Photonics Group re-opening of activities

Version: 5.0
Date: 29th June 2020
Author: Cyril Renaud, Kasia Bałakier (LM RB621), Chin-Pang Liu (LM RB815),
Lucy Hale (LM RB910) with input from all lab-users
Responsible: Alwyn Seeds (Head of Group)

This document is a complement of the general department COVID 19 working guidance.

It concerns the activities in the following laboratories.

- RB621
- RB815
- RB910

This document will highlight a set of procedures on top of the department working guidance that will apply to all the Photonic laboratory activities. In annex, individual room risk assessments will be attached.

In order to keep social distancing, we have assessed maximum occupancy in all our laboratories and that number will be highlighted in each annexe.

General rules for users:

- A Hand washing station will be used at the entrance of each laboratories when coming in and out (Sink in 804, 708 and 621, hand sanitisers in other labs).
- Users of the labs will use disposable gloves and face masks when they work to avoid contamination of equipment surface.
- A closed lid bin will be provided in each space to dispose of gloves, cleaning wipes and face masks when necessary.
- We will have a cleaning procedure using 70% IPA cleaning wipe for shared equipment at the end of each booking (see equipment and lab use booking – on Teams- for details).
- The Teams lab booking system access will be available to all lab users and Simon Barnes
- All lab users should nominate a lab buddy as depending on booking schedule and in some labs they might work alone. The lab buddy will be used as a regular check point during the day.

General rules for Laboratory and shared equipment:

- For optical benches that are used on both sides we will install screens running across the length of the bench to separate the two areas. The screens will be cleaned at the end of each day.
- All laboratories will be divided in experimental zones that can be booked one day at a time by a single user.
- All shared equipment will be booked for one day at a time by a single user.
- The two booking systems will be interlinked.
- The booking System will be based on an excel table in Teams, that will be used to populate the calendar. We will create a Photonics Team including members of support who will be able to monitor who is supposed to be in the building.
- When arriving at the access door to the laboratory, before entering, knock to check if somebody is behind the door.

General rules for access to offices:

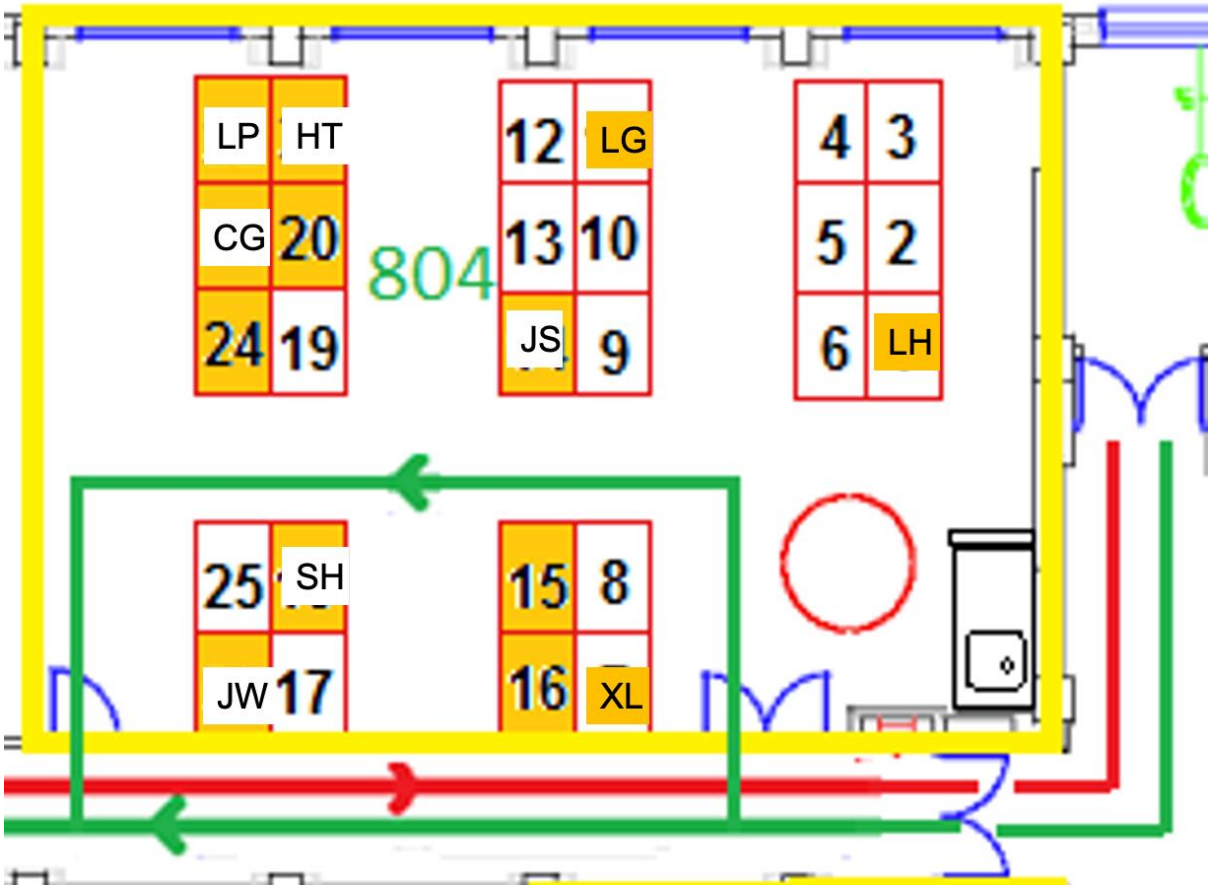
- The group uses offices in 708, 803, 805, 903, 913, 915, 917, 1119, and 804
- Users are expected to do their desk work (e.g. writing, simulations) from home
- We expect some data analysis work to happen during the days on Campus.
- Only users who have booked an experimental zone may use the office on designated (no machine is to be shared) machines.
- Set of socially distanced machines/desk will be set in each office.

Office plan key:

Luis Gonzalez Guerrero	LG
Chris Graham	CG
Lalitha Ponnampalam	LP
Euan Tough	ET
Xiaoli Lin	XL
John Wu	JW
James Seddon	JS
Shirin Husein	SH
Lucy Hale	LH

Due to booking system HT, LP and CG will never be there at the same time.
LG-LH and JS are at issues of overlapping with less than 2 m distance in the current layout.
Similarly for XL and SH
We propose the following layout to resolve the problem.

Proposed layout:



RISK ASSESSMENT FOR LAB 621 (JIF LAB)

Date: 24 June 2020
Location: Lab 621, 6th Floor, Roberts Building, UCL.
Person Responsible: Kasia Balakier
Users: Luis Gonzalez Guerrero
Chris Graham
Lalitha Ponnampalam
Euan Tough
Xiaoli Lin
John Wu
James Seddon
Kasia Bałakier
Cyril Renaud
Martyn Fice
Alwyn Seeds

Purpose of Risk Assessment: This risk assessment is carried out in preparation for the reopening of Lab 621 and to ensure the safety of the lab users during the current Covid-19 pandemic.

Reasons for Access to Lab 621: Lab 621 houses four optical tables and three working benches, which are divided to create 6 working places and 1 soldering station (space 7), 1 microscope (space 8) and a assembly point (space 9) , and a range of test and measurement equipment located on racks and trolleys. The lab is used by several PhD students, researchers and academic staff (up to 11 people) of Ultrafast Photonics Group. The limitations imposed by lockdown are particularly detrimental to the research students as well as ongoing national and international projects, affecting the deliverables, which groups at different universities and research institutions depend on. The lack of progress on experimental work makes students and researchers unable to submit their work outcomes for publications at annual international conferences.

Hazard Identification
All equipment has been unplugged for an extended period.
Transmission of covid-19 between persons working in the lab.
Contamination of work surfaces, tools and equipment by persons with covid-19.
Contracting covid-19 from contaminated work surfaces, tools and equipment.

Risk Assessment
All the identified hazards have a medium risk except the first one that is low risk.

Control Measures
Lab equipment will be switched on gradually following manufacturers guidelines and our normal procedure for switching on after extended period (we had two floods in our labs

with equipment sitting idle for over 3 months). This includes switching on the main board first. Then plugging our different electrical access points one by one. Then each equipment is individually/separately plugged, switched on and tested. Only, once each equipment has been tested will use restart.

To prevent transmission between persons while working in the lab, the following measures will be followed.

1. The maximum number of users in Lab 621 is 4 at any one time.
2. Only one person is allowed to work at any workstation (or the group of workstations, such as workstations 2,3 and 4)
3. Social distancing will be maintained. No one should come within 1 metre, or the minimum distance specified by the Government at the time, of another person or persons.
4. Lab user should enter and exit the lab through the door which is nearest to the workstation where they intend to work.
5. Before someone enters the lab, he or she must knock on the door to let those in the lab know the door is about to open.
6. A face covering and gloves must be worn.
7. If the air-conditioning unit is only recirculating the air, the lab should be ventilated during the day and air conditioning should be switched off.

To prevent contaminating work surfaces, tools and equipment, the following measures will be followed.

1. Large pieces of equipment, which are shared between different experiments and located on trolleys, should be booked in advance for a whole day.
2. If possible, operate equipment with computer keyboards and mice instead of touching the equipment screens. Equipment, keyboards and mice should then be disinfected at the beginning and end of the workday.
3. Other work surfaces, tools, door handle and the combination lock surface etc, which have been touched, should be disinfected at the end of the workday.
4. Gloves should be worn when operating equipment. People will be trained about proper use of the gloves and the requirement to avoid touching their face.

To prevent contracting covid-19 from contaminated work surfaces, tools and equipment, the following measures will be followed.

1. Large pieces of equipment, which are shared between different experiments, should be booked in advance.
2. At the start and end of the workday equipment and other surfaces should be disinfected.
3. Hands should be washed frequently and especially after operating equipment and handling tools.
4. Do not touch your face before washing your hands thoroughly.

Additional information will be conveyed via department email, staff meetings, and signage displayed around the department. Staff and students should also regularly check the UCL coronavirus advice and live update pages and the daily UCL daily Covid-19 email updates.

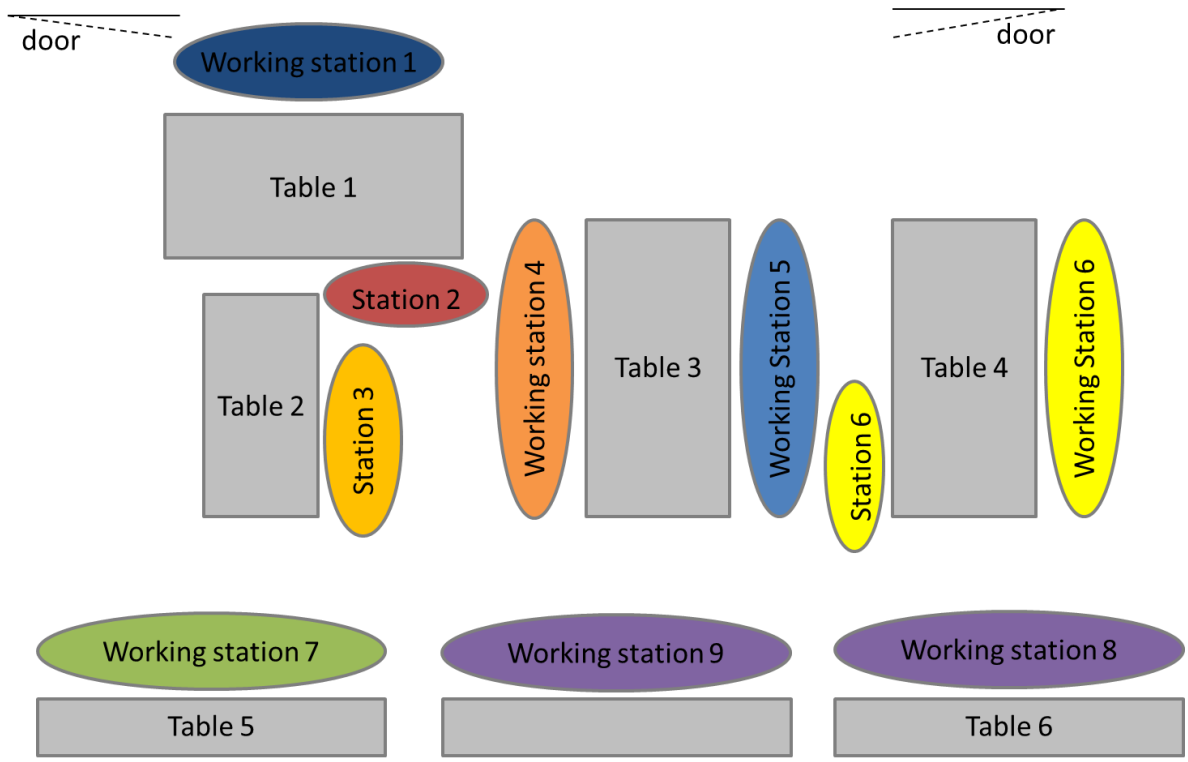
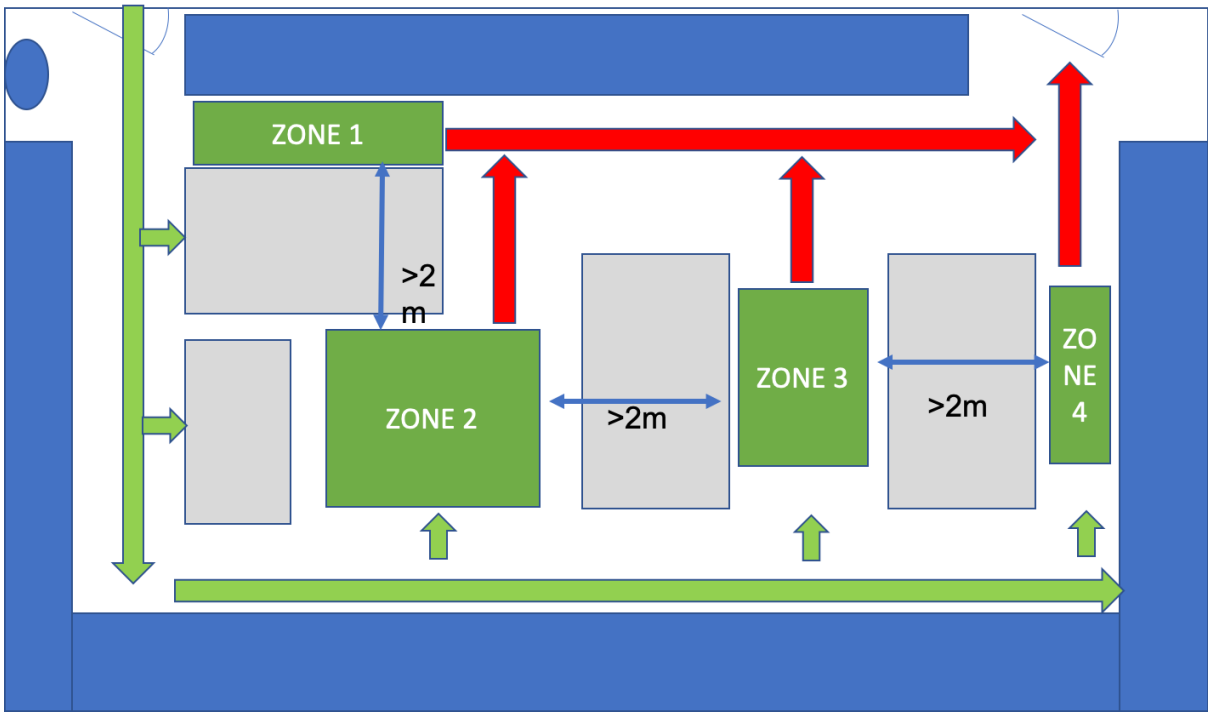


Figure 1: Lab 621 layout with key work stations. 7-8-9 are seldomly used and when used social distancing with other users should be respected. Equipment on 7-8-9 should be cleaned before and after use.

RB 621 Booking zone **Max occupancy 3-4**



RISK ASSESSMENT FOR LAB 815

Date: 24 June 2020.

Person Responsible: Chin-Pang Liu

Users: Shirin Hussein
Chin Pang Liu

Occasional users (LCA):
Luis Gonzalez Guerrero
Chris Graham
Lalitha Ponnampalam
Euan Tough
James Seddon
Kasia Bałakier
Cyril Renaud
Martyn Fice
Alwyn Seeds

Purpose of Risk Assessment: This risk assessment is carried out in preparation for the reopening of Lab 815 and to ensure the safety of the lab users during the current covid-19 pandemic.

Reasons for Access to Lab 815: Lab 815 houses two optical benches and a range of test and measurement equipment. Two second year research students Miss Shirin Hussein and Mr Rui Yang have set up their experiments there. A Lightwave Component Analyser along with its high-speed coplanar probes is also kept in Lab 815 and is used by other members of the Ultrafast Photonics groups for device characterisations. The lockdown means no one can access the lab and this is especially detrimental to the two research students as they require additional experimental results to complete their Upgrade reports.

Hazard Identification
All equipment has been unplugged for an extended period.
Transmission of covid-19 between persons in the lab.
Contamination of work surfaces, tools and equipment by persons with covid-19.
Contracting covid-19 from contaminated work surfaces, tools and equipment.

Risk Assessment
All the identified hazards have a medium risk except the first one that is low risk.

Control Measures
Lab equipment will be switched on gradually following manufacturers guidelines and our normal procedure for switching on after extended period (we had two floods in our labs

with equipment sitting idle for over 3 months). This includes switching on the main board first. Then plugging our different electrical access points one by one. Then each equipment is individually/separately plugged, switched on and tested. Only, once each equipment has been tested will use restart.

To prevent transmission between persons while working in the lab, the following measures will be followed.

1. The maximum number of users in Lab 815 is 3 at any one time.
2. Only one person is allowed to work at any one bench.
3. Social distancing will be maintained. No one should come within 2 metres, or the minimum distance specified by the Government at the time, of another person or persons.
4. The Lightwave Component Analyser (LCA), which is currently positioned facing the door on the left optical bench, will be turned 180 degrees so that the LCA user will be standing on the opposite side of the optical bench away from the door. This is to maintain social distancing between the LCA user and another person entering or exiting the lab via the door.
5. Before someone enters the lab, he or she must knock on the door to let those in the lab know the door is about to open.
6. A face covering must be worn.

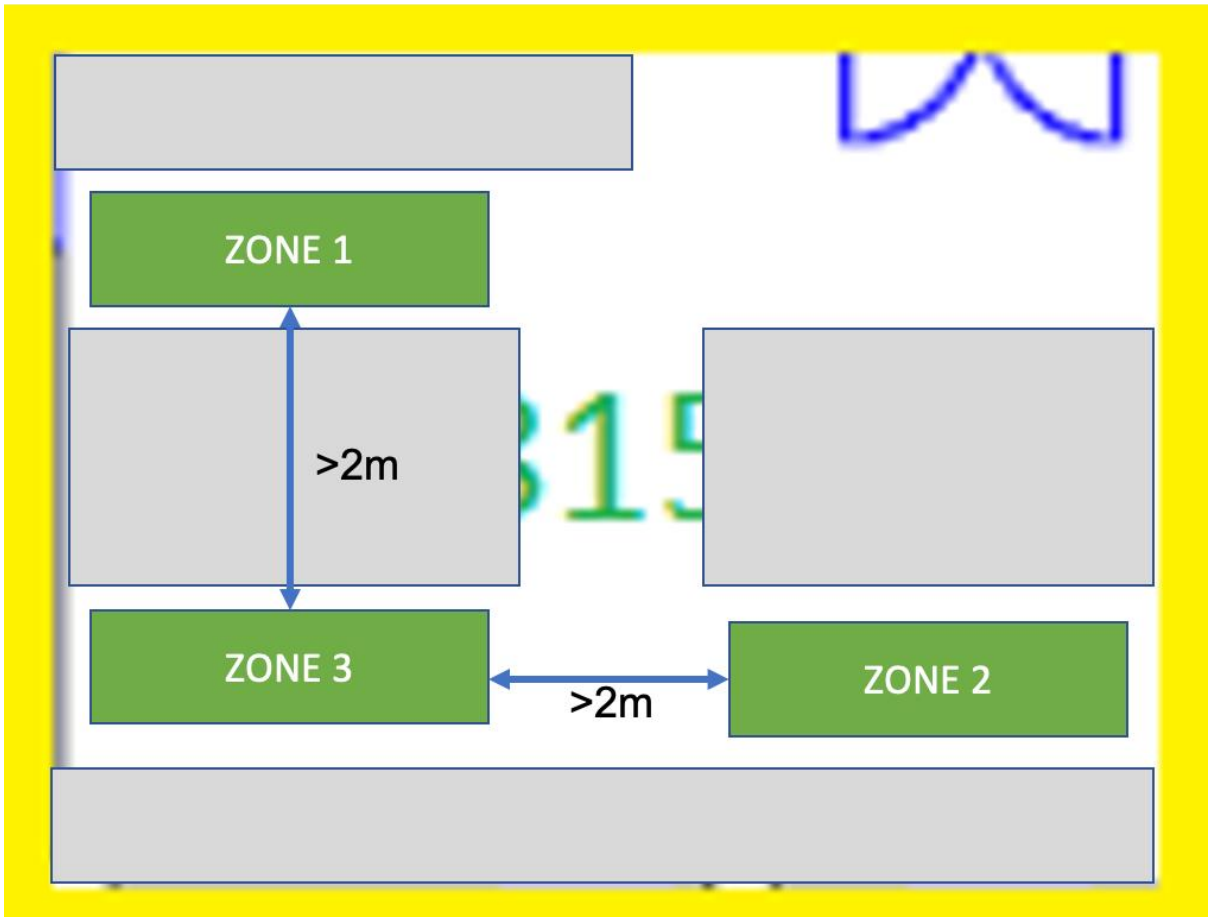
To prevent contaminating work surfaces, tools and equipment, the following measures will be followed.

1. Large pieces of equipment, which are shared between different experiments, should be booked in advance.
2. If possible, operate equipment with computer keyboards and mice instead of touching the equipment screens. Keyboards and mice should then be disinfected at the end of the workday.
3. Other work surfaces, tools, door handle and the combination lock surface etc, which have been touched, should be disinfected at the end of the workday.
4. Gloves should be worn when operating equipment. People will be trained about proper use of the gloves and the requirement to avoid touching their face

To prevent contracting covid-19 from contaminated work surfaces, tools and equipment, the following measures will be followed.

1. Large pieces of equipment, which are shared between different experiments, should be booked in advance.
2. At the start and end of the workday equipment and other surfaces should be disinfected..
3. Hands should be washed frequently and especially after operating equipment and handling tools.
4. Do not touch your face before washing your hands thoroughly.

RB 815 **Max occupancy 2**



RISK ASSESSMENT FOR LAB 910

Date: 24 June 2020.

Person Responsible: Oleg Mitrofanov

Users: Lucy Hale
Oleg Mitrofanov

Purpose of Risk Assessment: This risk assessment is carried out in preparation for the reopening of Lab 910 and to ensure the safety of the lab users during the current covid-19 pandemic.

Reasons for Access to Lab 910: In Lab 910 there are two optical benches with room-temperature and cryogenic terahertz time-domain spectroscopy systems. The lab also includes other tools such as optical microscopes, spectrometer and soldering equipment. The cryogenic THz system is in development for the HyperTHz Project. Deployment of this system and its application demonstrations are the major milestones in the Project (development was due by in June 2020). Access to the lab therefore is needed in order to achieve the milestones and deliverables. Only two people in the department will be using the lab - Lucy Hale and Oleg Mitrofanov in the next 6 months.

Hazard Identification
All equipments have been unplugged for an extended period.
Transmission of covid-19 between persons in the lab.
Contamination of work surfaces, tools and equipment by persons with covid-19.
Contracting covid-19 from contaminated work surfaces, tools and equipment.

Risk Assessment
All the identified hazards have a medium risk except the first one that is low risk.

Control Measures
normal procedure for switching on after extended period (we had two floods in our labs with equipment sitting idle for over 3 months). This includes switching on the main board first. Then plugging our different electrical access points one by one. Then each equipment is individually/separately plugged, switched on and tested. Only, once each equipment has been tested will use restart.

To prevent transmission between persons while working in the lab, the following measures will be followed.

1. A maximum of two people will be in the lab at any one time.
2. Only one person is allowed to work at each optical bench (these workstations are further than 2m away from each other).

3. Social distancing will be maintained. No one should come within 2 metres, or the minimum distance specified by the Government at the time, of another person or persons.
4. Before someone enters the lab, he or she must knock on the door to let those in the lab know the door is about to open.
5. A face covering must be worn.

To prevent contaminating work surfaces, tools and equipment, the following measures will be followed.

1. If possible, operate equipment with computer keyboards and mice instead of touching the equipment screens. Keyboards and mice should then be disinfected at the end of the workday.
2. Other work surfaces, tools, door handle and the combination lock surface etc, which have been touched, should be disinfected at the end of the workday.
3. Gloves should be worn if possible, in particular, while working with systems for which only limited disinfection practices are possible, such as the optical setups and the cryogenic system.

To prevent contracting covid-19 from contaminated work surfaces, tools and equipment, the following measures will be followed.

1. Large pieces of equipment, which are shared between different experiments, should be disinfected after use.
2. At the start and end of the workday equipment and other surfaces should be disinfected.
3. Hands should be washed frequently and especially after operating equipment and handling tools.
4. Do not touch your face before washing your hands thoroughly.

RB 910 **Max occupancy 2**