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Facility Safety Plan

Please contact the ARC Director (manuel.garcia@ucsb.edu) or the ARC Manager (veronica.wynn@ucsb.edu) if you have any concerns or questions about this operational guideline.

Purpose:

This operational guideline describes the requirements and processes for safely ramping-up the level of user activity in the Animal Resource Center (ARC). The ARC has been safely operating during the COVID-19 pandemic with a very limited user population (i.e., only critical research activities since 3/20/20). Beginning June 16th, the campus will ramp up research methodically in several stages to assure that we have a strong COVID-mitigation plan to minimize risks. Beginning with stage 3, the definition of "critical" will be relaxed to include time-sensitive research, which is expected to result in an increase (ramp-up) in the number of new individuals performing research activities in the ARC. This document attempts to define how many individuals the ARC can safely accommodate during this ramp-up, what risk mitigation procedures must be followed to safely accommodate those additional individuals, and finally what criteria will trigger a ramp-down.

Maximum User Population

We completed a thorough risk assessment of our facility infrastructure and operations (see "ARC COVID-19 Risk Assessment") and we're monitoring daily occupancy trends. Based on this risk assessment, we established maximum occupancy levels for each room (these are posted on the doors of each animal housing room and shared animal procedure room in the vivarium). The sum of those individual occupancy limits was used to establish the following maximum occupancy for each of the ARC's facilities (6th floor of Bio2 vivarium, 7th floor of Bio2 vivarium, and the BioE vivarium).

The 6th floor of the Bio2 vivarium will serve up to 17 individuals[1] at any time.
The 7th floor of the Bio2 vivarium will serve up to 13 individuals at any time.
The BioE vivarium will serve up to 17 individuals at any time.

ARC staff provide animal husbandry, veterinary care and facility maintenance weekdays from 8:00 AM to 3:00PM. On weekends and holidays, ARC staff perform health checks on all the animals, and some animal husbandry. The ARC maintains Google calendars for all the animal housing rooms, which identify the dates and times that an ARC technician will be working in each room. Vivarium users have access to and are encouraged to use these calendars to schedule their activities in the animal housing rooms and the shared animal procedure rooms. It's our expectation that all animals will

[1] The term "individual" was purposely selected, because the role of the ARC user (e.g., researcher, ARC staff, FM mechanic, or contractor) is irrelevant for the purpose of this health and safety plan.

be in their animal housing rooms (and not in a procedure room) during the ARC shift. Research personnel should plan their schedules accordingly. If this accommodation is not possible due to experimental requirements, then alternative animal husbandry arrangements must be made with the ARC, in advance.

Users approved by the Bio2 or BioE Building Committee to begin on-campus research in the ARC during stage 3 or later stages:

- Should contact the ARC Director or Manager to get access to the ARC.
- May begin or resume their studies using existing on-campus animals.
- May resume mouse and other animal breeding at levels that lab staff can support.
- May order new mice and other animals.

NOTE: Labs performing critical research in the ARC during stage 2 may order new mice or other animals once stage 3 begins.

Prerequisites for All Users of the ARC

- All personnel must complete the "COVID-19 Returning to Work Training" required by Cal/OSHA and the California Department of Public Health. This on-line training is available through the UC Learning Center and will be searchable by title using the Find a Course function.
- All personnel are required to complete a daily COVID-19 screening survey prior to leaving home to report to work onsite as a precaution to limit potential exposures to COVID-19 in the workplace. An individual who completes the survey with no symptoms or concerns will receive a token via email clearing them "to be on-site at a UCSB facility." Anyone whose survey indicates symptoms or concerns will receive instructions for appropriate next steps (i.e., must self-isolate or be tested for COVID-19).
    - Use this link to enroll in the daily COVID-19 screening survey
- All personnel need to comply with the access and usage procedures (e.g., building traffic patterns, and entry/exit locations) for the Bio2 or BioE building (depending on the vivarium they're working in). Briefly summarized, these are the entry/exit procedures:
    - An access card is required to enter the Bio2 building and users must enter the Bio2 building through the north side (under the portico). Once inside the building, use the north stairwell or elevator to reach the ARC on the 6th floor or 7th floor (the elevator only goes to the 6th floor). Users must exit the Bio2 building through the south side (facing UCEN road and the dorms), and they must use the card readers on these doors to log their exit. Please refer to the Bio2 Building access and usage rules for more information.
    - An access card is required to enter the BioE building and users must enter the BioE building through the southwest corner of the building (next to the Library). Once inside the building, take the stairs to the

basement to enter the ARC. Users must exit the basement via the elevator (unless there is an emergency) to the first floor (1R button on the elevator) and they must use the card reader in the elevator cab to log their exit. Once on the first floor, users may exit via the loading dock, or by taking the main corridor back to the lobby of the building and exiting through the southeast corner of the building. Please refer to the BioE building access and usage rules for more information.

Animal Research in the ARC

- All animal research activities must occur as detailed in the approved IACUC protocol, and all IACUC policies and procedures must be followed to ensure appropriate animal welfare. Modifications to IACUC protocols can only be implemented once approved by the IACUC.
- Labs must have adequate available staff to perform animal research activities.
- Labs must adhere to the frequency of animal monitoring and humane endpoint parameters described in their protocols and maintain associated documentation.
- If ARC assistance is required (e.g., for chemical hazard use and disposal in the vivarium or rodent colony breeding management assistance), that assistance must be pre-arranged with the ARC Manager (at least a week in advance). Depending on ARC staffing levels and workload, this assistance may not be available.
- In-person meetings will not be available.
- Activities that for safety and animal welfare reasons require more than one person to complete (e.g., animal surgical procedures), may need to be postponed to later stages or performed with additional accommodations (see more details in the next subsection).

Physical Distancing Expectations in the ARC

- All ARC users are expected to stay at least 6 ft. apart.[2] If your animal research procedure/activity requires two or more persons working closer than 6 ft. apart, then you should request a risk assessment for this close contact activity from the Bio2 or BioE Building Committee (depending on where the work is occuring). If that risk assessment determines that a NIOSH-certified respirator (e.g., N95, half-face, or full-face respirator) is required, then make sure that you receive a medical evaluation, training and fit-testing prior to using a respirator. Please contact EH&S for more information.
- ARC staff will post the maximum occupancy for each shared animal holding and procedure room on the room door. PI's with exclusive use animal procedure or laboratory space in the ARC should post similar signs on the doors to their

[2] Please note that this recommendation from the CDC comes from studies conducted in the 1930s and is not specific to SARS-CoV-2. Aerosols containing infectious virions of SARS-CoV-2 will likely reach farther than 6ft and remain airborne longer. https://science.sciencemag.org/content/early/2020/06/08/science.abc6197

room(s). Occupancy levels are mainly driven by the size of the room and the availability of shared equipment.[3] Specifically, anyone working in an animal holding room will need to use the animal transfer station, and there is usually only one per room; therefore, those rooms with only one animal transfer station can only accommodate one user at a time.

- Shared Google calendars for animal holding and procedure rooms have been established and used by ARC staff since stage 1 to schedule animal husbandry and servicing activities in each room. Activities in the ARC's animal holding rooms must be performed between 7AM and 7PM, because of animal welfare reasons (animals need a controlled light:dark cycle in their rooms). Labs should use this calendar system to schedule their research activities in these rooms (i.e., to schedule their work shifts). However, users of exclusive-use space in the ARC (e.g., the Mosquito Lab and the Anthropology Lab) do not need to use the ARC's Google calendar, and can instead maintain their own lab-specific calendar.

Use and Maintenance of Changing Areas

- A one-way traffic pattern has been implemented for the PPE changing areas in the vivarium, where possible, so that PPE donning and doffing areas are spatially separated to the maximum extent possible.
    - The traffic patterns for each vivarium will be clearly posted in the corresponding areas of the vivarium, and are identified in the floor plans in the "ARC COVID-19 Risk Assessment" document. The PPE donning stations are located at the entrance to the vivarium (green arrows in the floor plan), and the PPE doffing stations at the exit to the vivarium (red arrows in the floor plan).
    - A one-way traffic pattern is not possible on the 7th floor of the Bio2 vivarium. Refer to the "ARC COVID-19 Risk Assessment" document for more details about the risk mitigation measures for this area. Specifically, before entering the vivarium on the 7th floor, look through the window in the hallway door and if there is someone inside, then wait to go in. Do not linger in the hallway vestibule. Before entering the 7165 anteroom, make sure that the ceiling lights are off. The ceiling lights are on a motion detector with a time out frequency of ~5 min; therefore, if the lights are off, then no one has been in the room in the last ~5 min and the exhaust ventilation should have changed the volume of air in the room at least once in that time.
- The Anthropology lab in the BioE vivarium (suite 0202) has its own dedicated changing area (0202A), which is not used by any other vivarium users.

[3] Please refer to the "Risk Assessment for Stage 3 Ramp-Up" document to view the building floor plans and for more information on how the maximum occupancy levels were determined.

- Arrangements have been made with FM to provide frequent cleaning and sanitation in all vivarium changing areas, locker rooms, and bathrooms. Users will be expected to maintain PPE changing areas clean and uncluttered.

Occupancy and Access Monitoring

- Only authorized research personnel will be given access to the vivarium. No visitors.
    - Access by FM personnel (plumbers, electricians, etc.) and outside contractors and regulators needs to be accommodated, but should be coordinated and scheduled in advance with the ARC Director or Manager in order to ensure that appropriate risk mitigation steps are taken, if needed. Any contractors or FM/D&CS personnel entering the ARC should be trained and will need to follow the same daily COVID-19 symptom screening process and safety precautions (e.g., physical distancing, wearing face coverings, and good hygiene) as all ARC users.
- Occupancy levels will continue to be monitored regularly using the access card system.
    - Egress monitoring will be facilitated by temporarily (during COVID-19 mitigations) "dedicating" specific egress access card readers at the egress points in all ARC vivaria. When a user presents their access card to the egress reader (holds the card up to the reader) after passing through the exit/egress door, the reader will beep and the light on the top of the reader will blink/flash indicating that it has read the card. There will be signs on the exit/egress doors identifying the location of these readers.
    - Labs will be notified if occupancy levels are exceeding maximum levels and they will need to ramp-down.

Face Coverings & PPE

- Properly fitted face coverings must always be worn by all ARC facility users at all times.[4] Single-layer fleece, cotton or synthetic neck gaiters or bandanas are not recommended. Reusable face coverings should be washed after each shift. Disposable surgical or medical ear loop face masks will be provided for users of the vivarium that don't have their own reusable face coverings, but supplies are very limited. Please refer to this campus guidance document for additional information on face coverings.

[4] The only exceptions being: 1) researchers that are not able to remain physically distanced (i.e., because the animal procedure or activity that they are performing requires them to work in pairs) should wear a respirator (i.e., N95 or half-face respirator) and eye protection instead of a cloth face covering or surgical/medical ear loop mask. You should have approval from your Building Committee or IACUC to work in pairs. 2) ARC staff may remove their masks, when they are eating or drinking by themself during their breaks in designated rooms with the doors closed.

- Clean and unused lab coats, or dedicated scrubs (ARC staff), must always be worn by all facility users. Please do not reuse or share lab coats or put used lab coats back on the clean lab coat rack. Please do not try on lab coats and then put them back on the rack. All used lab coats must go into the "dirty" laundry bin or basket. Laundry service is provided at least once a week by Mission Linen.
- Gloves must be worn when handling animals, or equipment and supplies that come in direct contact with the animals, but you do not need to wear gloves just to enter the vivarium.
- Additional PPE requirements, if necessary, are posted at the room level.
- Additional PPE is necessary for specific tasks (e.g., N95 respirator for cage dumping; surgical mask, hair cover, and sterile gloves for surgery), and would be described in the relevant SOP. Make sure that you are familiar with and following the SOP requirements for the task or animal procedure that you are performing. If you're not sure, ask your supervisor.

Hygiene, Cleaning & Disinfection

- Good personal hygiene must be practiced by all users of the ARC. Hand sanitizer stations will be placed throughout the vivarium by July. Most rooms are equipped with a hand-washing sink and soap.
- Frequent and effective cleaning and disinfection of vivarium equipment (e.g., animal transfer stations), high-touch surfaces (door handles, switches, keypads) and high-traffic areas (changing areas, and areas of ingress and egress) is a shared responsibility of all vivarium users. Cleaning of high-touch surfaces should be performed between shifts. Rescue™ disinfectant (wipes or spray) is available in each animal holding and procedure room in the ARC and should be used for cleaning and sanitizing all work surfaces (e.g., animal transfer stations) and equipment according to the manufacturer's recommendations.
- Routine cleaning and sanitizing procedures in the vivarium are performed by ARC staff who are trained according to facility-, equipment- and species-specific SOPs. These SOPs are available for review upon request.
- The Anthropology lab in the BioE vivarium (suite 0202), the Mosquito lab on the 7th floor of the Bio2 vivarium, and all exclusive-use animal procedure rooms in the Bio2 and BioE vivarium are expected to provide their own disinfectant and follow their own dedicated cleaning and disinfection procedures.
- Arrangements have been made with FM to provide frequent cleaning and sanitation in the bathrooms, and locker rooms.

Ramping Down

- A temporary ramp-down will be triggered if PPE supplies become unavailable and will remain in effect until they are replenished.
- If a positive case is identified:

- Contact tracing will be performed[5] using data from the Access Monitoring system implemented by OR, the Lenel Access Control system, the ARC's Google calendars, the ARC's video surveillance system, and from phone interviews with selected personnel.
- Potentially contaminated areas in the ARC that don't contain animals will be immediately fogged (decontaminated) with the ARC's HaloFogger VHP (vapor hydrogen peroxide) decontamination system.
- Infected individuals and close contacts (anyone within 6 ft of a person with COVID-19 while they were contagious for a cumulative total of >15 min over a 24-hr period)[6] will need to self-quarantine at home. The duration of the self-quarantine period is likely to be at least 14 days for individuals having close contact with a positive case, and 20 days for individuals with COVID-19 (positive test).[7]
- *If a positive case leads to the unavailability of too many essential staff, then appropriate measures will be taken to protect animal well-being and the health of the ARC staff and users. In the most severe case, we may need to halt all research in the vivarium and activate the IACUC's animal facility disaster contingency plan. If the disaster plan is activated, then we will attempt to preserve as many unique and irreplaceable laboratory animals as possible.*

[5] The agency responsible for performing the contact tracing is the SBC Public Health Department, and they will also dictate self-isolation requirements (i.e., who needs to self-isolate and for how long).
[6] Based on this CDC definition and these CDPH self-quarantine instructions.
[7] Based on the requirements of the UCSB COVID-19 Screening program and these CDPH self-quarantine instructions.