

# **DEPARTMENT OF BIOLOGICAL AND BIOMEDICAL SCIENCES**

## **ANNUAL REPORT 2023**



## Dean's Message

The Department of Biological and Biomedical Sciences at the Medical College is growing in impact and scope with a strong focus on research and teaching. As you'll see in this report, their work is meaningful and substantial, not just at a local level, but nationally and internationally. They have responded to challenges presented over the years with determination, adaptation and innovation. And I must acknowledge and applaud the commitment, work ethic and dynamism of the entire BBS team.

The five-year strategic plan outlined in 2019 is progressing well with activities and outcomes aligned with the expectations highlighted in the plan. 2023 saw the continued success of initiatives put in place, including the continuation of the Biological Sciences Conference, a flagship event for the department, strengthening teaching structures, and continuing research efforts and collaborations.

The biological and biomedical research enterprise is critical to understanding fundamental biological processes and mechanisms of human health and disease pathogenesis, and it is critical to developing solutions that prevent, diagnose, and treat diseases and conditions that afflict millions of people.

The work being undertaken every day furthers our mission of knowledge sharing and increasing access to that science to those outside the walls of our great institution. The department's steady publication record and impressive grant work are some of the ways in which scientific discovery is being propelled forward slowly but surely.

We continue to make contributions to medical education by consistently producing innovations in our curriculum, pedagogy and assessment, and growing our MPhil programme. Our faculty of superstars, enabled by a dedicated support staff, continue to impress with their long list of awards, fellowships and promotions. This commitment to bettering ourselves at every level of the organization is what sets us up for greater success.

I wish the team the best of luck. As you move towards higher levels of excellence, I along with the senior leadership of AKU are behind you every step of the way.

Dr Adil Haider  
Dean, Medical College



## Letter from the Chair

I am pleased to invite our fellow faculty, staff, and students to peruse the fourth edition of the Annual Report of the Department of Biological and Biomedical Sciences (BBS). The past year consisted of a unique combination of creating change and engraining best practices. Four years ago, the department's first-ever Annual Report was circulated throughout the University. The department had just wrapped up the first phase of a five-year strategic plan. A new MPhil in Biological and Biomedical Sciences programme was launched as BBS's first in-house initiative of its kind. Three years ago, BBS hosted a Biological Sciences conference, inviting researchers from around the world.

Today, these initiatives have established themselves as standard practices for the department. Our five-year plan is scheduled for completion in August 2024, and despite external challenges, we have achieved the majority of our aims. Our MPhil programme has steadily increased in class size, welcoming more and more students every year. The Biological Sciences conference is now a flagship event for the department.

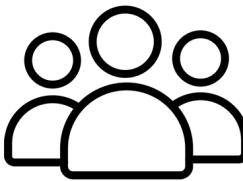
While there is a strong sense of accomplishment for the journey BBS has undergone this past year, as well as the years before, there is also gratitude for all the key players who have given the department immense support: the leadership of the Aga Khan University and the BBS department members. Their constant efforts and dedication have helped bring about the department's successes and are truly valued.

The past four years have also undoubtedly brought to light the importance of scientific research as a means to combat illnesses, slow down climate change, enhance the use of technology in our work, and overall, enable us to do our part to make our country and world a better place to live. Each of us has the ability to examine our own skill sets and see where they can be applicable in today's world.

The 2023 Annual Report shows an overview of the activities the department has undertaken this year, the result of efforts built upon steadily over the years. On that note, I invite our readers to obtain a glimpse into the BBS department through this report and reach out to us with any questions or suggestions.

Dr Kulsoom Ghias,  
Chair, Department of Biological and Biomedical Sciences

# BBS in 2023



**44** faculty  
**12** teaching associates  
**29** research staff  
**9** administrative staff



**59** publications  
**27** ongoing grants  
**PKR 127 Million** grant funding



**5**  
Medical College Awards for Excellence in Teaching



**6**  
14<sup>th</sup> Health Sciences Research Assembly Awards



**5**  
Service Awards  
Aga Khan University



## Promotions

**1** Professor  
**1** Associate Professor  
**1** Senior Instructor

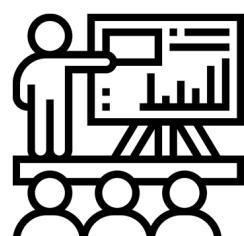


**1** Faculty Development Award  
**2** participants, Developing Healthcare Leaders for Tomorrow Program  
**2** Advanced HE Fellowships



**10**

graduates of the MPhil in Biological and Biomedical Sciences Class of 2023



**25**

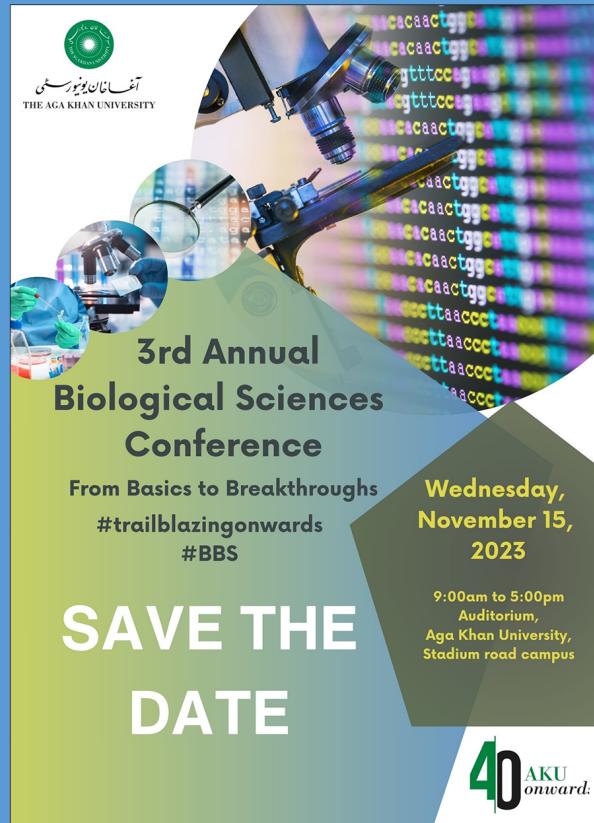
Professional workshops and events

# RESEARCH

# 3<sup>rd</sup> Annual Biological Sciences Conference

The department's 3<sup>rd</sup> Annual Biological Sciences Conference, themed '#trailblazing onwards', celebrated AKU's 40<sup>th</sup> year of excellence in research and education. The one-day conference consisted of national and international speakers, oral presentations and poster displays and pre-and-post conference workshops. Conference themes focused on:

- Cancer biology
- Infectious diseases
- Multiomics
- Stem cells and regenerative medicine
- Functional foods and natural products
- Neurosciences
- Artificial intelligence and healthcare
- Teaching, learning and assessment in training programs



Dr Aamir Ahmed, Honorary Associate Professor of Cell and Development Biology at University College London, served as the keynote speaker and delivered an enlightening speech about Wnt signaling and its use in translational therapies via small molecules to combat multiple cancers and make chemotherapy more accessible.

Fellow speakers and participants presented cutting edge research on cancer stem cells, epigenetic factors involved in cell fate maintenance and the role of AI in medical imaging and healthcare.

# Publication Highlights

## Cancer and Stem Cells

Shohei Kikuchi, Akinori Wada, Yusuke Kamihara, Kosuke Okazaki, Paras Jawaid, Mati Ur Rehman, Eiji Kobayashi, Takeshi Susukida, Tomoki Minemura, Yoshimi Nabe, Noriaki Iwao, Tatsuhiko Ozawa, Ryo Hatano, Mitsugu Yamada, Hiroyuki Kishi, Yuji Matsuya, Mineyuki Mizuguchi, Yoshihiro Hayakawa, Nam H Dang, Yasumitsu Sakamoto, Chikao Morimoto, Tsutomu Sato. **DPP8 selective inhibitor tominostat as a novel and broad-spectrum anticancer agent against hematological malignancies.** Cells. 2023 Apr 6;12(7):1100.

DPP8/9 inhibition induces either pyroptotic or apoptotic cell death in hematological malignancies. We previously reported that treatment with the DPP8/9 inhibitor 1G244 resulted in apoptotic cell death in myeloma, and our current study further evaluates the mechanism of action of 1G244 in different blood cancer cell lines. Our results suggest the possible development of novel drugs with antineoplastic activity against selected hematological malignancies by refining and increasing the DPP8 selectivity of tominostat.

## Cardiovascular and Respiratory Diseases

Amber Hanif Palla, Asad Saulat Fatimi, Salim S Virani, Syeda Sadia Fatima. **Cardiovascular disease risk stratification in the Pakistani population with and without metabolic syndrome: A single centre cross-sectional study.** PLOS Glob Public Health. 2023 Sep 27;3(9):e0002397.

This study aimed to compare the differences between 10-year atherosclerotic cardiovascular disease risk (ASCVD) in a cohort of apparently healthy Pakistani adults and stratify the ASCVD risk by metabolic syndrome (MetS) status. It concluded that although ASCVD risk is a useful way to reduce CVD burden by identifying asymptomatic individuals at the highest risk of developing ASCVD, a high proportion of individuals with MetS may still be identified as low risk by the current risk stratification algorithms in South Asians.

## Endocrinology and Metabolic Disorders

Rabiya Ali, Taseer Ahmed Khan, Hina Gul, Rehana Rehman. **An interplay of Progesterone, Leukemia Inhibitor Factor and Interleukin-6 in the window of implantation; Impact on fertility.** Cytokine. 2023 Oct:170:156332.

This study explored the role of gonadotrophins, ovarian steroids and cytokines in the implantation process by comparing these hormones and cytokines in the fertile and infertile groups (polycystic ovaries (PCOS), endometriosis, unexplained infertility) and finding their association in all study groups. Elevated levels of progesterone were found to increase the production of leukemia inhibitor factor in fertile females. However, infertile females with PCOS and unexplained infertility exhibited deficient levels of progesterone, supporting its role as a biomarker for successful implantation in infertile women.

# Publication Highlights

## Brain and Mind Sciences

Saadia Maryam Saadi, Elisa Cali, Lubaba Bintee Khalid, Hammad Yousaf, Ghazala Zafar, Haq Nawaz Khan, Muhammad Sher, Barbara Vona, Uzma Abdullah, Naveed Altaf Malik, Joakim Klar, Stephanie Efthymiou, Niklas Dahl, Henry Houlden, Mathias Toft, Shahid Mahmood Baig, Ambrin Fatima, Zafar Iqbal. **Genetic Investigation of Consanguineous Pakistani Families Segregating Rare Spinocerebellar Disorders.** *Genes (Basel).* 2023 Jul 6;14(7):1404.

In this study, nine consanguineous families presenting different spinocerebellar phenotypes have been investigated using whole exome sequencing. The molecular analysis of these families identified six novel pathogenic/likely pathogenic variants; ZFYVE26: c.1093del, SACS: c.1201C>T, BICD2: c.2156A>T, ALS2: c.2171-3T>G, ALS2: c.3145T>A, and B4GALNT1: c.334\_335dup, and three already reported pathogenic variants; FA2H: c.159\_176del, APTX: c.689T>G, and SETX: c.5308\_5311del. Hence, this study expands the mutation spectrum of rare spinocerebellar disorders and implies the usefulness of next-generation sequencing in combination with clinical investigation for better diagnosis of these overlapping phenotypes.

## Infection, Immunology and Inflammation

Warisha Zahid, Nida Farooqui, Nida Zahid, Khalid Ahmed, Muhammad Faraz Anwar, Syed Rizwan-Ui-Hasan, Azhar R Hussain, Antonio Sarría-Santamera, Syed Hani Abidi. **Association of Interferon Lambda 3 and 4 Gene SNPs and Their Expression with COVID-19 Disease Severity: A Cross-Sectional Study.** *Infect Drug Resist.* 2023 Oct 10:16:6619-6628.

This study examined the association of IFNL3 and IFNL4 SNPs (rs12979860 and rs368234815, respectively) and nasopharyngeal expression with COVID-19 disease severity in Pakistani patients. The comparative analysis of SNPs between mild and severe groups showed only the difference in SNP of the IFNL4 gene to be statistically significant ( $p = 0.001$ ) and the nasopharyngeal expression of IFNL3 and IFNL4 genes was found to be 3.48-fold less and 3.48-fold higher respectively in the severe group as compared to the mild group. Age, IFNL3/IFNL4 mRNA expression in the nasopharyngeal milieu, and the presence of SNP in the IFNL4 (rs368234815) gene in COVID-19 patients may be biomarkers for the infection severity and help improve SARS-CoV-2 infection management.

# Publication Highlights

## Complementary Medicine and Functional Foods

Mehr Musani, Muhammad Wasim, Hassan Salman Siddiqi, Saara Ahmad Muddasir Khan, Fazal Manzoord Arain. **Herbal extracts: the future treatment option for drug-resistant epilepsy.** Med Educ. 2023 May;57(5):468-469.

Epilepsy is a neurological disorder characterised by two or more unprovoked seizures. The high prevalence and incidence of epilepsy globally, especially in Asia, has remained a big concern over the course of centuries. Patients are usually prescribed the already known anti-epileptic drugs, but even after going through three different generations of anti-epileptic drugs, some people still suffer from drug-resistant form of epilepsy. These patients are usually prescribed a higher dose of anti-epileptic drugs, which results in more adverse effects. That is why new treatment options, like herbal extracts, should be explored for patients who do not respond to the classic anti-epileptic drugs. The current narrative review was planned to explore if herbal extracts can be the future for the treatment of drug-resistant epilepsy.

## Medical Education

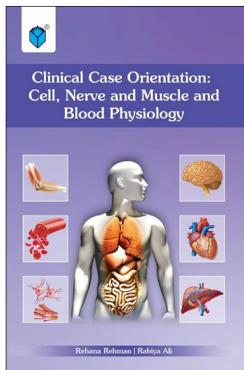
Syeda Sadia Fatima, Bushra Amin, Muhammad Zuhair Yusuf. **Pecha Kucha in medical education: Promoting self-directed learning.** Med Educ. 2023 May;57(5):468-469.

Incorporating Pecha Kucha as a formative assessment in MBBS Year 1, this study introduced a student-driven integrated learning approach. Emphasizing active learning, individualization, social interaction, and resource accessibility, this approach aimed to foster a dynamic educational environment conducive to student engagement and holistic development. Implementing this fast-paced format, students were able to present complex concepts covered in the Human Body Systems module. Each student condensed their ideas into 20 slides, with only 20 seconds allotted for each slide. This approach facilitated enhanced understanding, teamwork, time management, and confidence among participants. The findings underscored a significant impact, with students expressing a strong affinity for the experience. They actively advocated for its integration into future sessions and articulated improvements in motivation, leadership skills, and overall confidence in their learning journey.

# BBS Authors

## Clinical Case Orientation: Cell, Nerve, and Muscle and Blood Physiology.

Authors: Dr Rehana Rehman and Dr Rabiya Ali.

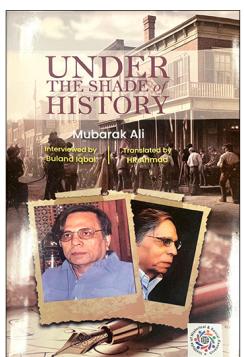
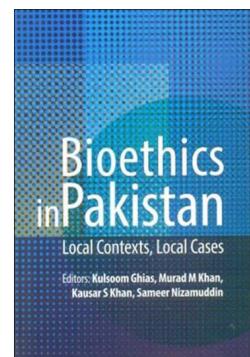


*This book serves as a guide designed for undergraduate medical students and educators to connect theoretical physiology with real clinical scenarios. Each case has sequential study questions and answers, multiple choice questions, narrative figures, and flow charts, along with key points labeled as 'Physiology Pearls.' Educators can practice and design clinical case discussions to facilitate reasoning and memory retention strategies in students. It is a valuable resource for those seeking a deeper understanding of physiological principles and disease manifestations specifically focusing on cardiovascular and respiratory physiology and pathophysiology.*

## Bioethics in Pakistan: Local Contexts, Local Cases.

Editors: Kulsoom Ghias, Murad M. Khan, Kausar S. Khan, and Sameer Nizamuddin.

*This is a well-researched, well-articulated and locally relevant casebook that provides a unique lens essential to finding tangible solutions to pressing ethical issues prevalent in our setting and generating further discourse on ethics in healthcare. There are several scenarios depicting ethical conflicts healthcare professionals are liable to come across, and questions at the end of each case study provide an outline for in-depth discussions between students, teachers, and healthcare practitioners.*



## Under the Shade of History

Author: Dr Mubarak Ali. Translated by Dr HR Ahmad.

*This book touches on a variety of topics, including history, philosophy, and sociology. It serves as a stimulus to spark a renaissance in the regions of Africa, the Middle East, and South Asia. Each chapter of this book could act as a synopsis, left open for further discussion and research to pursue Master and Doctor of Philosophy at universities and colleges.*

# Renovation: Multidisciplinary and Microscopy Labs



*Out with the old...in with the new!*

In 2023, the visualization of updating the department's Multidisciplinary and Microscopy Laboratories (MDL and ML) to serve as a renovated thriving hub for teaching and training and for promoting a strong research culture in biomedical sciences was put into effect, with the labs being officially closed for reconstruction.

The new labs will be unveiled early this year as collaborative labs with upgraded biosafety level state-of-the-art core facilities for conducting cutting edge research response to the needs of the region. They will include:

- Proteomics and pharmacology/drug development research
- Appropriate shared equipment and biosafety cabinet
- Animal dissecting table
- Freezer spaces
- Washing area
- Autoclaves
- Free-standing equipment
- Walk-in freezer/refrigerator
- Chemical and flammable storage

# EDUCATION

# Peer Teaching Support Initiative for Effective LCFs

The office of the Vice Chair, Education, initiated the Peer Teaching Support Initiative for Effective LCFs program to provide effective feedback and support to BBS faculty to enable them to deliver high-quality interactive lectures according to evidence-based best practices. The primary purpose of this exercise was to create a culture of support, feedback and improvement in overall teaching.

Traditionally, teaching has been assessed by student feedback, but in light of mounting evidence in literature stating that assessment of lecturing needs to incorporate multiple sources of feedback, such as peer assessment, which can provide constructive criticism in improving lectures, new avenues are being explored. Peer feedback is reputed to increase a teacher's confidence and sense of self-satisfaction and promotes professional development.

The department started off this initiative by creating a support group of five to six members, comprising of two members from the discipline of the presenting faculty, two faculty with more than five years of teaching experience in BBS, and one senior mentor.

The Peer Assessment of Medical Lecturing Instrument (PAMLI) was used for observation and to provide constructive feedback to the lecturing faculty. PAMLI was originally developed at the Shapiro Institute for Education and Research and Beth Israel Deaconess Medical Centre, Massachusetts for faculty lecture assessment. The 11 criteria of PAMLI range from ensuring clear, enthusiastic presentation of topics to monitoring and responding to the audience's reaction accordingly.

BBS faculty who received peer feedback showed deeper critical reflection and developed solid plans to improve their teaching methodology.

## Student Interview



**Yousuf Tahir, graduate of the MPhil in Biological and Biomedical Sciences Class of 2023**

What have been some of the highlights of the program for you?

*The availability of faculty, the detailed feedback students would receive, and the fact that we were given options to choose our supervisors stood out for me. The exposure to different research techniques was also a highlight.*

What made you decide to enroll in this program?

*I decided to enroll in this program due to my lifelong fascination with science and research. From a young age, I have been captivated by the intricacies of biology and the study of life, which led me to pursue my MBBS from DOW University of Health Sciences. During this time, I encountered numerous diseases with unknown causes and treatments, igniting my passion for research and motivating me to apply for this program.*

What are some of your best memories from the past two years?

*There are many, but one that stands out to me is receiving my transcript after my first year and discovering that I had passed with distinction. Another cherished memory is when I learned that I would be graduating with Great Distinction. It's important to note that my academic success was not solely my own effort. The unwavering support of my wife and parents played a significant role in my journey, enabling me to stay focused and perform my best.*

What are your future plans?

*I have secured the prestigious Japanese Government MEXT scholarship for my PhD studies at Kyoto University, which is ranked among the top 50 by QS University Rankings. I am excited to pursue my PhD and aim to foster fruitful collaborations for the institution.*

# 2023 Calendar of Educational Workshops

## February

Basics of Stem Cells by Dr Azhar Hussain and Dr Sheerien Rajput

## March

Essence in Graduate Supervision by Dr Rehana Rehman and Dr Shahid Shamim

## May

Maximizing Research Potential with AI: Utilizing Opportunities and Confronting Challenges by Dr Sadia Fatima

Artificial Intelligence in Education Playground Series | On a Voyage with AI; Teaching Literature Review by Abeer Hammadi, Ayesha Mansoor, Dr Nabeel Ashfaque and Dr Sadia Fatima

## June

Manuscript Writing by Dr Najeeha Iqbal and Dr Mati Ur Rehman

Engage your Audience using Easy-to-Build Presentations and Interactive Quizzes by Dr Sadia Fatima

Navigating the Research Journey: From Synopsis to Thesis Writing - Workshop for MPhil and PhD Students by Dr Rehana Rehman

## July

Western Blotting - Introduction and Optimization by Dr Azhar Hussain and Dr Satwat Hashmi

Structural Bioinformatics: From Sequence to Structure of Protein by Dr Arooj Shafiq

## August

Qualitative Research: Explore for Impact in Medical Education by Dr Rehana Rehman, Dr Tazeen Saeed Ali and Dr Arfa Azhar

1-day NIH-Biosketch Component by Dr Najeeha Iqbal

1-day Hands-on Workshop on Data Analyses on R by Dr Najeeha Iqbal

# 2023 Calendar of Educational Workshops

## September

First Aid Training - Step Plus by Dr Amber Palla

Leveraging AI in Healthcare Research by Dr Sadia Fatima, Dr Syed Faisal Mahmood, Dr Nabeel Ashfaque, and Ayesha Mansoor

Unleashing Creativity with Pecha Kucha: Present with Impact by Dr Sadia Fatima in collaboration with WGW

## October

Basics of Molecular Biology: Hands-on Preparatory Course for MPhil-BBS Students by Dr Rehana Rehman

From Genomic Variance and Viral Evolution to Structural Bioinformatics: An Interdisciplinary Bioinformatic Workshop by Dr Arooj Shafiq

## November

Training Workshop for Animal-Based Research in Biomedical Sciences: Models and Techniques by Dr Satwat Hashmi

1-day Workshop on Zotero and Endnote Software by Dr Najeeha Iqbal and Dr Saara Muddassir

3D Bioprinting Horizons: Applications in Tissue Engineering by Dr Azhar Hussain and Dr Sheerien Rajput

Evaluating the Future: AI, Authenticity and post-GPT Assessment by Dr Sadia Fatima

## December

Next Generation Sequencing Data Analysis and Machine Learning by Dr Najeeha Iqbal

Engage your Audience using Easy-to-Build Presentations and Interactive Quizzes by Dr Sadia Fatima

Navigating the Research Journey: from Synopsis to Thesis Writing - Workshop for MPhil and PhD Students by Dr Rehana Rehman

# **BBS Impact**

# External accomplishments

## Distinctions

Dr Shahid Baig, Hilal-I-Imtiaz, Government of Pakistan.

Dr Najeeha Iqbal, Gold Medal in Biological Sciences for the year 2023, Pakistan Academy of Sciences.

Dr Sadia Fatima, Faculty Project Advisor, International FAIMER Institute for the 2023 Fellows.

Dr Sadia Fatima, Deputy Chair for the Professional Development Sub-Committee, International DoHaD society.

## Community outreach

Department members contributed to community and student outreach programs through hosting school visits in the BBS labs, participation in the AKU Challenge Scholarship Program, faculty lectures at schools, and awareness through communication platforms.

Published 19 Oct, 2023 07:03am

### Vitamin D's role critical in reproductive health: AKU study

THE NEWSPAPER'S STAFF REPORTER

KARACHI: Having adequate levels of Vitamin D can positively impact a woman's reproductive journey and fertility outcomes, says a recently published study conducted at Aga Khan University (AKU).

Led by Dr Rehana Rehman, Professor of Physiology at the Department of Biological and Biomedical Sciences at AKU, the research group investigated how changes in levels of Vitamin D could affect female reproductive health.

Dr Rehman's published findings highlight the critical and lasting role that Vitamin D plays in the human reproductive system and show that a lack of Vitamin D increases the risk of infertility and lowers the ovarian reserve.



*DoHaD webinar by Dr Sadia Fatima*

*Dawn article discussing Dr Rehana Rehman's research*

# Recognition within AKU

## Medical College Awards for Excellence in Teaching

Dr Kulsoom Ghias, Mentorship Award

Dr Rehana Rehman, Great Distinction, Masters in Health Professions Education

Dr Hasan Salman Siddiqi, Excellence in Teaching Award

Dr Amber Palla, Early Career Teaching Award

Dr Mati Ur Rehman, Early Career Teaching Award

## 14<sup>th</sup> Health Sciences Research Assembly Awards

Dr Sadia Fatima, Mid-career Researcher Award

Mussarat Ashraf, Outstanding Research Staff Award

Best Rapid Oral Presentation Awards

- Dr Hasan Salman Siddiqi
- Dr Haq Nawaz Khan
- Rabab Ibrahim
- Zainab Hanif Samma

## AKU Service Awards

10 Years

- Dr Najeeha Iqbal
- Sher Khan

25 Years

- Ali Moosa
- Ghulam Haider
- Zahid Hussain

## Advanced HE Fellowships

Dr Najeeha Iqbal

Dr Muhammad Zuhair Yusuf

# **Recognition within AKU**

## **Developing Healthcare Leaders for Tomorrow Graduates**

Dr Fazal Arain

Gulafroze Jessa

## **Faculty Development Award**

Dr Satwat Hashmi

# Department Personnel

## Faculty

Dr Kulsoom Ghias	Professor and Chair
Dr Satwat Hashmi	Associate Professor & Vice Chair, Education
Dr Najeeha Iqbal	Associate Professor & Vice Chair, Research (Joint appointee)
Dr Perwaiz Iqbal	Professor Emeritus
Dr Rehana Rehman	Professor & Director, MPhil in Biological and Biomedical Sciences
Dr Shahid Mahmood Baig	Professor
Dr HR Ahmad	Professor
Dr Khalid Khan	Professor
Dr Ather Enam	Professor (Joint appointee)
Dr Syeda Sadia Fatima	Associate Professor
Dr Fazal Arain	Associate Professor
Dr Saara Muddasir	Associate Professor
Dr Azhar R. Hussain	Assistant Professor and Director Labs
Dr Shagufta Khan	Assistant Professor
Dr Hasan Salman Siddiqi	Assistant Professor
Dr Fareena Bilwani	Assistant Professor
Dr Junaid Iqbal	Assistant Professor (Joint appointee)
Dr Mati Ur Rehman	Assistant Professor
Dr Muhammad Zuhair Yusuf	Assistant Professor
Dr Zehra Jamil	Assistant Professor
Dr Muhammad Nouman Mughal	Assistant Professor (Joint appointee)
Dr Ambrin Fatima	Assistant Professor
Dr Amber Palla	Assistant Professor
Dr Sayed Ali Raza Shah Bukhari	Assistant Professor (Joint appointee)
Dr Tashfeen Ahmad	Assistant Professor (Joint appointee)
Dr Khalid Ahmed	Assistant Professor
Dr Arooj Shafiq	Assistant Professor
Dr Ambereen Surti	Faculty Member
Dr Afsar Mian	Assistant Professor, CRM
Dr Hammad Hassan	Assistant Professor, CRM
Dr Salma Jahan	Assistant Professor, CRM
Dr Sheerien Rajput	Assistant Professor, CRM
Dr Irfan Hussain	Assistant Professor, CRM
Dr Fawad Rehman	Assistant Professor, CRM
Dr Arfa Azhar	Senior Instructor
Dr Kanza Muzaffar	Senior Instructor
Dr Faiq Amin	Senior Instructor
Dr Kamran Afzal	Senior Instructor
Dr Rozmeen Akbar	Senior Instructor & Coordinator, ASLS
Mr Abdu R Rahman	Senior Instructor
Dr Paras Jawaid	Senior Instructor
Dr Sadia Cassim	Instructor
Dr Syed Hani Abidi	Visiting Associate Professor
Dr Shakil Ahmed Saghir	Visiting Faculty

# Department Personnel

## Administrative staff

Gulafroze Jessa	Manager
Irfanullah Baig	Assistant Manager
Noorulain Salim	Coordinator
Ali Moosa	Coordinator
Imran Hajani	Coordinator
Bilal Effendi	Coordinator
Ramzan Samnani	Associate
Shermeen Rattani	Senior Assistant
Sadia Doulat Aman	Senior Assistant

## Laboratory staff

Dr Farzana Abubakar	Research Specialist
Mussarat Ashraf	Research Specialist
Zeeshan Haider	Specialist, ASLS
Ghulam Haider	Research Coordinator
Mahwish Fatima	Research Coordinator
Sabah Farhat	Research Coordinator
Sumaiya Binte Hamid	Research Coordinator
Masnoon Akhter	Research Associate
Saba Falak	Research Associate
Aimun Shakir	Research Associate
Bilal Ahmad Mian	Research Associate
Madiha Yaqoob	Research Associate
Asmat Ali	Research Associate
Tahira Ghulam	Senior Research Assistant
Sher Khan	Senior Research Assistant
Adil Jamal	Senior Research Assistant
Ghazala Zafar	Senior Research Assistant
Samra Khan	Senior Research Assistant
Zarina Batul	Senior Research Assistant
Maha Anis	Senior Research Assistant
Farieha Hafeez	Senior Research Assistant
Lubaba Binte Khalid	Senior Research Assistant
Nida Farooqui	Senior Research Assistant
Zahid Hussain	Senior Technologist
Pirbux Memon	Technologist
Ghulam Abbas	Laboratory Aide
Rekha Kumari	Trainee
Hareem Nizam	Trainee

# Department Personnel

## **Postdoctoral fellows**

Dr Shafaq Ramzan

## **Teaching associates**

Dr Adil Al Karim Manji  
Dr Salman Qamar Ul Haq  
Dr Syed Zaid Bin Waqar  
Dr Inaara Akbar  
Dr Muhammad Daniyal Musharraf  
Dr Omaima Anis Bhatti  
Dr Inara Merani  
Dr Manzar Abbas  
Dr Safwan Masood  
Dr Saifullah Khan  
Dr Shehla Rabia  
Dr Zainab Nadeem