






**THE AGA KHAN UNIVERSITY**  
**OFFICE OF RESEARCH AND GRADUATE STUDIES**

<b>Title:</b>	<b>Standard operating procedures for conducting all ongoing and new research work (including SARS-COV2) during COVID-19 pandemic at Juma Lab, Stadium Road.</b>		
<b>Department / Division:</b>	Institutional Biosafety Committee (IBC), Office of Research and Graduate Studies (ORGS)		
<b>Approved By:</b>	<b>Document No.:</b>	ORGS-IBC-SOP-001	
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<b>Dr Erum Khan</b> Chair, Institutional Biosafety Committee	Signature:  Date: October, 13, 2020	<b>Revision No.:</b>	00
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## 1. Purpose

The purpose is to assist faculty, students and staff to safely conduct research activities during COVID-19 pandemic, at Biosafety Level-2 (BSL-2) & Biosafety Level-3 (BSL-3) areas of Juma Research Laboratory (JRL) of the Aga Khan University (AKU) at Stadium Road Karachi. With the confirmed reports of local transmission of SARS-COV2 in the community there is a possible risk for virus transmission at workplace. This document outlines protocols that have been placed to minimize virus transmission and ensure safe working environment. The document also provides guidelines for biosafety requirements for SARS-COV-2 related research that faculty and students are undertaking at JRL

## 2. Scope

This SOP applies to all researchers, faculty, students, staff and volunteers. The Biosafety Officer will do frequent lab rounds and will report non-compliance immediately to Institutional Biosafety Committee (IBC) by generating an instant e-mail. The Biosafety Officer will provide a weekly log of compliance to chair IBC, cc: Associate Vice Provost (AVP), Research.

### 3. Objectives

The main objective of these SOPs is to enforce safe practices that can allow resumption of research at JRL. These guidelines facilitate grants that are applying for SARS-COV2 related research and provides advice to users for choice of safety level (BSL-2/ BSL-3) to be used according to biosafety risk assessment.

### 4. Procedures

#### 4.1. Daily good practices

- i. Monitor your temperature daily. Use Sehat Check App daily before coming to work. If you have any of the symptoms mentioned in the Sehat Check, please stay at home and inform your supervisor and follow institutional employee health and safety instructions.
- ii. Wear masks all the time while working inside the laboratory.
- iii. Wash hands thoroughly with soap and water for 20 seconds upon entering the laboratory.
- iv. Maintain a social distance of at least 3ft from neighboring colleagues.
- v. Do not touch your face, eyes, nose or mask. If you do, wash the exposed areas, immediately.
- vi. Sneeze or cough into your elbow or tissue; immediately place tissue in the trash. Maintain this habit even when masked.
- vii. Change your mask in case it gets soaked during sneeze or cough. Discard via laboratory waste bin dedicated for infectious waste (bins with red bag) guidelines. Do not leave lab without hand washing. Gloves and white coats are not allowed beyond the Lab work area. Lab reception section is marked as clean area. **Do not enter this area with lab coat and gloves.**
- viii. Maintain social distancing during lunch and tea breaks. Courtyard is the best place for such activities.
- ix. Lab Reception area must not be crowded especially during tea and lunch break. No more than 3 persons with mask at 3 feet distance at any point in time are allowed in that area.

#### 4.2. Social Distancing while working on benches and using equipment at Juma Research Laboratory

- i. COVID-19 is readily transmitted from person-to-person when they are in each other's breathing zones. Do not shake hands or greet colleagues while entering or exiting the laboratory space.
- ii. Maintain a distance of at least 3 feet while working at benches and during casual interaction.
- iii. JRL staff will mark with tape on the floor and follow the markings at 3 feet/ minimum distance rule
- iv. Do not work in pairs or groups on similar benches. "One person one bench rule" should be followed. If you need supervision or assistance in your project work, please contact biosafety officer for further guidance and risk assessment based on the nature of your work.

- v. Avoid overcrowding while working on computer stations installed at bench, schedule work if the computer is being shared to avoid overcrowding.
- vi. For grants with more than one employees, implement a work schedule to avoid overcrowding, defer work that involves volunteers or students to visit lab during COVID pandemic to ensure safe distancing.
- vii. Avoid unnecessary administrative work that requires more manpower and can cause limitation to safe distancing. For any necessary administrative work e.g.: installation of equipment, end user change (EUC), any maintenance etc. contact biosafety officer (Ext.4134) for guidance and risk assessment based on the nature of the work.
- viii. Research Equipment for multiple users will follow routine bookings and logging including the use of biosafety cabinets.

**4.3. Extended Use of Personal Protective Equipment (PPEs)**

- i. All individuals must wear masks, gloves, lab coats and other additional PPEs, such as goggles face shields etc. if included in their standard operating procedures. It is the responsibility of principal investigator to provide required PPE to researchers.
- ii. Report any incidence of Non-compliance to the biosafety officer (Ext.4134)

**4.4. Surfaces Disinfection**

- i. It is critical that every high-touch surface in the work area (bench, drawer and cupboard handles, faucet and dispenser handles, supply bottle tops, etc.) be frequently sanitized.
- ii. Identify and mark surfaces for disinfection and put a disinfection schedule in place that should be posted in the lab and initialed upon completion.

<b>Equipment</b>	<b>Product to be used</b>	<b>Frequency of disinfection / Day/Time</b>	<b>Activity performed by</b>
Working benches	70% ethanol	Start of the day and End of the day	
Doorknobs, Sink, Faucet handles, light switches, etc.	70% ethanol	Start of the day and End of the day	
Cell phone and/or key card	70% ethanol or Lysol wipes found in building	Upon entry and exit of building	
In general Lab equipment and also others that may get contaminated with the suspected/confirmed sample	Medix	Start and end of work activity	

#### 4.5. SARS-COV2 related research activities at JRL:

Researchers are welcome to apply for research funds to conduct SARS-COV2 related work. All proposed research with SARS-CoV-2 (COVID-19) requires review by the IBC and ethics review committee. Please follow recommended BSL levels based on the work activity and related risks for disease transmission, as mentioned below. Contact point persons mentioned for further assistance.

Research Activities with Known or Likely Infected Specimens from Humans	Recommended Biosafety Level	Contact person
i. Processing, aliquoting or preparing specimens for research use and storage ii. Preparation of chemical- or heat-fixed specimens for microscopic analysis iii. Preparation of inactivated specimens for other laboratory assessments iv. Performing diagnostic tests (e.g. serology) that do not involve activities with the potential to propagate virus.	BSL 2 (+)*	Miss Rizwana Nasim <a href="mailto:rizwana.nasim@aku.edu">rizwana.nasim@aku.edu</a> Ext:4133  Miss Sana Ayaz <a href="mailto:sana.ayaz@aku.edu">sana.ayaz@aku.edu</a> Ext: 4909
v. Nucleic acid extraction of specimens for molecular analysis: all respiratory specimens, stool and urine samples	BSL-3	Mr. Kaleemullah Khushik <a href="mailto:kaleemullah.khushik@aku.edu">kaleemullah.khushik@aku.edu</a> Ext: 4134
vi. Molecular analysis of already extracted nucleic acid preparations	BSL-2	Miss Rizwana Nasim Miss Sana Ayaz
vii. Virus isolation, characterization  Use of live SARS-CoV-2 virus in functional assays: <ul style="list-style-type: none"> <li>• Plaque/Focus Forming Unit assays</li> <li>• Serologic virus capture/binding assays</li> <li>• Therapeutic MIC assays</li> </ul>	BSL-3 (+)*	Mr. Kaleemullah Khushik

<ul style="list-style-type: none"> <li>• Live cell sorting with intact virus</li> </ul>		
<b>Packaging and Transport</b>		
<ul style="list-style-type: none"> <li>i. Specimens from suspected or confirmed cases should be transported as UN3373, “Biological Substance, Category B</li> <li>ii. Final packaging of specimens already in a sealed, triple layer transport container. Primary container must be filled with absorbent material,</li> <li>iii. Package must be fully labelled with designation and contact person responsible for shipment, along with shipment clearance document</li> </ul>	BSL-2	Mr. Kaleemullah Khushik
<b>Specimen Receiving (specimens coming from Field sites)</b>		
<ul style="list-style-type: none"> <li>i. PI and research staff must ensure that specimens from field sites must be transported in a sealed, triple layer transport container.</li> <li>ii. The outer most container (cooling box) must be disinfected before it enters the Lab premises.</li> <li>iii. Further receiving and processing of the samples should be based on sample type. See above</li> </ul>		Mr. Kaleemullah Khushik

*\*BSL-2 (+) enhancement by using type 2 biosafety cabinet. \*BSL-3 (+) Enhancement by using type 2 biosafety cabinet inside BSL-3. Please consult biosafety officer (Kaleem Ullah Khushik [kaleemullah.khushik@aku.edu](mailto:kaleemullah.khushik@aku.edu) or Ext 4134)*

**NOTE:** Personnel must wear a masks (N95), a closed front gown, face shield and double pair of gloves when dealing with SARS-COV2 infected samples

- Any procedure with the potential to generate aerosols or droplets (e.g. vortexing, cell sorting, ELISA plate washing) will be performed in a certified Class II Biological Safety Cabinet (BSC). BSC must be decontaminated with an EPA approved disinfectant for coronavirus see general disinfectant policy

- Centrifugation of specimens must be performed using sealed centrifuge rotors or sample cups.
- The use of sharps should be eliminated / discouraged wherever possible.

## **5. References**

<https://www.apps.who.int/iris/handle/10665/331138>

<https://www.unr.edu/coronavirus/messages/2020-03-18-research-and-innovation-continuity-of-operations>

<https://www.research.vt.edu/covid-19-updates-impacts/downloads.html>

Internal Memo - COVID 19 - Employee Health and Safety – 06052020\_Wednesday, 6 May 2020

## **6. Contact Information and Important Phone numbers:**

- i. Employee COVID-19 Screening and Testing Zone, (Monday – Saturday 9:00 am – 5:00 pm) or Call on. Employee Hotline: 0300-8278350 (7:00 am to 10:00 pm) and 0305-2221486 (10:00 pm to 7:00 am)
- ii. For general queries about COVID-19, please email: [corona.info@aku.edu](mailto:corona.info@aku.edu)
- iii. HR Emergency Helpline: 0302-8265104 / 021-34863050
- iv. For FIT testing, please reach out to: [zohra.rafiq@aku.edu](mailto:zohra.rafiq@aku.edu)