

Address: 235 B2, PnD 1, Lahore
Phone #: 0302-4950052
E-Mail: soumblen.sbs@pu.edu.pk; soumblen@gmail.com

Dr. Soumble Zulfiqar

Personal Information

Citizenship: Pakistani
Birth: 24th Feb. 1976, Lahore (Pakistan)
CNIC #: 35202- 2681639-0

Education

2012 **Ph.D. (Biological Sciences)**
School of Biological Sciences, University of The Punjab, Lahore
“Molecular analysis of gene responsible for copper resistance in bacteria isolated from industrial effluents”.

2000 **M.Sc. Zoology (1st Div.)**
Zoology Department, University of The Punjab, Lahore
“Effect of synthetic pyrethroid (Fury) on esterases of different strains of *Rhyzopertha dominica*”.

1996 **B.Sc. (1st Div.)**
Govt. College for Women, Samanabad, Lahore

1993 **F.Sc. (1st Div.)**
Govt. College for Women, Samanabad, Lahore

1991 **Matriculation (1st Div.)**
Govt. Girls Higher Secondary School, Samanabad, Lahore

Current Position

March 2018 **Assistant Professor (Animal Sciences)**, School of Biological Sciences,
- to date University of The Punjab, Lahore

Professional Experience

Aug. 2012- **Post-Doctoral Fellow**, School of Biological Sciences, University of The
March 2018 Punjab, Lahore
Project: Regulation of copper metallothionein in *Klebsiella pneumoniae*

Jan., 2018 **Focal person, Molecular Biology lab** for Ph.D., King Edward Medical
University, Lahore

Oct. 2015 **Assistant Professor (visiting)**, Faculty of Life Sciences, University of
- July 2016 Central Punjab, Lahore

Sep.-Nov., **Focal person, Molecular Biology lab** for Ph.D., King Edward Medical
2016 University, Lahore

May-Aug, **Research Officer**, School of Biological Sciences, University of The Punjab,
2012 Lahore

2002 – 03 **Subject specialist (Science)**, City Cadet School, Al-Mumtaz road, Off
Multan road, Lahore

Literary Composition

- **Co-editor, Urdu Science Encyclopedia** published by Urdu Science Board,
Ministry of Education, Govt. of Pakistan. ISBN: 969-477 117-X

Research Experience

Aug 2012- March 2018	Post Doc. Fellow	Cell and Molecular Biology	School of Biological Sciences, University of The Punjab, Lahore
June – July 2012	Research officer	Cell and Molecular Biology	School of Biological Sciences, University of The Punjab, Lahore
2004 – 2012	Ph.D.	Biological Sciences	School of Biological Sciences, University of The Punjab, Lahore
1998 – 1999	M.Sc.	Molecular Biology	Department of Zoology, University of The Punjab, Lahore

Research Expertise

- **Microbiology techniques**
 - Establishment of aseptic conditions for bacterial growth
 - Sampling microbes from different types of environment
 - Growing bacteria aerobically and an-aerobically
 - Microbial behavior under different stress conditions
- **Molecular biology techniques**
 - Isolation of genomic DNA and RNA, Isolation of metagenomic DNA, Amplification of desired fragment of DNA, Gene Cloning
 - Quantitative real time PCR
 - Restriction Fragment Length Polymorphism
 - expression and purification of recombinant Protein
 - Enzyme Immunoassays
- **Microbiome analysis**
- **Atomic absorption spectrometry**
- **Animal modeling**
- **Bioinformatics**
 - **Comparative analysis:** Genome study, Primer designing, Sequence BLAST, Multiple alignment, Determination of phylogenetic relationship
 - **Structural analysis:** Prediction and analysis of Secondary structure, Tertiary structure, motifs and domains of protein, molecular docking

Area of Research Interest

My area of research interest has been to explore best possible metal resistant microbes and investigate metal resistance mechanisms in them. Cloning, promoter activity and transcriptional profiling of some metal responsive genes have revealed many structural and functional aspects. The application of this research is quite diverse such as development of industrial waste management systems. This study can also lead to development of bioreporters for biomining industry.

I am also utilizing my expertise in the field of bio medical sciences. Role of butyrate (a post biotic compound) in cellular energy metabolism and proliferation has been evaluated in some of murine organs. A project 'Prevention of NSAID-induced enteropathy through dietary intervention' is in progress.

PU-Funded Projects Completed

- Characterization of microbiome from heavy metal rich industrial effluents of Lahore based industrial areas through next generation sequencing
- Study of Microbiome in Chromium Rich Industrial Effluents and Discovery of Novel Bacteria for Bioremediation
- Characterization of Bioremediation Potential of Bacteria isolated from cadmium rich industrial effluents

Other Projects Completed

- Regulation of copper metallothionein in *Klebsiella pneumoniae*
- Molecular Characterization of silver resistance in *Klebsiella pneumoniae*
- Protein Engineering of Cadmium Metallothionein PMCD1 of *Paramecium* sp.
- Identification and molecular characterization of metal resistant gene(s) of ciliates from local industrial wastewater
- Effect of Butyrate on Genetic Expression of Sirt1/AMPK and Akt/mTOR Axes in mice

Projects Undergoing

- Identification and bioremediation characterization of novel cadmium tolerant bacteria through next generation genomics
- Prevention of NSAID-induced enteropathy through dietary intervention

Research Supervision/co-supervision

- **PhD student currently under supervision: 03**
 - Sadia Mushtaq (Ph.D-BS07F20) Identification and Bioremediation Characterization of Novel Cadmium Tolerant Bacteria Through Next Generation Genomics
 - Huzaifa Farooq (Ph.D-13F22) Evaluation of the preventive efficacy of dietary interventions against NSAID-induced enteropathy in mouse model
 - Salman Ali Khan (Ph.D-05S025)
- **MPhil degrees Supervised: 12**
 - Shagufta Zaheer (MPhil-BS14F17) "Effect of Butyrate on Gene Expression of Sirt1/AMPK and Akt/mTOR Axes in Murine Liver"
 - Shabhat Khan (MPhil-BS16F17) "Effect of Butyrate on Gene Expression of Sirt1/AMPK and Akt/ mTOR Axes in Murine Skeletal Muscle"
 - Iqra Shahid (MPhil-BS20F18) "Effect of Butyrate on Gene Expression of Sirt1 and AMPK - Involved in Nutrient Sensing and Energy Homeostasis - in Murine Brain"
 - Sadia Mushtaq (MPhil-BS17F18) "Effect of Butyrate on Gene Expression of Akt and mTOR-Involved in Regulation of Cellular Proliferation - in Murine Brain"
 - Samrana Inayat (MPhil-BS08F19) "Effect of Butyrate on Expression of Genes Associated With Oxidative Stress in Murine Brain"
 - Hira Kiran (MPhil-BS16F19) "Effect of Butyrate on Expression of Genes Associated With Physiological Stress in Murine Skeletal Muscle"
 - Hajra Bibi (MPhil-BS07F20) "Efficacy of Soluble Dietary Fiber Guar Gum for the Treatment of Enteric Ulcer in Mouse Model"

- Aiman Sahar (M.Phil-BS10F21) “Efficacy of *Fructus Hordie Germinatus* for the Prevention of Indomethacin Induced Enteric Ulcer in Mice”
- Aimen Karim (M.Phil-BS15F21) “Preventive Efficacy of *Plantago Ovata* Husk Against Indomethacin Induced Enteric Ulcer in Mice”
- Rabbia Jawad M.Phil-21F22 “Mitigation of NSAID-induced small intestinal damage in a mouse model using psyllium husk”
- Naila Farooq (M.Phil-22F22) “Mitigation of NSAID-induced small intestinal damage in a mouse model using moringa leaf powder”
- Muhammad Faizan (M.Phil-22F23) “Protective Efficacy of Moringa and Psyllium Against NSAID-Induced Enteropathy”
- **MPhil degrees co-supervised: 04**
 - Qudsia Mahmood Khan, 2020S-mulmpl-bioche-006 (2022). Isolation and Characterization of Chromium Resistant Microbes from Tannery Wastewater. School of Biochemistry, Minhaj University, Lahore.
 - Maria Haq Nawaz, W20-MPBC-005 (2023). “Biochemical and Molecular Characterization of Probiotic Bacteria.” Department of Biochemistry Kinnaird College for Women, Lahore.
 - Saba Akram, (MU 2021-23). Efficacy of *Ficus Carica* (fruit) Extract in Joint Inflammation by Measuring Expression of Il-10 and Dityrosine (Inflammatory Biomarkers) in Mice Mode
 - Muhammad Subhan, (MU 2022-24). Evaluation Anti-inflammatory Activity of *Ficus Carica* by the Expression of Cox-1 and Cox-2 Gene Using Mice Model
- **MPhil students currently under supervision: 02**
 - Salika (M.Phil-17F24)
 - Aasma Sharif (M.Phil-22F24)
- **MPhil students currently under co-supervision: 01**
 - Zunaira Javaid (F24MPBC013)

Scholarship/Award/Honour

- Approved PhD Supervisor by Higher Education Commission of Pakistan.
- **Co-chairperson** of a Session - Cell and Molecular Biology, Physiology, Genetics – 43rd Pakistan Congress of Zoology (International) June 23-25, 2025. Department of Zoology, University of Okara, Okara
- **Co-chairperson** of a Session - Cell and Molecular Biology, Physiology, Genetics – 42nd Pakistan Congress of Zoology (International) April 23-25, 2024. Institute of Zoology, University of Azad Jammu & Kashmir, Muzaffarabad
- **Co-chairperson** of a Session - Cell and Molecular Biology, Physiology, Genetics – 41st Pakistan Congress of Zoology (International) March 19-18, 2023. Institute of Zoology, University of the Punjab, Lahore
- **Plenary lecture**, Two-day Workshop on Gene Cloning, Aug. 25-26, 2022. Department of Zoology, Govt. College University, Lahore.
- **Coordinator** during Academic Sessions and Chairperson of a Session - Cell Biology, Molecular Biology, Physiology, Biochemistry, Genetics and Toxicology – First Virtual

Pakistan Congress of Zoology [40th Pakistan Congress of Zoology (International)] Dec. 14, 17-19, 2021. Sindh Agriculture University, Tandojam.

- **Chairperson** of a Session - Cell and Molecular Biology, Physiology, Genetics - 39th Pakistan Congress of Zoology (International) March 4-6, 2019. Department of Zoology, Islamia College University, Peshawar
- **Co-chairperson** of a Session - Cell and Molecular Biology, Physiology, Genetics - 38th Pakistan Congress of Zoology (International) Feb. 27 – March 1, 2018. University of The Punjab, Lahore
- **Co-chairperson** of a Session - Cell and Molecular Biology, Physiology, Genetics - 37th Pakistan Congress of Zoology (International) Feb. 28 – March 2, 2017. GC University, Faisalabad
- **Co-chairperson** of a Session - Cell and Molecular Biology, Physiology, Genetics - 36th Pakistan Congress of Zoology (International). Feb. 16-18, 2016. Department of Zoology, University of Sindh, Jamshoro
- **Co-chairperson** of a Session - Cell and Molecular Biology, Physiology, Genetics - 35th Pakistan Congress of Zoology (International). March 1-4, 2015. Centre of Excellence in Marine Biology, University of Karachi, Karachi
- **Co-chairperson** of a Session - Cell and Molecular Biology, Physiology, Genetics - 34th Pakistan Congress of Zoology (International). Feb. 25-27, 2014. Bahauddin Zakariya University, Multan
- **Indigenous scholarship for Ph.D.** program (2004-2009). School of Biological Sciences, University of The Punjab, Lahore
- **President Talent Farming Scheme Scholarship** during M.Sc. under the auspices of University Grants Commission (1998)
- **Certificate of honor** obtained in Teacher's Training Workshop (2002) under the auspices of City Cadet School, Al-Mumtaz road, Off Multan road, Lahore

Congresses/Symposia/workshop Organized

- **Organizer**, National Workshop on Recombinant DNA technology, April 28-May 02, 2025. School of Biological sciences, University of The Punjab, Lahore
- **Organizer**, Hands On Training Recombinant DNA Technology and its applications – 2024 (March 4-7, 2024). School of Biological sciences, University of The Punjab, Lahore
- **Organizer**. 41st Pakistan Congress of Zoology (International) March 19-18, 2023. Institute of Zoology, University of the Punjab, Lahore
- **Coordinator**, First Virtual Pakistan Congress of Zoology [40th Pakistan Congress of Zoology (International)] Dec. 14, 17-19, 2021. Sindh Agriculture University, Tandojam.
- **Instructor**, National Workshop on Recombinant DNA technology, April 8-13, 2019. School of Biological sciences, University of The Punjab, Lahore
- **Instructor**, National Workshop on Production & Purification of Recombinant Proteins, Nov. 12-17, 2018. School of Biological sciences, University of The Punjab, Lahore
- **Instructor**, National Workshop on Recombinant DNA technology, April 2-7, 2018. School of Biological sciences, University of The Punjab, Lahore
- **Organizer**. National Workshop on Recombinant Protein Production & Purification, Nov. 6-11, 2017. School of Biological sciences, University of The Punjab, Lahore

- **Organizer.** National Workshop on Recombinant DNA technology, March 3-8, 2017. School of Biological sciences, University of The Punjab, Lahore
- **Member, organizing committee & instructor,** Second National Workshop on Recombinant DNA technology, April 25-30, 2016. School of Biological sciences, University of The Punjab, Lahore
- **Member, organizing committee & instructor,** First National Workshop on Recombinant DNA technology, April 22-29, 2013. School of Biological sciences, University of The Punjab, Lahore
- **Member, organizing committee,** International symposium on glycoproteins in health and diseases, May 27-29, 2008. School of Biological sciences, University of The Punjab, Lahore
- **Member, organizing committee,** International symposium on Nanochemistry of enzymes. Sep. 20-21, 2006. School of Biological sciences, University of The Punjab, Lahore

Conferences/Symposia/Workshops attended

- **Oral presentation.** 43rd Pakistan Congress of Zoology (International) June 23-25, 2025. Department of Zoology, University of Okara, Okara
- **Oral presentation.** 15th Biennial International Conference. Trends in Molecular Sciences. April 14-17, 2025. Pakistan Society for Biochemistry and Molecular Biology, University of the Punjab
- **Participation.** Hands on Training on Patent Claims Drafting. Dec. 18, 2024. Office of Research Innovation & Commercialization (ORIC), University of the Punjab, Lahore
- **Oral presentation.** 42nd Pakistan Congress of Zoology (International) April 23-25, 2024. Institute of Zoology, University of Azad Jammu & Kashmir, Muzaffarabad
- **Participation.** International Conference on Current Trends, Prospects & Opportunities in Vaccine Research. Feb. 28-29, 2024. Centre of Excellence in Molecular Biology, University of the Punjab, Lahore
- 41st Pakistan Congress of Zoology (International) March 16-18, 2023. Institute of Zoology, University of the Punjab, Lahore
- **Participation.** International Conference on Advances in Biological Sciences (ICABS-2023) March 6-8, 2023. School of Biological Sciences, University of the Punjab, Lahore
- **Participation.** International Conference on Trends and Challenges in Health Sciences, March 1, 2, 2023. Centre of Excellence in Molecular Biology, University of the Punjab, Lahore
- **Participation.** SPSS Hands On: Sampling and Statistical Analysis Skills for Researchers. Aug. 23-27, 2021. College of Statistical & Actuarial Sciences, University of the Punjab, Lahore.
- First Virtual Pakistan Congress of Zoology [40th Pakistan Congress of Zoology (International)] Dec. 14, 17-19, 2021. Sindh Agriculture University, Tandojam.
- **Oral presentation.** International Conference of Punjab University 2019 "Recent Innovations in Molecular Sciences". Nov. 6-8, 2019. University of the Punjab, Lahore
- **Oral presentation.** 39th Pakistan Congress of Zoology (International) March 4-6, 2019. Department of Zoology, Islamia College University, Peshawar
- 38th Pakistan Congress of Zoology (International) Feb. 27 – March 1, 2018. University of The Punjab, Lahore

- Child Abuse Awareness Seminar, Feb, 17, 2018. The Shakoorian Society of Biomedical Researchers. Children Library Complex, Shahrah Aiwan e Sannat O Tijarat, Lahore
- 37th Pakistan Congress of Zoology (International). Feb. 28 – March 2, 2017. GC University, Faisalabad
- **Participation.** Workshop on Western Blotting, March, 24, 2016. Tumor Metabolism Group, Department of Microbiology and Molecular Genetic, University of The Punjab, Lahore.
- **Participation.** Workshop on NGS data analysis. March 3-4, 2016. COMSATS Institute of Information Technology (CIIT) Islamabad, Pakistan.
- **Oral presentation.** 36th Pakistan Congress of Zoology (International). Feb. 16-18, 2016. Department of Zoology, University of Sindh, Jamshoro
- **Oral presentation.** 35th Pakistan Congress of Zoology (International). March 1-4, 2015. Centre of Excellence in Marine Biology, University of Karachi, Karachi
- **Oral presentation.** 34th Pakistan Congress of Zoology (International). Feb. 25-27, 2014. Bahauddin Zakariya University, Multan
- **Participation.** Hands on experience workshop on Enzyme Immunoassays. Dec. 10-12, 2013. National health Research Complex at Shaikh Zayed Medical Complex, Lahore
- **Participation.** Molecular Biosciences- Challenges and Opportunities (11th Biennial Conference by Pakistan Society for Biochemistry and Molecular Biology). Nov. 25-28, 2013. University of The Punjab, Lahore
- **Oral presentation.** 32nd Pakistan Congress of Zoology (International). March 6-8, 2012. Govt. College University, Lahore
- **Oral presentation.** 30th Pakistan Congress of Zoology (International). March 2-4, 2010. University of Agriculture, Faisalabad
- **Oral presentation.** 29th Pakistan Congress of Zoology (International). Feb. 24-26, 2009. University of Sindh, Jamshoro
- **Oral presentation.** 28th Pakistan Congress of Zoology (International). March 18-20, 2008. Govt. College University, Faisalabad
- **Oral presentation.** 27th Pakistan Congress of Zoology (International). Feb. 27- March 1, 2007. Bahauddin Zakriya University, Multan
- **Oral presentation.** 26th Pakistan Congress of Zoology (International). April 4-6, 2006, University of The Punjab, Lahore
- **Oral presentation.** 25th Pakistan Congress of Zoology. March 17-19, 2005. Agriculture University, Tandujam
- Teachers training Workshop August 1-10, 2002. City Cadet School, Al-Mumtaz road, Off Multan road, Lahore
- 20th Pakistan Congress of Zoology. March 28-30, 2000. University of Sindh, Jamshoro
- 19th Pakistan Congress of Zoology. April 19-21, 1999. NARC (PARC), Islamabad
- 18th Pakistan Congress of Zoology. April 20-22, 1998, University of The Punjab, Lahore

National and International Publications (Impact Factor 31.468) (Citations 300)

1. Nizam H, Imtiaz A, Tasneem F, Shakoori FR, Zulfiqar S, Younas A, Mustafa S, Ghaus A, Zafar A, Nazir A, Sajjad M, Shakoori AR., 2025. Enhanced cadmium binding ability in response to novel modifications in a Paramecium cadmium metallothionein PMCd1. *PLoS One*, **20(5)**: e0324322 (Impact Factor 2.6)

2. Mohsin, A., Naeem, S., Zahoor, A., Kusar, A., **Zulfiqar, S.**, Tayyab, A., Aziz, T., Hassan, A., Bhatti, M. H., Shahid, R.N., Tariq, N., Ali, F., 2025. Enhancement of Antibacterial Properties and Biocompatibility of Al-based Quasicrystals through Silver Incorporation. *JMR*, **40**:477–489 (Impact Factor 2.9)
3. **Zulfiqar, S.** and Shakoori, A. R., 2024. Molecular Analysis of the CusA Transporter Involved in Copper Resistance in Prokaryotes: Cloning, Phylogenetics, and Structural Modeling. *JBES*, **01(2)**: 78-93.
4. Imran, M., Shakoori, F.R., **Zulfiqar, S.**, Khan, A.T-A. and Shakoori, A.R, 2024. Copper Stress-Induced Transcriptional Regulatory Protein CusR also Regulates Silver Efflux in *Klebsiella pneumoniae* KW. *Pak. J. Zool.*, DOI: <https://dx.doi.org/10.17582/journal.pjz/20240102190224> (Impact Factor 0.6) (1 citation)
5. **Zulfiqar, S.** and Shakoori, A. R., 2024. Molecular Analysis of the Two-Component CusS/CusR Regulon for Copper Resistance: Cloning, Phylogenetics, and Structural Modeling. *Proc. Pak. Congr. Zool.*, **42**: 65-74
6. Saeed, H., **Zulfiqar, S.**, Khan, A.T-A. and Shakoori, A.R., 2023. Molecular Characterization of Znt Regulon for Multi-Metal Resistance in *Klebsiella pneumoniae* KW. *Pak. J. Zool.*, **56(1)**: 103-113 (Impact Factor 0.831)
7. Elahi, A., Rehman, A., Hussain, S.Z., **Zulfiqar, S.** and Shakoori, A.R., 2022. Isolation and characterization of a highly effective bacterium *Bacillus cereus* b-525k for hexavalent chromium detoxification. *Saudi J. Biol. Sci.*, **29**:2878-2885 (Impact Factor 4.219) (35 citations)
8. Al-Aqmer, N.H.H., Aamir, Z., Hanif, M.F., **Zulfiqar, S.**, Zulfiqar, S., Izhar, M., Shakoori, A.R., 2022. Apal VDR Polymorphism as a Risk Factor of Treatment Failure in Chronic Hepatitis C Patients. *Pak. J. Zool.*, **54(5)**: 2055-2060 (Impact Factor 0.831) (1 citation)
9. Al-Aqmer, N.H.H., **Zulfiqar, S.**, Zulfiqar, S., Shakoori, A.R., Izhar, M., 2021. FOKI Vitamin D Receptor Polymorphism as a Predictor of Response to Hepatitis C Antiviral Treatment. *Pak. J. Physiol.*, **17(3)**: 3-6 (Impact Factor) (1 citation)
10. Imran, M., **Zulfiqar, S.**, Saeed, H. and Shakoori, F.R., 2021. Multi Metal Resistant *Klebsiella pneumoniae* KW is an Efficient Copper Accumulator and Bioremediator of Industrial Waste Water. *Pak. J. Zool.*, **53(6)**: 2175-2182 (Impact Factor 0.831) (4 citations)
11. Zahoor, A., Aziz, T., **Zulfiqar, S.**, Sadiq, A., Ali, R., Shahid, R.N., Tariq, N.H., Shah, A., Shehzad, K., Ali, F. and Awais, H.B., 2020. Antimicrobial behavior of leached Al-Cu-Fe based quasicrystals. *J. App. Phy. A: Mater. Sci. Process.*, Ms. No. APYA-D-20-00279R1 (Impact Factor 1.784) (7 citations)
12. Afshan, G., **Zulifqar, S.**, Mehboob, S., Khan, M. T. J. and Shakoori, A. R., 2019. Production of antibodies against hepatitis C virus envelope glycoprotein E2- A potential vaccine against HCV infection. *Pak. J. Zool.*, **51(6)**: 2311-2322 (Impact Factor 0.790) (2 citations)
13. **Zulfiqar, S.**, Shehzad, K., Tahir, S., and Shakoori, A. R., 2019. Dual role of multicopper oxidase of *Klebsiella pneumoniae* as a copper homeostatic element and a novel alkaline laccase with potential application in green chemistry. *Pak. J. Zool.*, **51(1)**: 107-115. (Impact Factor 0.790) (5 citations)
14. Adalat, R., Saleem, F., Bashir, A., Ahmad, M., **Zulfiqar, S.**, Shakoori, A. R., 2019. Multiple upstream start codons (AUG) in 5' untranslated region enhance translation efficiency of cry2Ac11 without helper protein. *J. Cell. Biochem.*, **120(2)**: 2236-2250 (Impact Factor 3.448) (2 citations)

15. Zahid, M. T., Shakoori, F. R., **Zulfiqar, S.**, Al-Ghanim, K. A., Shakoori, A. R., 2018. Growth characteristics, metal uptake and expression analysis of copper metallothionein in a newly reported ciliate, *Tetrahymena farahensis*. *Pak. J. Zool.*, **50(3)**: 1171-1181 (Impact Factor 0.790) (12 citations)
16. Shakoori, T. A., **Zulfiqar, S.**, Khawaja, K. I. and Masud, F., 2018. Effect of Butyrate on Genetic Expression of Sirt1/AMPK and Akt/mTOR Axes in Murine Adipose Tissue. *Pak. J. Zool.*, **50(2)**: 515-522 (Impact Factor 0.790) (1 citation)
17. Khan, Z., Rehman, A., Hussain, S. Z., Nisar, M. N., **Zulfiqar, S.** and Shakoori, A. R., 2016. Cadmium resistance and uptake by bacterium, *Salmonella enterica* 43C, isolated from industrial effluent. *AMB Express*, **6**:54-69 (Impact Factor 1.825) (115 citations)
18. Zahid, M. T., Shakoori, F. R., **Zulfiqar, S.**, Ahmed, I., Al-Ghanim, K., Mehboob, S. and Shakoori, A. R., 2016. Molecular Characterization of a Copper Metallothionein Gene from a Ciliate *Tetrahymena farahensis*. *J. Cell. Biochem.*, **117(8)**:1843-1854 (Impact Factor 3.085) (11 citations)
19. Khan, Z., Hussain, S. Z., Rehman, A., **Zulfiqar, S.** and Shakoori, A. R., 2015. Evaluation of cadmium resistant bacterium, *Klebsiella pneumoniae*, isolated from industrial wastewater for its potential Use to bioremediate environmental cadmium. *Pak. J. Zool.*, **47(6)**: 1533-1543 (Impact Factor 0.478) (38 citations)
20. Zahid, M. T., Shakoori, F. R., **Zulfiqar, S.**, Jahan, N. and Shakoori, A. R., 2014. A New Ciliate Species, *Tetrahymena farahensis*, isolated from the industrial wastewater and its phylogenetic relationship with other members of the genus *Tetrahymena*. *Pak. J. Zool.* **46(5)**: 1433-1445 (Impact Factor 0.404) (15 citations)
21. **Zulfiqar, S.** and Shakoori, A. R., 2012. Molecular characterization, metal uptake and copper induced transcriptional activation of efflux determinants in copper resistant isolates of *Klebsiella pneumoniae*. *Gene*, **510**: 32-38 (Impact Factor 2.196) (29 citations)
22. Zahid, N., **Zulfiqar, S.** and Shakoori, A. R., 2012. Functional analysis of *cus* operon promoter of *Klebsiella pneumoniae* using *E. coli lacZ* assay. *Gene*, **495**: 81-88 (Impact Factor 2.196) (16 citations)
23. Shakoori, A. R., Ismail, S., **Zulfiqar, S.** and Mujeeb, K. A., 2004. Effect of α -cypermethrin on esterases of 6th instar larvae and 10 days old adults of three different strains of *Tribolium castaneum*. *Pak. J. Zool.*, **36(3)**: 173–188 (Impact Factor 0.08) (5 citations)

Conference/symposium presentations/publications

- Farooq, N., Jawad, R. and **Zulfiqar, S.** “Mitigation of NSAID-Induced Small Intestinal Damage in A Mouse Model Using Moringa Leaf Powder”. 43rd Pakistan Congress of Zoology (International) June 23-25, 2025. Department of Zoology, University of Okara, Okara
- Saeed, H. and **Zulfiqar, S.** Abeerha Tu-Allah Khan and Abdul Rauf Shakoori “Molecular Characterization of Znt Regulon For Multi-Metal Resistance in *Klebsiella Pneumoniae*” 43rd Pakistan Congress of Zoology (International) June 23-25, 2025. Department of Zoology, University of Okara, Okara
- Jawad, R., Farooq, N. and **Zulfiqar, S.** “Mitigation of NSAID-induced enteropathy through dietary Psyllium husk supplementation in a mouse model” 15th Biennial International Conference. Trends in Molecular Sciences. April 14-17, 2025. Pakistan Society for Biochemistry and Molecular Biology, University of the Punjab

- **Zulfiqar, S.**, Karim, A. Sahar, A. "Preventative Efficacy of Soluble Dietary Fibers against NSAID-Induced Enteric Injury In Mouse Model" 42nd Pakistan Congress of Zoology (International) April 23-25, 2024. Institute of Zoology, University of Azad Jammu & Kashmir, Muzaffarabad
- Shahid, I., Mushtaq, S., **Zulfiqar, S.** "Assessment of Microbiome in Industrial Wastewater and Isolation of Chromium-Resistant Bacteria" 41st Pakistan Congress of Zoology (International) March 16-18, 2023 Institute of Zoology, University of the Punjab
- Mushtaq, S., Shahid, I., **Zulfiqar, S.** "Study Of Microbial Community In Industrial Wastewater And Isolation Of Cadmium Resistant Bacteria" 41st Pakistan Congress of Zoology (International) March 16-18, 2023 Institute of Zoology, University of the Punjab
- Mushtaq, S., Shahid, I., Farhan Ul Haque, M., **Zulfiqar, S.** "Comparative Analysis of Methods For Metagenomic DNA Isolation From Industrial Effluents and Analysis of Microbiome by Next Generation Sequencing" International Conference on Advances in Biological Sciences (ICABS-2023) March 6-8, 2023. School of Biological Sciences, University of the Punjab, Lahore
- Bibi, H., Sahar, A., Shahid, I., Mushtaq, S. Tayyab, A., **Zulfiqar, S.** "Efficacy of soluble dietary fiber guar gum for the treatment of enteric ulcer in mouse model" International Conference on Trends and Challenges in Health Sciences, March 1, 2, 2023. Centre of Excellence in Molecular Biology, University of the Punjab, Lahore (Poster)
- Plenary lecture "Cloning mechanism and its importance" in "Two day Workshop on Gene Cloning" 25-26. 08.2022. Govt. College University, Lahore
- Mushtaq, S., **Zulfiqar, S.** and Shakoori, T. "Effect of butyrate on gene expression of akt and mtor-involved in regulation of cellular proliferation-in murine brain". First Virtual Pakistan Congress of Zoology [40th Pakistan Congress of Zoology (International)] Dec. 14, 17-19, 2021. Sindh Agriculture University, Tandojam.
- Shahid I., Mushtaq, S., Shakoori, T. and **Zulfiqar, S.** "Effect of butyrate on gene expression of sirt1 and ampk - involved in nutrient sensing and energy homeostasis - in murine brain". First Virtual Pakistan Congress of Zoology [40th Pakistan Congress of Zoology (International)] Dec. 14, 17-19, 2021. Sindh Agriculture University, Tandojam.
- **Zulfiqar, S.**, Zaheer, S. and Shakoori, T.A. "Sodium butyrate- a potential anti-cancer drug via decreased expression of mTOR and Sirt1." International Conference of Punjab University 2019 "Recent Innovations in Molecular Sciences". Nov. 6-8, 2019
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Advisory and administrative services

- Member, Board of Faculty of Life Sciences, University of the Punjab, Lahore
- Member, Doctoral Program Committee, School of Biological Sciences, University of the Punjab
- Member, Technical Committee, School of Biological Sciences, University of the Punjab
- Member, Admission Committee, School of Biological Sciences, University of the Punjab
- Member, (subject expert of Molecular Biology), Board of Faculty in Allied Health Sciences, Minhaj University Lahore.
- Member, (subject expert), Departmental Doctoral Program Committee (DDPC), Department of Zoology, The Women University, Multan.

External Examiner (BS & MS/MPhil theses)

- Minhaj University, Lahore
- University of Central Punjab, Lahore
- Forman Christian College, University, Lahore
- University of Swabi, Swabi
- Govt. College University, Lahore

External Paper Setter & Examiner

- Comprehensive Exam, M. Phil Biochemistry. School of Biochemistry, Minhaj University, Lahore

Reviewer

- Pakistan Journal of Zoology
- Biology Letters
- Advancements in Life Sciences
- Proceedings S.Z.M.C

Professional Membership

- Life fellow of Zoological Society of Pakistan

Languages

- English • Urdu • Punjabi

References

- Prof. Dr. A. R. Shakoori,
School of Biological Sciences, University of The Punjab, Lahore
Phone 92-42-99230133 Fax 92-42-99230980
Email arshaksbs@yahoo.com; arshakoori.sbs@pu.edu.pk

- Prof. Dr. Javed Iqbal,
School of Biological Sciences, University of The Punjab, Lahore
Phone 92-42-99230966 Fax 92-42-99230980
Email javediqbal1942@yahoo.com