Nanofabrication and Characterization Facility (NFCF)
General Lab Training – New Users post-COVID-19

NFCF has developed a protocol for users entering the facility. The protocol described in this document is based on guidance from the Pitt EH&S department and the CDC, adapted for NFCF’s specific environment. Ensure you have finished all prerequisites prior to continuing with this training: nano.pitt.edu/Orientation

COVID-19 exposure risk mitigation guidelines
• If you have any symptoms, do not enter any University Buildings, and alert NFCF staff so that we can assess if any exposure risk protocol should be undertaken.
• The best way to prevent illness is to avoid being exposed to this virus
• The virus is thought to spread primarily through person-to-person interaction:
  o Between people who are in close contact with one another (within about 6 feet)
  o Through respiratory droplets produced when an infected person coughs, sneezes, or talks
  o Droplets can remain suspended for up to ~15 minutes and can be inhaled into the mouth, nose, and lungs
• COVID-19 may be spread by people who are not showing symptoms

When entering NFCF lab spaces, everyone must:
• Maintain Physical Distancing: Stay at least 6 feet (about 2 arm lengths) from other people
  o No work partners or other visitors may attend with you at any time, solo work only.
  o Staff should be contacted to plan no-contact exchange of any samples or other needs you have from us
  o Location for no-contact exchange is as shown in photo below, as well as lab entrance standard cleaning supplies

• Wash your hands before and after working in lab spaces:
  o Wash your hands often with soap and water for at least 30 seconds or use a hand sanitizer that contains at least 70% alcohol.
  o Avoid touching your eyes, nose, and mouth with unwashed hands

• Guide for Cleaning and Disinfecting -
  o IPA cleaner is the preferred disinfectant for the lab. IPA should be sprayed onto the wipe then the surface should be cleaned with the disinfectant wetted wipe. Concerns of speed of evaporation are eliminated by use of wipe with the cleaner.
- **MASKS: NFCF Users MUST wear face masks throughout NFCF and Benedum Hall**
  - Face masks are the primary preventative measure to prevent the spread of COVID-19
  - Masks must be worn everywhere at all times:
    - **even if no one else is present** because you are potentially exposed to respiratory droplets from anyone in the room for the prior 15 minutes, and anyone entering the room 15 minutes after you leave is potentially exposed to your respiratory droplets
    - NFCF will provide surgical masks for all users in the facility, review “NFCF COVID map” for location.
  - You will change to a new mask upon entry. If you are keeping your prior mask, Ziploc bags are provided for you to safely carry that.
  - Anyone not wearing a facemask within NFCF will be subject to disciplinary action including loss of NFCF access

- **Gloves: Users MUST wear gloves throughout NFCF labs (characterization rooms and cleanroom)**
  - Always wear gloves in all NFCF lab spaces (review Map “NFCF lab spaces” green and blue spaces).
  - Always discard gloves in waste bin before leaving the lab
  - Do not wear gloves between buildings and in hallways
  - **NFCF provides two glove types:** Cleanroom and Characterization type gloves
  - Characterization users are requested to use the Characterization gloves is possible. Characterization gloves may be latex, please check signage. Cleanroom gloves are nitrile if needed for allergy reasons.
  - The specific properties of cleanroom specialty gloves are discussed in cleanroom training section
  - You may change gloves if you need to, please do not touch surfaces with ungloved hands.

- **Clean and disinfect frequently before and after working with high-activity items:**
  - Keyboard, mouse, and the table spaces, microscope eyepieces
  - Each tool has detailed instructions on the items that need to be cleaned
  - Disinfecting keyboards can be challenging. Where possible, keyboards with off switch are provided.
    - If equipment does not have this type of keyboard, ensure that you log on to FOM before cleaning keyboard so that any changes to settings can be observed and corrected.
  - Please review NFCF COVID map for locations of “wiping station” across the lab.

- **Review gas alarm and fire alarm procedures** – exit building for fire, exit lab and vacate surrounding area for gas.
**Contacting NFCF staff for support**

- NFCF will be working on a rotating schedule and not all staff will be on site every day, see schedule below.
- If you encounter an issue, contact the appropriate staff member (see table below) via email, phone or TEAMS.
  - If using communal phone, disinfect the phone before and after. *Do not request in person.*
- During service, maintain a minimum 6-foot distance from staff assisting you. You may be asked to wait in a separate area, or to temporarily exit the area to be contacted once the service is complete.
- **No Users** are permitted in the offices area, room M104 during mitigation period. That area is Staff-Only.

**Teams Schedule:**
As of October 2020, the schedule is as follows. Feel free to contact barrj@pitt.edu for clarification or update.

<table>
<thead>
<tr>
<th>Shift 1 (all Mon-Tues, alternate Weds):</th>
<th>Shift 2 (alternate Wed, all Thurs-Fri):</th>
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<tbody>
<tr>
<td>Esta Abelev</td>
<td>Matthew France</td>
</tr>
<tr>
<td>Susheng Tan</td>
<td>Dan Lamont</td>
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<tr>
<td>Jun Chen</td>
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Wednesdays will alternate weekly between the teams. Daytime weekdays, staff are available to answer questions remotely. We are strongly encouraging users to use TEAMS for communication with NFCF staff. Please reference Teams related documentation for instructions and access to our group: nano.pitt.edu/NFCFTeams

You may also use our central phone line at 412-383-8001 or contact the team member directly nano.pitt.edu/people

You may review which staff specializes in each equipment, and training details. nano.pitt.edu/Train

**NFCF equipment availability, reservations, and training**

**Equipment**

- Follow all instructions provided in general lab training related to FOM
- Users can submit a service request for NFCF staff to perform work via this form nano.pitt.edu/SvcRequest
- NFCF will be working on a rotating schedule and not all staff will be on site to immediately assist with equipment issues. Contact staff via the phone numbers, emails, or Teams links provided above
- If you are using a general use phone, you must clean the phone with provided cleaners before and after use just like any other shared resource or equipment.
- **Keys**, user must contact staff ahead of their session in case they need keys to access (room SB02A – Dicing room, 620 – PLD/DSC room or others), keys will be provided on request at the drop off tray near SB60

**Trainings**

- Your first time accessing the lab must alert the staff member in advance that it is your first access so they can assist
- Trainings are at cost of equipment time + staff time, hourly which cost is charged to your PI. Initial equipment training must be provided by a NFCF staff member not another user. www.nano.pitt.edu/Train
- **Expired access**: access to equipment remains active for 6 months, if not used for >6 months, access will expire
- For cost effectiveness you may wish to consider the amount of time prior to your actual equipment needs before requesting staff training. Due to the 6-month expiry, taking training too early may have disadvantages.
- For refresher training of existing users can be offered as applicable - those with sufficient experience and knowledge may be eligible for a remote viewer based refresher session with staff as expedited retraining method.

**Physical distancing safety aides:**

- Pictured are plastic room dividers placed to assist with safe physical distancing of users.
- Physical distancing is additionally facilitated electronically, as explained below in our FOM section.
Reservations/ Use of FOM
• To support 6 foot physical distancing inside NFCF lab spaces a new protocol was created for tool booking in FOM, review the following document: nano.pitt.edu/FOM-COVID (Required reading)
• Review new “virtual bays” map in “NFCF COVID Map”: nano.pitt.edu/CovidMap (Required reading)
• No express log-on is available. Reservation is required.
• Reservations must be made at least 1 hour in advance: no walk-up sessions are allowed. Additionally, we encourage users to make reservation a week before usage
• Reservations and Logins are required for the equipment only – the bay will be automatically included.
• Users should consider all equipment they will need to use for their session when making reservations.
  o Ex: TEM users should consider necessary sputterer or plasma being in a high demand space.
• Within one bay, one user may access multiple equipment, no other user may access the bay during that users login
• Please time your FOM logout to coincide with your exit of the bay area and/or lab.
• Please exit the lab as soon as you have finished your work and as soon as you end your FOM session.
• Log out fully when exiting to ensure no disruption to other users. Ensure your logout is complete.
• Pre-existing reservation limitations are still in place in the system, if you have specific needs for additional reservations, contact an NFCF Staff member and we can assist you with additional reservation time if needed.

After Hours Buddy System
• During regular staff hours, staff will support your need for buddy via remote viewer and chat function. The acid hood will require that you have staff using Teams to oversee safety during your work.
• During after hour visits, you will be required to coordinate with another user to be available to check on you via technology – chat, messenger service, or video acceptable. We are in development of a more structured setup for this and will update everyone when this update is available.
• Detailed information related to use of our TEAMS Buddy System can be found at nano.pitt.edu/NFCFTeams

Characterization specific:
• A total of four people may be in the main characterization suite at any time (room SB60) as indicated by Bay capacity, and one person may be in each TEM room.
• FOM reservations are made for tools, no reservation needed for the “CR-Bays”
• When signing into the equipment, the login will automatically also include signing and blocking of the “Bay” (at no charge) in addition to the instrument sign in (which will be charged)
• Bay map and equipment per each bay listing can be reviewed in FOM instructions here: nano.pitt.edu/FOM-COVID
• It is critical to lab function that you remember to fully log out of all equipment when you are finished with use point.

Access to building and lab space
• If you do not yet have Benedum Hall building access, NFCF staff will assist you.
  o You will need to obtain confirmation from your PI or Lab director that you have completed University of Pittsburgh COVID certification, in order to submit the request.
  o Please contact an NFCF staff member for assistance with building access requests for Benedum Hall, instructions will be provided to you.
• Lab access is obtained by a separate request from building request.
  o Please send a photo of the front and back of your University of Pittsburgh ID card to barrj@pitt.edu or nfcfadmin@pitt.edu for addition of the lab doors to your card access rights.
  o Access will be granted upon confirmation that all orientation requirements are completed.