acoustics in the Rusty Hut are very open, so any persons nearby should be able to hear you.

8. When working in lab, follow all established protocols for safe use of lab equipment. When working with laser equipment, wear laser safety glasses and follow the procedures described in the “Laser Safety for Students” course.

9. Be mindful to work carefully and calmly. Confine your work to activities that are easily within your capabilities. Do not do any heavy lifting or use any power tools.

10. Do not proceed with any task if you have any concerns about procedures or have suggestions for their improvement. Instead, contact the Principal Investigator to resolve concerns. You have the right to refuse unsafe work.

11. On completion of work, exit the lab, lock the door, directly exit the building through the north (main lobby) door while avoiding proximity to other people, and inform the Principal Investigator of your departure.