# School of Biochemistry & Immunology Resumption of Research in TBSI Plan

## Introduction

Biomedical research has been acknowledged as being an essential activity by the Government during the COVID-19 pandemic. Biomedical laboratory-based research should therefore resume during the first phase of relaxation of COVID-19 lockdown measures, under the proviso that: (1) physical distancing can be ensured in the workplace, (2) adequate health and safety measure can be put in place, and (3) there is a clear justification for a return to laboratory-based work. The School of Biochemistry & Immunology (B&I) has put together plans for a phased and structured return for researchers to a safe laboratory environment, and can justify the need for this research activity, as summarized below.

**Justification for resuming B&I laboratory-based biomedical research**

1. ● The School of B&I has taken a leadership role during this COVID-19 pandemic. COVID-19 research has already begun in the School, and more COVID19 research is due to commence soon particularly if the COVID19 strategic partnership application to Science Foundation Ireland is funded.
2. ● All research activity within the School of B&I is focused on understanding, and developing therapies for human diseases, including cancer, neurological diseases, immunological and infectious diseases. Although the emergence of COVID-19 has overshadowed all other infectious and non-infectious diseases in recent months, these diseases represent significant and ongoing health threats.
3. ● Our school has a large cohort of MSc and PhD students, and postdoctoral researchers, whose work is completely dependent on laboratory research. Many of these are due to finish studentships and contracts between September 2020 and March 2021, and urgently require lab access to get their research projects finished. No funding is available to extend the stipends/contracts of these researchers, and no cost extensions are of little benefit without salary cost cover.
4. ● The majority of research carried out by B&I researchers involves live cells and tissue culture experiments as well as experimental animal research, which can take several months from the stage of set-up to the final stage of obtaining results. As all experiments were ended once the lockdown occurred, it is essential that researchers can return to labs as soon as possible, so that cell lines and tissue cultures can begin to be re-established and animal studies can commence.
5. ●Most laboratory-based B&I research activities are funded subject to contractual agreements and deliverables associated with Pharma and International research funders. It is important that we minimise the impact of the COVID-19 shut-down on these activities, to limit risk for future industrial and academic collaborations and funding opportunities.

**Governance**

The school will oversee the resumption of research activities. This will be managed by the Head of School, the COVID-19 coordinator and the School Executive Committee. The Chief Technical Officer will act as the school's COVID-19 coordinator and will be available to deal with all matters arising. The school will comply with the safety requirements and capacity constraints of all central services both inside and outside of the school (eg Estates and Facilities, Waste Disposal, Cleaning, Hazardous Waste, Security, Suppliers, Deliveries, Flow Cytometry, Confocal Microscopy, Couriers, CMU facility and the Transgenics facility). Over this period we expect our administrative staff and academic staff to work from home where possible so we can focus our plans for on-site resumption on our researchers where there is no possibility of working from home. The school's plan will be changed and updated as required in line with instructions from the university regarding government advice and policy.

**Implementation**

The school will resume its research activities in 3 phases which will all be subject to compliance with physical distancing guidelines and operating within maximum room occupancy levels.

| | | |
|---|---|---|
| **Phase 1** | June 8th | 1/3 of research personnel onsite at any time |
| **Phase 2** | June 22nd | 2/3 of research personnel onsite at any time |
| **Phase 3** | June 29th | 3/3 full resumption |

Each of these phases will be subject to review and progression to the next phase will be dependent on the achievement of compliance with the government's 'Return to Work Safely Protocol'.

**B&I Return to work plan**

The School shall:

1. Define maximum occupancy levels for each room to allow a physical distancing of 2m
2. Display a maximum occupancy level on each door
3. Instruct staff who can work from home to do so
4. Operate a shift system when required to achieve physical distancing
5. Agree and record a pattern of attendance for each laboratory (managed by the principal investigator/groups of principal investigators in the case of shared laboratories)
6. Operate a 1 person policy for lifts and encourage staff to use the stairs unless there are specific reasons not to do so (e.g. disability)
7. Restrict personnel to the areas of TBSI that are necessary to carry out their work

8. Operate on a 7 day/week basis as necessary and as agreed by principal investigators and researchers
9. Require laboratory groups to clean their workspaces (and instruments, including key pad on computer) with ethanol wipes or 70% ethanol at the beginning and end of the day or at the end of an instrument session
10. Maintain a contact list for each laboratory (and combined laboratory) to facilitate contact tracing as required by the protocol.
11. Provide an isolation space
12. Prohibit face-to-face meetings (and request that onsite staff should use 'Microsoft Teams' instead)
13. Issue pre-return to work forms, to be completed at least 3 days in advance of the return to work and provided to the principal investigator who will hold them on file
14. Ask staff to self-declare each day before coming into TBSI (overseen by the principal investigator)
15. Facilitate the requirements of college cleaning staff and other central services
16. Display information on the signs and symptoms of COVID-19 and provide information to workers as necessary
17. Reduce Tissue Culture Room capacity by a minimum of a third if face masks are work and by two thirds if masks are not worn
18. Keep breakout areas clear for most of the day and limit visits to 20 minutes/person. Where breakout areas are shared with other schools, break times will be staggered
19. Provide Covid19 induction training for all workers
20. Ensure that workers do not come to the School if they have COVID-19 symptoms and remain out until all symptoms have cleared following self-isolation
21. Facilitate food consumption on the break out balconies provided the maximum occupancy signs are observed and staff sit well apart. Note that the numbers permitted in these areas are small to ensure physical distancing.
22. Facilitate the use of reading rooms provided the maximum occupancy limits are observed. Personnel must sit well apart to achieve a physical distancing of at least 2metres. It won't be possible, for example, to sit at adjacent desks.

The formulation of the school plan requires each laboratory group to furnish the school with a pattern of attendance appropriate to its working needs while maintaining social distancing and staying below the maximum occupancy levels set by the school and the university's specification of the overall numbers of staff that can return. In the case of combined laboratories, a single agreed plan for the laboratory must be agreed by the PIs and be provided to the school for review and approval. This document will specify patterns of attendance (e.g. day-on day-off, week on week-off, early/late daily shifts etc.) to ensure that only the permitted numbers of personnel and occupancies at the 3 stages of return are not exceeded in the school at any time.

**Procedures for Collection of Goods**

The school will work closely with shared services to ensure that their logistical requirements are taken into account. These will include:

- Operating a one-way system for the collection of goods
- Complying with assigned collection times for each laboratory group
- Provision of a separate trolley by each lab (to prevent the requirement for disinfection of the shared services equipment)
- Provision of pens and other items to sign for deliveries to prevent cross contamination

**Procedure for Liquid Nitrogen Deliveries**

The school will co-operate with procedures which will include:

- Staggering collections – groups will arrive one at a time after being called
- Observing floor marking
- Operation of a one way system
- Complying with smoothing arrangements to distribute collections equally between Tuesday and Friday

**Autoclaving of waste/washing of coats**

The school will co-operate with procedures which will include:

- Staggering the dropping down of waste/lab coats by adhering to delivery on assigned days
- Assisting the shared services unit with their sourcing of PPE as required

**Procedures for access to the Flow Cytometry Facility:**

The school will work closely with the Flow Cytometry Manager to ensure that his operating procedures are met by all school personnel to ensure the safe operation of the facility. In addition to the existing requirements these will include:

- a limit of 3 people in the facility at any time
- a maximum of 1 researcher at each instrument at any time
- observance of 2m physical distancing at all times
- compliance with staggered rotations; e.g. Cytometer A available 7am-2pm, Cytometer B 2.30pm-11pm, Cytometer C 7am-11pm.
- researcher must check and ensure that there are 2 or fewer people in the facility prior to entry
- a ban on un-fixed human cells/samples
- Hands washed upon entry and exit
- Co-operation with remote support

- Keyboard, mouse, vortex, sample port and instrument switches must be cleaned at the start and finish of a session

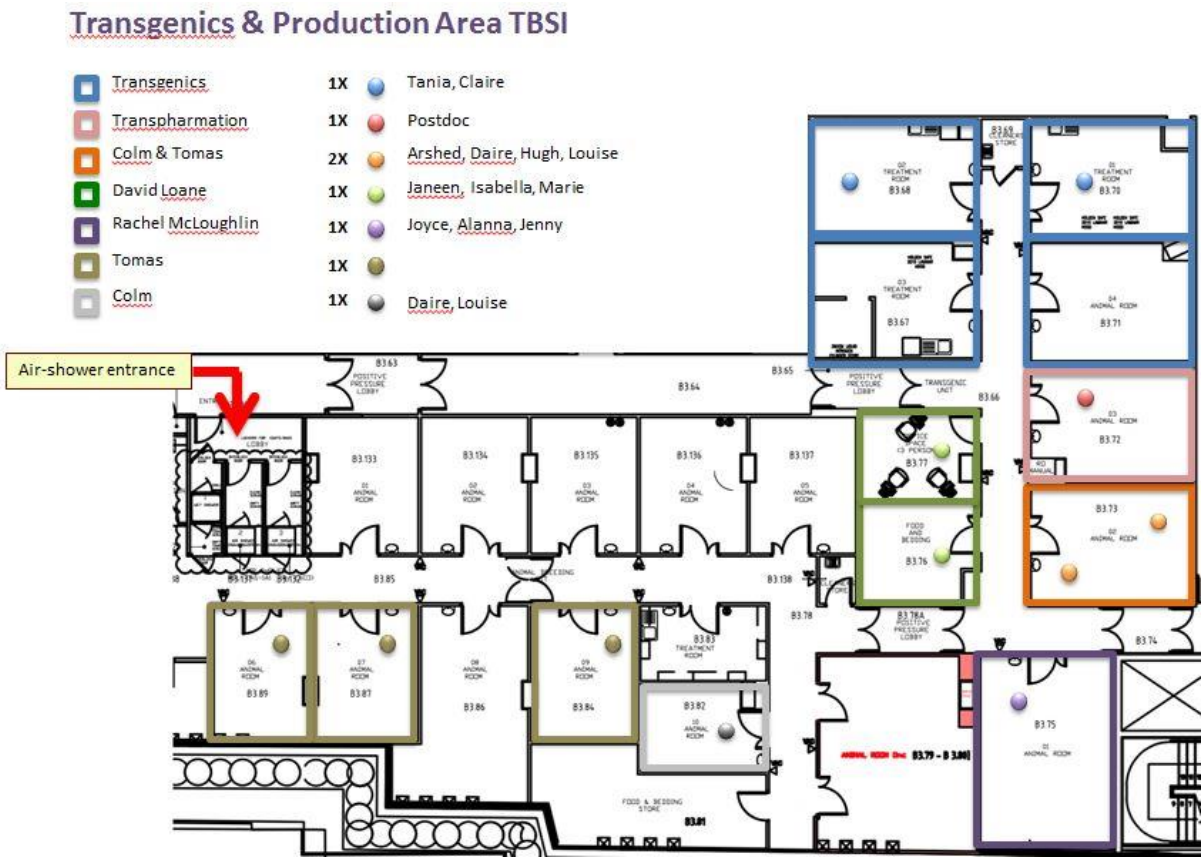
**Procedures for access to the confocal microscopy facility**

- a maximum of 4 people should be present in facility at any time
- a maximum of 1 researcher should be present at each instrument at any time
- observance of 2m physical distancing at all times
- compliance with staggered rotations as required
- researcher must check and ensure that there are fewer than 3 people in the facility prior to entry
- Hands must be washed upon entry and exit
- Keyboard, mouse and instrument switches must be cleaned at the start and finish of session

**Procedures for access to the Transgenics Facility**

The school will work closely with the staff to ensure that their operating procedures are followed by school personnel to ensure the safe operation of the facility. In addition to the existing requirements these will include the following:

- A maximum of 1 person should be present in Room B3.71 at any time
- The changing station and any other items that have been touched must be cleaned with trigene/70% ethanol.
- A maximum of 2 people should be present in room B3.68 at any time
- A maximum of 2 people should be present in room B3.70 at any time
- A maximum of 1 person should be present in room B3.67 at a time
- In the rooms used by other groups - B3.73 (TR and CC), B3.76, B3.77 (DL), B3.72 (Transpharmation) a maximum of 1 person should be present at any time
- In the Germ-free animal room (B3.75), 2 people may be present with very careful physical distancing
- Avoid 2 people being present in any room when possible
- Maintain 2m physical distancing in all animal rooms and corridors
- Wash hands when moving from Transgenics area into the CMU area




**Procedures for access to the TEM facility**

- a maximum of 2 people should be present in the facility at any time
- a maximum of 1 researcher should be present at each instrument at any time
- observance of 2m physical distancing at all times
- compliance with staggered rotations as required
- researcher must check and ensure that there is a maximum of 1 person in the facility prior to entry
- Hands must be washed upon entry and exit
- Keyboard, mouse and instrument switches must be cleaned at the start and finish of a session

**Procedures for access to the Hazardous Materials Facility ( HMF or 'Hazmat')**

The school will work closely with HMF staff to ensure that their operating procedures are followed by school personnel to ensure the safe operation of the facility. In addition to the existing requirements these will include the following:

- Complying with a one-way system
- Complying with timeslots as required. All users must contact hazmat.tcd.ie prior to using the service during the coming months.
- Waiting outside of the storeroom to be served

- Waiting outside the solvents/supplies room to be served
- Observing the new HMF signage and floor markings

**Maximum Room Occupancy limits**

| **School of Biochemistry and Immunology Maximum Occupancies for Physical Distancing in TBSI to comply with the Government's 'Return to Work Safely Protocol'** | | | |
|---|---|---|---|
| **Room No.** | **Function** | **Maximum Occupancy** | **Comments** |
| 6.09b | Office | 1 | TR |
| 6.09a | Office | 1 | LL |
| 6.22 | Laboratory | 4 | VK TR |
| 6.21 | Electrophysiology | 1 | TR |
| 6.20 | Cold Room | 1 | |
| 6.18 | Office | 1 | VK |
| 6.17 | Reading Room | 4 | |
| 6.15 | Tissue Culture | 1 | VK |
| 6.14 | Laboratory | 8 | DZ EC RP |
| 6.13 | Tissue Culture | 2 | DZ EC RP |
| 6.12 | Cold Room | 1 | |
| 6.08 | Office | 1 | RP |
| 6.07 | Seminar Room | 7 | |
| 6.06 | Office | 1 | NS |
| 6.05 | Office | 1 | CC |
| 6.04 | Office | 1 | DZ |

| | | | |
|---|---|---|---|
| 6.03 | Office | 1 | EC |
| 5.63 | Support lab | 2 | MC |
| 5.62 | Office | 1 | MC |
| 5.61 | Laboratory | 4 | MC |
| 5.60 | Reading Room | 3 | MC |
| 5.59 | Hall | 1 | MC |
| 5.58 | Cold Room | 1 | |
| 5.57 | Instrument room | 2 | MC |
| 5.56 | Insect room | 1 | MC |
| 5.55 | Lobby | 1 | MC |
| 5.54 | Office | 1 | AK |
| 5.53 | Office | 1 | PV/AB |
| 5.52 | Tissue Culture | 1 | CL2 |
| 5.51 | Tissue Culture | 1 | GD |
| 5.50 | Office | 1 | FS CS |
| 5.49 | Office | 1 | DF |
| 5.48 | Laboratory | 15 | DN PV AB CC DF |
| 5.17 | Tissue Culture | 2 | DN/PV |
| 5.16 | Seminar Room Fred | 6 | |
| 5.15 | Radioisotope Laboratory | 1 | |
| 5.14 | Lobby | 1 | |
| 5.13 | Cold Room | 1 | |
| 5.12 | Freezer Room | 1 | |
| 5.11 | Reading Room | 4 | |
| 5.10 | Office | 1 | GD |
| 5.09 | Office | 1 | NNAB |
| 5.08c | Office | 1 | DL |

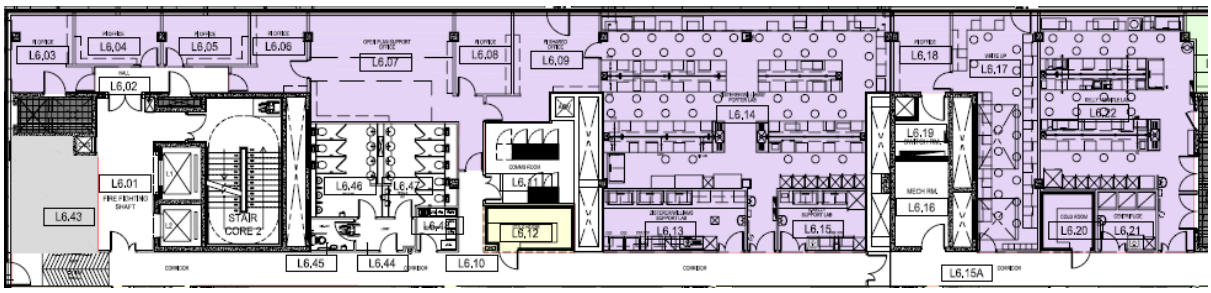
| | | | |
|---|---|---|---|
| 5.08b | Office | 1 | free at present, unassigned |
| 5.08a | Office | 1 | JH |
| 5.07 | Cold Room | 1 | |
| 5.06 | Office | 1 | DN |
| 5.05 | Office | 1 | JM |
| 5.04 | Office | 1 | KM |
| 5.02 | Breakout area | 3 | |
| 4.38 | Office | 1 | LON |
| 4.37 | Cold Room | 1 | |
| 4.36 | Cold Room | 1 | |
| 4.35 | Tissue Culture | 1 | LON |
| 4.34 | Support lab | 1 | LON |
| 4.32 | Laboratory | 6 | LON |
| 4.31 | Office | 1 | EL |
| 4.30 | Office | 1 | CG |
| 4.29 | Reading Room | 6 | LON, EL,CG |
| 4.28 | Office | 1 | CD |
| 4.27 | Tissue Culture | 2 | AB |
| 4.26 | Tissue Culture | 2 | EL |
| 4.25 | Tissue Culture | 2 | CG |
| 4.24 | Office | 1 | AB |
| 4.23 | Tissue Culture | 2 | AB |
| 4.22 | Laboratory | 10 | AB,EL,CG,LL |
| 4.21 | Centrifugation Room | 1 | |
| 4.20 | Tissue Culture | 1 | CL3 |
| 4.19 | Tissue Culture | 1 | CL3 |
| 4.18 | Lobby | 1 | |

| | | | |
|---|---|---|---|
| 4.15 | Reading Room | 4 | |
| 4.14 | Cold Room | 1 | |
| 4.13 | Tissue Culture | 2 | COF |
| 4.12 | Office | 1 | COF |
| 4.11 | Laboratory | 6 | COF |
| 4.09 | Tissue Culture | 2 | KM |
| 4.08 | Tissue Culture | 1 | KM |
| 4.07 | Lobby | 1 | KM |
| 4.06 | Reading Room | 4 | KM |
| 4.05 | Office | 1 | KM |
| 4.04 | Laboratory | 8 | KM |
| 4.02 | Breakout area | 4 | |
| 3.25 | Tech office | 1 | |
| 3.09a | Coffee room | 1 | |
| 3.24 | Prep room | 2 | |
| 3.23 | Wash up | 1 | |
| 3.21 | Chief Technical Officer | 1 | LMC |
| 3.20 | Radioisotope Laboratory | 1 | |
| 3.19 | Lobby | 1 | |
| 3.18 | Centrifugation Room | 1 | |
| 3.17 | Cold Room | 1 | |
| 3.16 | Flow Cytometry | 3 | |
| 3.15 | Tissue Culture | 1 | NS |
| 3.14 | Tissue Culture | 2 | RMcL |
| 3.13 | Office | 1 | RMcL |
| 3.12 | Laboratory | 5 | NS, RMcL, AD |
| 3.11 | Reading room | 3 | |

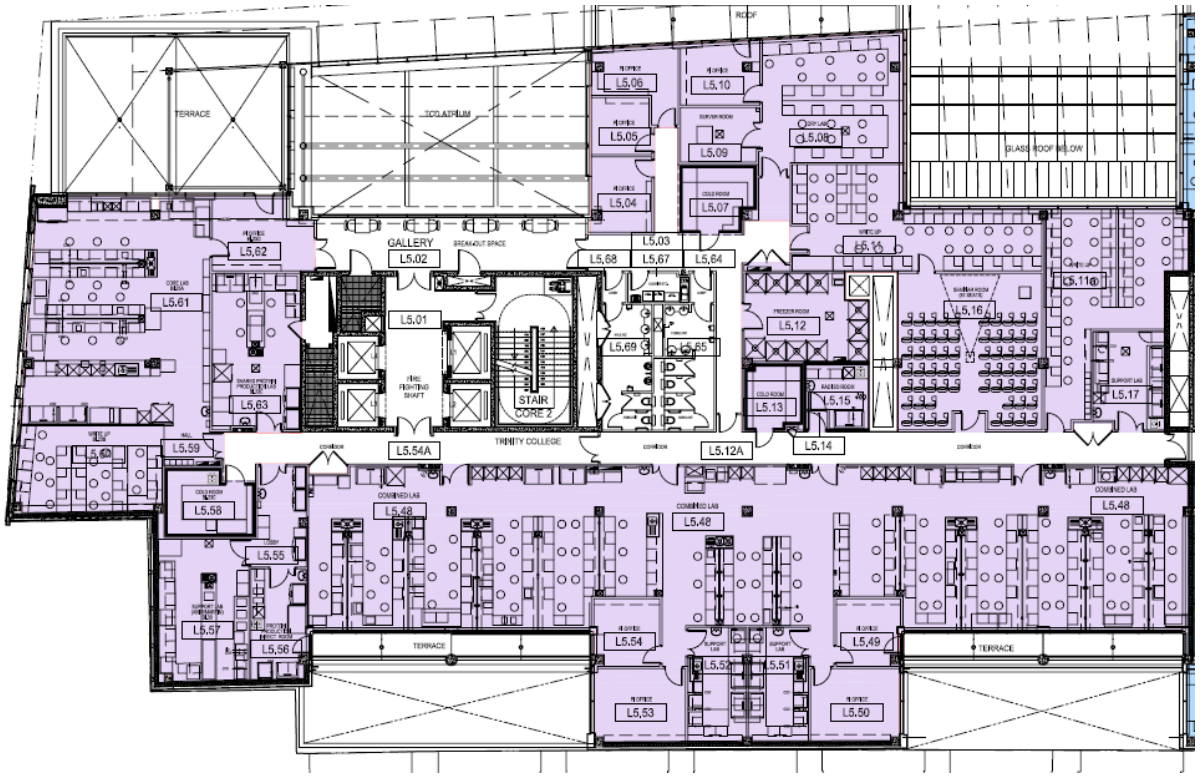
| | | | |
|---|---|---|---|
| 3.10 | Office | 1 | AD |
| 3.09 | Reading Room | 3 | |
| 3.08 | School Room | 4 | |
| 3.07 | School Office | 2 | |
| 3.22 | Teaching Laboratory | 14 | |
| 3.02 | Breakout area | 4 | Shared with Bioengineering |
| B3.17 | 3 New CL2 Labs Level -3 | 2, 1, 1 | Operational but not open |
| B3.16 | xray room | 1 | |
| B3.15 | Freezer Room | 2 | |
| B3.14 | LN Store | 1 | |
| B3.05A | Lobby | 1 | |
| B3.05 | Irradiator | 1 | |
| B3.04 | Store | 1 | |
| B2.54 | Freezer Room | 1 | |
| B2.53 | Dirty Workshop | 1 | |
| B2.52 | Workshop | 1 | |
| B2.51 | Histochemistry | 2 | |
| B2.50 | Seminar Room | 6 | |
| B2.49 | Store/Canteen | 2 | |
| B2.48 | Dark Room | 1 | |
| B2.46 | Confocal | 4 | |
| B2.42 | Dark Room | 1 | |
| B2.41 | Seminar Room | 2 | |
| B2.40 | Scintillation Counter Gel Doc | 1 | |

**School of B&I Room Plans**

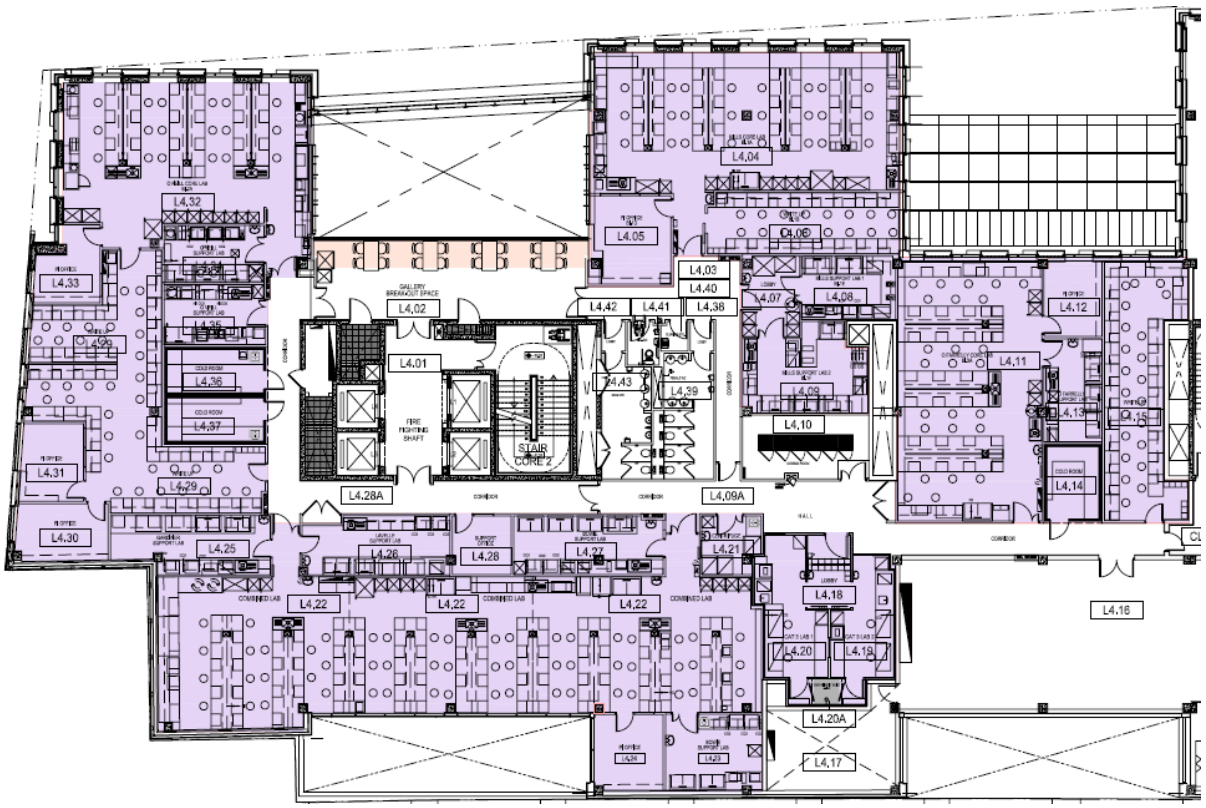
## Level 6



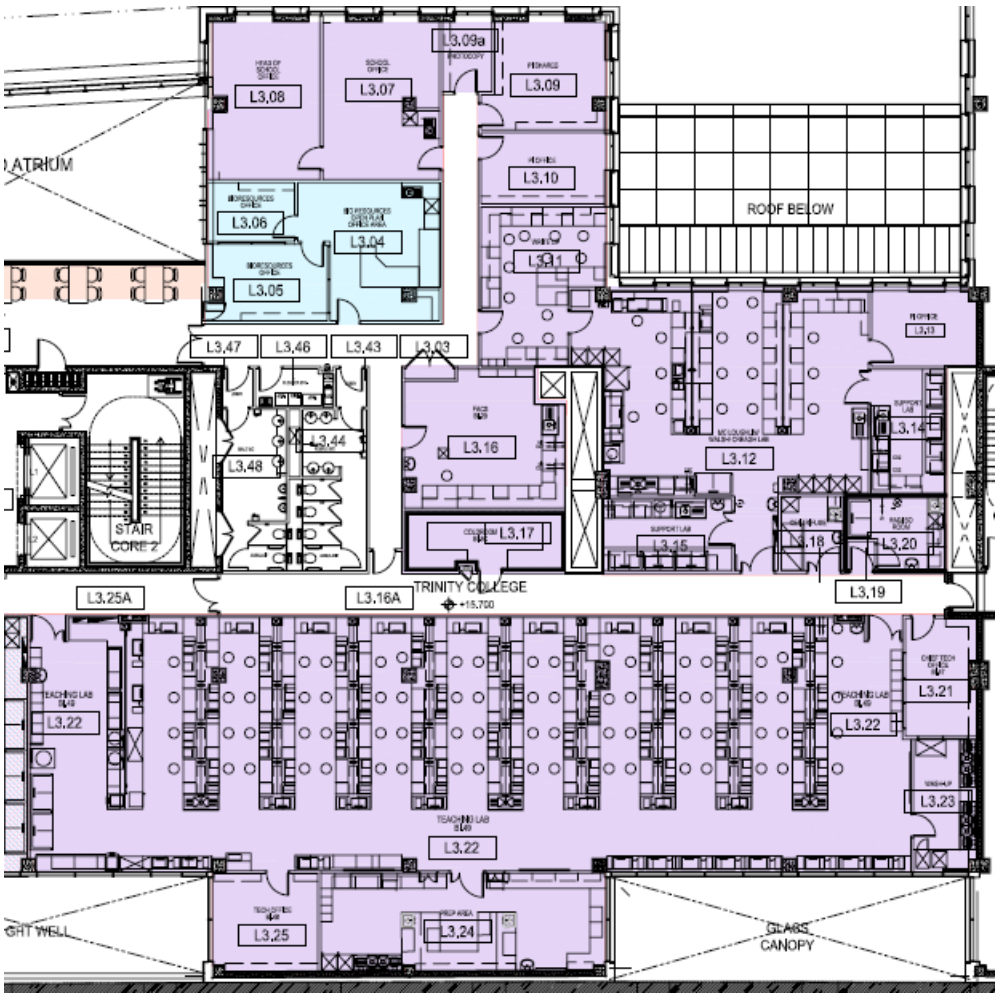
Level 5


ROOF
TERRACE
ATRIUM
GLASS ROOF BELOW
L5.06
L5.10
L5.05
L5.09
L5.08
L5.04
L5.07
GALLERY
BREAKOUT SPACE
L5.02
L5.03
L5.68
L5.67
L5.64
L5.62
L5.61
L5.01
L5.69
L5.65
L5.12
L5.16
L5.11
L5.63
FIRE FIGHTING SHAFT
STAIR CORE 2
L5.13
L5.15
L5.17
L5.59
L5.54A
TRINITY COLLEGE
L5.12A
L5.14
L5.58
L5.48
L5.55
L5.57
L5.56
TERRACE
L5.54
L5.52
L5.51
L5.49
L5.53
L5.50

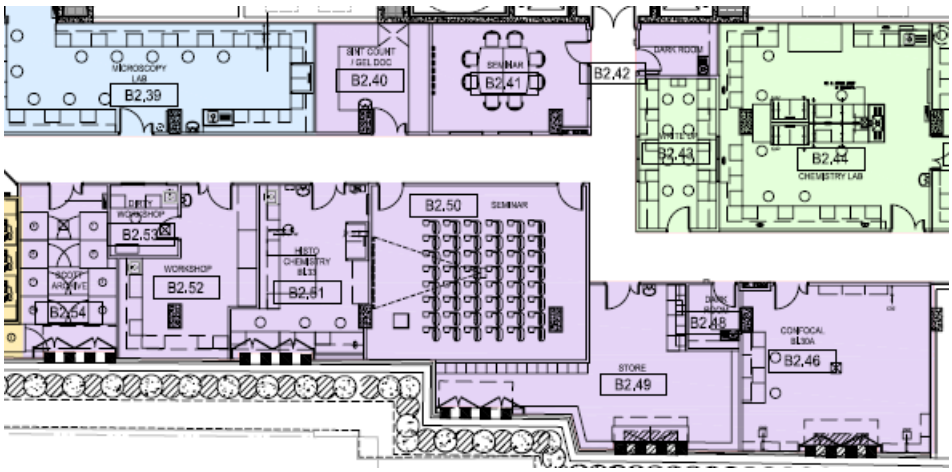
## Level 4


L4,04
L4.05
L4,03
L4,40
L4,42
L4,41
L4,38
L4,07
L4,08
L4,12
L4,11
L4,32
L4,33
L4,02
L4,01
L4,43
L4,39
L4,09
L4,10
L4,13
L4,14
L4,36
L4,37
L4,31
L4,29
L4,30
L4,28A
L4,09A
L4,25
L4,26
L4,28
L4,27
L4,21
L4,22
L4,22
L4,22
L4,18
L4,16
L4,20
L4,19
L4,20A
L4,17
TIRE FIGHTING SHAFT
STAIR CORE 2

## Level 3


L3.09a
L3,08
L3,07
L3.09
L3.10
ROOF BELOW
L3.06
L3.04
L3.05
L3.01
L3,47
L3,46
L3,43
L3,03
L3.44
L3.48
L3.16
L3.12
L3.14
STAIR CORE 2
L3,17
L3.15
L3.18
L3,20
TRINITY COLLEGE
+15.700
L3.25A
L3.16A
L3,19
L3.22
L3.21
L3.22
L3.23
L3.22
L3,25
L3.24
GLASS CANOPY

## Level -2


MICROSCOPY LAB
B2,39
B2,40
SEMINAR
B2,41
B2,42
DARK ROOM
B2,43
B2,44
CHEMISTRY LAB
B2,50
SEMINAR
B2,53
WORKSHOP
B2,52
B2,51
B2,48
CONFOCAL BLDG
B2,46
STORE
B2,49

## Level -3