



# DEPARTMENT OF BIOLOGICAL AND BIOMEDICAL SCIENCES

*Believe*

*Become*

*Succeed*

## *Message from the Chair*

Experts at AKU and from around the world have highlighted the importance of community in responding to the Covid-19 crisis. The BBS faculty, staff and students are actively engaged in the efforts of the larger communities of practice within the institution and and beyond during these challenging times. As you'll see in the pages that follow, the last few months have been a time of personal and professional accomplishments in BBS alongside sacrifice, hard work and dedication. Here's to us all emerging stronger in the days that come, with continued engagement and commitment.

Warm regards,  
Kulsoom



# ACADEMIC ACCOLADES

## *Promotions*



**Dr Satwat Hashmi**  
Associate Professor



**Dr Syed Hani Abidi**  
Associate Professor

## *Fellowships*

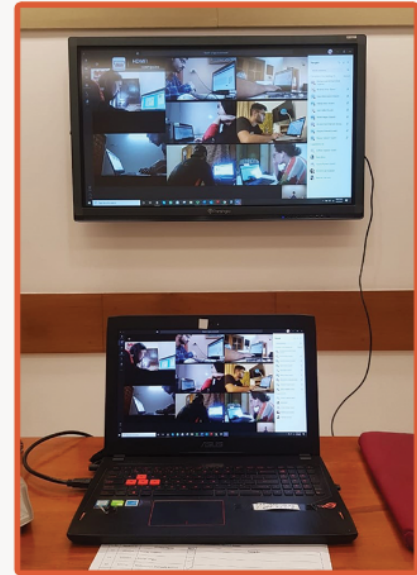


**Drs Sadia Fatima, Satwat Hashmi  
and Saara Mudassir  
were awarded Fellowship from the  
Higher Education Academy [FHEA] (UK)**

# EXAMS IN THE COVID ERA



Gadget checking, Tagging and Training



The New Normal



Online Exam Room and Command Centre Monitoring and Resolving issues in real time

With the advent of COVID-19 pandemic; the Year 1 & 2 Undergraduate Medical Education teaching and learning was successfully shifted to online mode within a short span of time on March 19, 2020. The next set of novel challenge was to plan, train and implement e-assessments through an online format. Faculty, staff and student training for the e-assessments were conducted by Drs Sadia Fatima, Romana Idress and Mr Shahjahan Jabbar one week before the exam. On June 12, 2020 the first of a series of online summative exams was conducted at the Aga Khan Medical College. Student feedback was positive and scores were comparable with onsite exams which shows quality of teaching and assessment. This successful protocol is now adapted for PGME, Year 3 Forensic Medicine and CHS masters exams.

Highlights of the event can be found here:

<https://www.facecceook.com/102565451131154/posts/332361958151501/>

# FROM THE HUB



Dr Naseer Ahmed was nominated as Chairman Scientific Council on Cardiovascular Research and Academic Program. Purpose of this scientific council is to promote Cardiovascular Research in Pakistan where he has initiated the first-time HEART Mentorship program. He is also nominated as Advisory board member for Pakistan Heart Journal.



**Drs Rehana Rehman and Sadia Fatima completed a Certificate course on Data Policy and Procedures**



**Dr Kulsoom Ghias attended the virtual AACR meetings as a delegate**



**Mr Ramzan Samnani volunteered as a support staff @ the Annual Mega retreat question review organized by DED**

**Ms Javeria Farooq attended a course on Qualitative Research Data Management and Analysis**

# BREAKING THE BARRIERS

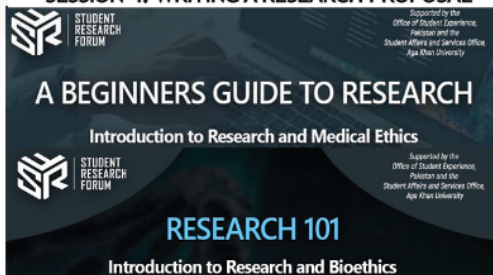


Dr Kulsoom Ghias gave invited e-talks on:



SRF AND SPIE PRESENT  
**THE RESEARCH GAMES**  
JULY 2020

SESSION 4: WRITING A RESEARCH PROPOSAL



- Importance of research and the role of ethics in research @ the Student Research forum “The Beginner's Guide to Research” series
- Ethical principles in research: Completing an ERC application @ the Society for Promoting Innovation in Education (SPIE) “Research Games” series
- Research: What, why and how? @ the Virtual AKU Challenge Scholarship Program
- Introduction to research and ethics in research @ the Student Research forums “Research101” series

Dr Sadia Fatima gave invited e-talks on:

- Basics of Abstract and Manuscript writing @ the Student Research forum “The Beginner's Guide to Research” series
- Introduction to Types of Research @ the Society for Promoting Innovation in Education (SPIE) “Research made ridiculously simple”
- How to conduct Literature Review @ the unteer Force against Hepatitis Transmission Society (VFAHT) “HIV Vaccine Awareness Day Path to research series
- How to conduct Literature Review @ SPIE in collaboration with International Federation of Medical Students’ Association (IFMSA) “Ready, Set, Research! A Virtual Elementary Research Course”

**RESEARCH MADE RIDICULOUSLY SIMPLE**  
Supported by Centre for Innovation in Medical Education (CIME)

Workshop#1: Introduction to the Course and Types of Research

MEET THESE AMAZING MENTORS  
ON 22ND JUNE 4:00-6:00pm

Research Interests:  
Metabolic Syndrome  
Feto-Maternal Health  
Reproductive Health

**Dr. Sadia Fatima**  
Assistant Professor, Dept. of BBS,  
Aga Khan University

**Hassan Raza Raja**  
Class of 2022

Research Interests:  
Internal Medicine  
Medical Education

# IN CONVERSATION



**Dr Sahar Zuberi**



**Dr Faiq Amin**

## What motivated you to do MPhil at BBS?

Working as a teaching associate helped me realize that teaching and research is my niche.

Knowing that Dr Fazal was there and I already had an exceptional experience in MBBS at AKU medical college.

## Looking back at the year; how has this journey changed you?

This program has pushed me to find a balance between being a full time mother and a full time student, all at once. I still find it challenging but I've learnt to cope with it.

I'm learning the ropes of being a good scientist; but I feel that one should work stress-free by virtue of sufficient planning and based on that, sound time management.

## Tell us about your project and what outcomes you expect?

I plan to study different pathways underlying ischemia reperfusion injury in the heart. I expect this knowledge to help in identifying cardioprotective therapeutic targets.

My project is undecided at the moment. Hopefully, it will be in the domain of neuroscience, in particular, psychiatric conditions.

## What are the greatest concerns that you have about your project over the next year?

I plan to conduct an animal study and animal research is currently at a standstill due to Covid19. O and I am veryyyyy scared of animals, this will be quite a challenge for me!

That it will finish in time for an exceptional defense and a timely graduation.

# IN CONVERSATION

**Besides completing your degree, what are your 2-3 highest hopes for what you can gain from the program?**

I hope to learn research techniques and to deal with, if not overcome my fear of animals.

Develop a base from which I can independently flourish as an investigator, make some friends along the way and get in line for the next stage, ie promotion and PhD.

**What insight would you like to give to your fellows and juniors regarding MPhil in BBS?**

It's a very good program for anyone who has a creative or analytical mind.

Get everything worthwhile in writing. Even your own ideas and results of a literature search.

**Tell us something fun about you?**

I am a math geek. I love to read and my favorite past time is solving puzzles (sudoku, crossword, math twisters)

I'm a virtual joke machine!

**If you were a new addition to the crayon box. What color would you be and why?**

Black - I feel it's the strongest color because it is formed by a combination of all the colors of the spectrum.

Gold; that is the alchemical aim of the process of attaining perfection.

**What's the most interesting/unusual thing about you?**

I went to LUMS for a short while after A levels and left to pursue medicine because I did not see myself pursuing a career in research or teaching in the future. Interestingly, it took me 10 years to realize that teaching and research was my niche all along.

I'm both a hard-core scientist and a mystic.

**What ridiculous thing has someone tricked you into doing or believing?**

I was tricked into believing that graduating from med school is the toughest part and that the career path thereafter is pretty straightforward.

When I was six years old my brother made me think it possible to spit out of a moving train facing forward; notably, the spit came right back on my face!

**Dr Sahar Zuberi**

**Dr Faiq Amin**

# STUDENT CORNER

## ***Research and Mentorship for students continues in COVID-19 era***



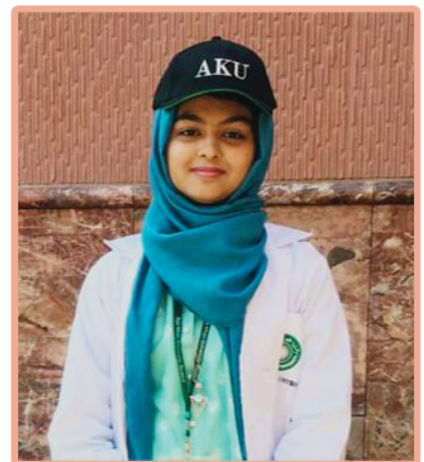
Inara Merani, from Class of 2022, is working under the mentorship of Dr Sadia Fatima

### ***'Positive impact of COVID-19 lockdown on University students in Pakistan'***

COVID-19 is a pandemic and it's effecting more and more people daily. On one hand, where there has been a negative impact on people's life, there's also the chance to take something positive out of it. People can do things they previously didn't have time for. Either it be investing their time in hobbies like painting, cooking or merely just a chance to spend more time with their families. The purpose of this research is to highlight these positive impacts on university students in Pakistan and point out the factors that kept them motivated during these trying times.

### ***'Immuno-protective effect of BCG Vaccine in COVID-19 Patients in Tuberculosis Endemic Countries'***

This is a review article currently available as a pre-print on SSRN and under the review process for publication. I initiated this idea and approached Dr Hani Abdi, who mentored me through out this; and was very helpful and supportive. It talks about the mechanism of BCG vaccine and how its non-specific role in innate immunity has proved to reduce the mortality and severity of infection.



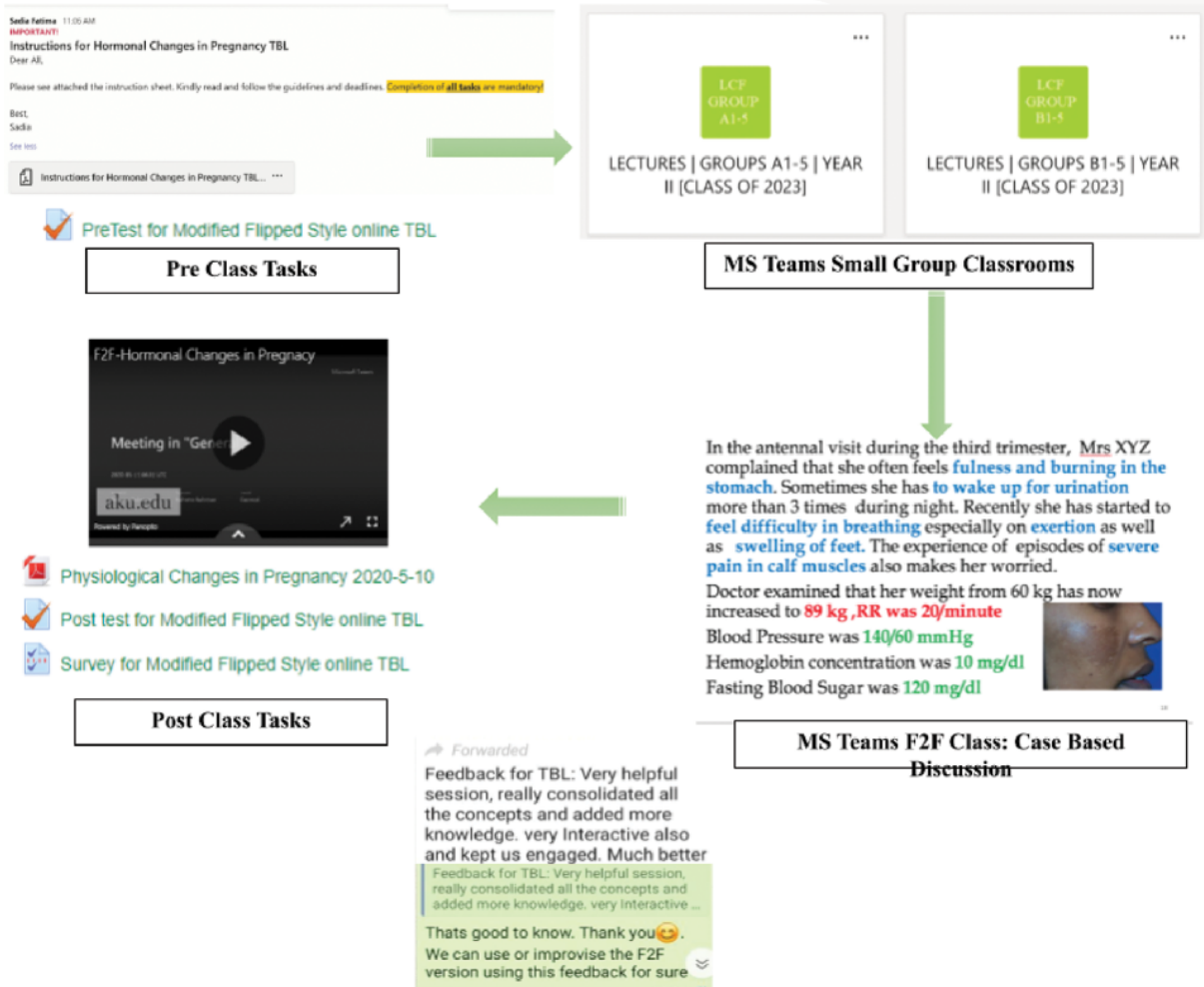
Javeria Tariq from Class of 2023, is working under the mentorship of Dr Syed Hani Abidi



# TEACHING TIPS

## *Innovation with Technology Enhanced Learning Conducted by Drs Rehana Rehman and Sadia Fatima*

In Endocrine/Reproduction module, hypothetical cases demonstrating mechanisms responsible for “Physiological changes during pregnancy” were prepared. The pre reading material and a quiz was shared with students via Virtual Learning Environment (VLE). During the online Flipped Class Room (face-to face) session we encouraged students to respond to all the study questions that built their conceptual knowledge and clarified various concepts/mechanisms. The session proceeding was recorded and uploaded on the VLE page to facilitate asynchronous learning. The response obtained by posttest, student satisfaction survey and queries inquired on WhatsApp group professed student’s engagement, interactive learning and students entreat to introduce innovation, interaction and excitement in traditional teaching methods.



# PUBLICATIONS

Non-Communicable  
Diseases (9)  
COVID-19 (4)  
Medical Education (3)  
Infectious Disease (1)

17

1. Zafar N, Ghias K, Fadoo Z. Molecular mechanisms of relapse in pediatric acute myeloid leukemia: a literature review. *Asia Pacific Journal of Clinical Oncology*
2. Pasha HA, Dhanani R, Ghaloo SK, Ghias K, Khan MJ. Level I nodal positivity as a factor for involvement of submandibular gland in oral cavity carcinoma: a case series report. *International Archives of Otorhinolaryngology*
3. Bergstresser SM, Ghias K, Lane S, Lau W-M, Hwang ISS, Ngan OMY, Klitzman RL, Ng HK. What Does It Mean for a Case to be 'Local'? the Importance of Local Relevance and Resonance for Bioethics Education in the Asia-Pacific Region. *Asian Bioethics Review*
4. Ghias K, Khan KS, Ali R, Azfar S, Ahmed R. Impact evaluation of humanities and social sciences curriculum in an undergraduate medical education programme. *J Pak Med Assoc*
5. Baig AM, Sanders EC. Heralding Healthcare Professionals: Recognition of Neurological Deficits in COVID-19. *ACS Chem Neurosci*

# PUBLICATIONS

13. Azhar A, Abid F, Rehman R. Polycystic Ovary Syndrome, Subfertility and Vitamin D Deficiency. J Coll Physicians Surg Pak 2020
14. Rafaqat W, Kayani MR, Fatima T, Shaharyar S, Khan S, Ashraf M, Afzal U, Rehman R. Association of polymorphism c.-124G>A and c.-16 C>T in the promoter region of human INHA gene with altered sperm parameters; a pilot study. Int J Clin Prac
15. Hussain M, Rehman R, Baig M (June 24, 2020) Manuscript Writing and Publication Workshop: An Invoking Pilot Study on Enhancing Cognitive Research Capabilities in Health Sciences Institutes of Pakistan. Cureus
16. Rehman R, Zafar A, Zahid N, Mohammed N. Follicular Sensitivity Index: A Tool To Predict Successful Conception After Intra-cytoplasmic Sperm Injection. J Coll Physicians Surg Pak
17. Baig, A.M., Khaleeq, A. First Reports of Effects of Insulin, Human-like Insulin Receptors and Adapter Proteins in *Acanthamoeba castellanii*. Sci Rep
18. HR Ahmed. Asymptomatic Transmission of Contagious Covid-19. Letter to the editor SAAP newsletter

For feedback and submissions please contact  
Bilal Effendi on [bilal.effendi@aku.edu](mailto:bilal.effendi@aku.edu)