

BRIMACOMBE PI Request to Restart Research: Phase I only

Complete this form and submit to John Madden (ampel.dir@ubc.ca) cc'ing Gary Lockhart (Gary.Lockhart@ubc.ca) in order to request approval for restarting research. SBQMI members please also copy Andrea Damascelli (andrea.damascelli@ubc.ca) and Pinder Dosanjh (dosanjh@phas.ubc.ca). Please also cc your department head or appropriate departmental contact. Once approved, complete and sign the Access Agreement (sent to you separately) and have it posted on each exterior lab door.

Applications will be accepted immediately. The re-opening date will depend on approval of faculty level restart plans, in addition to the time taken to review applications. Additional forms and approvals may also be required.

Name: Lukas Chrostowski

Department/Institute: ECE

Email:

Phone#:

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

1. Briefly outline proposed experiments/research that require on-campus access:

The Project "Rapid ID of Covid-19 Biomarkers Indicating Viral Infection Using Label-Free Silicon Photonic Sensors" was approved for an on-campus research exemption, and ongoing work will continue under the previous framework.

2. Building name: Brimacombe

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3. For each room occupied by the PI, indicate the room number, the total number of personnel who usually work in that space, the total number of personnel who need to access the room, and the maximum number who will work in the room at once. Note that UBC is aiming for 1/3 occupancy of spaces during Phase 1, and that there must be space for physical distancing.

| Room # | Total # of personnel (usual) | Total # of personnel who need access to the space | Max. # at one time during Phase 1 |
|-----------|------------------------------|---|-----------------------------------|
| AMPEL 445 | 16 | 2 regular () 4 occasional () | 2 |
| AMPEL 447 | 16 | 2 regular () 5 occasional () | 2 |
| AMPEL 449 | 6 | 2 occasional () | 1 |

Calendar bookings and online check-ins will be monitored by Project Manager Steve Gou. In person monitoring of compliance will be monitored by Brimacombe 4th floor warden Mario Beaudoin, as outlined in Common Areas Safety Plan Brimacombe circulated by Brimacombe directors.

4. Is your lab space shared? No

If yes, indicate how you will coordinate with adjacent groups or personnel. For the SEM, 2D materials lab, CRN and similar spaces shared by multiple PIs, please submit one form with the names of all users from multiple groups. For the high head area, please submit one form per research group or service (e.g. Helium), and specify the area and PIs that are involved. You may include part of the high head along with other lab space on one form (e.g. CRN occupies lab space in high head and in the Brimacombe extension). In some cases groups may decide it is easier to submit separate forms for each space they work in. We are flexible in the formats we will accept.

Calendars on our Nextcloud server will be used to book rooms to make sure there is no overlap. See section 6 for more details.

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5. Describe how you will ensure physical distancing within your lab.

For all experiments, there will be a limit of two people per lab room at a time to ensure comfortable physical distance of 2m or more at all times. All times in the labs will be booked by our online calendar. The office space will be limited to 1 person at a time.

6. How will you schedule occupancy of your lab space? Phase I occupancy 7 AM to 6 PM

Monday to Friday. *e.g. online sign up, weekly discussion in lab meeting to prepare a schedule together, other?. Ensure that people on the same shift are not in conflict for the same resources in their own lab. Include an example plan with the application. Schedules should be posted on the lab door weekly. **Note:** at any one time, UBC is aiming for **ca. 1/3 occupancy** during Phase 1. If you request after hours access, this should be thoroughly justified here.*

All shared equipment and lab rooms have an online booking calendar. Equipment and lab rooms are booked one week in advance, and will be discussed in weekly meetings to ensure no conflicts. Calendars will be printed each week and posted on lab door.

- Online calendars are stored on the lab Nextcloud server and URLs are:
 - AMPEL 445: <https://qdot-nexus.phas.ubc.ca:25683/apps/calendar/p/3wCmCwFkxe5qmP42>
 - AMPEL 447: <https://qdot-nexus.phas.ubc.ca:25683/apps/calendar/p/8eeQ5x7FTAbZEefe>
 - AMPEL 449: <https://qdot-nexus.phas.ubc.ca:25683/remote.php/dav/calendars/StevenG/ampel-449/>

Our exemption for the project “Rapid ID of Covid-19 Biomarkers Indicating Viral Infection Using Label-Free Silicon Photonic Sensors”, and we will continue under that framework involves access 24/7. Some of our equipment needs to run in a stable environment when few people are around, specifically the electron beam lithography tool. Thus, we schedule long writes over the weekend, and shorter ones including overnight during the week. Individuals need to check in on the experiments periodically. The bio-assay experiments are a limiting bottleneck, where we have students to take turns on the single apparatus.

7. Outline plans to address working alone regulations.

If a user is working alone in a lab, they will inform their plan on the Silicon Photonics Biosensor Slack channel (siliconphoton-dzw9202.slack.com) the day before entering. They will provide a time when they plan to enter, an expected duration, and a brief description of the work.

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Each user will have a remote buddy that they will check in with on Slack. The buddy must acknowledge on Slack that they will be available for remote check-in BEFORE the user enters the facility. Each user will send a message on Slack when they:

1. Enter the laboratory
2. Every 2 hours that they are in the room
3. When they leave the room

If the remote buddy does not receive a scheduled update via Slack, then they will attempt to reach the user by email and by phone call. If they are unable to reach the user by these secondary methods, then the remote buddy will call campus security and ask security to check in physically (UBC Security Number 604-822-2222).

No work with hazardous materials will be allowed while working alone.

This remote buddy system has been approved under our previous on-campus research exemption for the project "Rapid ID of Covid-19 Biomarkers Indicating Viral Infection Using Label-Free Silicon Photonic Sensors", and we will continue under that framework.

8. Identify high-contact points that need to be sanitized (doorknobs, fridge handles, switches, communal keyboards, work surfaces, chairs etc.) and all multi-user instruments and equipment in your lab(s), their location, sanitization protocols: this includes items only used by your lab group. The protocols should be posted as a checklist at the entrance for research personnel to complete before and after each shift.

Doorknobs, light switches, faucets will be wiped with alcohol wipes after each use.

Computer keyboards and mice will be wiped with alcohol before and after each user uses them.

Tools will be wiped with alcohol wipes before and after use. Tools will be stored in appropriate drawers and containers.

When a new user enters a lab area or office, they will wipe with alcohol wipes all high contact points before use, and right before they leave. A checklist of high contact points will be posted to ensure that surfaces are sanitized as needed.

9. Are there any tasks where physical distancing cannot be maintained? No

If yes, describe the task, explain why it is important to perform in the coming month, and describe the frequency and duration of tasks. What safety measures will be taken to mitigate risks?

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10. Is equipment in your lab space used by personnel from other labs? Yes / No

If **yes**, explain how you will arrange for other users to access this equipment while maintaining physical distancing. How will this equipment be sanitized between users? List the anticipated users below in section 13.

Abdelrahman Afifi (co-supervised by Professors Jeff Young, Sudip Shekhar, and Lukas Chrostowski) will require the use of a measurement setup in AMPEL 445 for a duration of 2 days per month. Abdel will coordinate using the Nextcloud calendars to ensure that no overlap with other users will occur. Equipment that is shared will be wiped down with alcohol wipes between users.

11. Will you need to access equipment located in other research labs, or your lab equipment housed in shared equipment rooms in your building? Yes / No

If **yes**, list the equipment or room numbers and how will this be arranged. How will this equipment be sanitized between users?

QMI 63 - Zeiss SEM - Coordination will be through PIs Josh Folk and Chadwick Sinclair.

AMPEL 400A – Office for RA Kashif Awan. Kashif is involved in the fabrication of COVID-19 biosensors which requires extended periods of time in the AMPEL building. He is currently sharing office space in AMPEL 345, which make it difficult for physical distancing. We request that Kashif be given use of AMPEL 400A office space, which is currently unoccupied.

*EBL QMI 65 – EBL will be booked through Bumblebee, and only 1 user will be allowed at a time.

*Nanofab AMPEL 442/446– will book through Bumblebee to ensure maximum number of users do not exceed a certain number simultaneously. Gowns will be stored separately, and will not be shared.

* LSI 4.320 – Coordination will be through PI Karen Cheung.

*Labs marked denote facilities that have been granted access in previous on-campus research exemption, for the project “Rapid ID of Covid-19 Biomarkers Indicating Viral Infection Using Label-Free Silicon Photonic Sensors”, and will continue under that framework

12. Will you need to access equipment or services in other buildings? Yes / No

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If **yes**, List. e.g. BiF, Chem Stores, Kaiser, Frank Forward, Henning's, ...

Probe station in Kaiser 4060*, microfluidic facilities in LSI 4.320*

*Labs marked denote facilities that have been granted access in previous on-campus research exemption, for the project "Rapid ID of Covid-19 Biomarkers Indicating Viral Infection Using Label-Free Silicon Photonic Sensors", and will continue under that framework

13. It is mandatory for Phase 1 that all research personnel have appropriate certified training. Will all personnel from your group accessing the lab be certified prior to having access, including new COVID-19 video training? Yes / No

Identify each of the personnel below who will require access to on-campus space (information will be attached to the fob access to the building):

| Name | Status | Email | Mobile number |
|------|--------|-------|---------------|
|------|--------|-------|---------------|

* Personnel marked have been approved in the previous research exemption for on-campus facility access for the project "Rapid ID of Covid-19 Biomarkers Indicating Viral Infection Using Label-Free Silicon Photonic Sensors".

To support physical distancing, the following personnel will continue to work remotely during Phase 1 and will not access lab facilities: Minglei Ma, Stephen Lin, Jaspreet Jhoja, Mustafa Hammood, Steven Gou, William Cai, Mohammed Shemis, Victor Sheung, Sean Lam.

The COVID-19 silicon photonics sensor project requires nanofabrication staff to be granted access to the Nanofab facilities and for two machines to be commissioned, the Oxford Cobra ICP etcher and the Vanguard photonic wirebond tool.

| Nanofabrication Staff | Phone |
|-----------------------|-------|
|-----------------------|-------|

* Personnel marked have been approved in the previous research exemption for on-campus facility access for the project "Rapid ID of Covid-19 Biomarkers Indicating Viral Infection Using Label-Free Silicon Photonic Sensors".

14. Explain below how you will prioritize research personnel in your group to access lab space.

Research directly related to the fabrication and testing of COVID-19 biosensors, and the testing of COVID-19 immunoassays, will be prioritized in the lab space.

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I agree to abide by the rules and procedures I have described above during UBC's Phase 1 of research resumption. I acknowledge that failure to uphold the commitment confirmed here could result in the loss of research access privileges. *Signatures of additional PIs who share the space should be added.*

Signed (PI1): _____ *SIGNED* _____ Date: 2020/07/14

Signed (AMPEL): _____ *signed* _____ Date:
2020/07/15

Signed (ECE): _____ Date: 2020/07/15