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**Present Address:**

Department of Microbiology, Faculty of Life Sciences, University of Balochistan Quetta, 87300, Pakistan.



## Dr. Ali Akbar

### HEC Approved Supervisor

**Research Areas** Food Microbiology / Biotechnology, Environmental Microbiology, Nano-Biotechnology, Bioprocess Technology and Microbial Metabolites/Enzymes.

**Research Interests** Food safety, Biopreservation/Protective culturing, Active packaging, Novel antimicrobials, Nanofoods, Extremophiles and Lactic acid bacteria/Bacteriocin.

### Publications (Journals)

1. Rafiullah, Khan MA, Shafee M, **Akbar A.**, et al., (2017) Occurrence of mastitis and associated pathogens with antibiogram in animal population of Peshawar, Pakistan. *The Thai Journal of Veterinary Medicine*, Vol 47 (1): XX (**Accepted**).
2. Samiullah, Alam F., Aslam S., Sajida, **Akbar A.**, et al., (2016) Determination of chemical composition, total phenolic content and antioxidant activity of *Xylanthemum macropodum*. *Journal of the Chemical Society of Pakistan*, (**Accepted**).
3. **Ali Akbar**, Ali, I. and Anal AK. (2016) Industrial perspectives of lactic acid bacteria for biopreservation and food safety (review). *Journal of Animal and Plant Sciences*, 26(4): 938-948
4. Muhammad N., Banoori N., **Akbar A.**, et al., (2016) Microbial and toxic metal contamination in well drinking water: potential health risk in selected areas of Kohat, Pakistan. *Urban Water Journal*, DOI: 10.1080/1573062X.2016.1173218
5. Ali I., **Akbar A.**, Aslam M., Ullah S., Anwar M., Yanwisetpakdee B., Prasongsuk S., Lotrakul P., Punnapayak H. (2016) Comparative study of physical factors and microbial diversity of four man-made extreme ecosystems. *Proceedings of the National Academy of Sciences, India Section B: Biological Sciences*, 86(3):767-778
6. Ali I., **Akbar A.**, Anwar M., Prasongsuk S., Lotrakul P., Punnapayak H (2015) Purification and characterization of a polyextremophilic  $\alpha$ -amylase from an obligate halophilic *Aspergillus penicillioides* isolate, and its potential for use with detergents. *BioMed Research International*, Article ID 245649, 8 pages
7. **Ali Akbar** and Anil K. Anal (2015) Isolation of *Salmonella* from ready-to-eat poultry meat and evaluation of its survival at low temperature, microwaving and simulated gastric fluids. *Journal of Food Science and Technology*, 52(5):3051-3057
8. Muhammad N., **Akbar A.**, et al., (2015) Isolation optimization and characterization of peptide antibiotic producing bacteria from soil. *Journal of Animal and Plant Sciences*, 25(4): 1107-1113
9. Ali I., **Akbar A.**, Anwar M., Yanwisetpakdee B., Prasongsuk S., Lotrakul P., Punnapayak H. (2015) Purification and characterization of extracellular,

polyextremophilic  $\alpha$ -amylase obtained from halophilic *Engyodontium album*. *Iranian Journal of Biotechnology*, 12(4): e1155

10. Kumaree K.K., **Akbar A.**, Anal A.K. (2015) Bioencapsulation and application of *Lactobacillus plantarum* isolated from catfish gut as antimicrobial agents and additives in fish feed pellets. *Annals of Microbiology*, 65(3):1439-1445
11. Chaemsanit S., **Akbar A.** and Anal A. K. (2015) Isolation of total aerobic and pathogenic bacteria from table eggs and its contents. *Food and Applied Bioscience Journal*, 3(1):1-14
12. **Ali Akbar** and Anil K. Anal (2014) Zinc oxide nanoparticles loaded active packaging a challenge study against *Salmonella typhimurium* and *Staphylococcus aureus* in ready-to-eat poultry meat. *Food Control*, 38:88-95
13. **Ali Akbar** and Anil K. Anal (2014) Occurrence of *Staphylococcus aureus* and evaluation of anti-staphylococcal activity of *Lactococcus lactis* subsp. *lactis* in ready-to-eat poultry meat. *Annals of Microbiology*, 64(1):131-138
14. Ali I., **Akbar A.**, et al., (2014) Purification, characterization and potential of saline waste water remediation of a polyextremophilic  $\alpha$ -amylase from an obligate halophilic *Aspergillus gracilis*. *BioMed Research International*, Article ID 106937,7 pages
15. **Ali Akbar et al.**, (2014) Presence of *Escherichia coli* in poultry meat, A potential food safety threat. *International Food Research Journal*, 21(3):941-945
16. **Ali Akbar**, Sitara U., Ali I., Muhammad N. and Khan SA. (2014) Isolation and characterization of biotechnologically potent *Micrococcus luteus* strain from environment. *Pakistan Journal of Zoology*, 46(4):967-973.
17. Ali I., **Akbar A.**, et al., (2014) 7 Big Challenges for Pakistan—and the Lessons They Could Teach. *The Futurists*, 48(5): 22-26
18. Muhammad N., **Akbar A.**, et al., (2014) Pathogenic microbial load analysis of ready-to-eat meat products of Namak-Mandi Food Street Peshawar, Pakistan. *Journal of Bio-Molecular Sciences*, 2(1):21-27
19. Athar M.A., **Akbar A.**, Khan Y. H., Ali I., Mehmood U., Sabri A. N., Hasnain S. (2014) Hydrocarbon degrading bacteria isolated from hydrocarbon contaminated soil. *Journal of Pure and Applied Microbiology*, 8(6):4509-4516
20. **Ali Akbar** and Anil Kumar Anal (2013) Prevalence and antibiogram study of *Salmonella* and *Staphylococcus aureus* in poultry meat. *Asian Pac J Trop Biomed.*, 3(2): 163-168
21. **Ali Akbar** et al., (2013) Drinking water quality and risk of waterborne diseases in the rural mountainous area of Azad Kashmir Pakistan. *International Journal of Bioscience*, 3(12): 245-251
22. Ali I., Kanhayuwa L., Rakshit S.K., Siwarungson N., Punnapayak H., Lotrakul P., Prasongsuk S., **Akbar A.**, Rehman Z.U. (2013) Identification and phylogenetic analysis of halophilic fungus isolated from a man-made solar saltern in Thailand. *Lasbela University Journal of Science and Technology*, 2:47-52

23. **Ali Akbar** and Anal A. K. (2011) Food safety concern and foodborne pathogens *Salmonella*, *E.coli* and *Campylobacter*. (review). *FUUAST J. Biol.*, 1(1): 5-17

**Abstracts  
(Conference)**

1. Sabiha Shafi, **Ali Akbar** (May, 2016) Functional and bioactive properties of propolis of *Apis mellifera* beehives of Balochistan, in **1<sup>st</sup> Invention to Innovation Summit**, organized by IRP and University of Balochistan Quetta
2. **Ali Akbar** (April, 2016) Food safety and foodborne pathogens; the use of consumer and environmental friendly control measures **1<sup>st</sup> Conference cum workshop on Trends in Applied Microbiology and Vaccinology**, organized by American Society for Microbiology, PSM and CASVAB University of Balochistan Quetta
3. Hasnain Nangyal, **Ali Akbar** et al., (2016) Phytochemical, antioxidant and antibacterial potential of three selected medicinal plants. **14<sup>th</sup> National and 5<sup>th</sup> International Conference of Climate Change and Phtodiversity Challenges and Opportunities**, Organized by Department of Botany University of Karachi.
4. Imran Ali, **Ali Akbar** et al., (2016) *Penicillium imranianum*, a new species from the man-made solar saltern of Phetchaburi province, Thailand. **14<sup>th</sup> National and 5<sup>th</sup> International Conference of Climate Change and Phtodiversity Challenges and Opportunities**, Organized by Department of Botany University of Karachi.
5. **Ali Akbar**, Ali I., Rehman F., Tareen AM and Anal A. Kumar (2015) Probiotic and biocontrol potential of *Lactococcus lactis* subsp. *lactis* isolated from fermented milk. **1<sup>st</sup> International Conference on Environment and Biosciences**, organized by SBK Women University Quetta Pakistan.
6. Shabir A. Khan, Muhammad Yousaf and **Ali Akbar** (2015) Prevalence of malaria parasite (*Plasmodium*) in Loralai District Balochistan. **1<sup>st</sup> International Conference on Environment and Biosciences**, organized by SBK Women University Quetta Pakistan.
7. **Ali Akbar**, Ali I., Rehman F., Tareen AM and Anal A. Kumar (2015) Preparation and bio-application of zinc oxide nanoparticles for Nanofood and food safety. **10<sup>th</sup> Biennial International Conference of Pakistan Society of Microbiology, Exploring Microbes for Future Endeavors**. Department of Microbiology and Molecular Genetics, University of the Punjab Lahore Pakistan.
8. **Ali Akbar**, Imran Ali and Shabir Ahmad Khan (2015) Methicillin-resistant and sensitive *Staphylococcus aureus* from ready-to-eat poultry meat and its biocontrol using lactic acid bacteria and zinc oxide nanoparticles. **12<sup>th</sup> Annual MMIDSP Conference**, organized by Medical Microbiology and Infectious Disease Society of Pakistan
9. Siriporn Chaemsanit, **Ali Akbar** and Anil K. Anal (2014) Isolation of total aerobic and pathogenic bacteria from table eggs and its contents. **The 2<sup>nd</sup> International Conference on Food and Applied Bioscience**, organized by Chiang Mai University Thailand
10. Najmul Hasan, **Ali Akbar**, Muhammad A. Ahmed, Sheikh Mohiuddin (2014) Silver nanoparticles: Green synthesis and their usage in food safety via determination of mercury contamination in seafood. **The 2<sup>nd</sup> International Conference on Food and**

*Applied Bioscience*, organized by Chiang Mai University Thailand

11. **Ali Akbar**, Anil K. Anal and Phadungchob T. (2013) Isolation of bacteriocinogenic *Lactococcus lactis* subsp. *lactis* from fermented milk products and its application in biopreservation of poultry meat. ***International Conference of Chemical Engineering and Industrial Biotechnology (ICCEIB 2013)***, organized by UMP Malaysia
12. **Ali Akbar** and Anil K. Anal (2012) Prevalence, antibiogram study and preservation techniques against *Staphylococcus aureus* and *Salmonella* in poultry meat. ***6<sup>th</sup> Asian Conference on Food and Nutrition Safety***, organized by ILSI Southeast Asia Region and Agri-Food and Veterinary Authority of Singapore

**Book Chapters** 1. **Ali Akbar** and Imran Ali (2016) Value-added by-products from sugar processing industries. In: Anal A.K., ed. "*Food Processing By-Products and their Utilization*" John Wiley & Sons, Publisher Ltd., chapter 14, (**in press**).

**Personal** **Languages:** English, Pashto and Urdu.

**Birth:** Born, June 23<sup>rd</sup>, 1981 in **Pakistan**.

**Experience** **PhD Scholar (Aug 2010- Jan 2014)** **Asian Institute of Technology (AIT), Thailand.**

**Research topic: "Prevalence and bio-control of foodborne pathogens (*Salmonella* and *Staphylococcus aureus*) in raw and ready-to-eat poultry meat"**

**Experience** **June 2007, to date.** **UoB Quetta, Pakistan.**

**University of Balochistan Quetta** University of Balochistan is a public sector university, which provides quality and research based education. Established in 1970 and containing eight faculties.

**Designation** **Assistant Professor (TTS) (Dec. 2014 - to date)**

**Responsibilities**

- Supervising master and doctoral students in academics and research
- Conducting research for different projects
- Teaching and designing graduate and undergraduate level courses
- Member examination committee
- Member advisory committee

**Designation** **Lecturer (June 2007-Nov. 2014)**

**Responsibilities**

- ◆ Teaching and research.
- ◆ Member examination committee.
- ◆ Bacteriology laboratory in-charge.

#### **Courses taught / teaching**

- Advances in Food Microbiology and Standardization (PhD)
- Advances in Applied Microbiology (PhD)
- Research Methodology and Critical Analysis (MPhil)
- Environmental Microbiology and Public Health (M. Sc)

- Marine Microbiology (M. Sc)
- General Mycology and Medical Microbiology (M. Sc)
- Food & Dairy Microbiology (M. Sc)
- Bacterial Genetics (M. Sc)
- Basic Biochemistry (B.S)

<b>Experience</b>	<b>Sep. 2006 to June 2007</b>	<b>Islamic Relief Pakistan. (INGO)</b>
<b>Designation</b>	<b>Water Quality Monitoring Officer</b>	
<b>Responsibilities</b>	<ul style="list-style-type: none"> <li>◆ Bacteriological and chemical analysis of drinking and waste water.</li> <li>◆ Catchment and risk assessment, surveillance of source and distribution network.</li> <li>◆ Training of related staff, agencies &amp; community on health hygiene &amp; water safety.</li> <li>◆ Remedial actions plan for contaminated water and safety maintenance.</li> </ul>	
<b>Experience</b>	<b>Nov. 2005-Sept. 2006.</b>	<b>King's Food (Hilal group of industries Karachi)</b>
<b>Designation</b>	<b>Quality Assurance Officer/ Food Safety</b>	
<b>Responsibilities</b>	<ul style="list-style-type: none"> <li>◆ Food safety and GMP team member.</li> <li>◆ Microbiological and chemical assay of raw material and final products.</li> <li>◆ Environmental monitoring and Sampling of materials.</li> </ul>	
<b>Experience</b>	<b>Sept. 2005- Nov. 2005.</b>	<b>Glaxo Smith Kline. (GSK) Karachi.</b>
<b>Designation</b>	<b>Microbiologist (Internship)</b>	
<b>Responsibilities</b>	<ul style="list-style-type: none"> <li>◆ Environmental monitoring, media preparation, microbiological assay, MLT.</li> <li>◆ Introduction to LAL test, sterility testing and standard culturing.</li> </ul>	
<b>Experience</b>	<b>April 2005 - August 2005.</b>	<b>S. Zia-Ul-Haq &amp; Sons Karachi.</b>
<b>Designation</b>	<b>Food Safety Supervisor</b>	
<b>Responsibilities</b>	<ul style="list-style-type: none"> <li>◆ Food safety and HACCP team member.</li> <li>◆ Awareness and training of staff on cGMP and food safety.</li> </ul>	
<b>Education</b>	2010-14	<b>PhD</b> (Bioprocess Technology) Asian Institute of Technology, Thailand
	2008-10	<b>M. S</b> (Bioprocess Technology) Asian Institute of Technology, Thailand
	2003-05	<b>M. Sc</b> (Microbiology) FUUAST Karachi, Pakistan
	2002-03	<b>B. Ed</b> (Chem, G. Sci.) University of Karachi, Pakistan
	1999-02	<b>B. Sc</b> (Zool, Chem, Microbiol.) University of Karachi, Pakistan
<b>Technical education</b>	<ul style="list-style-type: none"> <li>◆ Diploma in dispensing medicines. (Dow Medical College Karachi Pakistan)</li> <li>◆ Diploma in laboratory technologies. (Dow Medical College Karachi Pakistan)</li> </ul>	
<b>Training/ workshops</b>	<ul style="list-style-type: none"> <li>◆ One day training on continual improvement on ISO 9001:2000</li> <li>◆ Three days training on water sampling and analysis techniques</li> </ul>	

- ◆ Three days training for trainer organized by UOB Quetta, Pakistan
- ◆ Six days training on research methodologies organized by HEC Pakistan
- ◆ One day biosafety training workshop organized by department of Microbiology, University of Balochistan Quetta and American Society of Microbiology
- ◆ Two days workshop on project proposal writing by Pakistan Science Foundation
- ◆ One day workshop on “Developing Industry Driven Technologies” organized by ORIC University of Balochistan Quetta
- ◆ Two days orientation workshop on “HEC policy guidelines for the implementation of uniform semester examination system” held on June 3-4 at University of Balochistan
- ◆ Recourse person in two days workshop on screening abiotic and biotic factors from environment organized by Institute of Biochemistry University of Balochistan Quetta
- ◆ Five days workshop of biosafety and biosecurity organized by Relief International and Department of Microbiology University of Balochistan Quetta

### Membership

American Society for Microbiology (**ASM**).  
 Institute of Food Technologies (**IFT**).  
 Biological Safety Association of Pakistan (**BASP**).  
 Pakistan Society for Microbiology (**PSM**).  
 Medical Microbiology Association of Pakistan (**MMAP**)  
 Zoological Society of Pakistan (**ZSP**)  
 Bolan Society of Pure and Applied Biology (**PSBAP**)

### Administrative tasks

Member departmental examination committee  
 Member Departmental Quality Assurance Cell  
 Member Departmental Admission Committee  
 Elected member of Academic Council, University of Balochistan Quetta

### Awards/Achievements

- Secured technology award in 1<sup>st</sup> Invention to Innovation Summit University of Balochistan for pathogens control by using active biodegradable films
- Secured full scholarship for higher studies (MS and PhD) from Higher Education Commission Pakistan under faculty development program
- Secured American Society of Microbiology fellowship for travel grant to attend 10<sup>th</sup> Biennial International Conference of Pakistan Society of Microbiology, Exploring Microbes for Future Endeavors. Organized by **MMG**, University of the Punjab

### Academic/Research Supervision

Degree	Students number	Status
MPhil	04	Continue
PhD	01	Continue

### Alternative clicks

[https://www.researchgate.net/profile/Ali\\_Akbar2?ev=hdr\\_xprf](https://www.researchgate.net/profile/Ali_Akbar2?ev=hdr_xprf)  
<https://scholar.google.com.pk/citations?user=MsNGmoQAAAAJ&hl=en>