COVID-19 Workspace Safety Plan – Lab Specific

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/](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.

Standard hours of return: Phase I occupancy 7 AM to 6 PM Monday to Friday.

**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**

<table>
<thead>
<tr>
<th>Department</th>
<th>Mechanical Engineering</th>
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</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>Applied Science</td>
</tr>
<tr>
<td>Building(s)</td>
<td>Brimacombe</td>
</tr>
<tr>
<td>Lab(s)/workspace(s)</td>
<td><strong>AMPEL 146, 146A, 146B, 146C, and 146D</strong></td>
</tr>
</tbody>
</table>

**Introduction to Your Lab**

The research activities of the Stoeber lab are mainly conducted in the Brimacombe building, in Rooms AMPEL 146, 146A, 146B, 146C and 146D (layout of the lab spaces is shown in the following figure). Some lab members usually have or need to access also AMPEL 143A (Soft Lithography - shared facility), AMPEL 341 (John Madden’s lab), AMPEL 444 (CFET – shared facility) and AMPEL 446 (cleanroom – shared facility) and labs in the Pulp and Paper Centre and in ICICS. The current size of the group is 13 members with 9 new hires by September 2020. The group conducts research on microelectromechanical systems such as microfluidics and sensing technology. We use the facilities to fabricate and characterize microdevices including sensors and microfluidic chips and investigate microflow physics. Room 146D is shared with the Grecov lab. The Grecov lab has access to equipment located in space D and labeled with a green dot in the figure. Only Grecov lab members are using this equipment.
Section #2 - Risk Assessment

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

- Any worker (staff, students, faculty, post docs, research associates, technicians, and other research personnel) who had concerns about returning to work on campus has requested an exemption to the PI.
- 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.
- The maximum capacity of the lab space is normally 18 users. Only 6 users at a time (1/3) will be allowed in the lab space according to the following room occupancy level:
  - Room 146: 2 persons
  - Room 146A: 1 person
  - Room 146B: 1 person
  - Room 146C: 1 person
  - Room 146D: 1 person
- All lab members are HQPs who mainly run experimental work.
- Lab members who can currently work remotely or have raised concerns about their health remain working remotely.
- Lab members who have limited funding available and need to run experimental work have been requested back to work.
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)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>General solvents</td>
<td>IPA, acetone, etc. used in the fume hood</td>
</tr>
</tbody>
</table>

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.

Describe how you will publish your plan (online, hardcopy) and otherwise communicate workplace health measures to employees. Guidelines from SRS are available here: [https://srs.ubc.ca/covid-19/health-safety-covid-19/working-safely/](https://srs.ubc.ca/covid-19/health-safety-covid-19/working-safely/)
• The approved final plans will be sent by email to all the employees and will be posted on the main door to AMPEL 146. An additional copy will be available inside the room.
• The workplace health measures will be communicated by email to all employees.
• The maximum occupancy of people will be posted for each room in large bold and clearly visible font. The maximum occupancy of people, the safety plans, and the instructions to access the online scheduling system will be posted on the front door.
• Final plans will be posted to UBC’s COVID-19 Safety Plan website.

Section #3 – Hazard Elimination or Physical Distancing

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 shiftwork is not permitted
• An online calendar will be shared with the all the users of the lab space. Access to the calendar is given after PI approval. This includes Dr. Greco’s research group members who share the space and who will be able to access the calendar following email request to the PI.
• Online sign up for each room (146, 146A, 146B, 146C, 146D) will be regulated by the PI to ensure that people present at the same time are not in conflict for the same resources.
• Each employee has their own dedicated workbench, limiting contact intensity.
• For working alone procedures, a check in designate has been nominated, who will check every two hours by phone call or text messages on people working alone. When the check-in designate (buddy) fails to make contact, the buddy will contact Campus Security ten minutes after the first failed contact at 604-822-2222 for an in-person check

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

• Room 146 (including 146A, B, C and D) normally allows a maximum capacity of 18 people. To follow safety procedures, only a 6 people maximum capacity (33%) will be allowed.
  • Room 146: 2 people at a time
  • Room 146A: 1 person at a time
  • Room 146B: 1 person at a time
  • Room 146C: 1 person at a time
  • Room 146D: 1 person at a time
• For each lane in between benches, only one person at a time is allowed
• Tape will be positioned on the floor of the main lab room to indicate where the 2 m safe distance is from doors, the sink and the fume hood, as shown in the room outline (red lines). The maximum occupancy of the smaller adjacent rooms in limited to 1 person during Phase 1. When entering and exiting a door, the person who needs to go out of the room has the priority.

• To meet physical distancing requirements, the lab space can be reserved online to limit access to no more than 1 person for rooms 146A, 146B, 146C and 146D and to no more than 2 users for the main room 146.
• The lab members do not have an office in the Brimacombe building. The lab members will only access the lab space and other rooms in the building when necessary.
• The lab members are not supposed to access meeting rooms in the building. For common spaces, they are instructed about sanitizing the surfaces before and after use

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.
Each user has their own personal bench space labeled.

Sanitization protocol includes cleaning of personal and common surfaces as well as tools at the beginning and at the end of each use with spray disinfectant or wipes.

Room 146 is equipped with 2 sinks used as handwashing stations: one in 146 and one in 146D. Both stations are equipped with liquid soap and paper towels, provided by the lab PI.

Room 146, 146A, 146B, 146C, 146D have all been equipped by the PI with hand sanitizer.

Spray disinfectant and cleaning wipes are located at the sinks. Each user will have the responsibility to sanitize personal and common surfaces at the beginning and at the end of each session.

Disposable gloves, goggles and lab coats are normally used in this lab by the users for safety reasons.
  - Each user has their personal lab coat that will be stored in a personal plastic bag after each use.
  - Each user is supposed to clean goggles before and after use.

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

List of high-contact points to be cleaned at the end of each employee’s use of the space:
  - Doors in every space
    - handles
  - Space 146:
    - Fume hood:
      - Glass window
      - Scale
      - Spin coater
      - Solution containers
      - Flammable cabinet handles (Flammable cabinet positioned below the fume hood)
    - Sink
      - Faucets
      - Handles
    - Cabinets
      - Handles
    - Whiteboard (located above the desk)
      - Marker
      - Eraser
    - Benches
      - Stereomicroscope (yellow dot)
      - UV exposure machine (red dot)
      - Scale (blue dot)
  - Space 146A:
    - Optical surface profiler (Wyko)
      - stage
    - Computer
      - keyboard
- mouse
- pc power button

 o Space 146B:
  - Microscope
  - Eye pieces
  - knobs
  - Computer
  - keyboard
  - mouse
  - pc power button

 o Space 146C:
  - Desk
  - Computer
    - keyboard
    - Mouse
    - pc power button
  - Cabinets
    - Handles

 o Space 146D:
  - Bench (green dot)
    - Stereomicroscope
    - Pressure controller
    - High-speed camera
    - Laptop

- Things that need to be cleaned will be labeled with 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).
7. Equipment Removal/Sanitation
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)

- Each lab user has their own personal bench space labeled.
- For common spaces and equipment, lab members are instructed about sanitizing the surfaces before and after each use with sanitizing spray and wipes.
- The lab does not have larger pieces of equipment that require >1 person to operate.
- The lab members are not supposed to access meeting rooms in the building, but are invited to meet in open spaces at 2 m safe distance.

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.

- No need for safety infrastructure

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.

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

- Employees with symptoms MUST stay home!
- Before coming to UBC, all employees, students and visitors must monitor their health status. If you are feeling unwell in any way, do not come in, and follow medical advice. Further instructions at bccd.ca
- If you believe you have been exposed to COVID-19 in the workplace notify Boris Stoeber immediately.
- Likewise, employees are asked to raise safety concerns with the PI.
- Records of the completed training courses for all personnel under the PI supervision, and the signed statement that the personnel have read and understood the building, university and WorkSafe policies relevant to the Phase I restart will be kept.
- The required cleaning procedures are outlined in the Workspace Safety Plan. PPE requirements have not changed.

### 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.

- For each lane in between benches, only one person at the time is allowed
- Tape will be positioned on the floor of the main lab room to indicate the 2 m safe distance from doors, the sink and the fume hood, as shown in the room outline (red lines). When entering and exiting from a door, the person who needs to exit the room has the priority.

- Things that need to be cleaned will be labeled with 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).

### 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 Brimacombe BERP will be available in the new lobby and will be posted on the website. All accident and incident reporting should be submitted at [www.cairs.ubc.ca](http://www.cairs.ubc.ca).
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).

Employees can raise concerns to Boris Stoeber, boris.stoeber@ubc.ca, to the BRIM LST, to the MECH LST, or the JOHSC. They may also contact Gary Lockhart, Building Manager and Safety Committee Co-chair, gary.lockhart@ubc.ca, 604 822 2955. Pinder Dosanjh, Operations Manager, pinder.dosanjh@ubc.ca

- persons responsible for implementing and then monitoring compliance with the plan:
  - One designated lab member at each time.
  - Martina Iapichino, Postdoc, Stoeber lab, martina.iapichino@ubc.ca
  - Gary Loickhart and Pinder Dosanjh in special circumstance, upon request of the PI.

### Section #6 – Personal Protective Equipment (PPE)

**13. Personal Protective Equipment**

UBC has a [central process for purchasing PPE](#). Describe what PPE you will require for your lab.

<table>
<thead>
<tr>
<th>#</th>
<th>Type of PPE</th>
<th>Activity and PPE Use Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lab coats</td>
<td>Handling chemicals: lab coats protect the user from spillage of chemicals</td>
</tr>
<tr>
<td>2</td>
<td>Gloves</td>
<td>Handling chemicals and/or devices: gloves protect the user from spillage of chemicals, they also protect devices from contamination by the user</td>
</tr>
<tr>
<td>3</td>
<td>Face masks</td>
<td>Handling chemicals including sub-micron particles: face masks protect the user from exposure to fine particles</td>
</tr>
<tr>
<td>4</td>
<td>Safety goggles</td>
<td>Handling chemicals: safety goggles protect the user from splashes when handling chemicals</td>
</tr>
</tbody>
</table>

- Stoeber lab is not in need of PPE other than the one already ordered
- The used PPE will be collected in separate plastic bags that will be disposed in the garbage bin at the end of the working day.
- For the cleaning of lab coats, the Lab Coat cleaning service of the Chem Store at UBC will be used

**Researcher Agreement**
SAFE-RETURN-TO-WORK AGREEMENT  
THE BRIMACOMBE BUILDING

Signature line for researcher (faculty, student, research staff, post-doc etc.) and administrative staff acknowledgment

I ______________________________ have read and understand the additional precautions being taken during this time, as outlined in the Brimacombe Phase I Safety Plan, my lab’s Workspace Safety Plan. I have read and agree to abide by the safety plans, and to undergo training that will be required by UBC once it is put in effect (we anticipate video training that all those entering the building will be required to complete):

RESEARCHER/ SIGNATURE  ___________________________  
or STAFF

DATE  ___________________________

Signed

SUPERVISOR/ SIGNATURE  ___________________________  
or DIRECTOR in case of PIs

DATE  __________________________

Signed

Supervisor is to keep a copy of this document in the lab and/or accessible electronically from the lab, in case of Local Safety Committee, SRS or WorkSafe BC audit.
COVID-19 Lab Safety Plan Brimacombe Template 2 June

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. For shared labs, please add the number of signature lines needed to cover all PIs who intend to have researchers use the space, e.g. including for students who will visit for a short period of time to use an instrument.

<table>
<thead>
<tr>
<th>Date</th>
<th>Name (Manager or Supervisor)</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 9, 2020</td>
<td>Boris Stoeber</td>
<td>Signed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Name (Additional PI)</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 9, 2020</td>
<td>Dana Greco</td>
<td>Signed</td>
</tr>
</tbody>
</table>

Department/School Head/Director Approval

Steve Feng, Head of Mechanical Engineering

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<thead>
<tr>
<th>Name, Title</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 8, 2020</td>
<td>John D. Madden, AMPEL Director</td>
<td>Signed</td>
</tr>
</tbody>
</table>
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.

AMPEL 146 Occupancy Limit: 6 persons
Phase 1

146C
146A
146B
146D
146

June 7, 2020