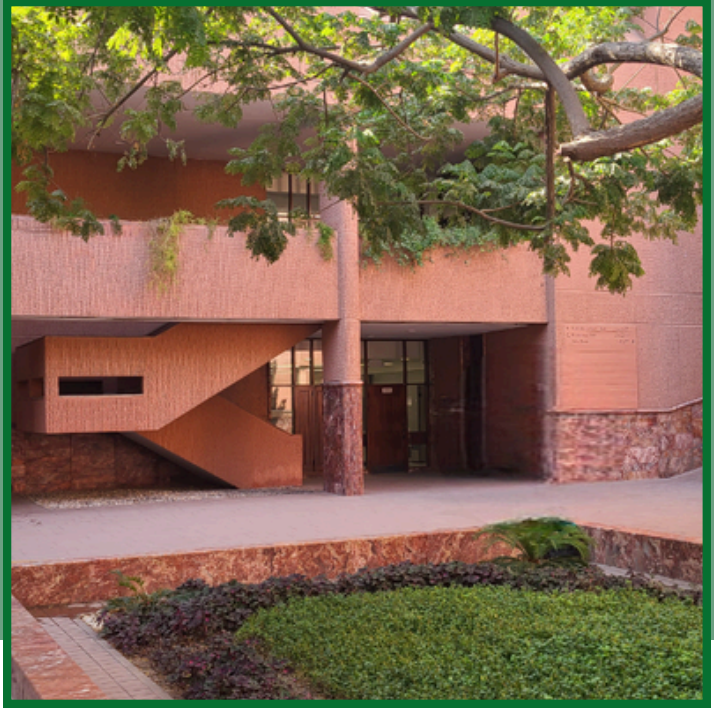


DEPARTMENT OF BIOLOGICAL AND BIOMEDICAL SCIENCES

ANNUAL REPORT

DEAN'S MESSAGE

The Department of Biological and Biomedical Sciences (BBS) 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, initiated in 2019, has been successfully completed, with over 90% of Key Performance Indicators (KPIs) achieved, including those related to ongoing initiatives. Major milestones include exceeding targets for extramural grants, producing over 300 publications, completing a transformative lab renovation, a fourfold increase in MPhil enrollment, and more than 35 faculty and staff receiving prestigious awards. These accomplishments highlight the department's thriving progress. With this success, BBS is proud to embark on a new five-year strategic plan, aiming to set even higher benchmarks in teaching, research, and innovation for the future.

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.

BBS continues to make contributions to medical education by consistently producing innovations in our curriculum, pedagogy and assessment, and growing their 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
Aga Khan University

CHAIR'S MESSAGE

I am delighted to present the 2024 Annual Report for the Department of Biological and Biomedical Sciences (BBS). This past year has been defined by a balance of driving meaningful change and emphasizing best practices that position us for sustained growth. Since publishing our inaugural annual report in 2020, the department has achieved remarkable milestones, evidenced by the successful completion of a five-year strategic plan. With a strong foundation in place, we are now embarking on an exciting new phase of development guided by BBS2030 - our strategic plan for the next five years.

There were many highlights in 2024. We opened the doors to the completely renovated Multidisciplinary and Microscopy Laboratories equipped with core facilities and enhanced bench space, thanks to the incredible donors who made it possible. Faculty and staff published impactful papers, books and books chapters, aligned with the department's main research themes. The department hosted the fourth iteration of its flagship Biological Sciences Conference, which continues to gain recognition and serve as a platform for researchers to share knowledge, foster collaboration, and spark innovation in the field of basic and translational research. Of note, the conference this year adhered to sustainable practices aligned with our commitment to combating climate change and supporting the United Nations' Sustainable Development Goals (SDGs).

On the teaching and training front, BBS continued its notable contributions to the development and delivery of the undergraduate medical education program, with faculty and staff driving innovation and excellence. The MPhil in Biological and Biomedical Sciences program witnessed a steady growth with an increase in enrollment and course offerings. In 2024, we welcomed the fourth cohort of the program, and majority women, reflecting commitment to gender equity and expanding opportunities for women in academia. The MPhil program is poised for further successes with generous donor-funded endowments secured in 2024.

The progress highlighted in this report underscores the unwavering support of key contributors. I extend my heartfelt gratitude to the leadership of Aga Khan University and the dedicated members of the BBS department, whose collective efforts have been instrumental in our success. Their commitment to advancing research, education, and innovation has enabled us to make meaningful contributions to science and society.

The past five years have also underscored the pivotal role of scientific research in addressing pressing global challenges—combating diseases, mitigating climate change, integrating technology into our work, and ultimately improving lives. Each of us has a part to play in applying our skills to shape a better future, and I am proud of the department's efforts in this regard.

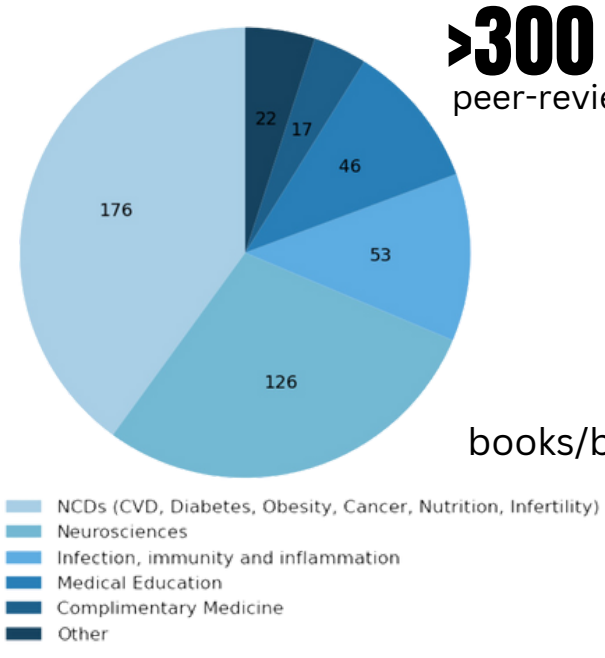
The 2024 Annual Report provides a comprehensive overview of our achievements and ongoing initiatives, showcasing the product of strategic effort. I invite you to explore this report and learn more about our journey. We welcome your questions, insights, and suggestions as we move forward together.

Kulsoom Ghias *PhD, SFHEA*
Professor & Chair
The Feerasta Family Endowed Chair
Department of Biological and Biomedical Sciences

BBS STRATEGIC PLAN 2019 - 2024: KEY ACHIEVEMENTS

RESEARCH

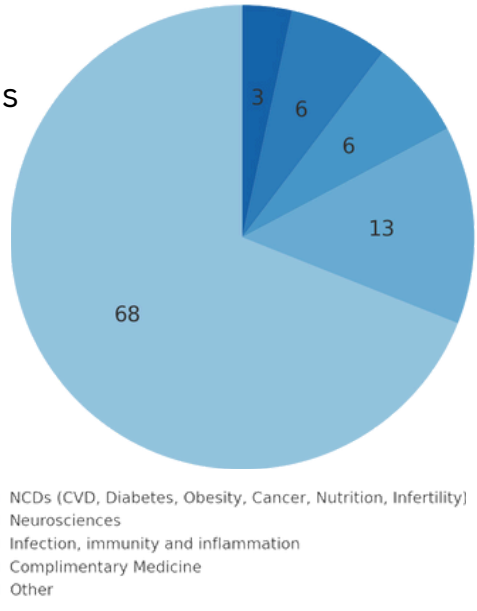
2019 - 2024: Publications



>300
peer-reviewed publications

25+
books/book chapters

2019 - 2024: Grants

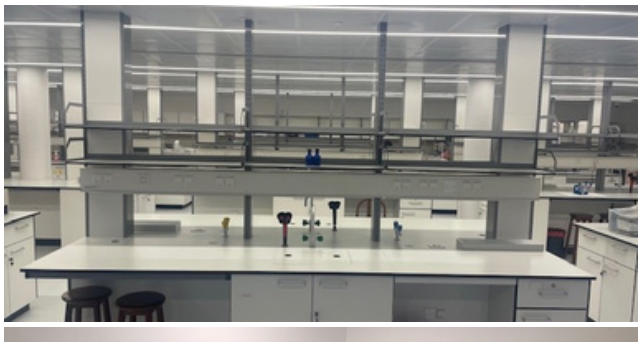


LABORATORY

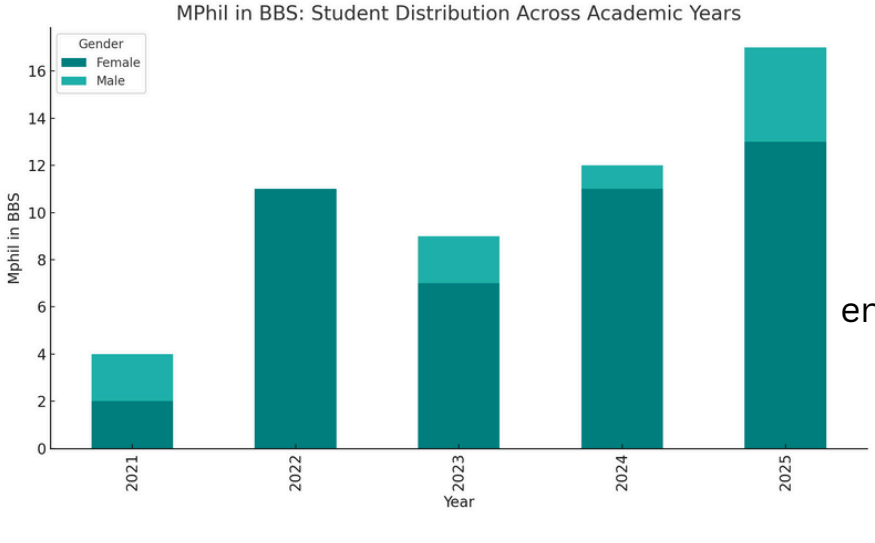
$ 3M
donor funded renovations

7000+ sq ft
research, training and teaching spaces

Core Facilities
Genomics, proteomics, imaging and histology, tissue culture



EDUCATION



4x increase in student enrollment since inception

PKR 30M
endowment for tuition support

+PKR 250M
pledged

BBS 2030: HIGHLIGHTS OF THE NEXT FIVE YEAR STRATEGIC PLAN

Quality and breadth of education

Faculty and staff professional development
Expansion of MPhil in BBS program
New research training programs and graduate-level courses
Continuing professional education opportunities and community outreach

Knowledge creation and dissemination

Robust grants administration
Research infrastructure, core facilities, resources and processes
Mentorship and training opportunities
Thematic and collaborative projects

Partnerships and collaborations

Visiting faculty appointments
Intra-institutional and international research collaborations

IQRA

Sustainability and growth

Revenue generation – courses, training, core facilities
Faculty and staff growth
Succession planning

Learning healthcare systems

Capacity development for innovative teaching and learning
Capacity development for impactful research

Leveraging data sciences and technologies

Technology-enhanced learning
Education and research data management
Automated departmental processes

Environmental protection and stewardship

Collaborative research grants on environment and climate change
Green BBS laboratories
Paperless department

RESEARCH THEMES

Infection, immunity and inflammation

Noncommunicable diseases
(cardiovascular diseases, obesity, cancer, nutrition, infertility)

Neurosciences

Complimentary medicine

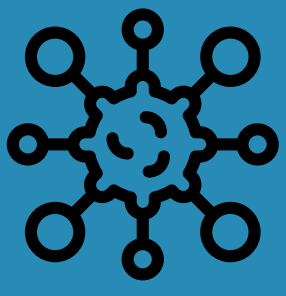
Medical education

>55 PUBLICATIONS

>25 ACTIVE GRANTS

>PKR 18M GRANT FUNDING RECEIVED IN 2024

NCDs (CVD, Diabetes, Obesity, Cancer, Nutrition, Infertility)

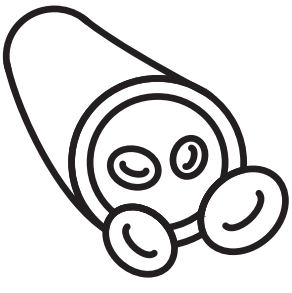


Ahmed, K., Sheikh, A., Fatima, S., Ghulam, T., Haider, G., Abbas, F., Sarria-Santamera, A., Ghias, K., Mughal, N., Abidi, SH. **Differential analysis of histopathological and genetic markers of cancer aggressiveness, and survival difference in EBV-positive and EBV-negative prostate carcinoma**. Sci Rep. 2024 May 5;14(1):10315. doi: 10.1038/s41598-024-60538-0.

This study explored the role of Epstein-Barr Virus (EBV) in prostate carcinoma (PCa), highlighting its link to cancer aggressiveness and gene expression. EBV-positive PCa showed more perineural invasion, suggesting greater tumor aggressiveness. Gene analysis revealed changes in AR, CHEK-2, CDKN-1B, CDC-20, and PCa-related oncomiRs. Increased vimentin expression in EBV-positive tissues indicated enhanced metastasis. These findings underscore EBV's role in tumor progression and its potential as a marker for aggressive PCa, offering new insights for targeted therapies.

Aherrahrou, R., Reinberger, T., Hashmi, S., & Erdmann, J. **GWAS breakthroughs: mapping the journey from one locus to 393 significant coronary artery disease associations**. Cardiovas Res. 2024 Nov 15;120(13): 1508–1530. doi: /10.1093/cvr/cvae161

This review provides a comprehensive overview of the progress in genome-wide association studies (GWAS) for coronary artery disease (CAD) over the past 17 years. The objective was to map the genetic landscape of CAD, identifying 393 significant associations. Key findings include the identification of numerous genetic loci, particularly in non-coding regions, that influence CAD risk through regulatory mechanisms. The potential impact of these findings is substantial, offering insights into the genetic architecture of CAD, improving risk prediction through polygenic risk scores, and guiding the development of personalized interventions and new therapeutic targets.



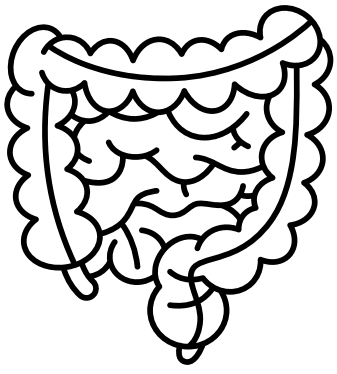
Ghazal, T., Ahmed, MA., Qazi, FUR., Haider, MH., Naeem, S., Jouhar, R., Umer, MF., Faheemuddin, M., Jasthi, VC., Mughal, N. **Mutational analysis of cytoplasmic domain of integrin subunit alpha-1 and its association with periapical wound healing after surgical endodontic treatment**. PLoS One. 2024 Oct;19(10):e0303627. doi: 10.1371/journal.pone.0303627. eCollection 2024.

A recent study examined genetic and molecular factors in periapical wound healing after surgical endodontic treatment, focusing on Integrin Subunit Alpha 1 (ITGA1). While no mutations were found in ITGA1, elevated levels of phosphorylated Epidermal Growth Factor Receptor (EGFRPhospho) were positively linked to better healing outcomes. Conversely, lower levels of EGFR and TC-PTP showed a weak association with improved recovery. Though immunohistochemistry results were inconclusive, the study suggests that EGFRPhospho plays a key role in healing, highlighting its potential as a molecular marker for optimizing recovery

PUBLICATION HIGHLIGHTS

Complimentary Medicine

Palla, A., Naqvi, S., Rehman, NU., Azhar, I. **Unraveling the multi-faceted role of Rosmarinus officinalis L. (rosemary) and diosmetin in managing gut motility**. J Ethnopharmacol. 2024 Oct 5;332:118395. doi: 10.1016/j.jep.2024.118395. Epub 2024 May 25.



This study explored the therapeutic effects of Rosmarinus officinalis L. (rosemary) and its active compound diosmetin on gut motility and anxiety. Rosemary showed laxative effects at low doses and antidiarrheal activity at higher doses through different mechanisms. Diosmetin exhibited significant antidiarrheal and spasmolytic properties, while rosemary's flavonoid content was linked to its anxiolytic effects. Acute toxicity studies confirmed its safety. These findings suggest rosemary as a potential natural treatment for functional gastrointestinal disorders like IBS, with future research focusing on its clinical use in gut-brain axis disorders

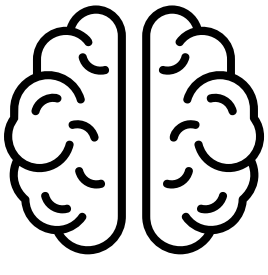
Medical Education

Rourke, J., Ghias, K., Lilley, P., Harden, R. **Building excellence into medical and health professional education programs. Med Teach.** 2024 May;46(5):600-602. doi: 10.1080/0142159X.2024.2322219. Epub 2024 Mar 5.

The introductory editorial in Medical Teacher discusses the launch of a series on building excellence in medical and health professional education, inspired by the AMEE ASPIRE awards. It provides a detailed background on ASPIRE and how its criteria can guide the development of excellent education programs across various settings. The editorial emphasizes intentional program design and continuous improvement, highlighting strategies like evidence-based teaching, interprofessional education, and innovative use of technology. It stresses the importance of addressing diversity, equity, and inclusion, aligning curricula with healthcare demands, and fostering faculty development. Additionally, it advocates for robust assessment practices, a culture of accountability, collaborative leadership, and sustainable practices to produce competent and compassionate healthcare professionals.

Neurosciences

Shen, X., Anirudhan, J., Fatima, A., et al. (2024). **Evidence that Dmrta2 acts as a transcriptional repressor of Pax6 in murine cortical progenitors and identification of a mutation crucial for DNA recognition associated with microcephaly in humans.** eNeuro. 2024 Sept. doi: 10.1101/2024.09.20.614077.



Dr Ambrin Fatima, in collaboration with researchers from Norway and Belgium, identified a novel gene, Dmrta2, in a Pakistani family with a rare neurodevelopmental disorder. The study demonstrates that Dmrta2 is an essential transcriptional regulator for cortical development. It cooperates with Pax6 to maintain cortical identity while repressing Pax6 to control patterning. Dmrta2 binds to Zfp423 and promotes NurD complex recruitment. Mutations in Dmrta2 lead to severe cortical malformations and are associated with microcephaly in humans. This research, now accepted in eNeuro and available as a preprint, provides significant insights into brain development and the molecular mechanisms underlying neurodevelopmental disorders.

4th ANNUAL BIOLOGICAL SCIENCES CONFERENCE

The department's 4th Annual Biological Sciences Conference marked another step forward in advancing scientific research with the theme 'From Discovery to Translation: Basics and Beyond. This one-day event was attended by leading national and international experts and consisted of oral presentations, poster displays, lightening talks, speeches, and collaborative workshops. The conference was closely aligned with the United Nations Sustainable Development Goals (SDGs), emphasizing the role of science in addressing global challenges such as good health, well-being, and sustainable innovation.

The conference focused on departmental research themes:

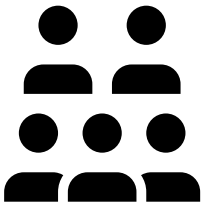
- Genome architecture and traits
- Cardiovascular and metabolic health
- Cancer, stem cells, and infectious diseases
- Translational medicine in basic sciences
- Sustainable bio innovations and climate solutions

Sabrina Dawood, Vice Chair of The Dawood Foundation, was conference chief guest. In her address, she highlighted the importance of bridging research and community impact through sustainable initiatives.

Professor Alexandre Reymond, Director of the Centre for Integrative Genomics at the University of Lausanne, Switzerland, delivered a keynote lecture on “Genome Architecture and Traits”, providing insights into genomics and its role in understanding complex traits.

The conference concluded with engaging panel discussions, networking sessions, and workshops focused on expanding professional influence, securing research funding, and developing unique research niches. The event served as a platform to foster collaboration, inspire innovation, and address global challenges through scientific discovery and translational applications.

CONFERENCE BY NUMBERS

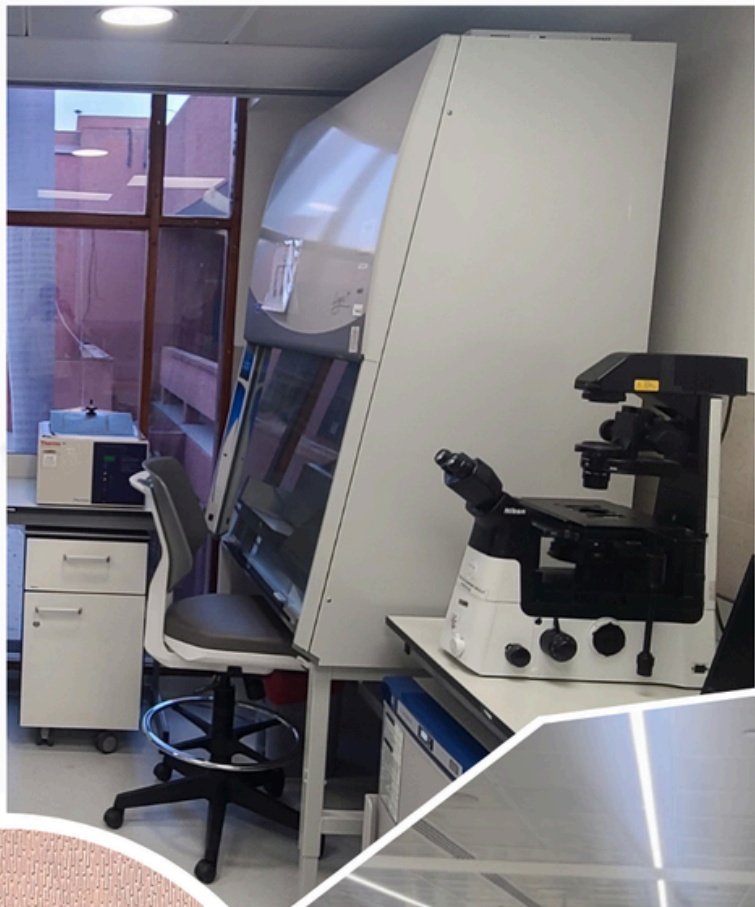


180+ PARTICPANTS

>50 SPEECHES, ORAL AND POSTER PRESENTATIONS

ANNUAL CONFERENCE

BBS LABORATORY CORE FACILITIES



Core facilities emerged nearly four decades ago as shared research spaces became essential in biological sciences. Limited specialized labs and growing funded grants led universities and research centers to establish shared spaces staffed by expert personnel, now integral to research institutions worldwide.

The BBS labs are equipped with state-of-the-art core facilities offering a wide range of support to explore complex biological systems, understand physiology, investigate disease mechanisms, and develop therapeutic strategies, ultimately facilitating bench-to-bedside research.

The genomic core facility is equipped with cutting-edge, high-throughput technologies, offering services such as absolute nucleic acid quantification, sequencing, library preparation, and data analysis. The facility supports a broad range of applications, including gene expression profiling, chromosome counting, epigenetic change detection, gene editing, rare target genotyping, and copy number variation, with a focus on key areas such as oncology, reproductive health, cardiovascular research, metabolic diseases, neuroscience, infectious diseases, and inherited diseases.

To streamline the sequencing workflow, the facility is equipped with the SeqStudio Flex Series Genetic Analyzer for Sanger sequencing and fragment analysis, as well as the Ion Torrent GeneStudio S5 systems, integrated with the Ion Chef automated library and template preparation system for next-generation sequencing. Additionally, the Applied Biosystems QuantStudio Absolute Q Digital PCR system offers sensitivity, precision, and accuracy for absolute nucleic acid quantification, eliminating the need for standard curves.

Genomics plays a vital role in biological sciences, but its translation into meaningful biological interpretations requires proteomics. The proteomics core facility at BBS provides infrastructure for protein identification and characterization. The lab is equipped with advanced instrumentation for Western blotting, including integrated semi-dry and dry transfer systems, 2D gel electrophoresis, and ChemiDoc™ MP Imaging System. The facility supports both discovery and targeted proteomics using tissues, cells, and biological fluids.

The Core Imaging Lab provides services for cellular imaging, tissue analysis, and live cell imaging, enabling cutting-edge research in medicine. The lab is equipped with a state-of-the-art, fully automated digital EVOS M7000 Imaging System, which includes advanced analysis software. This system supports a broad range of applications, including multi-channel fluorescence imaging, multiple-position vessel scanning, area scanning with montage or tile stitching, and time-lapse imaging. With powerful acquisition tools, enhanced autofocus algorithms, and automated routines for microwell plate assays, live cell imaging, and Z-stacks, the system delivers publication-quality images and data with just a few clicks.

The imaging lab is integrated with the BD FACSCelesta, a multicolor flow cytometer used for immunological research, protein and gene expression studies, and cell signaling analysis of both cell surface and intracellular epitopes. Single-cell precision analysis of various cell types, including those from lymphoid tissues, digested solid tissues, and blood samples, provides the foundation for novel discoveries. BD FACSDiva™ software further enhances the workflow, streamlining everything from system setup to data acquisition and analysis.

The cell culture core facility is equipped with Class II Biosafety Cabinets, CO2 incubators, and a Nikon Eclipse Ti2 inverted microscope with phase contrast and color camera. The facility supports primary cell culture, stem cell culture, and cell lines for research in cellular physiology, drug discovery, and signaling pathways across various medical fields. It conducts biologically relevant research across fundamental, pre-clinical, and translational stages, offering opportunities to explore cellular complexities, address scientific gaps, and lay the foundation for innovative breakthroughs.

By integrating these cutting-edge core facilities, BBS strengthens its mission to bridge the gap from research to clinical application, driving world-class innovation.

Teaching and assessment methodologies

The Peer Evaluation and Feedback initiative for the BBS department faculty successfully completed its second year in 2024, further solidifying the department's commitment to enhancing teaching quality through structured peer assessment. This initiative aimed to strengthen a culture of continuous improvement by providing faculty members with constructive feedback on their lecturing styles, engagement techniques, and content delivery. The process not only helped identify areas for pedagogical refinement but also encouraged professional development by increasing faculty confidence and promoting collaboration among colleagues.

The evaluation process in 2024 provided critical insights into teaching methodologies, highlighting best practices and areas requiring further support. The Peer Assessment of Medical Lecturing Instrument (PAMLI) continued to serve as the foundation for structured feedback, ensuring a standardized and objective assessment of faculty performance. Faculty members who participated in the initiative demonstrated deeper self-reflection and a proactive approach to refining their teaching strategies. The final report summarizing the findings and recommendations is scheduled for presentation in early 2025, offering valuable data for further enhancements in faculty development and instructional effectiveness. This initiative remains a key pillar in the department's ongoing efforts to promote excellence in education and evidence-based teaching practices

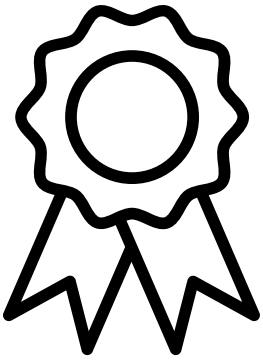
MPhil in Biological and Biomedical Sciences

The department's flagship MPhil in Biological and Biomedical Sciences program saw continued growth in enrollment and graduation, with its third cohort graduating in 2024, and welcomed the Class of 2026.

Continuing professional education - workshops in 2024

- Effective Supervisory Skills: Excellence and integrity by Dr Rehana Rehman
- Protein Western Blotting Technique by Dr Azhar Hussain and Dr Paras Jawaid
- The Complete Western Blotting Experience: A Step-by-Step Hands-On Training by Dr Paras Jawaid
- Mastering Time Management: Overcoming Procrastination and Prioritizing Tasks by Dr Rehana Rehman
- Next-Gen AI: Navigating the Future of Learning, Innovation, and Technology by Dr Sadia Fatima
- Understanding Endnote and Mendeley for reference citation by Dr Saara Muddasir
- Prodata visualization workshop by Dr Najeeha Iqbal

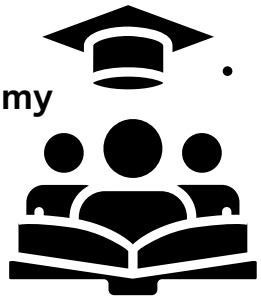
FACULTY AND STAFF RECOGNITION & ACHIEVEMENTS



2023 convocation awards

- Dr Kanza Muzaffar, Excellence in Teaching Award
- Dr Amber Palla, Individual Award for Innovation in Education
- Dr Sadia Cassim, Early Career Teaching Award
- Team-Based Collaborative Award for Teaching: BBS Faculty for Team-Based Learning: Dr Kulsoom Ghias, Dr Sadia Fatima, Dr Fareena Bilwani, Dr Satwat Hashmi, Dr Kanza Muzaffar, Dr Khalid Ahmed Hameed

Fellowship of the Higher Education Academy



- Dr Sadia Fatima, Senior Fellow
- Dr Tashfeen Ahmad, Fellow
- Dr Faiq Amin, Fellow
- Mussarat Ashraf, Associate Fellow
- Sabah Farhat, Associate Fellow

Successful PhD thesis defense

Dr Zehra Jamil

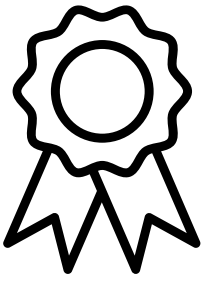
Interaction of Gut Microbiome Intestinal Epithelium in Children with Environmental Enteric Dysfunction

Dr Zehra Jamil's dissertation was based on a community-based intervention study that assessed the association of inflammatory biomarkers and fecal enteropathogen burden with anthropometric measures in a 2-year longitudinal follow-up study. Her work characterized a cohort at risk of Environmental Enteric Dysfunction in a lower middle income country, and identified the association of microbiome transformation with nutritional intervention, the capability of inflammatory biomarkers to predict the response to supplementation, and varied involvement of duodenal morphology.

Dr Khalid Ahmed

Assessing the Role of Epstein-Barr Virus in the Development and Progression of Prostate Carcinoma

Dr Khalid Ahmed's dissertation explored the role of Epstein-Barr Virus (EBV) in prostate carcinoma, focusing on its association with cancer aggressiveness. He identified distinct histopathological and genetic changes in EBV-positive tissues, linking them to oncogenesis. Using RNA sequencing, he highlighted pathways involved in inflammation and DNA repair. Additionally, his drug-repurposing analysis suggested FDA-approved drugs as potential EBV entry inhibitors. This work provides key insights into EBV's role in prostate cancer and potential therapeutic strategies.



AKU Service Award

- Irfan Baig, 35 years
- Dr Khalid Ahmed, 10 years
- Dr Zehra Jamil, 10 years
- Dr Salman Siddiqi, 10 years

FACULTY

Dr Kulsoom Ghias - Professor and Chair
Dr Tania Bubela - Provost & Vice President, Academic
Dr Satwat Hashmi - Associate Professor & Vice Chair, Education
Dr Najeeha Iqbal - Associate Professor & Vice Chair, Research (Joint appointee)
Dr Perwaiz Iqbal - Professor Emeritus
Dr Anwar Siddiqui - 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 Mudassir - Associate Professor
Dr Afsar Mian - Associate Professor, CRM
Dr Azhar Hussain - Assistant Professor and Director Labs
Dr Shagufta Khan - Assistant Professor
Dr Hasan Salman Siddiqi - Assistant Professor
Dr Fareena Bilwani - Assistant Professor
Dr Mati Ur Rehman - Assistant Professor
Dr Muhammad Zuhair Yusuf - Assistant Professor
Dr Zehra Jamil - Assistant Professor
Dr Ambrin Fatima - Assistant Professor
Dr Amber Palla - Assistant Professor
Dr Khalid Ahmed - Assistant Professor
Dr Arooj Shafiq - Assistant Professor
Dr Ambereen Surti - Assistant Professor
Dr Muhammad Nouman Mughal - Assistant Professor (Joint appointee)
Dr Tashfeen Ahmed - Assistant Professor (Joint appointee)
Dr Hammad Hassan - Assistant Professor, CRM
Dr Sheerien Rajput - Assistant Professor, CRM
Dr Irfan Hussain - Assistant Professor, CRM
Dr Fawad Rahman - Assistant Professor, CRM
Dr Irfan Khan - Assistant Professor, CRM
Dr Arfa Azhar - Senior Instructor
Dr Kanza Muzaffar - Senior Instructor
Dr Faiq Amin - Senior Instructor
Dr Rozmeen Akbar - Senior Instructor & Coordinator, ASLS
Dr Faisal Fahim - Senior Instructor and Biostatistician
Dr Paras Jawaid - Senior Instructor
Dr Sadia Farrukh - Senior Instructor
Dr Sadia Cassim - Instructor
Dr Syed Hani Abidi - Visiting Associate Professor
Dr Shakil Ahmed Saghir - Visiting Faculty
Dr Khalid Saeed - Visiting Faculty

ADMINSTRATION AND LABORATORY STAFF

Administrative Staff

Noorulain Salim - Assistant Manager
Irfanullah Baig - Assistant Manager
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
Ghulam Haider - Research Specialist
Naheed Amir - Research Specialist
Zeeshan Haider - Specialist, ASLS
Mahwish Fatima - Research Coordinator
Sabah Farhat - Research Coordinator
Sumaiya Binte Hamid - Research Coordinator
Masoon Akhtar - Research Associate
Saba Falak - Research Associate
Bilal Ahmad Mian - Research Associate
Asmat Ali - Research Associate
Sher Khan - Research Associate
Ghazala Zafar - Research Associate
Faiza Naz - Research Associate
Fizza Salman - Research Associate
Zahra Sajid - Research Associate
Adil Jamal - Senior Research Assistant
Maha Anis - Senior Research Assistant
Fariha Hafeez - Senior Research Assistant
Lubaba Binte Khalid - Senior Research Assistant
Nida Farooqui - Senior Research Assistant
Prashant Tikmani - Senior Research Assistant
Nazia Shah - Senior Research Assistant
Rabia Aiman - Senior Research Assistant
Maleeha Saeed - Senior Research Assistant
Zahid Hussain - Senior Technologist
Pirbux Memon - Technologist
Ghulam Abbas - Laboratory Aide
Hareem Nizam - Trainee

POSTDOCTORAL FELLOWS AND TEACHING ASSOCIATES

Postdoctoral Fellows

- Dr Shafaq Ramzan
- Dr Hammad Yousaf

Teaching Associates

- Dr Emaan Farhan
- Dr Fatima Hussain
- Dr Inara Menari
- Dr Manzar Abbas
- Dr Marium Hussain
- Dr Pallavi Rani
- Dr Shameen Bhutto
- Dr Shehla Rabia
- Dr Zainab Ayaz Dandia
- Dr Iqra Fatima Munawar Ali
- Dr Shiza Danish