



## PHD ADMISSION CRITERIA FOR FOREIGN NATIONALS

### ADMISSION CRITERIA

Admission is purely merit-based and rests on the following criteria:

#### MS & PHD PROGRAMMES

- Academic Record
- Performance in Admission Test
- Application Review
- Submission of complete online application, application processing fee and supporting documents by the stipulated deadline
- Interview Performance (if needed/shortlisted)
- Letters of Recommendation
- Research Statement and Research Presentation (only for PhD applicants)

**Note:** This is the minimum criteria that applicants need to fulfil in order to be eligible to apply. Fulfilment of this criteria does not guarantee admission to LUMS.

Scan for more information on MS Biology



The following criteria applies to all foreign applicants:

- Academic Record
- Research Background
- Online Test and Interview (if shortlisted)
- Letters of Recommendation
- Application Review
- Submission of complete online application and supporting documents by the stipulated deadline

To study at LUMS, foreign nationals must follow requirements such as obtaining a visa and a no-objection certificate from Pakistani authorities. LUMS will assist in this process. Additionally, foreign nationals from developing countries can also apply through The World Academy of Sciences and UNESCO portal (<https://rb.gy/j83y7v>).

Scan for more information on PhD Biology



### MANAAL FATIMA MS BIOLOGY '17



“The MS Biology programme was a comprehensive and well-rounded experience for me. The multidisciplinary approach led to meaningful learning. On top of that, hands-on lab work, from designing to carrying out our independent projects, made this programme at par with biology programmes from some of the best universities in the world.”

### FINANCIAL SUPPORT

- Merit scholarships
- Partial tuition fee waivers for students pursuing MS in basic sciences
- LUMS interest-free loan that covers partial to full tuition fee expense (only for local applicants)
- External scholarships (support and eligibility for these scholarships vary depending on the donor)
- Options to work as Research or Teaching Assistants (subject to availability)
- Full funding of the PhD, which covers tuition, registration, admission fee and a monthly stipend for 4 years

# MS & PHD BIOLOGY

Syed Babar Ali School of Science and Engineering



وہی جہاں ہے تیرا جس کو تو کرے پیدا  
علامہ اقبال

## WHY MS AND PHD BIOLOGY AT LUMS?

# SYED BABAR ALI

## SCHOOL OF SCIENCE AND ENGINEERING

Founded in 1985 as a not-for-profit, LUMS has pioneered innovative educational trends. The expanse of research and teaching at LUMS offers its community 'Learning without Borders' by breaking academic, geographic, and socio-economic barriers to enhance students' academic exposure and make education accessible to all.

Syed Babar Ali School of Science and Engineering (SBASSE) at LUMS is making significant strides in the experimentation of teaching and learning, and making impactful contributions to science and technology. The MS programmes at SBASSE are rigorous and designed to impart specialised professional and research-oriented training to students. All SBASSE departments offer two options to choose from: MS-by-Coursework or MS-by-Thesis. The School's PhD programmes prepare students to think scientifically and conduct high-quality research independently. Major milestones that must be achieved for the successful completion of the PhD degree include the Coursework, Comprehensive (Qualifying) Examination, Thesis Proposal Defense, at least one peer-reviewed journal article and PhD Thesis Defense.

### LUMS AND SBASSE FOSTER A DYNAMIC LEARNING ENVIRONMENT

#### QS WORLD UNIVERSITY RANKINGS BY SUBJECT

#301-350 Computer Science and Information Systems	#351-400 Engineering – Electrical and Electronics
#401-450 Engineering and Technology	#501-550 Physics and Astronomy

The world-class teaching and research programmes at the Department of Life Sciences set it apart in the region! The state-of-the-art laboratories at the Department enable its faculty and students to undertake cutting-edge research projects and make discoveries that advance the frontiers of life sciences. The students enjoy an academically rich and intellectually stimulating environment. In particular, internationally recognised faculty members are leading groups of researchers that work in diverse and interdisciplinary research areas including genetics and epigenetics, structural biology of viruses, cell signalling and cancer therapeutics, molecular epidemiology, drug resistance, bioinformatics, and computational biology.

## COURSES AND RESEARCH PROJECTS

Graduate students are exposed to advanced courses in a wide range of research areas and are provided training in different research methodologies. For their research, students can opt from one of the following research groups led by individual faculty members:

- PLANT BIOTECHNOLOGY AND MOLECULAR BIOLOGY**  
Dr. Khurram Bashir
- CELL SIGNALLING AND CANCER THERAPEUTICS**  
Dr. Amir Faisal
- SYSTEMS BIOLOGY, COMPUTATIONAL PROTEOMICS AND HEALTH INFORMATICS**  
Dr. Safee Ullah Chaudhary
- EPIGENETICS AND GENE REGULATION**  
Dr. Muhammad Tariq
- MOLECULAR EPIDEMIOLOGY AND MICROBIOLOGY**  
Dr. Shaper Mirza
- CHROMATIN FUNCTIONS AND GENOME INTEGRITY**  
Dr. Muhammad Shoaib
- PLANT GENETICS AND EPIGENETICS**  
Dr. Zaigham Shahzad



## EMBRACE THE LIFE SCIENCES EXPERIENCE

The Department of Life Sciences distinguishes itself through the highest quality publications and accolades received by its faculty and students. A few of them are showcased below:

- AN INTEGRATIVE DIAGNOSTIC DATA-DRIVEN SCREENING TOOL FOR BORDERLINE HYPERGLYCEMIA**  
Developed by Amna Tahir (PhD student from Dr. Safee Ullah Chaudhary's BIRL lab)
- DEVELOPMENT OF PRECISION THERAPIES FOR THE TREATMENT OF HEAD AND NECK CANCER**  
Developed by Zainab Tahir (PhD student from Dr. Safee Ullah Chaudhary's BIRL lab) by employing the in-house platform 'Theatre for in Silico Systems Oncology (TISON)'
- THE SOLVATION OF THE E. COLI CHEY PHOSPHORYLATION SITE MAPPED BY XFMS**  
Written by Maham Hamid (PhD student from Dr. Safee Ullah Chaudhary's BIRL lab), the paper was published in *International Journal of Molecular Sciences*
- DESIGN, SYNTHESIS, AND BIOLOGICAL EVALUATION OF SSE1806, A MICROTUBULE DESTABILIZER THAT OVERCOMES MULTIDRUG RESISTANCE**  
Written by Farhat Firdaus (PhD student from Dr. Amir Faisal's lab), the paper was published in *ACS Medicinal Chemistry*
- FIRE GRANT WORTH PKR 50 MILLION**  
Awarded to Dr. Shaper Mirza, Dr. Safee Ullah Chaudhary and Dr. Muhammad Shoaib for developing a curriculum and research training in clinical and translational research
- SPONTANEOUS NETOSIS IN DIABETES: A ROLE OF HYPERGLYCEMIA MEDIATED ROS AND AUTOPHAGY**  
Written by Anam Farhan (PhD student from Dr. Shaper Mirza's lab), the paper was published in *Frontiers in Medicine*
- A NOVEL ROLE OF THE DROSOPHILA MASK GENE IN CELL FATE MAINTENANCE**  
Discovered by Ammad Shaukat and Mahnoor Bakhtiar (PhD students from Dr. Muhammad Tariq's lab), the research was published in *Developmental Biology*
- FINGERPRINTING OF HEAVY METALS AND MICROBIAL CONTAMINATION IN HUDIARA DRAIN AND ITS IMPLICATIONS ON HUMAN HEALTH**  
Written by Zainab Nasir (PhD student from Dr. Safee Ullah Chaudhary's BIRL lab), the research paper was published in *Environmental Technology & Innovation*
- FIRST NATIONAL ARTIFICIAL INTELLIGENCE EDUCATION CHAMPIONSHIP**  
Organised by the Departments of Life Sciences, Computer Science and Electrical Engineering in collaboration with Soliton Technologies and NU-FAST
- CHEMICAL PRIMING AS A SUSTAINABLE TOOL FOR IMPROVED PRODUCTIVITY UNDER STRESS CONDITIONS**  
Session organised by Dr. Khurram Bashir at the 33<sup>rd</sup> International Conference on Arabidopsis Research, Chiba, Japan in June 2023
- GRANT WORTH PKR 18 MILLION**  
Awarded to Dr. Zaigham Shahzad and his team by The International Centre for Genetic Engineering and Biotechnology to investigate the adaptation of rice roots to phosphate-deficient environments