



THE AGA KHAN UNIVERSITY

Bench Space Dashboard

Juma Research Lab (Ground Floor)

Status October, 2020

Figure 1: Space occupancy by each department

Department	Benches	Projects
Paediatrics	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

* 1 project of Pediatrics active in BSL-3, no bench space is allocated.

Figure 2: Projects of each department

Paediatrics

1. SEAP II
2. Intusseption
3. SEEM-Ph.D.
- 4 . ROTA
- 5 . MiEED
- 6.CHAIN
7. SEEM
8. Azithromycin-growth
9. TB biomarker
- 10 Typhoid - cholecystectomy
- 11.Intestinal organoid-Enteroids.
12. Adeno virus (active in BSL3)
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*

**Project to understand
and research preterm
pregnancy outcomes
(PURPOSE): 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

**Core
Equipment**

Thermal Cycler
Real Time PCR
Centrifuges
DNA Electrophoresis
Next generation Sequencer (NGS)
Bio Safety Cabinet
Desktop PCs

**Grant
Equipment**

ULT freezer

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.

Bench no. A-5

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

Aug, 2016 – March, 2022

**Surveillance for Enteric
Fever in Asia (SEAP)
Phase II.**

**Core
Equipment**

Refrigerated – Non refrigerated
Centrifuges

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

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**

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

Aug, 2017– Dec, 2020

**Intussusception
surveillance Study.**

Bench no. A-7

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

Feb,2019 – Jan,2021

**Interaction of gut micro
biome with intestinal
epithelium in children with
suspected risk of
environmental Enteropathy.
(Ph.D. Project)**

**Core
Equipment**

Refrigerated -Non Refrigerated Centrifuges
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

Bench no. A-8

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

Aug, 2018 - July, 2020

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

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

Bench no. A-9

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

March, 2019 - March, 2021
**Stem cells from human
dental pulp: developing an
in vitro model of tooth like
tissue generation.**

Core Equipment

Tissue Culture Room	Carbon dioxide Incubator
Biosafety Cabinets	Inverted Microscope
Refrigerated and Non Centrifuges	Fluorescence Microscope
Water Bath	Liquid Nitrogen Tank
Vortex	Desktop PC
	Ultra Low Temp. Freezers

Bench no. A-12*

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

May, 2020 – May, 2022

Identifying gene mutations
in low and high grade
gliomas's patients of
tertiary care hospital.

**Core
Equipment**

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

Bench no. A-12*

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

May, 2020 – May, 2022

Frequency of p53 Gene
mutation in oral
squamous cell carcinoma
(OSCC). A cross sectional
study.

Core Equipment

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

Bench no. A-13

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

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
	Ultra Low Temp. Freezers

**June, 2018 – Dec,
2020**

**Role of neutrophils in
progression of head
and neck squamous
cell carcinoma.**

Bench no. A-14

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

Core Equipment

Tissue Culture Room

Biosafety Cabinets

Refrigerated Centrifuges

Non Refrigerated Centrifuge

Water Bath

Vortex

Carbon dioxide Incubator

Inverted Microscope

Fluorescence Microscope

Liquid Nitrogen Tank

Desktop PC

Ultra Low Temp. Freezers

Under counter & Walk- In Fridge

May, 2018 – May, 2021

**Characterizing
determinants of acute
myeloid leukemia
resistance to ex-vivo
expanded allogeneic
natural cell-mediated
killing.**

Bench no. A-15*

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

Sep, 2017 – June, 2020
Project 1:
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

* Bench shared with 02 projects

Bench no. A-15*

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

Aug, 2017 – March, 2021
Project 2:
Micro biota,
inflammation and
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 shared with 02 projects

Bench no. A-19 & A25

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

Oct, 2019 – Oct, 2020

**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**

March, 2017 – Dec, 2020

**Strengthening laboratory
in capacity for
antimicrobial surveillance.**

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**

March, 2020 – May, 2021

**Exploring the
transcription of
Bedaquiline resistant M.
tuberculosis isolates.**

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-26

Dr. Farah Qamar
Associate 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

July, 2019 – Mach, 2022

**Frequency of typhoid
carrier in patients
undergoing
cholecystectomy for gall
bladder.**

**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

**Core
Equipment**

Thermal Cycler

Microtome

Refrigerated Centrifuges

Non Refrigerated Centrifuge

Water Bath

Vortex

Under counter & Walk- In Fridge

Ultra Low Temp. Freezers

Microscope

Desktop PC

April, 2019 - April, 2021

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

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

**Gene expression of cancer
stem cell markers in
Glioblastoma multiforme
patients.**

**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

**Development of
enteroids from
Pakistani children with
environment enteric
dysfunction(EED).**

**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*

Building the evidence based care of the sick, undernourished child in limited resource settings (CHAIN).

Core Equipment

Refrigerated Centrifuges
Under counter & Walk- In Fridge
pH meter
Thermal Cyclers
Non Refrigerated Centrifuge
Desktop PCs
Ultra Low Temp. Freezers

Grant Equipment

Biosafety Cabinet
Water Bath
Vortex
Liquid Nitrogen Tank

Bench no. B-11 & B-12

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

Nov, 2015 – Jan, 2021
**Study of environmental
enteropathy and
malnutrition in Pakistan
(SEEM).**

Core Equipment

Under counter & Walk- In Fridge
pH meter
Thermal Cyclers
Real Time PCRs
Desktop PCs

Refrigerated Centrifuges

Non Refrigerated Centrifuge

Water Bath

Vortex

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 Cycler

Gel Documentation System

Desktop PC

Feb, 2020 – Oct, 2022

**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

**Analysis of EFGR Signaling
Pathway: interplay with
human papillomavirus,
miRNAs and inflammatory
biomarkers in a high risk
oral cancer population.**

(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

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

Aug, 2020 – Aug, 2021

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

BSL-3

Dr. Junaid Iqbal
Assistant 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

Walk- In Fridge

Virology (BSL3)

Inverted Microscope

Jan, 2018 – Oct, 2019

**Replication of
intussusception
associated adeno virus
in human enteroids).**

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

List of Committed Projects at Pre-award level(N=26)

S. #	Department	Committed projects at pre-award level
1	Paediatrics	13
2	Surgery	7
3	BBS	1
4	CHS	1
5	Pathology & Lab Medicine	4
	Total	26

List of Committed Projects at Pre-award level(N=26)

S. #	Title of Project
1	Capacity building for diagnosing and defining the epidemiology of Crimean Congo Hemorrhagic Fever Virus in Pakistan
2	The University of Washington Arboviral Research Center
3	Introduction of typhoid conjugate vaccine (tcv) in routine immunization program in Pakistan and its population impact on antimicrobial resistance among salmonella typhi
4	Identification of the Elements of miR21 Promoter, Responsible for its Aberrant Expression in Gliomas
5	HEC-Micro-RNA expression in Glioma, Glioma stem cells and serum and its association with the prognosis of the disease. A cohort study
6	Maternal genetic variants underlying fetal growth restriction

S. #	Title of Project
7	Investigating the Role of miRNA and Human Papillomavirus Infection for Early Detection and Treatment of non-functioning Pituitary Adenomas”
8	Investigation of Molecular Alterations and Frequency of Human Papilloma Virus in Pancreatic Adenocarcinoma Patients: A Cross Sectional Study
9	Investigating the role of human papillomavirus in oral squamous cell carcinoma and oral potentially malignant disorders: a prognostic cohort study
10	Effect of storage duration on the viability of calvarial osteoblasts in bone flap of skull at -20 °C
11	Gut microbiota configuration in healthy Pakistani children
12	Improving treatment and control of extensive drug resistance pathogens in Pakistan by whole genome

List of Committed Projects at Pre-award level(N=26)

S. #	Title of Project
13	Metagenomics to understand dynamic of Neglected tropical disease in Southern Pakistan
14	Respiratory syncytial virus (RSV) Surveillance
15	Comprehensive Cataloging of Loss-of-function Mutations Within the Pakistani Population
16	Evaluation of safety and feasibility of fecal microbiota transplant in children for eradication of AMR
17	Options for the nutritional management of Moderate wasting in children presenting with acute illness: the MERIDIAN trial"
18	MOMI Biorepository Platform: AMANHI Pakistan
19	Sewage sampling for circulating SARS-CoV-2: active and early warning surveillance system in low and middle-income countries.

S. #	Title of Project
20	Surveillance for enteric pathogens in sewage in Karachi (KEPS)
21	COVID-19 HH transmission study in Pakistan
22	Interaction of SARS-CoV-2 with the utero-placental interface
23	Immune parameter analyses in COVID-19 patients with mild, moderate and severe disease Nature of work: Immunological work
24	Effect of COVID induced cytokine storm on immune-modulating agents released during fracture healing
25	Wastewater surveillance for COVID-19
26	Comparative study of commercially available typhoid point of care tests to benchmark current and emerging tools