Washington Nanofabrication Facility
COVID-19 Prevention Plan

Created: June 9, 2020
Last Updated: October 8, 2020
Section 1: Plan and Site Supervisor

Site Supervisor:
N. Shane Patrick  
Manager, Lab Operations and Safety  
patricns@uw.edu  
206-221-1045

Personnel Supervisor:
Maria Huffman  
Director  
mhuffm@uw.edu  
206-543-5101

Plan Location:
Online – WNF Website – User Documents  
Physical – WNF Safety Board

Training:
Document Review and Pre-Recorded Presentation  
Training enforced and logged via CORAL

Change and Updates:
Situation and policies monitored by COVID-19 Site Supervisor  
Documents and Training updated as needed  
Updates communicated via email and CORAL  
Compliance/acknowledgement/certification required within 7 days.

Phasing Guidance:
King County: Phase 2  
University of Washington: Phase 2  
College of Engineering: Phase 2  
WNF: Phase 2
Section 2: Social and Physical Distancing

General Implementation:

All personnel on-site at the WNF must abide by all UW policies regarding operations during the COVID-19 impact in addition to all WNF policies, which supplement or clarify operation procedures specific to the unique environment of the facility.

The WNF maintains a separate document titled “Social Distancing Policy”, posted and distributed electronically, that details the majority of its efforts and requirements in this area, including masking requirements, use of shared spaces, occupancy limits, cleaning expectations, and more. All persons accessing WNF are expected to adhere to this policy without exception. This policy is available at the following link: https://www.wnf.washington.edu/social-distancing-protocol/

The WNF is available under limited operations for on-site work. All work and user access must be directly approved by its Director, Maria Huffman, before proceeding, regardless of past user, group, or project qualifications. To gain access, groups should have an authorized representative submit justification that their work is critical or allowable under current guidelines and explicitly stating who they are authorizing to proceed with this work. WNF reserves the right to allow, revoke, or prioritize access to any resources solely at its discretion. The following is a non-exhaustive list of criteria that may be taken into consideration when evaluating requests:

- UW Office of Research guidelines for return to in-person work
- State of Washington Safe Start phasing guidance for allowable business activities
- Current public health recommendations
- Category and impact of research/work proposed
- Current bandwidth and demand on resources (equipment, occupancy, staff time, etc)
- History of use (if any)

WNF’s operating model has been approved by the Dean’s Office for the College of Engineering, EH&S, the UW Office of Research, and is contingent on its enforcement of all COVID-19 polices and safety measures. Any user in violation of these measures may be dealt with severely in order to preserve the health and safety of all of our users and staff and to ensure we can continue to make our resources as widely available as possible.

Telework:

UW and College of Engineering policy for phase 2 is that telework requirements are unchanged – those functions that can be done remotely, must be, and staffing guidance remains largely the same. All WNF staff are authorized and required to exercise remote work options as much as possible. Due to the nature of the facility, a degree of on-site presence is required. The WNF manages this by defining all RSE staff as critical and utilizing a rotating schedule with shared responsibilities, taking staff preferences and necessary tasks into account. Staff are not required to come in should a situation develop that makes them uncomfortable, particularly as concerns their health or that of their family units. Staff are only asked to support those tasks
necessary to the continued safety and longevity of the facility and its equipment and in support of approved research and business activity.

Undergraduate Research Assistants are likewise required to telework in order to perform any tasks and responsibilities that can be performed remotely. For those tasks that cannot be performed remotely, a minimal contingent may be considered for on-site work provided all appropriate precautions can be maintained. The designated leads and the site’s Personnel Supervisor work together to decide who is reasonable to bring in and when to do so. URAs are only to report to work when approved, when specific tasks in support of approved operations are assigned, and when they are comfortable doing so.

Users are only permitted in the facility with explicit authorization of the site director following approval of their proposed research or business activity. Further, users may be on-site only for work which cannot be done in another location and are to leave the facility as soon as possible.

**Shift/Break Times, Workspace Distancing, and Task Scheduling**

The WNF currently allows explicitly approved research and business activities between the hours of 12am Monday morning and 9pm Friday evening, holidays and closures excepted. WNF routinely schedules 3 members of staff to be on-site on any given day, and hours are staggered to support the above operating window as much as possible while also supporting distancing requirements. Additional staff may be on site when maintenance or critical needs warrant, provided all necessary precautions can continue to be met. Staff must be listed on the CORAL occupancy calendar prior to coming to work, even if coming in off-schedule. No additional approval is required. Where possible, staff are sharing all responsibilities equally, but response times will be extended. Tasks will be prioritized and executed as possible, but only safety related items will justify overriding any of the precautions in place for personnel.

Undergraduate Research Assistants may be allowed on-site in a minimal capacity at the discretion of the site’s Personnel Supervisor to support those tasks necessary to the continued operation of the facility and in support of approved areas of business and research. When needed, the Personnel Supervisor will provide guidance to the current Lead URAs regarding the needs of the facility. The Lead URAs will determine who is willing and capable to support operations based on the guidance provided and construct a schedule proposal for review. The proposal must ensure all physical distancing requirements are accounted for and that the minimal number of people necessary for the task(s) are put forward. No more than 2 URAs are to be scheduled at any given time. Work that has not be previously scheduled must be explicitly approved by the site’s Personnel Supervisor. After hours work is acceptable and encouraged to minimize exposure so long as all safety measures are still followed. URAs may report to work once either the Personnel or Site Supervisors have approved the schedule proposal. Schedules may be approved (and revoked) by the day, week, or more at the discretion of the Personnel and Site Supervisors. URAs must be listed on the CORAL occupancy calendar prior to coming to work.

Users are required to list their occupancy hours on the CORAL occupancy calendar prior to arriving on-site and limit total occupancy to 25 persons to facilitate spacing and planning. WNF asks users to be considerate of the limited occupancy and resources available and to help ensure as many people and groups have access to critical infrastructure as possible while
remaining safe. To that end, WNF may take additional steps as regards observed habitual misuse of the reservation calendar, particularly as regards monopolization of resources, failure to book, and failure to release reservations.

Fluke Hall’s various spaces are not readily reconfigurable and the building was not designed for operation under the restrictions of a global health crisis. Use of common facilities must be minimized and 6 feet of distance must be maintained at all times. Do not share tables or workspaces when this is not possible. Spread out, go outside, or go home if your on-site work is finished. Access to room 132 and 132G, the user office space, is limited to drop-off, retrieval, and exchange of materials only and in periods lasting no more than 10 minutes. This is to ensure everyone has access to the space they rent without needing to be concerned for their health. Staff are not to share office spaces regardless of normal arrangements – only one person to each cubicle set or office. All restrooms on Fluke Hall’s first floor are now single-occupancy, regardless of actual capacity. Eating and drinking are not permitted within the first floor except by staff in private offices and only when appropriate cleaning can be maintained.

**Space Capacity, Minimizing Occupancy, and Organizing Work**

All personnel must limit their occupancy of Fluke Hall to the time needed to perform only those tasks which cannot be performed off-site in order to preserve critical infrastructure. Options may include concentrating work activities across projects into one or two individuals or deferring work that is less critical. 6 feet of distance must be maintained at all times. The cleanroom is limited to a total occupancy of 25 people at a time, the gowning room is limited to 4 people at a time (2 at each end), and most bays are limited to 5 people at a time. Follow all posted occupancy signage, as conditions may demand modifications with little to no notice. This provision does not override the requirement to maintain 6 feet of space between personnel. If current activities cannot be performed while maintaining this distance, you must wait or return at another time to do your work.

**Meetings**

Brief, in-person meetings are allowed, but discouraged, only while maintaining 6 feet of separation between all parties, when they can take place in a space with proper air flow, and when distance or remote options are not possible. All other meetings, regardless of number of people, must be conducted remotely.

**Shared Tools and Equipment**

The WNF is a shared facility. There is no way around this. The gowning protocols, airflow, and filtration inherent to cleanroom operation in addition to the Social Distancing Protocol minimize the chance of spreading contagion when followed appropriately. Please reference the above policy and posted gowning procedures for full details, including requirements for special storage and disinfecting of anything that comes near or in direct contact with the face. Further, individual tools that are available for use should not be handed from one person to another but rather collected and returned to their designated areas, whether that is a tool box, equipment or drying rack, or a table or drybox. If you need to coordinate exchange of materials between users or between staff, please make appropriate contact-free arrangements with the person in question. Our front desk may be able to assist.
Onboarding and Equipment Training

The historical training model at WNF is inconsistent with COVID-19 prevention guidelines. New training methods are being implemented that rely more heavily on remote and distance options.

Individual tools may be approved by the Site Supervisor to resume training upon receiving an assessment and recommendation from the tool owner. Only those tools where training can be performed while adhering to all prevention policies may move forward. CORAL comments inform which tool have resumed training. When in doubt, contact the Site Supervisor or tool owner.

WNF staff have made significant adjustments to the new user onboarding process, including heavy reliance on virtual classroom sessions, video presentation, electronic quizzes, and in-person sessions in the lab with reduced numbers of participants in order to allow for a safe and slow introduction of new personnel to the facility. This process is tracked in CORAL via the new user registration portal, including verification of all UW and WNF COVID-19 Prevention Plan requirements and trainings.

Protective Barriers

Due to the high-traffic nature of the location, a protective barrier has been installed at the WNF reception desk to protect workers. The barrier is not license to ignore the social distancing policy with those at the desk other than when strictly necessary. Staff offices also include, by design, a certain level of barrier between hallway traffic and the occupant. Other areas of the facility are not as conducive to these protective measures. Physical distancing and other safety measures must be maintained at all times, regardless of physical barriers being present or added.

Air Pathways and Ventilation

Fluke Hall features a persistent ventilation system with positive pressure, including a separate system driving cleanroom functions. Air exchange and ventilation are adequate, particularly in hallways and especially in the cleanroom, but users should avoid congregating in narrow or closed off spaces. The user office area is the most likely space to exhibit reduced airflow and exchanges. Use of these spaces must be minimized wherever possible and proper distancing must be maintained. Avoid situations where air pathways are less that 6 feet between you and another person.
Section 3: Communication

Posters, Signage, and Floor Markings

UW EH&S approved posters regarding hygiene and other preventative measures have been posted at the main entrance to the WNF secured zone and entry has been restricted to this one path. The WNF Laboratory Manual states that users must read and follow all posted signage, a provision agreed to in the course of becoming a user. Signs on entry are no exception. In addition, the most recent version of our internal policies are posted near the entrance. Hygiene reminders such as equipment sanitizing, mask requirements, and more are posted through the laboratory spaces where relevant. Additional information is also maintained on the WNF Safety Board located just outside of the main entrance to the cleanroom. WNF has not currently implemented floor markings, preferring clear policies and reliance on our dedicated community to do what is needed to ensure the facility can remain open. This has been successful thus far, but is consistently monitored and will be adjusted if it becomes necessary.

Meetings

The WNF maintains its weekly staff and user meetings, held remotely via Zoom. Current practices and policy updates are communicated during these meetings among other developing news. The meetings also serve as a forum for questions and clarifications. Staff are expected to attend the weekly staff meetings. Attendance of the weekly user meeting is voluntary for all personnel, but we strongly encourage users to make use of the opportunity to stay informed.

Electronic Communications

WNF’s implementation of the CORAL management system allows for the easy administration of various mailing lists and records of individual email addresses for lab-appropriate uses. Lab management leverages these email and messaging functions extensively, providing immediate notice of emerging situations both at-large and tool-specific, depending on the situation. Further, the WNF website and social media presences are kept up-to-date with emerging developments.

Policies and Procedures

WNF staff has carefully constructed clear policy documents to communicate our expectations to all users authorized for essential work within the facility. All policies specific to COVID-19 are contained here and within the WNF Social Distancing Protocol document, which is posted online and throughout the facility, as well as distributed by email when updated or upon request. The WNF also maintains various site-specific documents, notably the WNF Laboratory User Manual, detailing our expected safe operating procedures.

Notice to Vendors and Contractors

All access to WNF requires explicit approval of laboratory management, including service vendors, contractors, non-WNF UW personnel, etc. As part of the approval process, all policy documents and statements are provided electronically before occupancy is authorized.
Section 4: Social Distancing Exceptions

For safety, access, lifting assistance, or other areas of tool and equipment maintenance it may not be possible to maintain social distancing practices. RSE Staff should be the only personnel engaged in these activities at WNF. Staff should perform only those activities they are comfortable with and must defer or work with management to delegate such tasks they are not comfortable with. Whenever possible, management must be informed of such activities in advance. Should an emergency situation develop, management should be informed at the earliest opportunity. These situations should be rare, and staff must attempt to find solutions that do not violate social distancing policies before proceeding. Prior to performing any non-emergency task requiring such an exception, masks must be upgraded from fabric to surgical or N95, and contact period should be limited to no more than 10 minutes. Face shields may also be used as an extra layer of protection.

WNF Undergraduate Research Assistants are never authorized to violate distancing policies unless a threat to life or safety develops or exists. In the event an emergency requires an in-the-moment exception, management must be informed at the earliest opportunity.

WNF Users are never authorized to violate distancing policies during processing unless a threat to life or safety develops or exists. Users with privately owned equipment on site with a specific maintenance need requiring an exception should submit information to lab management for approval prior to commencing work, including assessment of alternatives and risks. In the event an emergency requires an in-the-moment exception, laboratory management must be informed at the earliest opportunity. Prior to performing any non-emergency task requiring such an exception, users will be required to upgrade masks from fabric to surgical or N95, and contact period should be limited to no more than 10 minutes. Face shields may also be used as an extra layer of protection.
Section 5: Dealing with Illness and Infection Spread

Guidance on dealing with symptoms, close contact, isolation periods, notification requirements and more may change. Please reference the central UW Coronavirus FAQ for the most up-to-date information.

https://www.washington.edu/coronavirus/faq/#health

Daily Attestations of Health

In compliance with UW policy, WNF requires daily attestations of health from all authorized personnel entering Fluke Hall. This includes our academic and industrial users, contractors, vendors, guests (currently suspended), and delivery couriers. This helps to establish contact tracing and also provides a moment for introspection – should you really be where you are right now? Two methods currently exist.

Workday

Any UW employee, non-UW personnel with affiliate/contingent status, or other user with access to UW’s Workday personnel management platform MUST attest in Workday prior to coming to campus. WNF is not able to make exceptions to this policy. If you need assistance with accessing Workday, please contact the Integrated Services Center (isc.uw.edu).

Paper

Signage, a list of the attestation statements, and a sign-in sheet are posted at the WNF reception desk. If you are entering the WNF secured zone and are not a UW employee or affiliate, you must stop, read the attestation statements, and sign and date the log sheet when your first entry to the facility on any day you are on-site. Your signature is your attestation that you are in good health according to the posted statements.

Unable or Unwilling to Attest

If you are unable to attest due to not meeting one of the statements, you may not proceed into WNF and must leave campus. Similarly, if you are unwilling to attest, you may not proceed into WNF and must leave campus.

Time Away

For staff who feel they cannot, should not, or must not come into work on a day they are scheduled in-person, all UW HR time away policies apply. Please contact management or HR to discuss if you have questions or concerns, or reference UW’s HR policies online at hr.uw.edu

For all other UW personnel, you have rights and policies set forth by UW HR and your department. Please speak with your PI, department leads, or HR representative if you have questions or concerns, or reference UW’s HR policies online at hr.uw.edu
For all non-UW personnel, please contact your management or HR teams for direction. In the event your company policies conflict with UW and WNF stipulations and a situation develops that requires you to stay home under UW and WNF policy, then you must stay home. Any violations places not only other users at risk, but also threatens the ability of WNF to remain open.

Visitors

Access to WNF is currently restricted to explicitly approved personnel and business and research activity and those vendors and contractors necessary to the operation of the facility in supporting those areas of research. All visitor access and requests are currently suspended. Vendors approved to be on-site are subject to all COVID policies, including health attestation, and must be accompanied by a WNF staff member at all time.
Section 6: COVID-19 Response

Symptomatic Individuals
Anyone experiencing symptoms related to COVID-19 must stay home, contact their healthcare provider, and notify UW’s Employee Health Center (emplth@uw.edu or 206.685.1026).

For the latest symptom guidance, see: https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html

Suspected or Confirmed Cases
Anyone whose healthcare provider suspects or confirms they have COVID-19 must stay home and notify UW’s Employee Health Center (emplth@uw.edu or 206.685.1026). Visit the central UW Coronavirus FAQ for the most up-to-date information.

https://www.washington.edu/coronavirus/faq/#health

Close Contact
Anyone who has had close contact with someone with suspected or confirmed COVID-19 must stay home and notify UW’s Employee Health Center (emplth@uw.edu or 206.685.1026). Visit the central UW Coronavirus FAQ for the most up-to-date information.

https://www.washington.edu/coronavirus/faq/#health

Enhanced Cleaning and Disinfection
Upon report of any of the above scenarios, a full disinfection of occupied spaces will be performed. For these reasons, it may be helpful if you inform the COVID-19 Site Supervisor in addition to the Employee Health Center, but this is not required. EH&S will follow-up on the report to the Employee Health Center ASAP to guide this process in either case. More details may be found here: https://www.ehs.washington.edu/system/files/resources/cleaning-disinfection-protocols-covid-19.pdf

Due to the specialized nature of the WNF facility, access restrictions, and facilities policies, a closure of WNF may occur with little to no notice if such a situation should develop.
Section 7: Cleaning and Disinfecting

Cleaning Schedule
WNF personnel, in addition to the work performed by UW Custodial Services, disinfects high-touch surfaces outside of the cleanroom 3 times a day in periodic blocks. A sign-off sheet is posted near the entrance for tracking these cleaning cycles. Surfaces include communal surfaces, break room/kitchenette surfaces and handles, restroom fixtures, tables, faucets, door knobs and breaker bars, sliding panels, and more.

The gowning room is wiped down on the same schedule as the non-cleanroom common areas. Inside the cleanroom, standard gowning protocols should minimize the spread of any bacteria or viruses, so other high touch surfaces are wiped down on a rotating schedule with lower frequency as staff time allows.

Cleaning Supplies
Inside and outside of the cleanroom, a mixture of 70% isopropyl alcohol and water is available along with wipes or paper towel for anyone to perform spot cleaning at anytime.

High-touch Surfaces
In addition to scheduled and spot cleaning, certain high-touch surfaces or surfaces that may come into close contact with the face should be disinfected between uses. These include safety glasses, face shield, microscope eyepieces, and more. The WNF Social Distancing Policy document outlines these areas as well as other procedures for materials that approach the face.

Outside of the cleanroom, personnel should disinfect common touch surfaces after each use. These include door, refrigerator, and microwave handles and items such as faucets, tables, workstations, etc.

Protocols
Section 8: Disinfectant Products

The WNF maintains mixtures of 70% isopropyl alcohol and 30% water for disinfecting, both inside and outside of the cleanroom.
Section 9: Safety when Using Disinfectants

All WNF personnel are trained extensively on the appropriate ways to handle chemicals and isopropyl alcohol is one of the most common chemical throughout the facility. There should be no unexpected hazards involved in using the diluted form as a disinfectant. Users must review the SDS (safety data sheet) for any chemical they work with, but in general IPA (isopropyl alcohol or isopropanol) is safe to handle. Care should be taken to avoid any contact with the eyes, and skin exposure may cause dryness or irritation. You may use disposable gloves when disinfecting if desired. Areas of skin that come into contact with IPA should be rinsed with water. If contact with the eyes occurs, follow WNF standard policy for using eyewash stations or refer to the SDS. In the event of a spill, follow standard WNF policy per the Laboratory User Manual. Avoid any heat and flame sources as IPA is highly flammable.

In addition to reviewing the SDS, personnel must review EH&S’s recommendations for using different types of disinfectants:

Follow all manufacturer instructions for product use.
Section 10: Hygiene Practices

Hand Washing

Running water and soap are available throughout Fluke Hall. Frequent handwashing is a critical defense against contracting any infectious agent. Handwashing is required prior to entry to the WNF secured zone and strongly encouraged throughout the day in between tasks. Refer to the WNF Social Distancing Policy document for minimum requirements. Hand washing posters from the CDC are located near each sink on the first floor to assist you with washing in the most effective manner.

Hand Sanitizer

Hand sanitizer is not considered as effective as soap and water, but is provided in commercial pump bottle form at the front desk and other locations for those situations when hand washing might not be achievable in a short time frame.

Avoid Touching Face and Others

Most infectious agents spread more rapidly via direct contact. Avoid touching others (such as handshaking), maintain 6 feet of separation, and avoid touching your face as transmission via mucous membrane is a fast vector to illness. WNF requires face covers at all times while on premises. If you find yourself without your mask in place and a sneeze or cough coming on, please use your elbow or arms to mask the release. If you must or instinctually use your hands, wash your hands ASAP, avoiding touching other surfaces. Disinfect any surfaces you may have touched or coughed/sneezed on.

Reminders

Hand washing posters are posted at each sink, and other posters commenting on hygiene are posted through the facility. Consider how long it has been since you last washed your hands. If you are taking a short break outside the cleanroom between tasks, this is a great time to wash up before heading back in. Certainly do so before and after eating.
Section 11: Personal Protective Equipment for COVID-19

Face Coverings
Per the WNF Social Distancing Policy document, face coverings are required inside the WNF secure zone at all times and in addition to the cleanroom masks. Multi-layer fabric masks are recommended, but surgical and N95 masks should be avoided to preserve critical PPE for medical personnel except as defined in section 4. Face shields should likewise be conserved, but may be used (outside of their normal use per WNF chemical policies) under section 4 guidance.

Eye Protection
No additional eye protection is required beyond standard WNF policies.

Respirators
Respirator usage requires explicit approval of UW EH&S and appropriate fit testing. Only authorized personnel should use respirators for approved tasks and not for general COVID-19 protection.

Use and Care
Follow manufacturers guidelines for all PPE usage.

Paper masks are considered single use and disposable. Wash your hands prior to donning one, secure it properly over your nose and mouth and behind your ears. Wash your hand before removing the mask to avoid transferring any infections agents to mucous membranes, unhook the mask from your ears, and throw away.

Per the CDC, personal cloth masks should be washed before first use and after each day’s use. Check for holes or excessive wear prior to donning, and discard mask if damaged. Be sure to wash your hands before approaching your face with the mask. Wash hands before removing as well. PM2.5 or similar filters, while not as effective as N95 filters, do not place a burden on the healthcare system and may provide small benefits over no filter. If your mask supports the insertion of one of these filters, they should be removed before laundering and replaced after no more than 1 week, earlier if contact with a contagion is suspected.

Face shields must be inspected and disinfected before and after each use. Discard in the trash if deterioration has occurred. If outside of the cleanroom environment, hands should be washed immediately before donning or removing the face shield.
Section 12: Communicating Safe Practices

Training

All WNF personnel are required to take the UW COVID-19 Safety Training located at https://www.ehs.washington.edu/training/covid-19-safety-training-back-workplace. Training records will be noted in CORAL. Please list the CORAL Safety Robot as your supervisor, or forward the certificate you receive to WNF-safety@coral.washington.edu.

Training on this WNF Site-Specific COVID-19 Prevention plan will be provided via pre-recorded presentation and backed up by CORAL quiz. At any point during the process, contact the COVID-19 Site Supervisor with any questions, concerns, trouble with the training, or for additional consultation.

Information regarding these new training requirements will be distributed by CORAL mailing lists.

Notification

Notification of these requirements will be sent via CORAL mailing lists and discussed in weekly staff and user meetings. This and all supporting documents are available online as well as posted on the WNF Safety Board.

https://www.wnf.washington.edu/lab-user-portal/edocs/

Updates and Modifications

Any modifications to the plan or the UW plan will be communicated promptly via CORAL mailing lists to all users.

The COVID-19 Site Supervisor will also monitor UW resources such as the UW facts and resources page and communicate relevant information via CORAL mailing lists. Any necessary changes will be incorporated into this and other documents as needed and updated provided. Users can monitor current UW guidelines and policies themselves at the following resources, but note that WNF may maintain more stringent requirements.

Facts and Resources: https://www.washington.edu/coronavirus/
COVID-19 FAW: https://www.washington.edu/coronavirus/faq/
Section 13: Hazards and Safeguards

Working with Disinfectants

While WNF’s standard chemical training is sufficient to cover the use of IPA as a disinfectant throughout the facility, users should review UW EH&S’s guide on safe usage of these chemicals.

General Hazards

All personnel are encouraged to use this opportunity to review both UW’s and WNF’s safety guidance documents.


