
The information below supersedes the information in the body of the plan.

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<th>Date</th>
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<td>2020.06.16</td>
<td>1.0</td>
<td>Xiaotao Bi</td>
<td>Document first approved</td>
<td>Orlando Rojas, BPI Director</td>
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</table>
| 2021.02.03 | 2.0     | George Soong | - Mandatory Non-Medical Mask  
- Regulatory context  
- Worker screening  
- Communication of Worker’s Concerns | Orlando Rojas, BPI Director |

OR
Non-Medical Masks

Non-Medical Masks (New)
Describe your plan to inform faculty and staff on the wearing of non-medical masks

- See Using Non-Medical Masks website for the most up to date information
- Effective September 16, 2020 UBC implemented a policy whereby students, faculty, staff and visitors are required to wear non-medical masks in common indoor spaces on campus.
  - Office spaces:
    - Non-medical masks are not required when working in a sole occupant office or enclosed room.
    - In individually assigned cubicles in open concept workspaces that have been designated to ensure they are 2m apart or have appropriate physical barriers: while occupying an assigned workspace, users have the option to remove their non-medical mask when seated or while engaged in activities where the physical distancing requirement is met.
    - Non-medical masks are not required in internal office hallways that have been designated as one way, yield to others, or able to meet physical distancing requirements.
  - Labs / workshops:
    - Non-medical masks are not required when working in a sole occupant lab / workshop or enclosed room.
    - In lab spaces / workshops that have been designated to ensure occupants are working 2m apart or have appropriate physical barriers: users have the option to remove their non-medical mask while engaged in activities where the physical distancing requirement is met.
  - Classrooms:
    - Faculty and instructors are not required to wear a non-medical mask in classrooms while physically distanced (2m) from students and other classroom users.
    - In classrooms where capacities have been reduced so that designated seats are 2m apart: students and other classroom users have the option to remove their non-medical mask when seated in designated seats, or while engaged in activities in a classroom where the physical distancing requirement it met.
  - As per UBC’s policy, non-medical masks must be worn:
    - When travelling through building corridors and shared spaces;
    - While entering or exiting research spaces or while moving from an assigned research location;
    - While entering or exiting classrooms;
    - Within classrooms while moving to a seat;
    - Any other time that 2m physical distancing cannot be maintained.

UBC PPC COVID19 Safety Plan Amendment
Feb 2021 | (Rev. C)
The following information and language supersedes any language found in the initial document approved.

### Regulatory Context

#### 3. Provincial and Sector-Specific Guidance

- BC’s Restart Plan: “Next Steps to move BC through the pandemic”
- BC COVID-19 Self Assessment Tool *(New)*

#### 4. WorkSafeBC Guidance

- COVID-19 and returning to safe operation - Phases 2 & 3
- WorkSafeBC COVID-19 Safety Plan
- WorkSafeBC: Designing Effective Barriers
- WorkSafeBC: Entry Check for Workers
- WorkSafeBC: Entry Check for Visitors
- WorkSafeBC Protocol: Offices *(New)*
- WorkSafeBC Protocols: Post-Secondary Education *(New)*

#### 5. UBC Guidance

- COVID-19 Campus Rules *(New)*
- Guidelines for Preparing for Reoccupancy *(New)*
- Guidelines for Safe Washroom Reoccupancy *(New)*
- Space Analysis and Reoccupancy Planning Tool *(New)*
- UBC Employee COVID-19 PPE Guidance
- Ordering Critical Personal Protective Equipment
- UBC Employee COVID-19 Use of Shared UBC Vehicles Guidance *(New)*
- UBC Facilities COVID-19 website - Service Level Information
- UBC Employees COVID-19 Essential In-person Meetings/Trainings Guidance *(New)*
- Workplace Physical distancing Planning Tool and Signage Kit *(New)*
- Preventing COVID-19 Infection in the Workplace training course *(New)*
- UBC Cleaning Standards & Recommendations for Supplementary Cleaning *(New)*
- UBC Classroom Safety Planning *(New)*
- UBC Signage *(New)*
- COVID-19 Safety Plan Addendum: Required Non-Medical Masks *(New)*
Worker Screening

- Every person (employee, visitor, contractor, etc.) returning on campus (also the employees working remotely) will do the SRS training.
  - To complete the SRS training, if the person does not have a CWL, a temporary one can be hosted by the Department/School/Unit through UBC IT.
- Before coming to work, all personnel must check their health status. Via a Qualtrics survey, which is accessible via a QR code or a link, they must acknowledge that they have done the self-assessment before entering the PPC building. Thrive BC Self-Assessment Tool
  - Personnel experiencing any symptoms of COVID-19 (cough, sneezing, shortness of breath, loss of sense of smell/taste, sore throat, tiredness, fever) must not come to work.
  - Individuals displaying symptoms of COVID-19 must remain at home and isolated until they have been confirmed COVID-free by testing or have been symptom free for the length of time recommended by the BCCDC.
  - Personnel who have been in contact with a person confirmed or presumed to have COVID-19 must also self-isolate as per provincial health guidelines. Personnel will be referred to the BC Health Self-Assessment Tool to determine if they require testing and/or medical care.
  - Anyone returning from outside of Canada must follow the directions of the quarantine act, which specifies 14 days of self-isolation, regardless of whether or not they are experiencing COVID-19 symptoms.
  - Anyone exposed to a traveler must also self-isolate for 14 days. Supervisors cannot give personnel in quarantine work that would require them to break the quarantine.

Communication of Worker’s Concerns

When an employee is concerned about any of the UBC policies, they should follow the standard WorkSafeBC reporting guidelines (see Right to Refuse Unsafe Work). They may also contact their worker representative of the APSC JOHSC to express their concerns.
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
- Communications Resources
- Personal Protective Equipment
- UBC Research Resumption webpage
- Physical Distancing Guidelines
- WorksafeBC
- Reporting COVID-19 Exposure

Section #1: Lab information

Department
Chemical and Biological Engineering

Faculty
Applied Science

Building(s)
PPC

Lab(s)/workspace(s)
PPC 116, 327

Introduction to Your Lab

My group shared the use of CHBE171 and 508 with Profs. Lim, Ellis and Grace. We also operate some prototype units in high head labs of CERC (CHBE145), PPC (PPC116) and AMPEL, sharing with other users. My group currently consists of total 18 researchers: 2 PhD students, 3 MASc students, 6 postdoctoral fellows, and 7 visiting PhD students and scholars. My research mainly on fluidization and chemical reactors for biomass conversion to biofuels/bioenergy in close collaboration with local industry. I am currently leading two major programs: CFI-Biorefinery, and WED/Bioalliance-Renewable natural gas, which set clear deadlines and deliverables.

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.

- Dr. Lei Zhang needs to prepare and coordinate the installation of a pilot gasification unit at **PPC high head lab** for the WED project (2 days per week).
Lei is prioritized to return to work in the PPC lab to meet tight deadlines of the major renewable natural gas project. The pilot plant has been in fabrication externally. Lei needs to coordinate the site cleaning and preparation, and then installation of the pilot gasifier in July and August.
We had a Zoom meeting to discuss the concerns and requirements of those who plan to return to work in the lab. Lei is living on campus and will not take public transit. With proper safety orientation and guidelines, PPE and sanitization equipment provided, he will feel comfortable to work in the lab.

### 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)

Hazards in those labs may include: **overhead or falling object hazards, fall, sharp edges, pinch point, fume or dust generated from dismantling of old unit and commissioning of the new unit by contractors.**

### 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/)

- **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
- All equipment will be restricted to one person per day.
- Disinfection will be carried out thoroughly. He should have his hands sanitized before entering and exiting the lab to minimize contamination of the door. Also he should wash the hands frequently. He is responsible for cleaning and sterilizing the surfaces of his working equipment, instrument, bench, desk and chair, as well as sterilize the lab door at the end of the shift.
- Gasifier unit in PPC high head lab is well distanced from other equipment, and will be operated by one person at a time.
Installation and modification of the equipment at PPC will be performed by CHBE workshop technicians or contractors.

Transport to UBC will be by walk and bicycling.

Besides lab coat, safety goggles, sanitizer bottles, wet wipes and non-medical masks will be provided, and masks are needed during dismantling/commissioning and recommended in shared space and public space.

For labs shared with other PIs (PPC116), workspace will be designated to specific researcher and will not be shared by other researchers at any time.

For researchers working alone in a lab, the UBC Work Alone Procedure should be reviewed and strictly followed.

The following general practices will be applied as well:

- 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 hand-washing 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.

- PPC 116 (250 m2) (high head lab, with a maximum occupancy of 5 during this phase):
  Gasification unit: Monday to Friday (Lei Zhang)
Sign-in/out sheets will be posted on the desk of the gasifier unit and recorded on each Friday. A checklist will be placed and the researcher will review and sign it after they arrive the lab each day. The HHL coordination will be made among all users so not to exceed the maximum 5 in the lab at any time. When work alone in the lab without the presence of other researchers in other groups, Lei will follow strictly the UBC work alone procedure.

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

- Researchers will follow the traffic direction set in each building and shared labs to minimize personal contacts, as shown below.
- For PPC high head lab, only one researcher will work on a single piece of equipment, with a floor space of more than 25 m² for each lab unit with large open space for traffic to maintain social distancing, as shown in the schematic diagram.

High head lab 116 (#5 in the floor plan below).
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 sterilizing of all surfaces at each unit will be done before and after the daily shift.
- Sanitation liquid and wipes will be available in each lab. Researcher needs to have the hands sanitized before entering the lab, and again before he leaves the lab.
- Lab coat, hard hat, gloves and safety classes will be put on during work in the pilot plant area and stored in secured cabin after the use in each shift. Non-medical masks will be made available in the lab for use per needed. N95 masks will be available for use in dusty environment during work at the pilot unit.
- All shared items will be labeled for frequent cleaning by researchers between shifts.
- Researchers are trained to follow guidelines for proper disposal of used cleaning supplies and any hazardous waste will be arranged with the safety officer.

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)

- Researchers will maintain a clean work environment. All tools or items should be sterilized if borrowed or shared with other researchers in the lab.

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.

- All researchers will work on designated corner with 2 m social distancing well respected. No plan to install partitions in all those labs.

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

- I have had two online meetings with Lei on the risk of covid-19 exposure, and how to mitigate the risk related to transport to UBC and working in the lab. Lei has fully prepared.
- Lei will take the necessary UBC training and follow all guidelines and policies.
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.

- Travel direction for each lab has been discussed and implemented for each lab and will be marked on the ground.

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).

- I will implement and monitor the compliance, with the assistance of Siduo Zhang, the manager for the WED project.

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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<th>Type of PPE</th>
<th>Activity and PPE Use Rationale</th>
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<tbody>
<tr>
<td>1</td>
<td>Lab coat</td>
<td>Wear all time in the lab by every researcher. Stored safely after use.</td>
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<tr>
<td>2</td>
<td>Gloves</td>
<td>Wear in the lab per needed when running experiment. Stored safely after use</td>
</tr>
<tr>
<td>3</td>
<td>Safety goggles</td>
<td>Wear in the lab when running experiment. Stored safely after use</td>
</tr>
<tr>
<td>4</td>
<td>Non-medical masks</td>
<td>Wear in public space and, recommended, in the lab with more than one person. Stored or disposed safely after use.</td>
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<tr>
<td>5</td>
<td>Disinfectant</td>
<td>Sanitizer stations, sterilizing wet wipes. Disposed safely after use.</td>
</tr>
<tr>
<td>6</td>
<td>Hard hat</td>
<td>Wear if overhead or falling object hazard present</td>
</tr>
<tr>
<td>7</td>
<td>Steel toe shoes</td>
<td>Wear all time in this HHL by every researcher.</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.

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<tbody>
<tr>
<td>Name</td>
<td>Xiaotao Bi</td>
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<td>Title</td>
<td>Professor</td>
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**Department/School Head/Director Approval**

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<tr>
<th>Orlando Rojas, PPC/BPI Director /</th>
<th>June 17, 2020</th>
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<td>Name, Title</td>
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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.