

COVID 19 Response – Tufts Micro & Nano Fabrication Facility at 200 Boston Ave

Standard Operating Procedure

Lab Director: James Vlahakis, Mechanical Engineering

(617) 627-5155

Safety Office: Peter Nowak

(617) 627-3246

Tufts Emergency Medical Services

(617) 627-6911

Revised: October 21, 2020

If any of the policies/procedures described in this ramp-up plan deviate from those provided by OVPR/TU, the guidance in the OVPR/TU documents will be followed. Links to university guidance –

<https://viceprovost.tufts.edu/covid-19-information/covid-19-research-ramp-up/>

<https://viceprovost.tufts.edu/covid-19-information/covid-19-research-ramp-up/ramp-up-news/>

https://coronavirus.tufts.edu/sites/default/files/2020-06/Tufts_University_R2C_Guide_2020.pdf

Affected Areas

This operating procedure applies to the [Tufts Micro/Nanofabrication Lab](#), a university core facility located at 200 Boston Avenue, rooms 2713, 2714 and 2715. This a cleanroom facility, no animal or cell work is performed, wet chemical processing is performed in dedicated fumehoods.

This laboratory, although not certified, is expected to meet Class 1000 cleanroom standards under FED-STD-209E (ISO14644-1 Class 6). This means that the air is 100% outside air, HEPA filtered, with approximately 150 air exchanges per hour, with laminar flow intended (perhaps disrupted by some equipment). This means that the space is much safer for airborne pathogens than a standard office or lab space.

Current Staffing

Lab Director Dr. James Vlahakis

Faculty Advisor Prof. Robert White

General Principles

To facilitate re-starting research while minimizing infection risk to researchers and the community.

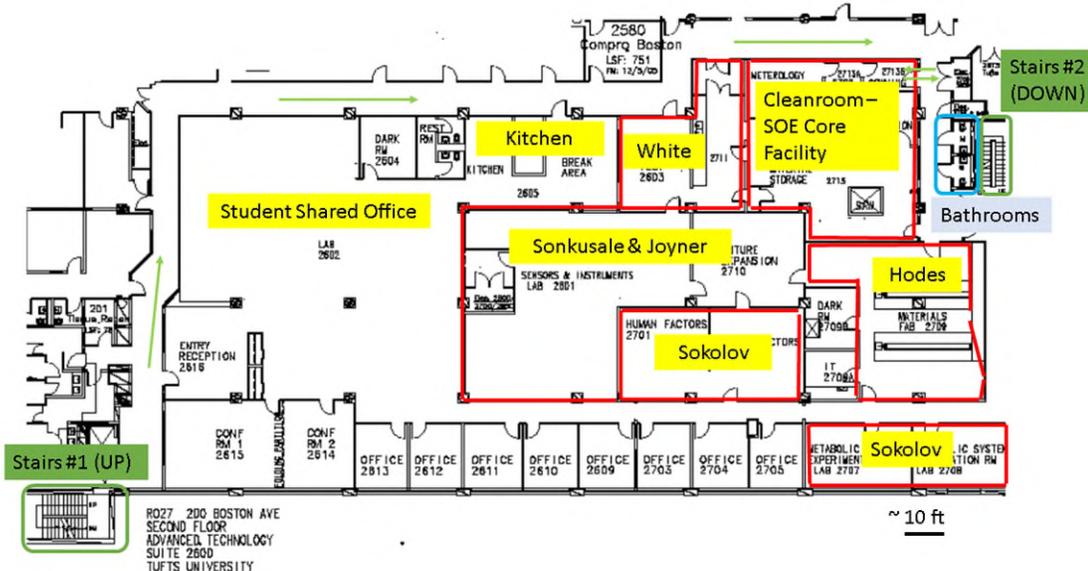
Any work that can be done remotely (e.g. data analysis, simulations, writing, meetings) will remain in that mode. Social distancing, personal protective equipment, and cleaning of shared spaces will be employed. Open communication and reporting of concerns such as protocol breaches or suspected illness will be rapid and without any negative repercussions.

1.0 Prior to working in the lab

- 1.1 All researchers must read the current university guidance, complete the Returning to Tufts Campuses online training and submit a completion certificate.
- 1.2 Each day, before arriving to the facility researchers must successfully complete a Daily Health Screening Survey allowing them entry to campus. They may be required to show confirmation of a successful survey. Links to the daily survey –
 - 1.2.1 <https://covidscreening.tufts.edu>
 - 1.2.2 The [Tufts mobile](#) app
 - 1.2.3 The [Healthy @ Tufts](#) portal (Daily Healthy Status Survey)

2.0 Occupancy:

- 2.1 The Micro/Nanofab has over 60 users. As of 10/20/20 24 users will have access. This group includes graduate students, postdocs and external users all of whom have previously received training. At the present time there are no provisions for providing training to prospective new users.
- 2.2 The lab will be available Monday thru Friday from 8am to 8pm
- 2.3 As we safely meet operational milestones, more users will be granted access in a controlled manner. If at any point issues arise the ramp-up will pause.
- 2.4 At most 3 individuals, should be in the lab at a one time – one each in room 2713, 2714 and 2715.
- 2.5 Once a user has completed their processing and vacated a room any subsequent user should wait five minutes before entering to begin their processing.
- 2.6 The gowning area will be restricted to one individual at a time. Users will wait five minutes after the gowning area has been vacated before entering to gown up.
- 2.7 Six feet of separation must be maintained at all times. The iLab scheduling system will allow us to monitor lab usage and enforce occupancy guidelines.
- 2.8 Dr. Vlahakis has an individual office at 200 Boston Ave (room 2612 on the map on the next page), the office interior can be considered “safe” and no gloves, mask, or lab coat are required. Shared spaces – kitchen, break room, cubicle area, etc. will **not** be used
- 2.9 Any individual who exhibits any symptoms – fever, cough, chills, body aches, congestion, etc. – should remain at home and not come to lab for 10 days..
- 2.10 Normal Ingress/Egress will follow the one-way route as specified in the floorplan map below. Entrance will be through the front door and up Stair #1. Exit will be through Stair #2 and out the back door of the building (loading dock area). This ensures no occupant will pass other occupants in a hallway or stairwell. The stairwells are clearly labeled, floorplan below for reference.



3.0 Personal Protective Equipment

- 3.1 In addition to the cleanroom gowning rules already in place (suits, boots, caps, nitrile gloves) non-cloth face masks, covering the nose and mouth, must be worn.
- 3.2 Gowning rules will be modified, first steps – sanitize hands and don nitrile gloves **before** other gowning steps.
- 3.3 If we run out of any PPE component the lab will be closed until we can resupply.
- 3.4 Users' cleanroom suits/boots will be stored in separate dry-cleaning style garment bags to prevent suit to suit contamination.
- 3.5 Chemical safety equipment – acid gloves, apron, face – will move from shared use to individual components assigned to each chemistry user. Faceshields will be shared and must be wiped with IPA before/after each use.
- 3.6 Lab users are **discouraged** from using the shared bathrooms in the hallway (see map). However, if the shared bathrooms must be used, follow this procedure:
[Note: These particular bathrooms are cleaned by Tufts facilities and will follow Tufts cleaning policy.]
 - 3.6.1 Remove cleanroom gown/boots, hang on rack using separators to prevent gown to gown contact
 - 3.6.2 Keep face mask in place.
 - 3.6.3 Discard nitrile gloves upon exiting the lab and put on new gloves in the hallway.
 - 3.6.4 Bring a 3rd new pair in your pocket with you.
 - 3.6.5 After entering the bathroom and closing the door, discard gloves. Wash hands carefully.
 - 3.6.6 When finished using the facilities, wash hands carefully again, and put on fresh disposable gloves from your pocket. Do this **AFTER WASHING YOUR HANDS, AND PRIOR TO TOUCHING THE DOOR TO EXIT** the bathroom.
 - 3.6.7 After entering the microfab, discard gloves, disinfectant hands and re-gown.

4.0 Cleaning

- 4.1 Monthly lab decontaminations performed by Nanoclean, Inc will be restarted.
- 4.2 **Before and after** use, surfaces must be wiped down with isopropanol soaked disposable wipes (available in the lab) -
 - User work space, bench surfaces, etc.
 - Computer keyboards/mice/instrument control panels
 - Hand tools, etc.
 - Microscope eyepieces
 - Chem safety faceshield
- 4.3 After exiting the lab, researchers should use the nearby disinfectant dispenser to clean their hands

5.0 Activities in Lab

- 5.1 Any activities that can be completed remotely should be done remotely. This includes simulations, data processing, writing, and meetings/discussions.
- 5.2 Meetings will not occur in the lab. All meetings should continue to be virtual.
- 5.3 Lab activities should be limited to activities that need to occur in lab – characterization and prototyping/fabrication activities that require access to lab instrumentation and fabrication equipment.
- 5.4 During the initial ramp up face to face training are not allowed.

6.0 Communication and Reporting

- 6.1 Any individual that is confirmed COVID-19 positive is encouraged to immediately report this to the lab director and to Tufts covid19@tufts.edu.
- 6.2 Any concerns regarding safety and health in the laboratory should be communicated to the lab director james.vlahakis@tufts.edu immediately.

- 6.3 Any breach of protocols described here should be reported to the lab director james.vlahakis@tufts.edu immediately
- 6.4 Anonymous reporting method is available for users to voice their concerns without fear of repercussions - <https://access.tufts.edu/reporting-misconduct>

7.0 Compliance

- 7.1 All in lab instrumentation must be reserved in advance through our lab management software (iLab). Thus, the lab director will know when users will be in the lab and will be able to spot check compliance
- 7.2 Anonymous reporting method is available for users to voice their concerns without fear of repercussions - <https://access.tufts.edu/reporting-misconduct>
- 7.3 There will be a zero tolerance policy with regards to these mitigation procedures. Users who do not follow the guidelines will lose access privileges.

If at any time you feel unsure about health, safety, or procedures, please stop work and contact the faculty advisor. **Report all health concerns, non compliance, or any other issues to Dr. Vlahakis at james.vlahakis@tufts.edu .**