Guidelines for Use of Central Instrument Facility During COVID-19 / SARS-2 Pandemic

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Context for Opening in Midst of SARS-2 Pandemic

The Central Instrument Facility, CIF, would like to enable a return to normal research service activities as soon as possible, consistent with best safe practices during the pandemic. We anticipate that a return to normal will take place in stages. As we learn more about the SARS-2 / Covid-19 viral pandemic then this will guide our response. Your feedback is welcome.

COVID-19 / CV19 / SARS-2 are used interchangeably, imprecisely, in this document to refer to the virus or acute symptoms caused by the virus

Staffing in the CIF/ARC

The CIF is increasing the number of student staff during the phased re-opening in order to accommodate increased assisted and full service operations.

The Department of Chemistry is considering partnering with the CIF by placing additional graduate student teaching fellowships in the CIF/ARC over the summer period to facilitate the reopening and expansion of our operations.

This partnership to provide additional up-staffing is vital to the mission of providing outstanding research services, training and education to our community during this difficult transition period.

Staging the Phasing in of Research Services

Please watch for,observe and pay attention to notices, signage etc. that will provide up to date information about the CIF Staging and your personal responsibilities, our expectations during that stage.

Phase Ia : Start Up

(Full and Assisted Service for Most Rouinte Operations)
(Very limited Self Service Activities)
(one person per group)

During our initial start up we will place limiting conditions intended to provide everyone with some level of services in all of our laboratories. It is likely that we will need to limit access especially for activities that require close personal contact such as instrument training. We will discourage lines forming and limit your individual access to self-service in certain lab areas and at various high usage times.

We appreciate that the CIF is well known for self-service access and advanced training so we understand the enormous sacrifice this demands from our colleagues.

Phase Ib : Phased Rollout

(more self service access by trained personnel)

Phase 2 : Ramp UP

(e.g., training ramps back up)

Phase 3 : Return to Full Operations

(e.g., tours allowed)

General Safety Protocols – Use of PPE

We will be limiting the number of people in the lab so that we can practice safe social distancing. Watch for postings regarding limited hours of operation. We will follow the emerging and fluid guidelines provided by our administration that may include sentinel testing, skin temperature measurements, live virus exposure, antibody presence, etc. Sanitizer solutions will be available at every station.

We require that you wear a face cover in our CIF laboratories during this time, and until further notice for two reasons, this reminds everyone you come in contact with that the virus potential has not been depleted and

helps reduce the viral load spread from the breath of individuals who are unwitting, or asymptomatic carriers of covid-19. Everyone is expected to practice these measures so that we can reduce exposure and viral loads.

Masks also remind us that the primary infection route is by picking up virus on your hands and touching your face. The mask helps train you to stop this primary infection behavior.

Resist the Impulse, Do Not Touch Your Face.

Use of Disinfectants and Sanitizer

Use sanitizer solutions provided to disinfect hands prior to entering the lab and before using equipment.
Wipe down work stations (keyboard, mouse, other surfaces) prior to leaving the lab.
Where provided, please remove and dispose of cellophane covers over, e.g., keyboards after your use and replace with new sheets from roll provided.

We are making an effort to provide personal use, 2 oz bottles of disinfectant solution to everyone that comes into the CIF, courtesy of Dr. Karen Dobos Group and the OVPR. Keep with you at all times. If available, please take one. Look for refill stations.

Traffic Patterns in Laboratory

Pay very close attention to traffic control patterns as they will evolve over the course of our return to full service.
We will strictly limit the number of people in the laboratory so that there is no more than one person per 50 square feet (1 meter included radius) of space around an instrument.
Please follow posted instructions related to walkways and flow patterns through the lab. For example, in the main CIF Basement Laboratory, enter through main double doors on east side into C01 and exit through double doors into the C02 area. When using the Mass Spec laboratory, enter through C01 and exit through C05 doors to the west.
Generally, follow traffic patterns and flow instructions such as floor marking, etc that are provided.

Staff Office Hours

CIF staff continue to be available virtually to students, research personnel and faculty by appointment, Teams, Zoom, etc..
In person visits may also be possible by pre-arrangment with staff, following guidelines and directives for these activities.
The CIF will be promoting meeting opportunities – virtual coffees, and open forums. Stay tuned.

Word on Training

Our normal training activities are suspended through the First Phase, Start Up activities. As a result, All training requests made prior to the CSU Research shutdown have been closed. Those of you impacted by this may request training again and we will evaluate each request for feasibility, work arounds during this period.
Training is one of the most important aspects of our CIF mission on campus and we will make this more available as soon as possible.
The CIF was developing online training videos before, and we are accelerating that activity now. Some of these are likely to become available and they will reduce the in-person training time while still providing proficiency testing. Please stay tuned for more information and links.

Instrument Scheduling – Note that not all instruments online

- *Check iLab for Up To Moment Access.*
- *If available, access through iLab.*

Requests for instrument time will have to be done in iLab. This includes time on workstations or computers for data collection or processing.

Conditions for use may be imposed, such as:

- *One Request per PI - iLab requests for instrument time are limited to one request per PI for a number of instruments.*
- *Remote Operations*
- *Linked iLab Calendars where they are physically proximate (PPMS and MPMS, XPS and XRD, TGA/DSC and DLS) – this automatically disables calendar scheduling on an instrument that is near one that has been reserved.*
- *CIF Staff may arrange for appropriate time on an instrument in consultation with a research group to allow for one dedicated student to run all the samples for that research group. This will limit traffic in the CIF.*
- *We may provide for rotations of operators on different days and allow only one user per research group in the CIF for their reserved instrument time at that time.*
- *First-come-first-serve basis will continue to be the default mode of prioritization for scheduling instrument time/services. Exceptions are:*
- *Critical Research / Priority Use evaluated by Department Heads / Research Associate Deans / CIF Director Override (e.g. critical research that may have to be prioritized).*
- *Triage - The CIF will limit scheduling time in the event instrument demand exceeds capacity.*

COMMUNICATIONS & REMOTE OPS

ILAB

SLACK

TEAM VIEWER

OTHER

NMR Facility

Phase 1 – Start UP

Currently, we have no advice on how long this Phase 1ab will last

Chemistry C05 Basement Lab

Training

Training for new users will be limited to RAD approved critical/prioritized research projects for the initial re-opening period. The CIF is developing online training videos that will reduce the in-person training time to evaluation of proficiency / testing.

Scheduling of equipment or computer use (by trained users)

We will begin rolling out the use of the iLab Calendar system to manage reservations for investigators anticipating large numbers of samples per go on the 400 MHz NMRs (four count). Likely, the Agilent / Varian 400 MR in C05 and the Bruker US400 NMR with sample changer in CRB109 will accommodate those samples reservations to start.

Rotations

The use of assigned rotation schedules is being considered, *e.g.,* MWF, TThS, etc.. if this provides stability

Summer GTA placements in CIF/ARC NMR and other labs are being considered by Chemistry

Phase 1a Start-Up will be Assisted and Full-Service only.

- *Calendar reservations must be approved by Lab Manager*
- *Requests for instrument time will be done in iLab.*
- *iLab requests for instrument time may be limited to ensure that there is a distribution amongst investigators and that critical projects defined by department heads and RADs receive resources.*

Phase 1b Further Roll-Out Lab Designated Student Operators

- *CIF will arrange for appropriate time on the instrument in consultation with the research group to allow for one dedicated student to run all the samples for that research group. This will limit traffic in the CIF. We accept rotations of operators on different days. But only one user per research group is allowed in the CIF for their reserved instrument time on a particular day.*
- *Scheduling time may be limited by staff in the event instrument demand is high.*

Self Service: Limited or not available - The following instruments will be available for **assisted-use** (following request for instrument time in ilab):

- *400MR*
- *US400*

Assisted and Full Service: The following instruments will be available only for **assisted and full-service by CIF** (samples need to be submitted and CIF staff will run instruments):

- *ASC400 Walkup*
- *NEO400 Prodigy*

Samples submitted Assisted and Full Service will have to be left on the sample submission table outside the CIF. Please coordinate your service request in ilab and accompany your samples with a CIF sample submission form.

COVID Safety in C05

Please follow floor signs and other postings, *e.g.*, as we see in many retails businesses, groceries, hardware stores, etc.

NMR lab entrance and exit procedures

- *C01 ENTRY: Users can only enter the CIF through the main double entrance doors, C01 on the North East side of the lab.*
- *C02 EXIT: Users will have to exit the CIF lab through the double door, C02, at the southeast side of the lab.*

Safety and PPE

- *When entering, every user needs to disinfect hands using the CIF hand sanitizer bottle available at the sample submission table.*
- *Users must wear a face mask at all times while in the CIF.*
- *Wipe down work stations (keyboard, mouse, other surfaces) before using and prior to leaving the lab. Use the disinfectant spray bottles and paper towel that are provided*
- *Where provided, remove and trash cellophane keyboard cover, place new cellophane over keyboard*

NMR Facility – CHEMR 109

This FACILITY houses the Bruker US400 with 24 sample carousel and ASC400, that is a walkup NMR spectrometer.

TWO Maximum people in this lab, including CIF student staff and investigators at any one time

Access to ASC400 Walkup – Staff Assisted

- *Users can continue to utilize the ASC400 in a walkup mode during appointed hours that will be posted. No advance reservation notice is needed at this time.*
- *GTA or Student Hourly will be available to run these samples*
- *One sample per user per visit when line present*
- *This facility will continue to operate in a walkup mode, but with posted restrictions to the number of students that can be in the room at the same time.*

Lab entrance and exit – two users maximum

- *Only TWO users at a time may be in the CRB109. One of these may be by the LTQMS **OR** US400 Sample Changer NMR. The other user may be by the walkup-NMR in the front of the room.*
- *There will be a board outside the lab where students can place their token by instrument location when they are occupying the room or in queue and take off their name token when they leave.*
- *No more than two students are allowed in CRB109 room at the same time.*
- *When the room is occupied by 2 users, please stay outside and keep a distance of 2 meters away from the entrance door as well as from other users in line to allow operators to safely exit the lab when they are finished.*

Safety and PPE

- *When entering, every user needs to disinfect hands using the CIF hand sanitizer bottle available at the sample submission table.*
- *Users must wear a face mask at all times while in the CIF.*
- *Wipe down work stations (keyboard, mouse, other surfaces) before using and prior to leaving the lab. Use the disinfectant spray bottles and paper towel that are provided.*

Mass Spectrometry Facility

Phase 1 – Start UP

Chemistry C05 Basement Lab

Training

Training for new users will be limited to RAD approved critical/prioritized research projects for the initial re-opening period. The CIF is developing online training videos that will reduce the in-person training time to evaluation of proficiency / testing.

Scheduling of equipment or computer use (by trained users)

- *Calendar reservations must be approved by Lab Manager*
- *Requests for instrument time will be done in iLab.*
- *Time on workstations or computers for data collection or processing must be done in iLab.*
- *iLab requests for instrument time are limited to one request per PI. This can be for a number of instruments (e.g. for time on the GCMS and the LTQ).*
- *CIF will arrange for appropriate time on the instrument in consultation with the research group to allow for one dedicated student to run all the samples for that research group. This will limit traffic in the CIF. We accept rotations of operators on different days. But only one user per research group is allowed in the CIF for their reserved instrument time on a particular day.*
- *Scheduling time may be limited by staff in the event instrument demand is high.*

Self Service: The following instruments will be available for assisted-use (following request for instrument time in ilab):

- *Agilent GCMS*
- *Thermo GC-QQQ*
- *Agilent QTOF*
- *Agilent BTOF*
- *Waters UPLC-PDA*
- *Waters UPLC-QQQ*

Full Service: The following instruments will be available only for full-service by CIF (samples need to be submitted and CIF staff will run instruments):

- *Agilent WTOF (self-service rates will be honored for previously trained walkup users)*
- *Bruker QTOF*

Samples submitted for Full Service will have to be left on the sample submission table outside the CIF. Please coordinate your service request in ilab and accompany your samples with a CIF sample submission form.

COVID Safety in C05

Mass spec lab entrance and exit procedures

- *C01 ENTRY: Users can only enter the CIF through the main double entrance doors, C01 on the North East side of the lab.*
- *C05 EXIT: Users will have to exit the CIF lab through the single door, C05, at the west side of the lab.*

Safety and PPE

- *When entering, every user needs to disinfect hands using the CIF hand sanitizer bottle available at the sample submission table.*

- *Users must wear a face mask at all times while in the CIF.*
- *Wipe down work stations (keyboard, mouse, other surfaces) before using and prior to leaving the lab. Use the disinfectant spray bottles and paper towel that are provided*

Mass Spectrometry Facility – CHEMR 109

This FACILITY houses the Thermo LTQ mass spectrometer, which is a walkup mass spectrometer.

Instrument use (by trained users)

- *Users can continue to utilize the LTQ in a walkup mode during appointed hours that are posted. No advance reservation notice is needed at this time.*
- *The ilab calendar for this instrument will be online in order for users to inform each other and clock their usage by KIOSK.*
- *This facility will continue to operate in a walkup mode, but with restrictions to the number of students that can be in the room at the same time.*

Lab entrance and exit

- *Only TWO users at a time may be in the CRB109. One of these may be by the LTQMS **OR** US400 Sample Changer NMR. The other user may be by the walkup-NMR in the front of the room.*
- *There will be a board outside the lab where students can place their token by instrument location when they are occupying the room or in queue and take off their name token when they leave.*
- *No more than two students are allowed in CRB109 room at the same time.*
- *When the room is occupied by 2 users, please stay outside and keep a distance of 2 meters away from the entrance door as well as from other users in line to allow operators to safely exit the lab when they are finished.*

Safety and PPE

- *When entering, every user needs to disinfect hands using the CIF hand sanitizer bottle available at the sample submission table.*
- *Users must wear a face mask at all times while in the CIF.*
- *Wipe down work stations (keyboard, mouse, other surfaces) before using and prior to leaving the lab. Use the disinfectant spray bottles and paper towel that are provided.*

Imaging Facility Yates 101 Laboratory

General Guidelines

Phase I : Start-Up – no TEM self-service, limited SEM self-service

Phase II : Ramp-Up

Users who have been in risk areas or had contact with confirmed COVID-19 patients are not allowed to come into the Imaging lab for at least 14 days after contact.
Users who are sick for whatever reason, including COVID-19 are not allowed to access the Imaging lab even if they have only mild cold-like symptoms.

Training

During Phase I : Start Up - there will be no training of new users. Once we move the lab opening forward then we will consider new training at that time.

Scheduling of equipment or computer use

- *Reservations for instrument time will be done in iLab either by the user or by CIF staff.*
- *Do not start overnight experiments without CIF staff approval.*
- *We anticipate a high volume of demand for instrument time. iLab will limit reservations for instrument time to one reservation per project per day on any instrument. If your project needs more time than please speak to Dr. Pat McCurdy about your needs.*
- *During your reservation then you may schedule an extension through iLab if there is no one signed up after you.*
- *TEM time must be vetted with Roy Geiss. In Phase II – Ramp Up then a dedicated student TEM operator will be assigned to run samples for their research group. We accept rotations of operators on different days. But only one user per research group is allowed in the CIF for their reserved instrument time on a particular day. Teamviewer may be used to advantage to allow the student operator to share their screen with their colleague.*
- *The CIF retains the right to limit scheduling time in the event demand exceeds supply.*

The following instruments may be available for self-use by experienced users only (following a request for instrument time in ilab):

- *SEM*
- *TEM*
- *Profilometer*
- *Sample preparation – saw, polishing wheels, dimple grinder, core drill, Ar ion mill, Au sputtering, plasma cleaner.*

The following instruments will be available for full-service by CIF personnel

- *TEM*
- *SEM*

Sample Submission:

For full-service use, samples will have to be submitted on the sample submission table in Yates 103. Please discuss this with CIF personnel and submit your service request in ilab and accompany your samples with a CIF sample submission form providing specifics for staff to follow

Imaging lab entrance and exit procedures

- *Follow pedestrian traffic pattern in the Imaging laboratory.*
- *Log in with name and cell phone number on the white board.*
- *Before entering phone the person whose name/number is on the white board to be sure they are finished using the microscope and ready to leave.*
- *Enter the Imaging lab through the main entrance door on the west side of the lab providing keyless entry access.*
- *Users will exit the imaging lab through the double doors at the east side of the lab. Please be sure the doors are firmly closed and locked when you leave.*

Safety and PPE

No more than one student is allowed in the SEM or the TEM room at a time.

When the both the SEM and TEM are simultaneously being used, please keep a distance of at least 6ft away from other user to allow each to safely exit the lab when they are finishedUpon entering the Imaging lab, every user needs to disinfect their hands and the door knob using the CIF hand sanitizer bottle and cloths available on the sputter coater table immediately inside the door.

- *Users must to wear a face mask and safety glasses at all times while in the Imaging lab.*
- *Users should cover keyboards, mice, and other touchable surfaces with plastic wrap located on the microscope table and disinfect eyepieces, binocular body and other areas that it is not practical to wrap with plastic wrap.*
- *Users need to wipe down all touched surfaces (keyboard, mouse, trac ball, joy stick, sample translation knobs, etc.) also the chair, prior to leaving the lab. Use the disinfectant spray bottles and paper towel that are near the sink. Do not spray the keyboard directly as it may cause a short.*
- *If someone is using the profilometer when you are exiting the lab, please kindly announce you are exiting the door so as to be able to maintain a safe distance from the user.*

Materials Lab and X-ray Instruments

- *CHEM1 Basement - C4*
- *CHEM1 X-ray lab -B115B*
- *CRB Shore's Lab – 204L*

Phase I – Start-Up

The CIF will be implementing strict social distancing guidelines such as limiting users on adjacent instruments, limiting the number of users in the lab areas, and creating one-way pedestrian pathways throughout the labs. We expect users to follow these guidelines, as well as use common social distancing practices, or we may revoke lab access.

Training

Training for new users will be limited to RAD approved critical/prioritized research projects for the initial re-opening period. The CIF is developing online training videos that will reduce the in-person training time to proficiency testing.

Scheduling of equipment or computer use (by trained users)

Reservations cannot be made on instrument calendars by the users.

- *Requests for instrument time will have to be done in iLab. This includes time on workstations or computers for data collection or processing. When possible, use remote login to access computers and data.*
- *iLab requests for instrument time are limited to one request per user, per day, per instrument per PI. This can be for a number of instruments (e.g. for time on the PXRD and D8TF).*
- *The CIF will arrange for appropriate time on the instrument in consultation with the research group to allow for one dedicated student to run all the samples for that research group.*
- *Traffic will be limited in the CIF. We accept rotations of operators on different days. But only one user per research group is allowed in the CIF for their reserved instrument time on a particular day.*
- *Requests will be handled on a first-come-first-serve basis, unless otherwise requested by the Department Head / Research Associate Deans (e.g. critical research that may have to be prioritized).*
- *The CIF retains the right to limit scheduling time in the event instrument demand is high.*

C4 XRD and XPS Laboratory

- *We will start by limiting access to C4 to one person at a time.*
- *XPS on one day, XRD on another day*

The following instruments will be available for assisted or possibly self-use (following request for instrument time in iLab):

- *Bruker DaVinci PXRD*
- *Bruker D8TF*
- *Bruker QUEST SCD*
- *Rigaku SAXS*

Additional Social Distancing Notes

- *Pedestrian traffic pattern (look for tape on the floor): Users can only enter the CIF through the main double entrance doors on the East side of the lab. Users will have to exit the CIF lab through the single door at the west side of the lab.*

- *PXRD (DaVinci) and XPS users will need to coordinate (calendars will be shared through iLab) so that there is only one person in C4A at any given time. Users will need to leave through the West door of the XRD/XPS lab.*
- *The X-ray lab (B115) will only accommodate one active user for the SAXS at a time. users in the X-ray lab (B115) should coordinate such that there is only one user in the lab at a time.* ***Only one person should be in B115 at a time****. If the room is occupied, you will have to wait for the previous user to finish and leave the room. Do not wait within 6 ft of doorways.*
- *The SCD lab in CRB (204L) will only accommodate one active user at a time.* ***Only one person should be in 204L at a time****. If the room is occupied, you will have to wait for the previous user to finish and leave the room. Do not wait within 6 ft of doorways.*
- *Ask users to move to a nearby location if you need to pass by an instrument/user and do not have the required 6 ft spacing available to pass by safely.*

Safety and PPE

- *Upon entrance to the CIF, every user needs to disinfect hands using the CIF hand sanitizer bottle available at the sample submission table (or on the computer bench in 204L, CRB and B115).*
- *Users have to wear a face mask at all times while in the CIF.*
- *Users need to wipe down workstations (keyboard, mouse, other surfaces) prior to leaving the lab. Use the disinfectant spray bottles and paper towels that are provided.*

Materials Lab and Instruments

CHEM1 Basement – C3 Labs

The CIR/ARC will be implementing strict social distancing guidelines such as limiting users on adjacent instruments, limiting number of folks in the lab areas, and creating one-way pedestrian pathways throughout the labs. We expect users to follow these guidelines, as well as use common social distancing practices, or we may revoke lab access.

Training

Training for new users will be postponed for the initial re-opening period up to a time when social distancing requirements have been lifted and/or training can be done safely. The CIF is developing online training videos that will reduce the in-person training time to proficiency testing.

Scheduling of equipment or computer use (by trained users)

- *Reservations cannot be made on instrument calendars by the users*
- *Requests for instrument time will have to be done in iLab. This includes time on workstations or computers for data collection or processing. When possible, use remote login to access computers and data.*
- *iLab requests for instrument time are limited to one request per instrument per PI. This can be for a number of instruments (e.g. for time on the PPMS and the MPMS).*
- *The CIF will arrange for appropriate time on the instrument in consultation with the research group to allow for one dedicated student to run all the samples for that research group. This will limit traffic in the CIF. We accept rotations of operators on different days. But only one user per research group is allowed in the CIF for their reserved instrument time on a particular day.*
- *Requests will be handled on a first-come-first-serve basis, unless otherwise requested by the Department Head / Research Associate Deans (e.g. critical research that may have to be prioritized).*
- *The CIF retains the right to limit scheduling time in the event instrument demand is high.*

The following instruments will be available for self-use (following request for instrument time in iLab):

- *TGA (thermogravimetric analysis)*
- *DSC (differential scanning calorimetry)*
- *EPR (electron paramagnetic resonance)*
- *MPMS (magnetic properties measurement system)*
- *PPMS (physical properties measurement system)*

Additional Social Distancing Notes

- *Pedestrian traffic pattern (look for tape on the floor): Users can only enter the CIF through the main double entrance doors on the East side of the lab. Users will have to exit the CIF lab through the single door at the west side of the lab.*
- *Thermal analysis (TGA/DSC) and dynamic light scattering (DLS) instruments are all within 6 ft of each other and therefore can only accommodate one active user at a time. Only one person should be at the thermal/DLS bench at a time.*

- *The materials lab (C3A – MPMS / PPMS) will only accommodate one active user at a time. Only one person should be in C3A at a time. If the room is occupied, you will have to wait for the previous user to finish and leave the room. Do not wait within 6 ft of doorways.*
- *Ask users to move to a nearby location if you need to pass by an instrument/user and do not have the required 6 ft spacing available to pass by safely.*

Safety and PPE

- *Upon CIF entrance, every user needs to disinfect hands using the CIF hand sanitizer bottle available at the sample submission table.*
- *Users must wear a face mask at all times while in the CIF*
- *Users need to wipe down work stations (keyboard, mouse, other surfaces) prior to leaving the lab. Use the disinfectant spray bottles and paper towel that are near the sink.*

CIF Guidelines for Individual Laboratories and Instruments

- *C1 NMR (links will go here)*
- *C5 Mass Spec*
- *C4 XRD and XPS*
- *C3C Magnetics*
- *C3E 500 NMR*
- *C3 TGA and DLS*
- *C3 Materials*
- *C3 Spectroscopy*
- *Y101 Imaging and EM*
- *CRB109*
- *CRBXRD*

The following instruments may be available for assisted or possibly self-use (following request for instrument time in ilab), please look for bulletins and other up to date notices of availability as this is very fluid and instruments may be added, or removed from the list, without notice.

- *LTQ (CHEMR 109 → see separate guidelines elsewhere)*
- *Agilent GCMS*
- *Thermo GC-QQQ*
- *Agilent QTOF*
- *Agilent BTOF*
- *Waters UPLC-PDA*
- *Waters UPLC-QQQ*
- *NEO400*
- *ASC400*
- *XPS*
- *XRD*
- *SAXS*

The following instruments may be available only for full-service by CIF (samples need to be submitted and CIF staff will run instruments): For these instruments, samples will have to be submitted on the sample submission table outside the CIF. Please submit your service request in ilab and accompany your samples with a CIF sample submission form.

- *Agilent WTOF (self-service rates will be honored for previously trained walkup users)*
- *Bruker QTOF*
- *400MR*
- *US400*

VPR GUIDANCE – 2020-0515

Dear Research and Creative Artistry Faculty:

The Research Continuity Working Group has developed a process for return to operations of research and scholarly activities via a gradual, phased process. Beginning Monday, May 18, 2020, researchers must complete an application to re-start research and scholarly activities. Individuals and groups already conducting essential research must also complete this application.

Applications must include a **safety plan** that describes how activity on campus will be minimized and provide a rationale for activities to restart during the first phase of return to campus.

Please note that any work that can be done remotely should continue to be done remotely for everyone's safety and to comply with the Governor's *Safer at Home* order. This request process is meant for those who need to access equipment, facilities, and resources on campus, and those who need to conduct critical off-campus or field work.

Out-of-state U.S. travel guidelines no longer require 14-day self-quarantine unless the individual is known to be exposed or symptomatic. International travel restrictions and requirements have not changed. CSU is in the process of updating travel guidance; please check for updates to the newest developments related to out-of-state and international travel.

To reopen laboratories and other workspaces or to conduct off-campus (field research) researchers must:

1. Read OVPR Return to Research materials website.
2. Complete and submit the online Research Request Form (requires your CSU eID logon).
3. Attach a detailed safety plan; please use the form that has been provided by your unit/college in the relevant spot on the application.
4. Complete a return to work training/consent form by a process that will be managed by OVPR; prompt to complete this training/consent will be provided following completion and approval of the application.
5. Receive final approvals from your department head, research associate dean and the Pandemic Preparedness Team following review of your application.

To understand individual unit expectations, you are strongly urged to discuss your protocol with your department head and research associate dean prior to submission. You will be notified via email when your application has been approved.

Core Facilities will operate to support current research activities; however, support will be at a reduced level. Hand sanitizer, fabric masks, and disinfectant solutions will be provided by the University as needed and distributed by a process that will be described in forthcoming communications.

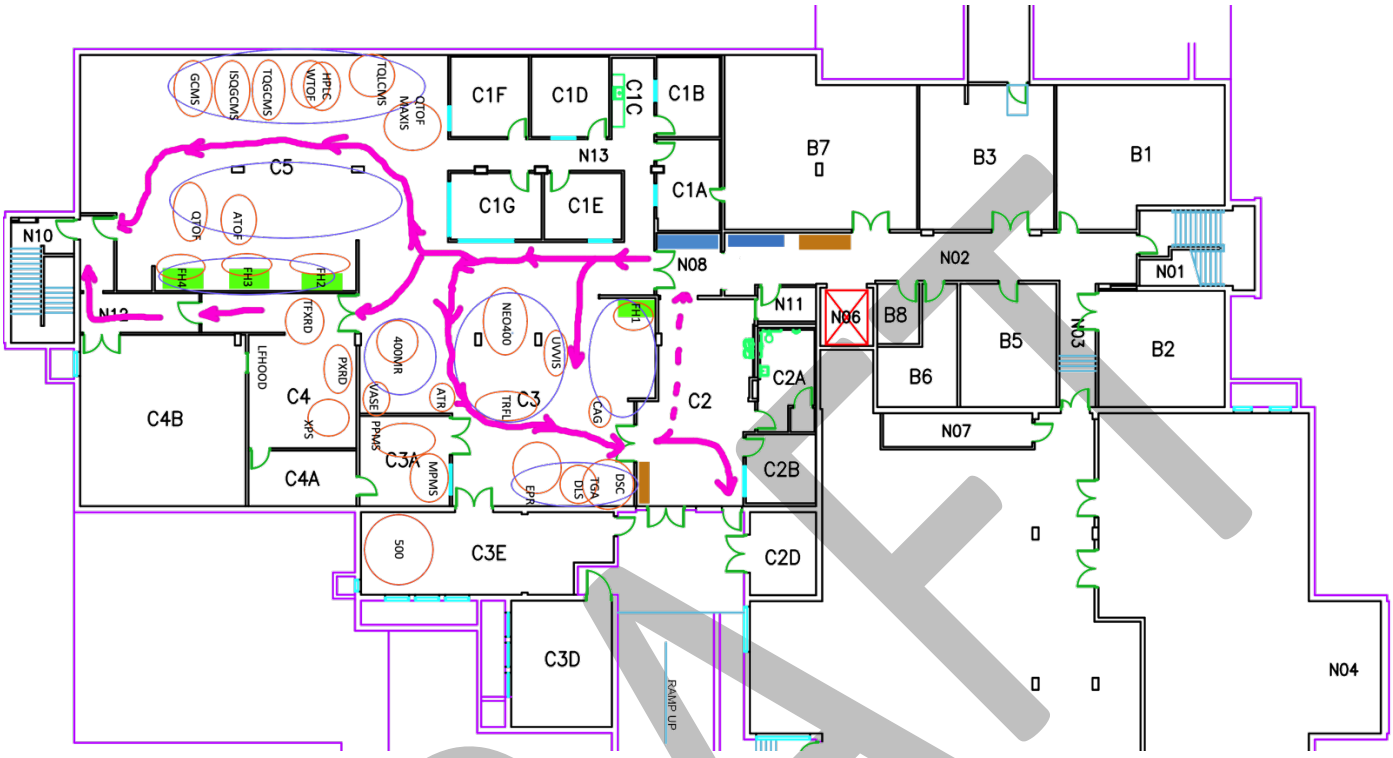
Additional information, including detailed FAQ, safety provisions, copies of forms, is provided at the OVPR return to work website. This site and additional details will be updated as the return to work process evolves.

Best,
Alan

Alan S. Rudolph
Vice President for Research
Colorado State University

Traffic Patterns

CHEM1-0150-Basement



Chem Research Building, CRB – 0147

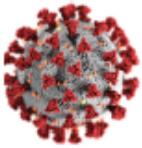
CHEM1-0150-B115 XRD-SAXS Lab

Yates-Y101-Imaging Lab

Appendix

Attachment A – CDC CV19 Information

What you should know about COVID-19 to protect yourself and others



Know about COVID-19

- Coronavirus (COVID-19) is an illness caused by a virus that can spread from person to person.
- The virus that causes COVID-19 is a new coronavirus that has spread throughout the world.
- COVID-19 symptoms can range from mild (or no symptoms) to severe illness.

Know how COVID-19 is spread

- You can become infected by coming into close contact (about 6 feet or two arm lengths) with a person who has COVID-19. COVID-19 is primarily spread from person to person.
- You can become infected from respiratory droplets when an infected person coughs, sneezes, or talks.
- You may also be able to get it by touching a surface or object that has the virus on it, and then by touching your mouth, nose, or eyes.

Protect yourself and others from COVID-19

- There is currently no vaccine to protect against COVID-19. The best way to protect yourself is to avoid being exposed to the virus that causes COVID-19.
- Stay home as much as possible and avoid close contact with others.
- Wear a cloth face covering that covers your nose and mouth in public settings.
- Clean and disinfect frequently touched surfaces.
- Wash your hands often with soap and water for at least 20 seconds, or use an alcohol-based hand sanitizer that contains at least 60% alcohol.

Practice social distancing

- Buy groceries and medicine, go to the doctor, and complete banking activities online when possible.
- If you must go in person, stay at least 6 feet away from others and disinfect items you must touch.
- Get deliveries and takeout, and limit in-person contact as much as possible.

Prevent the spread of COVID-19 if you are sick

- Stay home if you are sick, except to get medical care.
- Avoid public transportation, ride-sharing, or taxis.
- Separate yourself from other people and pets in your home.
- There is no specific treatment for COVID-19, but you can seek medical care to help relieve your symptoms.
- If you need medical attention, call ahead.

Know your risk for severe illness

- Everyone is at risk of getting COVID-19.
- Older adults and people of any age who have serious underlying medical conditions may be at higher risk for more severe illness.

CDC

CS 314037A 04/15/2020

cdc.gov/coronavirus

Attachment B – Disinfecting Surfaces

To maintain clean laboratory spaces and protect workers, follow these simple instructions required for staff working in lab spaces for disinfecting commonly touched surfaces. NREL management requires lab spaces to be cleaned both before and after use, following the procedures outlined below:

- Clean and disinfect frequently touched objects and surfaces; disinfectants with 0.1% sodium hypochlorite (bleach) or 62-71% ethanol significantly reduces coronavirus infectivity.
- **Prior to disinfection put on nitrile gloves, a lab coat and safety glasses**
- **Focus on high-touch surfaces including**: Tables, lab benches, lips of chemical exhaust hoods, doorknobs, light switches, countertops, handles, desks, phones, and electronics (computers, monitors, keyboard, mouse).
- **Be sure to dry off hands following disinfection process prior to plugging in or unplugging electrical equipment from outlet.**

Disinfection can be achieved by using commercially available materials common in laboratories. Disinfecting Supplies are available from the stock room. Available stockroom cleaning supplies include bleach, alcohol and dispensing bottles. Prior to use be sure the chemicals listed below are compatible with the surfaces you're cleaning. Examples are listed below. When available, the first two options are preferred:

- **Clorox or Lysol wipes** if appropriate for the surface. Wipe down the surface and allow it to air dry to allow for sufficient contact time. This is the preferred product for wiping down electronics.
- **Household cleaners and disinfectants:** Most EPA-registered household disinfectants will be effective provided that you follow the instructions on the label. Many products recommend:
  - Keeping the surface wet for several minutes to ensure germs are killed.
  - Precautions such as making sure you have good ventilation while using the product.
- **Dilute household bleach solutions** if appropriate for the surface. Check to ensure the product is not past its expiration date. Unexpired household bleach will be effective against coronaviruses when properly diluted. Allow the bleach to sit on the surface for at least one minute before wiping off.
- **To make a bleach solution**, in a hood or well- ventilated area mix:
  - 5 tablespoons (74 Milliliters) bleach per gallon (3.785 Liters) of water; OR
    - 4 teaspoons (20 milliliters) bleach per quart (0.95 Liters) of water for smaller quantities
  - New mixes will need to be made daily as dilute mixes can quickly lose potency.
  - Mix the material in spray bottles and wipe down with a Kimwipe.
  - **Never mix household bleach with ammonia or any other cleanser!**
- **Create simple alcohol and water solutions with 70% alcohol.**
  - This can be accomplished with isopropyl alcohol or ethyl alcohol. Do not use denatured alcohol that has been denatured with methanol. Methanol has a higher toxicity and creates challenges with respiratory protection. This will be identified on the label or safety datasheet.
  - Put the material in a squeeze bottle and label the bottle for hazard communication.
  - Do not apply the solution with a spray bottle that aerosolizes the material as it is flammable.
  - Do not apply alcohol near ignition or heat sources.
- **Hydrogen Peroxide (3.0 Percent)** – H_2O_2 is effective in deactivating rhinovirus, the virus that causes the common cold, within 6 to 8 minutes of exposure. Pour it undiluted into a spray bottle and spray it on the surface to be cleaned, but let it sit on the surface for at least 1 minute.
  - Dilution calculations will need to be done if mixing down to 3%
  - Make new solutions daily.

If you'd prefer to use a different cleaner than those noted above, please consult with your ESH POC prior to use.

Cleaning Material Disposal & Waste Minimization

- Wipes dampened with isopropyl alcohol or ethanol may be disposed of in standard laboratory trash cans provided they are not saturated (When Dry) with alcohols to a point where they could emit flammable vapors (thus making them a regulated hazardous waste) or in quantities that would produce strong odors in the space.
- Saturated isopropyl alcohol or ethanol wipes or those suspected to be contaminated with other chemistries, metals, or nanomaterials should be managed in accordance with the requirements of PROC 600-41, Waste Management and Minimization: collected in a closed, compatible container, labeled with the words "Hazardous Waste," accompanied by a completed Waste Container Log sheet, and managed in the laboratory's Satellite Accumulation Area (SAA).
- Clorox/Lysol wipes and other non-alcoholic wipes may be disposed of in standard trash cans provided they are not contaminated with other chemistries, metals, or nanomaterials.

Attachment C – Dangers of Mixing Bleach with Cleaners

Dangers of Mixing Bleach with Cleaners

Don't mix bleach with ammonia, acids, or other cleaners. Mixing bleach with common cleaning products can cause serious injuries. Be sure to always read the product label before using a cleaning product.

Chlorine Bleach

Sodium Hypochlorite is the active ingredient in chlorine bleach. It is found in household bleach and many other disinfectants. Sodium hypochlorite reacts with ammonia, drain cleaners, and other acids. Many household products state that they contain bleach on the label.

Mixing Bleach and Ammonia

When bleach is mixed with ammonia, toxic gases called chloramines are produced. Exposure to chloramine gases can cause the following symptoms:

Coughing. Nausea. Shortness of breath. Watery eyes. Chest pain. Irritation to the throat, nose, and eyes. Wheezing. Pneumonia and fluid in the lungs.

Ammonia Products

In addition to using ammonia as a cleaning product, ammonia can be found in some glass and window cleaners, interior and exterior paints.

Mixing Bleach and Acids

When chlorine bleach is mixed with an acid, chlorine gas is given off. Chlorine gas and water combine to make hydrochloric and hypochlorous acids.

Chlorine gas exposure, even at low levels and short periods of time, almost always irritates the mucous membranes (eyes, throat, and nose), and causes coughing and breathing problems, burning and watery eyes, and a runny nose. Higher levels of exposure can cause chest pain, more severe breathing difficulties, vomiting, pneumonia, and fluid in the lungs. Very high levels can cause death.

Chlorine can be absorbed through the skin, resulting in pain, inflammation, swelling, and blistering. Hydrochloric acid also causes burns to the skin, eyes, nose, throat, mouth, and lungs.

Acid Products

Products containing acids include vinegar and some glass and window cleaners, automatic dishwasher detergents and rinses, toilet bowl cleaners, drain cleaners, rust removal products, and brick and concrete cleaners.

Mixing Bleach with Other Cleaning Products

Bleach also reacts with some oven cleaners, hydrogen peroxide, and some insecticides. Pool chemicals frequently contain calcium hypochlorite or sodium hypochlorite and should not be mixed with other cleaning products.

https://www.doh.wa.gov/YouandYourFamily/HealthyHome/Contaminants/BleachMixingDangers

Attachment D – Mask and Glove Removal/Care Guidance

Center for Disease Control (CDC) Guidance Regarding Care and Removal of Masks:

- Cloth face coverings should be routinely washed with hot soapy water, depending on the frequency of use
- A washing machine is the best way to safely sterilize/clean a cloth face covering.
- Individuals should be careful not to touch their eyes, nose, and mouth when removing their face covering and wash hands immediately after removing.
- When not in use, store the mask in a way to ensure that it does not touch any surface that is potentially contaminated. i.e. in a zip loc bag.

Glove Removal/Care Guidance (See video - https://www.youtube.com/watch?v=Bb2uZOmHZN8)