COVID-19 Workspace Safety Plan – Lab Specific
Pulp and Paper Centre

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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<th>Department</th>
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<tr>
<td>Faculty</td>
<td>APSC</td>
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<td>Building(s)</td>
<td>Pulp and Paper Centre</td>
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<tr>
<td>Lab(s)/workspace(s)</td>
<td>PPC 108</td>
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Introduction to Your Lab

The Industrial and Biological Multiphysics Laboratory research focuses on continuum mechanics with an emphasis on fluid dynamics in biomedical and industrial applications. Our lab utilizes rheology, tribology, in vitro flow loops, and computational modelling to investigate engineering problems associate with liquid crystalline materials, bio-lubricant performances, cardiovascular flow, and synovial fluid. Our lab currently has 11 members with shared facilities in Pulp and Paper Centre, Advanced Materials Process Engineering Laboratory and The Institute for Computing, Information and Cognitive Systems. The room is shared with the Stoeber lab. The research activities of the Stoeber lab are mainly conducted in the Brimacombe building, in Rooms AMPEL 146, 146B, 146C and 146D. 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 lab 108 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. They use on-campus facilities to fabricate and characterize microdevices including sensors and microfluidic chips and investigate microflow physics.
Section #2 - Risk Assessment

1. Lab/workspace Occupancy (under proposed COVID-19 operations)
List the number of people that will be present in your lab/workspace at the same time. List this by every room/lab/workspace you occupy.

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. Any worker (staff, students, faculty, post docs, research associates, technicians and other research personnel) who has concerns about returning to work on campus can request an exemption to his/her supervisor.

- The overall floor layout for PPC’s first floor is shown in Figure 1 in the Appendix
- 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.
- PPC 108: Single occupant planned
- Proposed/Normal occupancy: single/three maximum (1/3)
- All lab users are HQPs who mainly run experimental work.
- Lab members who can currently work remotely or have raised concerns about their health remain working remotely.
- Three members, listed below, are expected to access PPC 108. Their work is primarily experimental.

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<th>Name</th>
<th>Status</th>
<th>Email</th>
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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)

- No chemical nor heavy machinery hazard is expected
- General solvents (IPA) used in the fume hood
- No COVID-19 related hazard is expected due to single occupant plan

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/

- The approved final safety plan will be distributed to all users of PPC 108 via email.
- A poster for the maximum allowable personnel for PPC 108 will be posted on the door, as shown in Figure 4 in Appendix.
- Final plans will be posted to UBC’s COVID-19 Safety Plan website.

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

- No shift-work is permitted
- Sign in/out processes will be arranged with paper signup sheets on lab door
- Only one member will be allowed in PPC 108 at any given time
- Scheduling for the work will be granted on daily basis from 7AM to 6PM, M-F.
- UBC’s Working Alone or in Isolation Program will be followed
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

- PPC 108 only has one entrance/exit; therefore, separating traffic and one-way travel is not possible
- Social distance requirement will not be necessary as it is planned to have only one personnel in PPC 108 at any given time
- Hand washing station is available in PPC 108 and soap/sanitizer will be provided
- The door for PPC 108 could be propped open; however, due to security during summer season, it is expected to not have the door propped open. Sanitizing wipes will be used to disinfect the doorknobs after usage

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.

- PPC 108 only has one entrance/exit; therefore, separating traffic and one-way travel is not possible
- Each user has their own personal bench space labeled.
- Sanitization protocol includes cleaning of personal and common surfaces at the beginning and at the end of each use with spray disinfectant or wipes. It is the responsibility of each user to sanitize personal and common surfaces at the beginning and at the end of each session.
- Soap/sanitizer will be provided by the hand washing station
- No chemical waste is expected to be generated from the current planned projects
- The used disposable materials (gloves, sanitizing wipes, cleaning tissues) will be disposed in regular disposable bin
- 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
- The schematic layout for PPC 108 is shown in Figure 3. A List of items required to be clean/disinfected using sanitizer wipes at the end of the day is shown as follows:
  - Door handles: inside and outside doorknobs
8. **Sanitation**
Describe sanitation (i.e. cleaning surfaces, disinfecting lab/workspace)

- Fume hood: handle on the protective cover
- Sink: faucets and handles
- Working bench and table:
  - working surface
  - computer keyboard, mouse, and monitor (PC remained power-on unless necessary restart or power outage)
  - tribometer working surface, servo-motor adjustment knob, protective shield with handle, all adjustment tools
- Storage Cabinets: handles and cabinet surface

**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 equipment in PPC 108 is shared; therefore, the working surface and the equipment will receive a thorough clean with sanitizing wipes at the end of the experiments and the next day before the experiments.
- There is no break room in PPC 108; eating and drinking is permitted in PPC 214 with two occupants

**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 Plexiglass barrier is necessary for conducting experiments in PPC 108 according to the existing plan

### 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.

- Each user will be referred to UBC’s COVID19 response web page as part of the training strategy ([https://covid19.ubc.ca/](https://covid19.ubc.ca/))
- 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 bccdc.ca
- Member with COVID19 symptoms MUST stay home and not allow to work
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.

- The 2-meter physical distancing has already been marked using blue tape on the floor for clear visual distance from the door, between benches, the sink and fume hood (Figure 2 in the Appendix)

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.


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 Prof. Dana Grecov (dgregov@mech.ubc.ca), Prof. Boris Stoeber (boris.stoeber@ubc.ca) and PPC Safety Officer George Soong (gsoong@mail.ubc.ca)
- Supervision: PPC Safety Officer George Soong will check the lab activities and log book daily to ensure compliance and report deficiency to supervisors Prof. Dana Grecov and Prof. Boris Stoeber
- Issues that occur in lab must be raised to supervisor and George Soong (in PPC 122) by email or in person.
- All personnel must leave the PPC building by 6 pm
- Persons responsible for implementing and then monitoring compliance with the plan:
  - George Soong, PPC Safety Officer (gsoong@mail.ubc.ca; 604-822-2530)
  - Dana Grecov, Principle Investigator (dgregov@mech.ubc.ca; (604) 822-6710); Boris Stoeber (boris.stoeber@ubc.ca) (604) 827-5907)

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**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.

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<tr>
<th>#</th>
<th>Type of PPE</th>
<th>Activity and PPE Use Rationale</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Disposable gloves</td>
<td>For conducting experiments safely as well as limiting direct contact to the surrounding</td>
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<tr>
<td></td>
<td>Sanitizing wipes</td>
<td>For disinfecting working surface, including doorknobs</td>
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<tr>
<td></td>
<td>Soap/sanitizer</td>
<td>For proper hand washing procedure</td>
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<tr>
<td>Safety Eyewear/lab coat</td>
<td>For protection in case of fluid splatters (liquid and lubricant flow device is mentioned at Introduction)</td>
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<td>------------------------</td>
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<td></td>
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<tr>
<td>• The existing PPE available to lab member will be used</td>
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<tr>
<td>• New PPE required by the users will be order through Central Process for Purchasing PPE</td>
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<tr>
<td>• The used disposable materials (gloves, sanitizing wipes, cleaning tissues) will be disposed in regular disposable bin</td>
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**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**

June 5th, 2020

**Name (Manager or Supervisor)**

Dana Grecov and Boris Stoeber

**Title**

Professor (Supervisor)

**Department/School Head/Director Approval**

Steve Feng, Department Head

June 9, 2020
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.

Figure 1: Layout for Pulp and Paper Center first floor. Note PPC 108 is highlighted with thick red box identifying maximum occupant of 2. The arrows indicated the traffic flow.
Figure 2: Photo of the current organization for PPC 108. Note the floor has already been marked with blue tape for 2-meter social distancing.
Figure 3: Schematic diagram for PPC 108
Figure 4: Photo of the current warning signs posted on the door of PPC 108.