CURRICULUM VITAE

Dr. Aliya Riaz

Professor & Chairperson, Department of Biochemistry | Jinnah University for Women, Karachi

PRESENT DESIGNATION

Professor & Chairperson
Department of Biochemistry
Jinnah University for Women
Karachi

ADDRESS FOR CORRESPONDENCE

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PROFESSIONAL SUMMARY

PhD-qualified Biochemistry educator, researcher, and academic leader with 15+ years of progressive higher-education experience. Currently directs the Department of Biochemistry as Professor and Chairperson at Jinnah University for Women, Karachi, leading curriculum development, quality assurance, and faculty governance. Designs curricula, assessments, and examinations aligned with program learning outcomes, OBE frameworks, Bloom's Taxonomy and accreditation standards. Proficient with Learning Management Systems (LMS), Campus Management System (CMS), Moodle, and Zoom for course delivery, assessment, and student engagement. Authors 25+ peer-reviewed publications, supervises PhD/MS/BS research, and integrates AI-driven educational technology into teaching. Since 2021, has served continuously as Conference Secretary for the International Conference on Biological Research and Applied Science (IBRAS), leading six consecutive annual international conferences. Combines strong critical-thinking, communication, and interdisciplinary teamwork skills with a sustained record of scientific outreach and community health engagement.

ACADEMIC QUALIFICATIONS

DEGREE	YEAR	INSTITUTION	DIVISION
PhD in Biotechnology	2012	Dr. A.Q. Khan Institute of Biotechnology and Genetic Engineering (KIBGE), University of Karachi Thesis: "Isolation, Characterization and Immobilization of α-amylase from a thermophilic *Bacillus sp.*"	—
M.Sc. in Biochemistry	2005	Department of Biochemistry, University of Karachi Thesis: "Comparison of behavioral effects of Selective Serotonin Reuptake Inhibitor, Fluoxetine and an herbal antidepressant, St. John's wort, in the treatment of Depression."	1st class, 1st Position
B.Sc. (Hons.) in Biochemistry	2004	Department of Biochemistry, University of Karachi	1st class, 1st Position
H.Sc. (Pre-medical)	2001	St. Joseph's College for Women, Karachi	1st division
S.Sc. (Science)	1999	Usman Public School, Karachi	A-1 Grade (87.5 %)

RESEARCH INTERESTS

- Microbial enzyme production and fermentation techniques
- Protein purification
- Enzyme kinetics and immobilization
- Application of enzymes in industrial processes
- Biopolymer production
- Neuropharmacology
- Nanotechnology

CHRONOLOGICAL LIST OF POSITIONS

POSITION	ORGANIZATION	PERIOD
Professor	Department of Biochemistry, Jinnah University for Women, Karachi	February 11, 2026 to date
Chairperson	Department of Biochemistry, Jinnah University for Women, Karachi	July 2019 to date
Associate Professor	Department of Biochemistry, Jinnah University for Women, Karachi	April 29, 2023 to date
Assistant Professor	Department of Biochemistry, Jinnah University for Women, Karachi	April 2012 – April 28, 2023
Lecturer	Department of Biochemistry, Jinnah University for Women, Karachi	January 2011 – April 2012
Scientific Officer (contract)	PCSIR Laboratories Complex, Karachi	2006 – 2008

BRIEF JOB DESCRIPTION

- Chairperson, Department of Biochemistry, Jinnah University for Women.
- Member of DASR, Departmental Research Committee, GAT Paper Setting Committee, Board of Studies, Board of Faculty, Academic Council.
- Chief Editor, RADS Journal of Biological Research & Applied Sciences, Jinnah University for Women.
- Teaching at the level of **BS** (Metabolism, Biotechnology, Enzymology, Industrial Biochemistry, Environmental Biochemistry, Clinical Pharmacology, Biochemical Techniques), **MS** (Advanced Enzymology), **Ph.D.** (Research Project Writing).
- Supervising research of BS, MS and Ph.D.
- Undergraduate Program development (Four-year BS Program in Molecular Biology has been designed, approved and started at Jinnah University for Women).
- Research projects writing and submission.
- BS, MS and Ph.D. curriculum design, improvement and approval through Board of Studies.
- Organizing conferences, seminars, workshops, symposiums (Conference Secretary of International Conference on Biological Research and Applied Science (IBRAS), since 2021).

RESEARCH EXPERIENCE (06 YEARS)

Scientific Officer — 2006 – 2008

Scientific Officer in PCSIR Laboratories Complex, Karachi. Involved in the projects of:

1. "Diagnostic Kits and Reagents"

2. "Production of industrially important bacterial enzymes"

Research Student — 2007 – 2011

Research student at KIBGE, University of Karachi.

AWARDS AND HONOURS

- Selected as a member of the subject HAAT Committee (HEC Pakistan) - 2026
- Nominated as a member of the National Curriculum Review Committee (NCRC) – 2024 for Biochemistry by HEC, Pakistan.
- Grant award of Rs. 500,000/- to organize 5th International Conference on Biological Research and Applied Science held from January 29 to February 1, 2025 at Jinnah University for Women.
- Grant award of Rs. 400,000/- to organize 4th International Conference on Biological Research and Applied Science held from January 23 to 25, 2024 at Jinnah University for Women.
- Grant award of Rs. 150,000/- to organize 3rd International Conference on Biological Research and Applied Science held from January 17 to 19, 2023 at Jinnah University for Women.
- Best Researcher Award for the year 2022 from Jinnah University for Women, Karachi, Pakistan.
- HEC Approved Ph.D. supervisor (2022–2024).
- First Class First position in M.Sc. awarded with Syed Abid Ali Zaidi Gold Medal at the convocation ceremony held at University of Karachi on 30th April, 2007.
- First Class First position in B.Sc. (Hons.) (2003).
- Grant award for research project titled "Quality enhancement of fruit juices using multi-enzyme system", by ORIC Jinnah University for Women, Karachi (2018).
- Grant award for research project titled "Comparison of commercial and indigenously produced enzyme's efficiency in the yield and quality enhancement of apple juice" by ORIC Jinnah University for Women, Karachi (2019-20).
- Invited PhD/MPhil Viva Voce Examiner, University of Karachi and Federal Urdu University.

MEMBERSHIPS

- Mentor in HEC-NAHE Women Empowerment and Mentorship Program (WEMP) (2025).
- Project Reviewer for Annual report of HEC-NRPU (2025, 2024).
- Project Reviewer for Competitive Research Grant of Pakistan Science Foundation (PSF) (2024).
- Member of HEC Reviewer's Committee of Rapid Technology Transfer Grant (RTTG) (2023).
- Member of HEC Reviewer's Committee of NRPU-Projects (2021).
- Member of Directorate of Advance Studies and Research (DASR), Jinnah University for Women, Karachi.
- Member of Board of Faculty in Jinnah University for Women, Karachi.
- Member of Board of Studies in Department of Biochemistry, Jinnah University for Women, Karachi.
- Member of Board of Studies in Department of Biotechnology, Jinnah University for Women, Karachi (from 2013 to 2014).
- Member of Departmental Research Committee (DRC) of Department of Biochemistry, Jinnah University for Women.
- Member of QEC of Jinnah University for Women.
- Member of GAT Paper Setting Committee of Jinnah University for Women.

RESEARCH SUPERVISION

Ph.D. Students

1. **Ms. Shahana Rasheed** (Ongoing)

   Synthesis and Comparative Evaluation of Silver and Silica Nanoparticles for Microbial Pectinase Immobilization.

2. **Ms. Ayesha Siddiqui** (2025) — Co-supervisor
   Isolation, Partial Purification, Characterization and Immobilization of Endoglucanase from *Bacillus* sp. (Department of Biotechnology, University of Karachi)

MS Students

1. **Ms. Sidra Sami** (Ongoing)
   Bioprocess Development for the Concurrent Production of Dextransucrase and Dextran from Novel Bacterial sp.
2. **Ms. Areeba Khaleeq** (2024)
   Enhancing Antibiotic Efficacy: Synergistic Effects of Plant Extracts in Combating Antibiotic Resistance and Uncovering Mechanisms of Action.
3. **Ms. Isma Idrees** (2018)
   Production optimization, partial purification and characterization of protease from newly isolated strain of *Bacillus* sp.

BS Students

Supervised research students for BS Degree of Department of Biochemistry, Jinnah University for Women, Karachi. Topics of research:

#	TOPIC OF RESEARCH	YEAR
1	Biodegradation of Keratin waste using soil bacteria.	2025
2	Bioplastic production from agricultural waste materials.	2024
3	Biodegradation of BTEX Hydrocarbons.	2024
4	Bioethanol production using agricultural wastes.	2024
5	Pectinase enzyme production, partial purification and characterization.	2024
6	Molecular characterization of Polyhydroxybutyrate (bioplastic) producing *Bacillus cereus* ARD-03.	2023
7	Production of Microbial Bioplastic using agricultural waste.	2022
8	Partial purification and characterization of pectinase produced from rhizosphere bacteria.	2019
9	Partial purification and characterization of cellulase produced from *Bacillus* sp.	2019
10	Quality enhancement and yield improvement of apple juice using pectinase immobilized in glutaraldehyde activated gelatin blocks.	2018
11	Immobilization of cellulase in glutaraldehyde activated gelatin blocks and its application in fruit juice industry.	2018
12	Characterization of pectinases from *Bacillus* sp. SP7 isolated from rotten fruit peels.	2017
13	Stability studies of proteases produced from *Bacillus* sp. AI-5.	2017
14	Partial Purification and characterization of amylase from newly isolated strain of *Bacillus*.	2016
15	Hyper-Production and Immobilization of commercially important amylase to be utilized in starch-based industries.	2016
16	Isolation and identification of bacteriocin producing *Lactobacillus* from yogurt.	2014
17	Isolation and characterization of amylase from newly isolated strain of *Bacillus sp.*	2014
18	Characterization of amylase from newly isolated strain of *Bacillus sp.* AY-5 from potato peel waste.	2013
19	Optimization of medium composition and fermentation conditions for amylase production from *Bacillus sp.* AR-1.	2013
20	Production and characterization of α-amylase from a newly isolated strain of *Bacillus licheniformis.*	2012
21	Immobilization and characterization of α-amylase entrapped in Calcium-alginate beads.	2012

#	TOPIC OF RESEARCH	YEAR
22	Immobilization and characterization of α-amylase entrapped in agar-agar.	2012
23	Isolation, production and characterization of α-amylase from a newly isolated strain of *Bacillus licheniformis.*	2011

BOOK CHAPTER PUBLICATION

1. **Microbial-Mediated Plastic Degradation: A Sustainable Pathway to Environmental Health (2025)**
   Book: *One Health in a Changing World: Climate, Disease, Policy, and Innovation*
   Ayisha Aman Ullah, **Aliya Riaz**, Umaiyya Abdali, Ayesha Siddiqui, Syeda Kahkashan Kazmi, Khadeeja Qadeer, Mawa Naeem, Dilawaiz Mehrab Khan and Ayesha Ayub.
   ISBN: 978-969-2201-32-2 | https://doi.org/10.47278/book.HH/2025.170 (cited by 2)

RESEARCH PUBLICATIONS

1. **Microbial-mediated biodegradation of polyethylene terephthalate (PET) by novel marine bacteria: A sustainable approach to bioprocess development.**
   Ayisha Aman Ullah, Khadeeja Qadeer, Sumaira Javaid, Raheela Rahmat Zohra and **Aliya Riaz**
   Journal of Environmental Science and Health, Part A, 1–12. https://doi.org/10.1080/10934529.2026.2741655 (IF: 2.0)
2. **Oxidative Stress and the Association of Superoxide Dismutase with the Level of Hematological and Lipid Biomarkers in Patients with Schizophrenia (2026)**
   Samina Khan, Hira Munir, Afshan Zeeshan Wasti, Marium Mushtaq and **Aliya Riaz**.
   Curr Psychiatr Res Rev., 1–15 (Accepted) (IF: 0.6)
3. **Assessment of peripheral biomarkers and their correlation with oxidative stress index in schizophrenia: an integrated strategy (2026)**
   Zeeshan Wasti, A., Jabeen, F., **Riaz, A.**, Bashir, N., Rasheed, S., Shah, N., ... Gul Memon, A.
   NUST Journal of Natural Sciences, 11(2), 18–31. (HEC Recognized)
   DOI: https://doi.org/10.53992/njns.v11i2.319
4. **Fabrication of immobilized multi-enzyme system in glutaraldehyde activated gelatin blocks targeting the quality and yield of apple juice (2026)**
   Aliya Riaz, Sana Ahmad, Samina Khan, Arishba Riaz Bhutto, Nimra Sabir, Iqra Zafar and Mahnoor Batool
   Int. J. Biol. Biotech., 23(1): 01-12 (HEC Recognized)
   DOI: https://doi.org/10.65014/ijbb.v23i.01
5. **Enhanced Polygalacturonase Biosynthesis: Tailoring Fermentation Conditions Using *Aspergillus niger* FS001 (2025)**
   Samina Khan, Saima Saleem, Abid Azhar, **Aliya Riaz** and Shah Ali Ul Qader
   Int. J. Biol. Biotech., 22(4): 747-755 (HEC Recognized)
6. **Characterization and stability profile of thermostable Alkaline Protease produced from *Bacillus* sp. AI-5. (2025)**
   Aliya Riaz, Isma Idrees, Samina Khan, Sana Ahmad, Shahana Rasheed Qureshi and Shah Ali Ul Qader.
   Int. J. Biol. Biotech., 22(3): 655-666 (HEC Recognized)
7. **Process Engineering for Sustainable Bioplastic Production using *Bacillus cereus* ARD-03 and Agricultural biomass. (2025)**
   Aliya Riaz, Sana Ahmad, Aisha Bibi, Sania Tanvir, Samina Khan, Ayisha Aman Ullah.
   Waste and Biomass Valorization.
   doi.org/10.1007/s12649-025-03083-9 (IF: 2.6) (cited by 1)

8. **Enzymatic disruption of pathogenic biofilms by thermostable Endoglucanase from *Bacillus cereus* ARA-12: Insights for pharmaceutical and industrial use. (2025)**
   Ayesha Siddiqui, Ayisha Aman, Rida-e-Noor Azam, Safia Mukhtar, **Aliya Riaz**, Raheela Rahmat Zohra and Shah Ali Ul Qadar.
   Pak. J. Pharm. Sci., Vol. 38, No. 3, pp. 989-998
   doi.org/10.36721/PJPS.2025.38.3.REG.13954.1 (IF: 0.7) (cited by 1)

9. **Enzymatic hydrolysis of complex agrowaste by *Bacillus cereus* ARA-12: A sustainable approach for biofuel production. (2024)**
   Ayesha Siddiqui, Rashida Rahmat Zohra, **Aliya Riaz**, Anoosha Fatima, Areeba Imtiaz, Mehnaz Ahmed, Raheela Rahmat Zohra.
   NUST Journal of Natural Science, Vol. 9, Issue 1, 2024.
   DOI: https://doi.org/10.53992/njns.v9i1.147 (HEC Recognized) (cited by 1)

10. **Fabrication of 1,4-alpha-D-glucan glucanohydrolase holding Gel-Scaffolds using Agar-Agar, a natural polysaccharide and Polyacrylamide, a synthetic organic polymer for continuous liquefaction of starch. (2023)**
    Aliya Riaz, Sana Ahmad, Ayesha Siddiqui, Farah Jabeen, Farah Tariq, Shah Ali Ul Qader.
    Bioscience Journal, Vol. 39 (2023)
    https://doi.org/10.14393/BJ-v39n0a2023-62426 (Impact factor: 0.469) (cited by 3)

11. **Enhanced Biosynthesis and Purification of Proteases from *Bacillus* sp. AI-5 by SmF: A green approach for degradation of peptide bonds in complex proteins. (2023)**
    Aliya Riaz, Isma Idrees, Ayesha Siddiqui, Sana Ahmad and Shah Ali Ul Qader
    Journal of the Chemical Society of Pakistan. This article will appear in Volume 45, No. 02, April issue, 2023. (Impact factor: 0.698) (cited by 3)

12. **Environmental sustainability assessment of softwood and hardwood seedlings production in forest nurseries: A case study from Pakistan. (2022)**
    A. Yousaf, M. Hussaina, S. Ahmad, **A. Riaz**, S. Shaukat et al.
    Brazilian Journal of Biology, 2022, vol. 84, e260615
    https://doi.org/10.1590/1519-6984.260615 (Impact factor: 0.783) (cited by 13)

13. **Characterization of a lipolytic strain of *Pseudomonas stutzeri* SN-3 and production of triacylglycerol hydrolase with concomitant biodegradation of palm oil. (2022)**
    Sana Ahmad, **Aliya Riaz**, Muhammad Noman Syed
    Rom Biotechnol Lett. 2022; 27(1): 3215-3224
    doi: 10.25083/rbl/27.1/3215-3224 | ISSN print: 1224-5984, ISSN online: 2248-3942 (Impact factor: 0.404) (cited by 1)

14. **In vitro studies of the utilization of industrially important substrates by *Lactobacillus* sp. AAF-1 isolated from coconut water. (2022)**
    Ayesha Siddiqui, Ayesha Aman, Syeda Areej Fatima, **Aliya Riaz**, Rashida Rahmat Zohra and Suad Naheed.
    Pak. j. sci. ind. res. Ser. B: biol. sci., 65B(1): 62-66 (HEC Recognized)

15. **Partial Purification and Characterization of Amylase: An Imperative Carbohydrase for Starch Based Industries. (2020)**
    Aliya Riaz, Rida Gilani, Sana Ahmad, Ayesha Siddiqui.
    Int. J. Biol. Biotech., 17(1): 1-7 (HEC Recognized)

16. **Modification of Process parameters for enhanced lipase induction from *Bacillus* SR1 (2019).**
    Sana Ahmed, **Aliya Riaz**, Hina Abbasi, Reeja Ejaz and Muhammed Noman Syed.
    RADS J. Biol. Res. Appl. Sci., 10(1): 14-17. (HEC Recognized)

17. **Antimicrobial potential of the leaves, branches and peels of some medicinal plants against various pathogenic microorganisms. (2017)**
    Ayesha Siddiqui, Sadia Akbani, Shafaq Zaheer, **Aliya Riaz** and Suad Naheed.
    FUUAST J. Biol., 7(1): 19-22 (HEC Recognized) (cited by 1)

18. **Immobilization of α-amylase in operationally stable calcium-alginate beads: a cost effective technique for enzyme aided industrial processes. (2015)**
Aliya Riaz, Bushra Ansari, Ayesha Siddiqui, Sana Ahmed, Suad Naheed and Shah Ali Ul Qader.
International Journal of Biotechnology Research, 3(5): 081-086 (cited by 10)

19. **Production of amylase from *Bacillus sp.* AY3 using fruit peels as substrate (2015)**
Ayesha Siddiqui, Tuba Salahuddin, **Aliya Riaz**, Raheela Rahmat Zohra and Suad Naheed.
FUUAST J. Biol., 4(2): 213-215 (HEC Recognized) (cited by 11)

20. **Comparison of behavioral effects of selective serotonin reuptake inhibitor, fluoxetine and an herbal antidepressant, St. John's Wort on depression (2011)**
Sadia Saleem, **Aliya Riaz**, Saida Haider, Saima Khaliq and Darakhshan J. Haleem
Pak J. Biochem. Mol. Biol., 44(3): 87-91 (HEC Recognized till 2017)

21. **Immobilization of Proteases from *Bacillus subtilis* KIBGE-HAS using polyacrylamide gel as a support for continuous use (2010)**
Abida Anwar, Shah Ali Qadar, **Aliya Riaz**, Abid Azhar
J. Biotechnol., volume 150, suppl. (1): 343. (IF: 3.595)

22. **Calcium alginate: A support material for immobilization of proteases from newly isolated strain of *Bacillus subtilis* KIBGE-HAS (2009)**
Abida Anwar, Shah Ali Ul Qader, **Aliya Riaz**, Samina Iqbal, Abid Azhar
World Applied Sciences Journal, 7(10): 1281-1286 (cited by 177)

23. **Immobilization of a thermostable α-amylase on calcium alginate beads from *Bacillus subtilis* KIBGE-HAR (2009)**
Aliya Riaz, Shah Ali Ul Qader, Abida Anwar, Samina Iqbal
Australian Journal of Basic and Applied Sciences, 3(3): 2883-2887 (cited by 85)

24. **Production and characterization of thermostable α-amylase from a newly isolated strain of *Bacillus subtilis* KIBGE-HAR (2009)**
Aliya Riaz, Shah Ali Ul Qader, Abida Anwar, Samina Iqbal, Saeeda Bano
The Internet Journal of Microbiology, Volume 6, Number 1 (cited by 13)

25. **Effect of medium composition and incubation time on the production of α-amylase from *B. stearothermophilus* (2007)**
Aliya Riaz, Shah Ali Ul Qader, Abida Anwar, Samina Iqbal, Saeeda Bano
Pak J. Biochem. Mol. Biol., 41: 51-54. (HEC Recognized till 2017)

26. **Effect of medium composition and incubation time on the production of extracellular proteases from newly isolated strain of *Bacillus* sp. AAS-1 (2007)**
Abida Anwar, Shah Ali Ul Qader, **Aliya Riaz**, Samina Iqbal, Zaman Niazi
Pak J. Biochem. Mol. Biol., 40: 1-4. (HEC Recognized till 2017)

CONFERENCE PROCEEDINGS

1. **"Molecular Docking Insights: Unveiling Plant Extracts' Potential to Amplify Antibiotic Efficacy" (2026)**
6th International Conference on Biological Research & Applied Science, held on January 20–22, 2026, Jinnah University for Women, Karachi.
DOI: 10.37962/IBRAS/2026/83-84

2. **Sustainable Bioplastic Manufacturing: Unleashing Microbial Metabolites using Agricultural Wastes (2024)**
4th International Conference on Biological Research & Applied Science, held on January 23–25, 2024, Jinnah University for Women, Karachi.
DOI: 10.37962/IBRAS/2024/65-66

3. **Enhancement of Alpha Amylase Operational Stability via Entrapment in Calcium Alginate Matrix to Aid an Economical Factor in its Industrial Applications (2022)**
Mediterranean International Conference on Research in Applied Sciences, held on 22-24 April 2022 at Antalya, Turkey – Amara Premier Palace.

4. **Development of Lipase and Protease Combination for Effective Cleaning; A Green Solution for Detergent Industry (2022)**
   Mediterranean International Conference on Research in Applied Sciences, held on 22-24 April 2022 at Antalya, Turkey – Amara Premier Palace.
5. **Overproduction of Triacylglycerol Hydrolase by using Agro Industrial Residues As Feedstock (2022)**
   ISPEC 13th International Conference on Engineering & Natural Sciences, held in Burdur, Turkey during March 19-20, 2022.
6. **Multienzyme System as detergent additive to improve cleaning potential (2022)**
   2nd International Conference on Biological Research & Applied Sciences, held on January 11–13, 2022. Organized by Jinnah University for Women, Karachi.
7. **Development of new additive for biodetergent formulation (2019).**
   2nd International Conference of Chemistry and its role in Science (ICCRS-2); Chemistry Today.
   http://doi.org/10.15228/2019.v09.i01-2.p01-154
8. **Screening of plastic degrading bacteria and their potential in bioremediation of plastic waste (2019)**
   Ayesha Siddiqui, Asna Waseem, Ayisha Aman, **Aliya Riaz** and Suad Naheed
   2nd International Conference of Chemistry and its role in Science (ICCRS-2); Chemistry Today.
   http://doi.org/10.15228/2019.v09.i01-2.p01-154

GENE BANK DEPOSITION

1. **Riaz, A.**, Bibi, A., Naz, D., Ahmad, S., Siddiqui, A. and Aman Ullah, A.
   Bacillus cereus strain ARD-03 16S ribosomal RNA gene, partial sequence
   Accession: **PP331371** (2024)
2. Hussain, M., Ali-Ul-Qader, S., Hameed, A., Aman, A., **Riaz, A.**, Iqbal, S., Anwar, A. and Azhar, A.
   Molecular characterization of amylase producing strain of *Bacillus subtilis* KIBGE-HAR.
   Accession number: **EU819144** (2008)
   NCBI nucleotide record
3. Siddiqui, A., Zohra, R.R., Kauser, N., **Riaz, A.** and Zohra, R.R. (2019).
   Bacillus cereus strain ARA-12 16S ribosomal RNA gene, partial sequence.
   Accession No.: **MK775015**

RESEARCH PROJECTS

1. ORIC research project (2019-20) entitled "**Comparison of commercial and indigenously produced enzyme's efficiency in the yield and quality enhancement of apple juice**" by Jinnah University for Women, Karachi.
2. ORIC research project (2018) entitled "**Quality enhancement of fruit juices using multi-enzyme system**", by Jinnah University for Women, Karachi.

CONFERENCES / WORKSHOPS / POSTER COMPETITIONS ORGANIZED

1. Organized 3-day **Industry Readiness Certificate Course** entitled "**Industrial Quality Assurance & Regulatory Laboratory Practices**" in collaboration with AGP Pharma, UM Enterprises and JPMC, Karachi.
   Held on August 22 – September 5, 2026
2. Organized one-day Hands-on Workshop on "**Response Surface Methodology**"
   Held on May 12, 2026, Jinnah University for Women, Karachi.
3. Organized one-day Seminar and Workshop on "**Character Building and Integrity**"
   Held on May 6, 2026, Jinnah University for Women, Karachi.
4. Organized 03-day Conference entitled "**6th International Conference on Biological Research & Applied Sciences**" as Conference Secretary.
   Held on January 20–22, 2026, Jinnah University for Women, Karachi.

5. Organized one-day Hands-on Workshop on "**Practical insights into Gel Electrophoresis: Applications in Proteomics**"
   Held on January 15, 2026, Jinnah University for Women, Karachi.
6. Organized one-day Hands-on Workshop on "**Advanced Laboratory Emergency Response Training (ALERT)**" in collaboration with Pakistan Biosafety Association (PBSA) and Organization for Women in Science for the Developing World (OWSD).
   Held on January 16, 2026, Jinnah University for Women, Karachi.
7. Organized one-day Hands-on Workshop on "**Smart Learning Integrating AI Tools into Biochemistry, Education and Research**" in collaboration with Organization for Women in Science for the Developing World (OWSD).
   Held on September 8, 2025, Jinnah University for Women, Karachi.
8. Organized 02-day Hands-on Workshop on "**Integrative Bioinformatics for Genomics and Proteomics Research**"
   Held on September 24–25, 2025, Jinnah University for Women, Karachi.
9. Organized 04-day Conference entitled "**5th International Conference on Biological Research & Applied Sciences**" as Conference Secretary.
   Held on January 29 – February 1, 2025, Jinnah University for Women, Karachi.
10. Organized one-day Hands-on Workshop on "**Practical Applications of ELISA in Clinical and Research Settings**"
    Held on January 31, 2025, Jinnah University for Women, Karachi.
11. Organized one-day Hands-on Workshop on "**Training Strategies of Biorisk Management in Biological and Applied Research**" in collaboration with Pakistan Biosafety Association (PBSA) and Organization for Women in Science for the Developing World (OWSD).
    Held on January 27, 2025, Jinnah University for Women, Karachi.
12. Organized three-day Hands-on Workshop on "**Basic Techniques in Molecular Biology**"
    Held on May 10–12, 2024, Jinnah University for Women, Karachi.
13. Organized three-day Conference entitled "**4th International Conference on Biological Research & Applied Science**" as Conference Secretary.
    Held on January 23–25, 2024, Jinnah University for Women, Karachi.
14. Organized Hands-on workshop on "**Bioinformatics: Tools and Techniques**" in collaboration with Department of Biotechnology, JUW on 20th January, 2024.
15. Organized 03-Day Certified Training Program entitled "**Research Viz a Viz: The Pharma Industry**" organized by Department of Biochemistry, JUW in collaboration with Ali Gohar Pharmaceuticals and Herbion Pharmaceuticals.
    Session 1 (30.9.2023): Good Manufacturing Practices: Method Development and Validation
    Session 2 (9.10.2023): ICH Guidelines QIA: Stability Testing
    Session 3 (14.10.2023): Q2R1 Method Validation ICH Guidelines
16. Webinar entitled "**Community services, volunteering and social welfare for the betterment of society**".
    Held on June 19, 2023 (Resource Person: Dr. Muhammad Usman, Research Associate, Dow Institute for Advanced Biological and Animal Research, Karachi, Pakistan).
17. Organized three-day Conference entitled "**3rd International Conference on Biological Research & Applied Sciences**" as Conference Secretary.
    Held on January 17–19, 2023, Jinnah University for Women, Karachi.
18. Organized three-day Conference entitled "**2nd International Conference on Biological Research & Applied Sciences**"
    Held on January 11–13, 2022, Department of Biochemistry, Jinnah University for Women, Karachi.
19. Organized Webinar on "**Nutritional and Lifestyle Interventions to manage Non-Communicable Diseases in COVID-19**"
    Held on October 5, 2021, Department of Biochemistry, Jinnah University for Women, Karachi.

20. Organized one-day Workshop on "**Awareness of Biorisk Management for Human Health and the Environment**"
    Held on March 25, 2021, Department of Biochemistry, Jinnah University for Women, Karachi.
21. Organized two-day Conference on "**International Conference on Biological Research & Applied Sciences**"
    Biochemistry Session entitled "Glimpse of Biochemical Practices: Innovation and Impact"
    Held on January 20–21, 2021, Department of Biochemistry, Jinnah University for Women, Karachi.
22. Organized webinar on "**Current research and management of Diabetes and its complication**"
    Held on December 29, 2020, Department of Biochemistry, Jinnah University for Women, Karachi.
23. Organized two-day workshop on "**Analytical Techniques in Life Sciences**"
    Held on October 2–3, 2019, Department of Biochemistry, Jinnah University for Women, Karachi.
24. Organized one-day workshop on "**Laboratory animal handling and study of routes of drug administration**"
    Held on September 3, 2019, Department of Biochemistry, Jinnah University for Women, Karachi.
25. Organized two-day Poster/Model Competition and Research Project writing, entitled "**Biochemistry at a glance in modern era**"
    Held on March 21, 2017, Department of Biochemistry, Jinnah University for Women, Karachi.
26. Organized one-day symposium on "**Biomarkers as Diagnostic tool: Approaches and Challenges**"
    Held on April 09, 2016, Department of Biochemistry, Jinnah University for Women, Karachi.
27. Organized one-day symposium on "**Depression, anxiety and stress: Exploring and management**"
    Held on November 22, 2014, Department of Biochemistry, Jinnah University for Women, Karachi.

PARTICIPATION IN CONFERENCES / WORKSHOPS / POSTER COMPETITIONS

1. Participated and won **3rd Prize** in Poster Presentation titled "From Keratin Waste to Sustainable Value." JUW-ERITA
   Held on January 31, 2026, Jinnah University for Women, Karachi.
2. Participated in Poster Presentation titled "Eco-Friendly Biodegradation of Keratin Waste using Soil Bacteria." 6th International Conference on Biological Research & Applied Sciences.
   Held on January 20, 2026, Jinnah University for Women, Karachi.
3. Participated in Meta's AI-Ready Faculty Pilot Program.
   November 24th – 27th, 2025.
   Meta, designed and executed by atomcamp in close collaboration with NCEAC-HEC.
4. Selected and Participated in 4th Sindh Research and Technology Showcase 2025, held on 22–23 January, 2025 with project entitled "Rebooting Antibiotics: A plant based approach to tackling Multi-Drug Resistance."
5. Participated in Poster Presentation titled "Green Plastic Revolution: Transforming Potato and Rice Starch into Bioplastic." 5th International Conference on Biological Research & Applied Science.
   Held on January 29 – February 1, 2025, Jinnah University for Women, Karachi.
   DOI: 10.37962/IBRAS/2025/118-120
6. Participated in Poster Presentation titled "Isolation, Production and Partial Purification of Pectinase Isolated from *Bacillus* Sp." 5th International Conference on Biological Research & Applied Science.
   Held on January 29 – February 1, 2025, Jinnah University for Women, Karachi.
   DOI: 10.37962/IBRAS/2025/126-127
7. Participated in Poster Presentation titled "Screening of *Pseudomonas* sp. LN-08 Isolated from Soil as Potential Bioremediator of BTEX Hydrocarbons." 5th International Conference on Biological Research & Applied Science.
   Held on January 29 – February 1, 2025, Jinnah University for Women, Karachi.
   DOI: 10.37962/IBRAS/2025/141-142
8. Attended one-day training workshop on OJS, March 07, 2024 at LEJ Digital Library, ICCBS, University of Karachi.

9. Participated in 2nd Sindh-HEC Research and Technology Showcase, 18th – 19th May, 2023 with 2 projects:
    i. Production of Microbial Bioplastic using agricultural waste.
    ii. Production of Pectinase enzyme: An import substitute for industrially important biocatalyst.
10. Participated in Poster presentation titled "Production of biodegradable plastic by polyhydroxybutyrate (PHB) accumulating bacteria using low cost agricultural waste material" in 2nd International Conference on Biological Research & Applied Sciences.
    Held on January 17–19, 2022, Jinnah University for Women, Karachi.
11. Attended USEFP Faculty Development Training Program entitled "Capacity building of Academic Leadership in Research, Teaching and Services".
    Held on 14th June – 31st August, 2022
    Organized by Kohat University of Science and Technology
12. Participated in Three-day certified training on "Molecular Biology Techniques".
    Held on March 21–24, 2022
    Organized by Bahria University, Karachi Campus
13. Attended seminar on "Quality Assurance in Higher Education", on May 21, 2022.
    Organized by QEC-Jinnah University for Women, Karachi
14. Attended Two-day online workshop on "Promoting research excellence academics across Pakistan".
    Held on February 1 & 2, 2022
    Organized by HEC Pakistan, Elsevier Researcher Academy
15. Attended Five-Day Workshop on "Innovation Led Knowledge Management".
    Held on October 22–28, 2020.
    Organized by ORIC, Jinnah University for Women in collaboration with Asian Productivity Organization (APO), Japan, and The National Productivity Organization (NPO), Ministry of Industries & Production, Pakistan.
16. Attended two-day workshop on "Patenting and Commercializing Technology".
    Held on March 18–19, 2019
    Organized by ORIC, Jinnah University for Women, Karachi.
17. Participated in Poster and Model Presentation entitled "Quality enhancement of fruit juices using multi-enzyme system".
18. Two-day poster and model competition: 3rd Invention to Innovation Summit-Sindh 2018.
    Held on 19th–20th December, 2018, University of Karachi
    Participated in Poster Presentation entitled "Generation of Biofuel: A green approach for alternative energy source".
19. Attended Faculty development program on "Implementing Entrepreneurship in Education".
    At Jinnah University for Women on 2nd July, 2018
    Organized by Department of Economics and JUBIC.
20. Attended one-day workshop on "Effective research proposal writing and budgeting".
    Held on February 02, 2017
    Organized by ORIC, Jinnah University for Women, Karachi.
21. Attended three-day workshop on "Analytical techniques in Chemistry".
    Held on September 11, 2014
    Organized by Jinnah University for Women in collaboration with University of Karachi.
22. Attended one-day workshop on "Laboratory Biosafety, Biosecurity and risk management".
    Held on February 16, 2013
    Organized by Essa's Lab and Diagnostic Centre, Karachi
23. Attended Presymposium workshop on "Advance Immunoassay (3rd generation) ECL – Technology".
    Held on February 23, 2012
    Organized by Liaquat National Hospital and Medical College, Karachi