



THE AGA KHAN UNIVERSITY

Bench Space Dashboard

Juma Research Lab (Ground Floor)

July – December, 2020

Figure 1: BSL2- Ground Floor Juma Lab Bench Space Occupancy by each department

Department	Benches	Projects
Pediatrics	13	13
Community Health Sciences	2	2
Surgery	4	5
Pathology and laboratory medicine	4	4
Biological and Biomedical sciences	2	2
Available / Reserved	15	-
Core equipment + NGS+ staff	5	-
Total	45	26

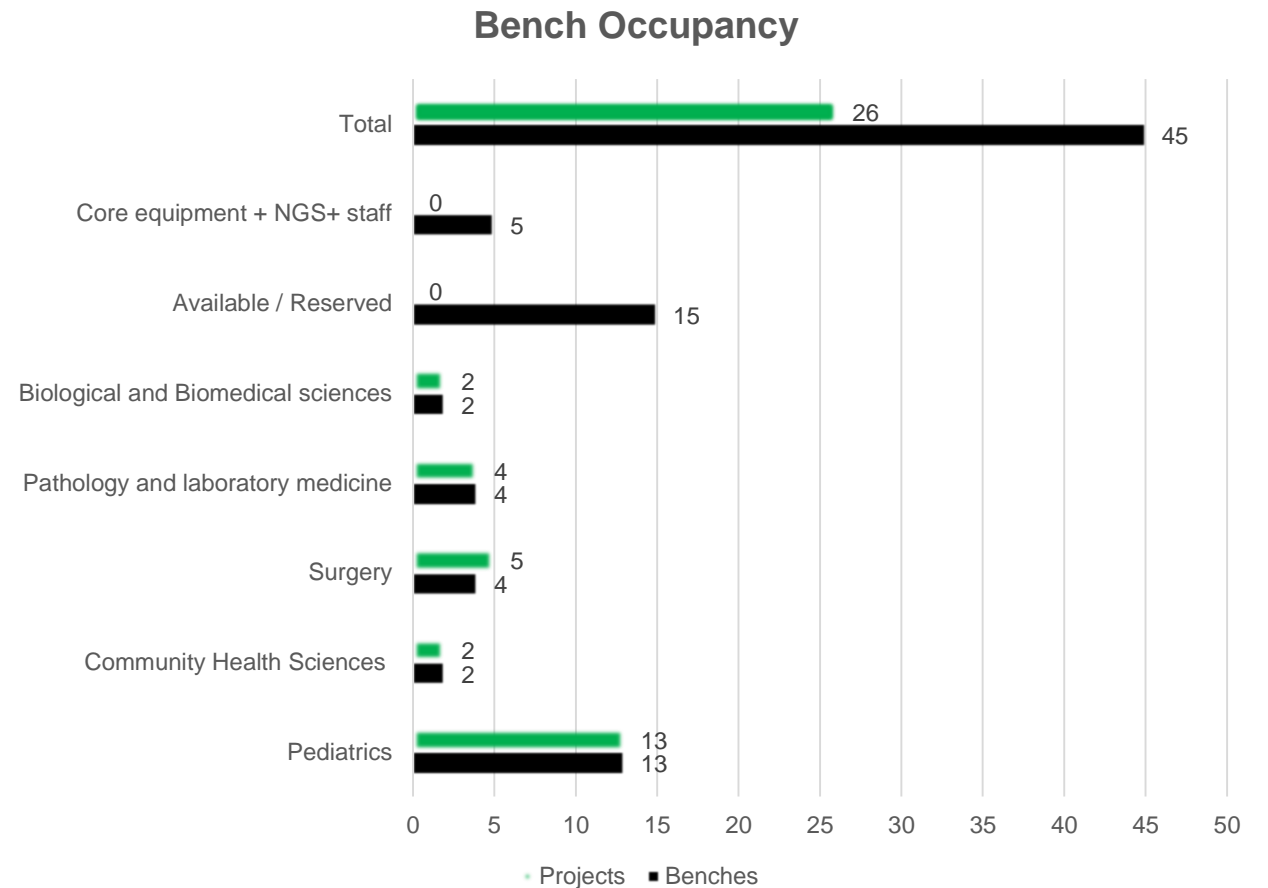


Figure 2: BSL2- Ground Floor Juma Lab Projects by each department

Paediatrics

1. SEAP II
2. Intusseption
3. SEEM-Ph.D.
4. ROTA
5. Azithromycin for improved growth
6. CHAIN
7. SEEM
8. MiEED
9. TB biomarker
10. Typhoid - cholecystectomy
11. Intestinal organoid-Enteroids.
12. Adeno virus
13. SEES

Biological & Biomedical Dept.

1. Neutrophils in SCC
2. AML resistance

Surgery

1. Dental Stem Cells
2. Glioblastoma Multiform
3. GLIOMAS
4. Oral squamosal Carcinoma
5. Pancreatic Adeno carcinoma

Pathology & Lab Med.

1. AMR Surveillance
2. EFGR Pathway
3. Bedaquiline resistant M. tuberculosis
4. dynamics of SARS-CoV-2

Community Health Science

1. PURPOSE
2. Single dose-Azithromycin

Bench no. A-1

Dr. Sarah Saleem
Professor,
Community Health
Sciences. The Aga
Khan University,
Pakistan

Jan, 2019- June 2020*

PURPOSE

Project to understand and Research
Preterm pregnancy outcomes : South
Asia

Grant Equipment

ULT freezer

* extension in process

Bench no. A-2

Dr. Sarah Saleem
Professor, Community
Health Sciences. The
Aga Khan University,
Pakistan

Aug, 2020- Sep, 2022

Prevention of maternal and neonatal death/infections with a single oral dose of azithromycin in women in labor (in low- and middle-income countries): a randomized controlled trial

Grant Equipment

ULT freezer

Bench no. A-5

Dr. Farah Qamar
Associate Professor
Paediatrics & Child
Health, The Aga Khan
University, Pakistan

Aug, 2016 – March, 2022

SEAP II

The Project is a prospective study aiming to generate data to inform policy recommendations on enteric fever prevention and control, as well as to facilitate typhoid vaccine implementation

Core
Equipment

Refrigerated Centrifuges
Non Refrigerated Centrifuge
Water Bath
Vortex
Under counter & Walk- In Fridge
pH meter
Thermal Cyclers
Real Time PCRs
Desktop PCs

Grant
Equipment

Biosafety Cabinet
Water Bath
Vortex
Gel documentation System

Bench no. A-6

Aug-2017 – Dec,2020

Dr. S. Asad Ali
Professor
Paediatrics & Child
Health, The Aga Khan
University, Pakistan

Intussusception Study

A self controlled Case Series Study, based on Intussusception Monitoring in infants after Introduction of Oral Rotavirus Vaccine: Self-Controlled Case-Series in Pakistan hospitals.

**Core
Equipment**

Refrigerated Centrifuges
Non Refrigerated Centrifuge
Water Bath
Vortex
Under counter & Walk- In Fridge
pH meter
Thermal Cyclers
Real Time PCRs
Desktop PCs

**Grant
Equipment**

Biosafety Cabinet
Water Bath
Vortex
Taqman Low Density Array (TLDA)
Bioplex- Luminex Array
BD- FACS- Celesta
Bead beater
Gel documentation System

Bench no. A-7

Dr. S. Asad Ali
Professor
Paediatrics & Child
Health, The Aga Khan
University, Pakistan

**Core
Equipment**

Refrigerated Centrifuges
Non Refrigerated Centrifuge
Water Bath
Vortex
Under counter & Walk- In Fridge
pH meter
Thermal Cyclers
Real Time PCRs
Desktop PCs

**Grant
Equipment**

Vortex
BD- FACS
Bioplex- Luminex Array

Feb-2019 – Jan-2021

Environmental Enteropathy

The project is aimed to study the Interaction of gut micro biome with intestinal epithelium in children with suspected risk of environmental Enteropathy.
(Ph.D. Project)

Bench no. A-8

Dr. S. Asad Ali
Professor
Paediatrics & Child
Health, The Aga Khan
University, Pakistan

**Core
Equipment**

Refrigerated Centrifuges
Non Refrigerated Centrifuge
Water Bath
Vortex
Under counter & Walk- In Fridge
Ultra Low Temp. Freezers
Desktop PC
Tissue Culture Room
Inverted Microscope

**Grant
Equipment**

Biosafety Cabinet
Water Bath
Vortex
Liquid Nitrogen Tank

Aug,2018 -July, 2020

Rotavirus vaccine

**Impact Assessment of
Rotavirus Vaccine
Introduction in Pakistan's
Routine Immunization
Program.**

Bench no. A-9

Dr. Tashfeen Ahmad
Assistant Professor,
Department of Surgery
The Aga Khan
University, Pakistan

March, 2019 - March, 2021

Dental Stem Cells

Primary objective of this study is to use
human dental pulp for tissue engineering of
tooth defects: an in-vitro model

**Core
Equipment**

Tissue Culture Room	Carbon dioxide Incubator
Biosafety Cabinets	Inverted Microscope
Refrigerated Centrifuges	Fluorescence Microscope
Non Refrigerated Centrifuge	Liquid Nitrogen Tank
Water Bath	Desktop PC
Vortex	
Under counter & Walk- In Fridge	
Ultra Low Temp. Freezers	

Bench no. A-12

Dr. Ather Enam
Professor
Department of Surgery
The Aga Khan
University, Pakistan

May, 2020 – May, 2022

GLIOMAS

This study is to Identifying gene mutations in low and high grade gliomas's patients of tertiary care hospital and to asses risk factors associated with respective genetic mutations.

Core
Equipment

PCR	
Refrigerated & Non Refrigerated Centrifuges	Microtome
Water Bath	IHC bench
Vortex	Microscope
Under counter & Walk- In Fridge	Fume Hood
Ultra Low Temp. Freezers	Desktop PC

Bench no. A-12

Dr. Syed Adnan
Assistant Professor,
Department of Surgery.
The Aga Khan
University, Pakistan

May, 2020 – May, 2022

ORAL CARCINOMA

The objective of this study is to analyze the Frequency of p53 Gene mutation in oral squamous cell carcinoma (OSCC). A cross sectional study.

Core
Equipment

PCR	Microtome
Microscope	IHC bench
Refrigerated Centrifuges	Desktop PC
Non Refrigerated Centrifuge	Fume Hood
Water Bath	
Vortex	
Under counter & Walk- In Fridge	
Ultra Low Temp. Freezers	

Bench no. A-13

Dr. Kulsoom Ghias
Associate Professor
Biological & Biomedical
Sciences
The Aga Khan University,
Pakistan

June, 2018– Dec, 2020

Head & Neck Cancer

This study will be characterizing role of neutrophils in progression of head and neck squamous cell carcinoma

Core Equipment

Tissue Culture Room	
Biosafety Cabinets	
Refrigerated Centrifuges	
Non Refrigerated Centrifuge	Carbon dioxide Incubator
Water Bath	Inverted Microscope
Vortex	Fluorescence Microscope
Under counter & Walk- In Fridge	Liquid Nitrogen Tank
Ultra Low Temp. Freezers	Desktop PC

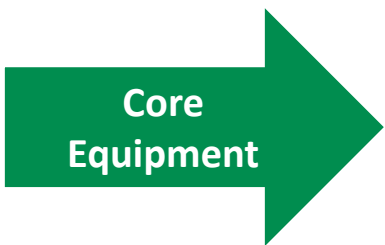
Bench no. A-14

Dr. Fareena Bilwani
Assistant Professor
Biological & Biomedical
Sciences
The Aga Khan University,
Pakistan

May, 2018 – May, 2021

Acute Myeloid Leukemia

This study will be characterizing determinants of acute myeloid leukemia resistance to ex-vivo expanded allogeneic natural cell-mediated killing



Tissue Culture Room	
Biosafety Cabinets	
Refrigerated Centrifuges	
Non Refrigerated Centrifuge	Carbon dioxide Incubator
Water Bath	Inverted Microscope
Vortex	Fluorescence Microscope
Under counter & Walk- In Fridge	Liquid Nitrogen Tank
Ultra Low Temp. Freezers	Desktop PC

Bench no. A-15

Dr. Najeeha Iqbal
Associate Professor
Paediatrics & Child
Health, The Aga Khan
University, Pakistan

Sep, 2017– June, 2020

Project 1: TB biomarkers

Exploration of TB Biomarkers in Pakistani
Children.

Core
Equipment

Refrigerated Centrifuges
Non Refrigerated Centrifuge
Water Bath
Vortex
Under counter & Walk- In Fridge
pH meter
Thermal Cyclers
Real Time PCRs
Desktop PCs

Grant
Equipment

Biosafety Cabinet
Water Bath
Vortex
Taqman Low Density Array (TLDA)
Thermal Cyclers
Gel Documentation System
Real Time PCRs

* ext. in process

Bench no. A-15

Dr. Najeeha Iqbal
Associate Professor
Paediatrics & Child Health,
The Aga Khan University,
Pakistan

Aug, 2017 – March, 2021

Project 2: MiEED

This Study covers the aspect of
Microbiota, Inflammation &
Environmental Enteric dysfunction

**Core
Equipment**

Refrigerated Centrifuges
Non Refrigerated Centrifuge
Water Bath
Vortex
Under counter & Walk- In Fridge
pH meter
Thermal Cyclers
Real Time PCRs
Desktop PCs

**Grant
Equipment**

Biosafety Cabinet
Water Bath
Vortex
Taqman Low Density Array (TLDA)
Thermal Cyclers
Gel Documentation System
Real Time PCRs

Bench no. A-19

Dr. Farah Qamar
Associate Professor
Paediatrics & Child
Health, The Aga Khan
University, Pakistan

Oct, 2019– Oct, 2020

TYPHIOD BURDEN

Sero-epidemiology and environmental
surveillance (SEES) in SEAP sites.

Core
Equipment

Refrigerated Centrifuges
Non Refrigerated Centrifuge
Water Bath
Vortex
Under counter & Walk- In Fridge
pH meter
Thermal Cyclers
Real Time PCRs
Desktop PCs

Grant
Equipment

Biosafety Cabinet
Water Bath
Vortex
Gel documentation System
ELISA

Bench no. A-22

Dr. Rumina Hasan
Professor
Pathology & Lab Medicine,
The Aga Khan University,
Pakistan

April, 2017 – Dec, 2020

AMR Surveillance

This grant is designed to work towards strengthening lab capacity for antimicrobial testing in three phases; capacity for drug sensitivity testing, investigating AMR in specific community and hospital based organisms and Identifying gaps to support AMR training and research

Core
Equipment

Biosafety Cabinets- BSL3

Under counter & Walk- In Fridge

Ultra Low Temp. Freezers

Vortex

TB Lab, BSL 3

Centrifuges

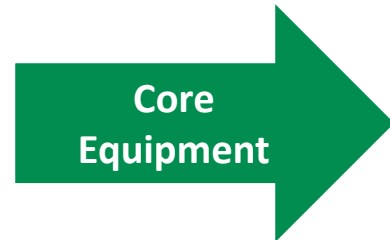
37°C Incubator

Carbon dioxide Incubator

Autoclave

Bench no. A-24

Dr. Rumina Hasan
Professor
Pathology & Lab
Medicine, The Aga Khan
University, Pakistan



Thermo cyclers (PCR)
Under counter & Walk- In Fridge
Ultra Low Temp. Freezers
Vortex
Centrifuges
Water bath, Heat blocks
37C Incubator
Tissue Culture Facility BSL-2
Desktop PC

March, 2020 – May, 2021

Bedaquiline resistant *M. tuberculosis*

The aim of this study is to determine the metabolic pathways involved in persistence of Mycobacterium tuberculosis in the presence of drug pressure of BDQ .
(Ph.D. Project)

Bench no. A-25

Dr. Farah Qamar
Associate Professor
Paediatrics & Child
Health, The Aga Khan
University, Pakistan

Oct, 2019– Oct, 2020

TYPHIOD BURDEN

Sero-epidemiology and environmental
surveillance (SEES) in SEAP sites.

Core
Equipment

Refrigerated Centrifuges
Non Refrigerated Centrifuge
Water Bath
Vortex
Under counter & Walk- In Fridge
pH meter
Thermal Cyclers
Real Time PCRs
Desktop PCs

Grant
Equipment

Biosafety Cabinet
Water Bath
Vortex
Gel documentation System
ELISA

Bench no. A-26

Dr. Farah Qamar
Associate Professor
Paediatrics & Child
Health, The Aga Khan
University, Pakistan

July, 2019– Mach, 2022

TYPHIOD CARRIERS

The study is planned to find out the
Frequency of typhoid carrier in
patients undergoing
cholecystectomy for gall bladder.

**Core
Equipment**

Refrigerated Centrifuges
Non Refrigerated Centrifuge
Water Bath
Vortex
Under counter & Walk- In Fridge
pH meter
Thermal Cyclers
Real Time PCRs
Desktop PCs

**Grant
Equipment**

Biosafety Cabinet
Centrifuge
Thermal Cycler ELISA

Bench no. A-29

Dr. Syed Adnan
Assistant Professor
Department of Surgery
The Aga Khan University,
Pakistan

April. 2019 - Apr, 2021

Pancreatic Adeno Carcinoma

Correlation of molecular markers
expression and overall survival in
pancreatic adeno carcinoma patients.(Ph.D.
Study)

**Core
Equipment**

Thermal Cycler	
Microtome	
Refrigerated Centrifuges	
Non Refrigerated Centrifuge	
Water Bath	
Vortex	
Under counter & Walk- In Fridge	Microscope
Ultra Low Temp. Freezers	Desktop PC

Bench no. A-30

Dr. Ather Enam
Professor, Department
of Surgery. The Aga
Khan University,
Pakistan

Dr. Syed Adnan
Associate Professor,
Department of Surgery.
The Aga Khan University,
Pakistan

June ,2018 –Nov, 2020

Glioblastoma Multiforme

It is a prognostic cohort study ,
designed to investigate Gene expression
of cancer stem cell markers in Glioblastoma
multiforme.

Core
Equipment

Microtome

Microscope

Water Bath

Vortex

Under counter & Walk- In Fridge

Ultra Low Temp. Freezers

Desktop PC

Bench no. B-9

Dr. Junaid Iqbal
Assistant Professor
Paediatrics & Child
Health . The Aga Khan
University, Pakistan

Jan, 2018 – Jan 2021

Intestinal Organoid

This is a supplemental study of project "SEEM Pakistan" in which human biopsy tissues will be used for the development of Intestinal Organoid from Environmental Enteropathy Patient's Gut.

Core Equipment

Refrigerated Centrifuges
Non Refrigerated Centrifuge
Water Bath
Vortex
Under counter & Walk- In Fridge
Ultra Low Temp. Freezers
Desktop PC
Tissue Culture Room (BSL2) & Virology (BSL3)
Inverted Microscope

Bench no. B-10

Dr. Ali Faisal Saleem
Assistant Professor
Paediatrics & Child Health,
The Aga Khan University,
Pakistan

Oct, 2016 – June, 2020*

CHAIN PROTOCOL

This is a cohort study, aiming towards evidence based care of acutely ill, undernourished children in limited resource settings – cohort study

**Core
Equipment**

Refrigerated Centrifuges
Non Refrigerated Centrifuge
Water Bath
Vortex
Under counter & Walk- In Fridge
Ultra Low Temp. Freezers
Desktop PC
Tissue Culture Room
Inverted Microscope

**Grant
Equipment**

Biosafety Cabinet
Water Bath
Vortex
Liquid Nitrogen Tank

* extension in process

Bench no. B-11 & 12

Dr. S. Asad Ali
Professor
Paediatrics & Child
Health, The Aga Khan
University, Pakistan

Nov, 2015 – Jan 2021

SEEM Pakistan

This Study covers the aspect of
Environmental Enteropathy & malnutrition
in Pakistan.

Core Equipment

Refrigerated Centrifuges
Non Refrigerated Centrifuge
Water Bath
Vortex
Under counter & Walk- In Fridge
pH meter
Thermal Cyclers
Real Time PCRs
Desktop PCs

Grant Equipment

Biosafety Cabinet
Water Bath
Vortex
Taqman Low Density Array (TLDA)
Bioplex- Luminex Array
BD- FACS- Celesta (to be arrived & installed)
Bead beater
Gel documentation System

Bench no. B-13

Dr. Fyezah Jehan.
Associate Professor
Paediatrics & Child
Health, The Aga Khan
University, Pakistan

Core
Equipment

Refrigerated Centrifuge
Under counter & Walk- In Fridge
Ultra Low Temp. Freezers
Vortex
Water Bath
Thermal Cyclers
Gel Documentation System
Desktop PC

Feb, 2020 – Oct, 2022

Azithromycin- improve growth
of infants

The objectives of the study is to
assess the efficacy of Nutritional support
for lactating women and Azithromycin for
infants to improve growth outcomes in the
peri-urban slums of Karachi, Pakistan – a
Randomized Controlled Trial

Bench no. B-14

Dr. Shahid Pervez
Professor
Pathology & Lab Medicine,
The Aga Khan University,
Pakistan

Dec,2015 – Sep,2020

EFGR Signalling Pathway Analysis:
in Oral Squamous Cell Carcinoma.
(Ph.D. study).

**Core
Equipment**

Refrigerated Centrifuge
Under counter & Walk- In Fridge
Ultra Low Temp. Freezers
Vortex
Water Bath
Thermal Cyclers
Gel Documentation System
Desktop PC

Bench no. B-15

Dr. Zahra Hasan
Professor
Pathology & Lab
Medicine, The Aga Khan
University, Pakistan

Aug, 2020 – Aug, 2021

Phylo- and immuno- dynamics of SARS-
CoV-2 infection in Pakistan: relating
COVID 19 disease severity in with viral
diversity

Core Equipment

Refrigerated Centrifuge

Under counter & Walk- In Fridge

Ultra Low Temp. Freezers

Vortex

Water Bath

Thermal Cycler

Gel Documentation System

Desktop PC

MiSeq. NGS

Benches Reserved for Future Projects(N=15)

A-10
A-11
A-16
A-17
A-18
A-20
A-21
A-27

A-28
B-2
B-4
B-5
B-6
B-7
B-8

Benches Occupied for core equipment/staff (N=5)

A-3
A-4
A-23
B-1
B-3