



Abbottabad University of Science & Technology
Knowledge · Innovation · Excellence

DEPARTMENT OF BIOCHEMISTRY

Biochem *Chronicle*

Teaching, research and student achievement from a department decoding the molecular basis of life.





— INTRODUCTION

Where biology and chemistry meet

A young department with a fast-growing footprint in teaching, diagnostics and research.

The Department of Biochemistry was established in Fall 2021 at Abbottabad University of Science and Technology. Biochemistry combines biology and chemistry to study living matter, powering scientific and medical discovery in fields such as pharmaceuticals, forensics and nutrition. Because it deals directly with life itself, biochemistry sits at the center of how we explain the natural world.

Biochemistry is a major scientific discipline made up of several sub-disciplines that connect with other sciences to form new fields entirely. Solving the problems of today and tomorrow depends on these connections — with ecology, materials science, planetary science, meteorology, molecular biology and genetic engineering. Biochemical principles apply just as readily to medicine, pharmacology, criminology and genetics as they do to space research, archaeology and oceanography.

"A Biochemist must be acquainted with many biological disciplines and with all major groups of natural and biological science."

The department currently offers a **Bachelor of Science (BS) in Biochemistry** and a **Master of Philosophy (M.Phil) in Biochemistry**, with an approved agenda to launch a PhD program in the near future. Our goal is to give every student a balanced introduction to the discipline before they move into the specialised areas that interest them most.

Beyond the classroom, our laboratories give students hands-on facilities to build real skills. Graduates go on to work in academic and research organisations, hospitals, serological and pathological diagnostic laboratories, forensic laboratories, and the pharmaceutical, food, fisheries, wildlife and dairy industries.



— WHAT GUIDES US

Vision & Mission Statements

The principles that shape our teaching, research and community engagement.

Vision Statement

To boldly explore new biochemical frontiers in the life sciences, medicine, energy, materials and environmental sciences through visionary research, innovation, collaboration and scholarship.

Mission Statement

- To provide distinctive and relevant education in the biochemical & health sciences at the undergraduate and graduate levels.
- To carry out world-class research and scholarly work with relevance to the contemporary problems facing society and industry.



Dr. Irfan Shah
HEAD OF DEPARTMENT

— MESSAGE FROM THE HEAD

As Head of the Department of Biochemistry, I feel honoured to lead this well-established department at AUST. The prime purpose behind establishing this department is to educate young minds in the basic principles of biochemistry and its applications. We offer quality education and research-based projects for our final-year students, training them to perform with excellence in the global market.

Important consideration is given to the expressed needs of the pharmaceutical, agriculture and food industries for biochemistry graduates trained in quality control. We focus on preparing students, both in academia and other research institutes, with the practical skills required nationally and internationally – so that after graduation they fit confidently into health institutes and research centres with a sound base.

Our faculty and staff work with full dedication to organise scientific exhibitions on campus, send students to health institutes, pharmaceutical and food industries for internships and to observe market trends, and place students in research laboratories for exposure to a practical environment. We aim to make students aware of how scientific principles – particularly those of biochemistry – apply to social issues, and to enable them to critically analyse regional, national and international issues where biochemistry is involved. We continue to build linkages with the pharmaceutical, agriculture and food industries, as well as with health and other research institutes.



FACULTY PROFILE

The people behind the department

Five faculty members bringing expertise from clinical biochemistry to nanobiomaterials.



Dr. Irfan Shah

HEAD OF DEPARTMENT

Biomaterials, surface impregnation, water remediation, environmental toxicology, antimicrobial agents



Dr. Nusrat Shaheen

ASSISTANT PROFESSOR

Clinical biochemistry, nanobiomaterial synthesis, environmental toxicology (maternal lead toxicology), phytochemical analysis, antibiogram designing



Ms. Attiya Abdul Malik

ASSISTANT PROFESSOR

Plant biochemistry, metabolites, clinical biochemistry



Mr. Muhammad Ali Khan

LECTURER

Nanobiomaterials, wastewater treatment, clinical biochemistry



Dr. Humaria Hussain

ASSISTANT PROFESSOR (VISITING)

Peptide synthesis, cardiovascular disease, antidiabetics, molecular biology

YEAR IN BRIEF

Summary of Departmental Activities

- 01 Approval of the Undergraduate/Graduate policy, Fall 2023, along with the curriculum for BS, M.Phil & PhD Biochemistry, through the Board of Studies and all statutory bodies.
- 02 Submission of the file to HEC for NOC of the M.Phil/PhD program in Biochemistry at AUST.
- 03 Participation in, and appreciation of, the BS/M.Phil/PhD Biochemistry curriculum for CRSC's uniform curriculum initiative across KPK.
- 04 MOU signed with Rawalpindi Medical University (RMU) for research collaboration.
- 05 Research project submitted to the HED KPK Research Endowment Fund.

- 06 Project submitted to PSF's 7th Call for Nanomaterials, and to the PERIDOT Program.
- 07 Intra-Departmental Model Competition held for BS-VII Biochemistry, 2024.
- 08 Co-organised the 4th International Conference on "Antimicrobial Resistance & Alternatives to Antibiotics," 29–30 October 2024, including a student poster competition.
- 09 Successful research collaboration established with the Kidney Centre Abbottabad and Fatima Jinnah Women University, Rawalpindi.



Faculty and students of the Department of Biochemistry, AUST.



Department representatives at a research collaboration and MOU signing event.



GALLERY

A year of activities, on and off campus

From competitions to conferences — the moments that shaped student life this year.

Intra-Departmental Model Competition

BS Biochemistry students remain an important part of competitions that reflect their research and soft skills, showcasing their ideas at different forums. This research-model competition was organised at AUST, with students awarded appreciation letters and prizes — bringing a healthy competitive culture to their learning and career-building.



4th International Conference on Antimicrobial Resistance & Alternatives to Antibiotics

Research activity, international collaboration, seminars, workshops and conferences are vital indicators of institutional growth. AUST has had the privilege of organising international conferences that attract researchers from abroad and scholars from across Pakistan — and Biochemistry officials were among the co-organisers of this event.



Participation in Painting Competition

Co-curricular activities are an essential part of learning and career development. AUST provides equal opportunities for students to take part in such activities, and Biochemistry students remained a vital part of representing these aesthetic and soft skills at the university level.



— STUDENT SPOTLIGHT

Komal Arshad organises Hult Prize @ AUST

The Hult Prize brings students from different departments together to build a culture of mutual respect, understanding and idea-pitching. Miss Komal Arshad, a student of BS Biochemistry, was part of the organising committee for the 2024–2025 OnCampus Program — representing her department as a role model for the wider student body.

— GALLERY, CONTINUED

Sustainability & outreach

Tree Plantation Campaign

Students of the Department of Biochemistry completed a tree plantation campaign with great enthusiasm, reflecting a real commitment to environmental preservation.



Participation in ECO-AUST

ECO-AUST was a research-based, three-day event designed to build an environment for learning and idea-sharing toward sustainable environmental and economic development. BS Biochemistry students actively took part in a range of competitions and won several honours for their work.



National Outreach Program for Higher Education Faculty

Faculty members from the Department of Biochemistry attended a month-long workshop organised by the Higher Education Commission (HEC) of Pakistan and NAHE, for faculty who teach and supervise research scholars at higher-education institutions. The program brought academicians and researchers from across Pakistan to AUST for lectures, training and networking.





PUBLICATIONS

Selected Research Publications

Recent and forthcoming work from the department's faculty.

- 01 **Siddique, M. A. B., Khan, M. A., Shaheen, N., et al.** (2024). Complexin gene and male infertility. *Journal of Population Therapeutics & Clinical Pharmacology*, 31(1), 1–14. **IF 1.94**
- 02 **Bashir, S., Ahmed, F., Saba, B., Ahmed, B., Shaheen, N., et al.** (2024). The critical role of histopathology in the diagnosis and management of diseases in Pakistan. *African Journal of Biological Sciences (South Africa)*, 6–15.
- 03 **Khan, M. A., et al.** Biomaterial as a promising biosorbent for efficient uranium extraction from sea water. **IF 9.34**
- 04 **Shaheen, N., Sajjad, W., Fazal, T., Qayyum, B., & Ali, F.** (2025). Chitosan-coated cellulosic tissue paper decorated with zerovalent nanoparticles for hydrogen generation. *Journal of Materials Chemistry and Physics*. Accepted; DOI: 10.1016/j.matchemphys.2025.130890. **IF 4.34**
- 05 **Sajjad, W., Shaheen, N., Fazal, T., & Ali, F.** (2025). Eco-friendly nanocatalyst: chitosan-coated cellulose-supported metallic nanoparticles for wastewater remediation and hydrogen synthesis. Submitted to *Cellulose*.
- 06 **Khan, I., Khan, M. I., & Shaheen, N.** RCCI single nucleotide polymorphisms as potential predictive breast cancer markers in breast cancer patients. Submitted to *Breast Cancer Research & Treatment* (2025).

CONFERENCES & WORKSHOPS

Faculty presenting research nationally & internationally

The Head of Department represented AUST Biochemistry at conferences hosted by Islamia College University, Peshawar, and the University of Buner, and at a workshop organised by the National Centre for Physics (NCP) and COMSTECH in Islamabad.



Conference at Islamia College University, Peshawar



International Conference on Mines, Minerals & Advanced Materials, University of Buner



Workshop organised by NCP and COMSTECH, Islamabad



ADMISSIONS FALL 2026

Your future in Biochemistry begins here.

Discover life, understand molecules, transform tomorrow – join the Department of Biochemistry at AUST.

BS Biochemistry

M.Phil Biochemistry

Why choose us

- Strong foundation in biochemistry & molecular biology
- Focus on innovation, research & problem-solving in the life sciences
- Hands-on laboratory training with modern research facilities
- Career opportunities in academia, industry & healthcare
- Scholarships & merit grants; experienced, qualified faculty
- Hostel & transport facility available

Fee support

- Fee waiver for meritorious students
- 100% scholarship for 1st position holders
- Reduced initial deposit: Rs. 40,700 → Rs. 23,400 (undergraduate)
- Tuition-fee waiver for 1st position holders

Admissions schedule

Last date to apply	21 September 2026
Entry test (MS/M.Phil/PhD/Pharm-D)	23 September 2026
Interviews, merit list & fee deposit	25 September 2026
BS & M.Phil classes begin	29 September 2026
M.Phil (Supply/BA) classes begin	28 October 2026

State-of-the-art facilities

- Advanced Biochemistry Laboratories
- Molecular Research Facility
- Modern Instrumentation
- Innovation & Discovery Space

Apply online: mis.aust.edu.pk/admission · **Web:** www.aust.edu.pk

Phone: +92 992-811728

Campus address: Captain Akash Rabbani Shaheed Road, Havelian, KPK.



From the classroom to the lab bench — a department built on curiosity.

The Department of Biochemistry thanks its faculty, students and partners
for a year of teaching, discovery and service. Here's to the next chapter.
