

C.V. OF DR. MUHAMMAD FAISAL

NAME: MUHAMMAD FAISAL
FATHER'S NAME: MUHAMMAD RAMZAN
DESIGNATION: ASSISTANT PROFESSOR
ADDRESS TEMPORARY: DEPARTMENT OF MICROBIOLOGY & MOLECULAR GENETICS, UNIVERSITY OF THE PUNJAB, QUAID-E-AZAM CAMPUS, LAHORE-54590, PAKISTAN.
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ACADEMIC QUALIFICATION

CERTIFICATE/ DEGREE	UNIVERSITY/BOARD	YEAR	SUBJECTS
Post-Doc	University of Canberra (AU)	2008	Environmental Microbiology
Ph.D	University of the Punjab	2005	Botany/Environmental Microbiology
M.Sc	University of the Punjab	1997	Botany
B.Sc	University of the Punjab	1994	Botany/Zoology

FIELD / SPECIALIZATION

Botany / Environmental Microbiology / Biotechnology

TEACHING EXPERIENCE

DESIGNATION	FROM	TO	PLACE
Assistant Professor (TTS)	16-6-2008	To-date	Department of Microbiology & Molecular Genetics, Punjab University
Assistant Professor (BPS)	23-01-2008	15-06-2008	Department of Microbiology & Molecular Genetics, Punjab University
Lecturer	03-01- 2006	22-01- 2008	Department of Microbiology & Molecular Genetics, Punjab University
Lecturer	17-01- 2003	02-01- 2006	Department of Botany, Punjab University
Lecturer (Part time)	Sept 2002	Jan 2003	Department of Microbiology & Molecular Genetics, Punjab University

THEORY / PRACTICAL COURSES TAUGHT

Plant Anatomy, Principles of Genetics, Microbial Genetics, Microbiology, Environmental Bacteriology, Biodegradation & Bioremediation, Environmental Microbiology, Problems in Plant

anatomy, Advanced Plant Anatomy, Wastewater treatment, Research Paper Writing skills, Problem solving Genetics

RESEARCH

1. **M.Sc:** Effect of growth regulators i.e. Indole-3-Acetic Acid & GA₃ on the external and internal morphology of root and hypocotyls of *Phaseolus vulgaris*. L.
2. **Ph.D:** Screening of Chromium Resistant Bacteria for detoxification potential and plant growth stimulation under chromium stresses.
3. **PostDoc:** Mechanisms of heavy metal detoxification by bacteria and plants using atomic absorption, ICP-MS.
4. **1996 – to date:** Research work related to Wastewaters treatment, Environmental Microbiology/ Biotechnology, Plant-Microbe-Interaction., Plant Anatomy, Microbial Ecology of Extremophiles

RESEARCH PROJECTS / GRANTS AWARDED

Completed

Sr.No	Title	Funding agency	Year	Duration
1	Toxic Cr (VI) Reduction in industrial wastes by Bacterial strains.	University of the Punjab	2004	01 year
2	Removal of chromium from tannery effluents by bacteria.	University of the Punjab	2006	01 year
3	Reduction of Cr (VI) by Bacterial cytosol.	DPCC, University of the Punjab,	2007	01 year
4	Plant-Assisted Bioremediation of Arsenic in the Industrial Effluent.	University of the Punjab	2008	01 year
5	Microbiological industrial wastewater treatment and plant growth promotion under heavy metals stress	HEC, Pakistan	2008	01 year
6	Elimination of Carcinogenic Cr (VI) By Microorganisms in Association with Hydrophytes	HEC, Pakistan	2007-10	03 year
7	Modern strategies to combat chromium pollution in industrial effluent.	HEC, Pakistan	2010	01 year
8	Study of Diversity of selected bacterial communities present in Hot springs of Himalayan range.	University of the Punjab	2010	01 year

Inprogress

Sr.No	Title	Funding agency	Year	Amount
1	Bioremediation of Chromium and Arsenic from industrial wastewater. Co-PI	HEC, Pakistan	2008-11	03 years
2	Bacterial transformation of toxic Selenite (IV) to elemental Selenium (0) in wastewater/contaminated soil.	HEC, Pakistan	2010-11	02 years
3	Study of Desiccation Tolerant Bacteria From	University of the	2011	01 year

HEC RECOMMENDED Ph.D RESEARCH SUPERVISOR

Higher Education Commission recommended Ph. D research supervisor in the field of Biological Sciences.

RESEARCH SUPERVISED**B.S/M.Sc
Completed**

Sr. No.	Name of student	Title	Year
1	Rizwan Ahmad	Effect of domestic wastewater on the chromium reduction ability of <i>Ochrobactrum intermedium</i> , <i>Brevibacterium</i> sp and <i>Bacillus cereus</i> .	2007
2	Imran Afzal	Effect of physiological inhibitors on the chromium reduction ability of <i>Ochrobactrum intermedium</i> , <i>Brevibacterium</i> sp and <i>Bacillus cereus</i> .	2007
3	Madiha Ikram	Biotransformation of selenite (VI) to elemental selenium (Se ⁰) by bacterial strains isolated from agricultural fields	2008
4	Sidra Tayyab Akhtar	Accumulation and reduction of Arsenic by bacteria isolated from industrial effluents	2008
5	Aslam Khan Ghalib	Microbial diversity in the various hot springs of Hunza valley Gilgit, Pakistan	2009
6	Sadia Bano	Ability of thermophilic bacteria to reduce Selenite (IV) and Chromate Cr(VI) into less toxic form	2009
7	Samman Ikram	Estimation of Cr(VI) reduction potential of bacteria isolated from tannery effluent	2009
8	Rida Tariq	Se Biofortification: A modern strategy to combat Se concentration in soil	2010
9	Shaiq Sultan	Isolation and characterization of coal residing Bacteria	2010
10	Anam	<i>Helianthus annuus</i> growth promotion by Se resistant bacterial strains	2010
11	Sobia Aslam	Biodiversity of bacterial flora residing in the rhizosphere of <i>Arachis hypogea</i> from upper Punjab	2010
12	Mehvish Ajaz	Diversity of bacterial population of surface, subsurface and deep soil of Salt Range	2010

**M.Sc (Hons) / M.S / M.Phil
Completed**

Sr. No.	Name of student	Title	Year
1	Shaiza Iftikhar	Enzymatic reduction of carcinogenic chromate by bacterial strains isolated from chromium contaminated environment	2005

2	Sadia Ejaz	Role of Bacterial Strains in Conjunction with Hydrophytes for the removal of carcinogenic chromium	2008
3	Asma Hina	Comparative study of selenium accumulation in bacteria and yeast under different environmental conditions	2008
4	Yousra Saeed Malik	Detoxification of chromium contaminated water by <i>Lemna minor</i> (Duckweed) in association with thermophilic bacteria	2009
5	Fariha Zakaria Rizvi	Role of Heavy metal resistant bacteria for bioremediation of polluted environment	2009
6	Faiz Ahmed Raza	Study of desiccation tolerant bacteria from Cholistan desert, Pakistan	2010
7	Muhammad Yasin	Assessing the phytotoxicity of metal contaminated soil on <i>Helianthus annuus</i> and <i>Zea mays</i> growth	2010
8	Neelam Zia	Detoxification of Selenite to elemental selenium by exopolysacchride producing desert isolates	2010

In progress

1. **Saba Riaz** 2006-: Extended spectrum Beta-lactamases phenotypic and genotypic study. **(Ph.D)**
2. **Fariha Zakariya** 2009-: Indigenous chromium resistant bacteria: Some molecular investigation of their chromate detoxification mechanism. **(Ph.D)**
3. **Muhammad Yasin** 2010: Bacterial Enhanced Se-biofortification: Raising Selenium Contents of Crops in Se-deficient Soils. **(Ph.D)**
4. **Tayyaba Younas** **(M.S)**
5. **Huma Nawaz** **(M.Phil)**
6. **Komal Amer** **(B.S)**
7. **Mahvish Akhtar** **(B.S)**
8. **Sahra Isse Mohammad** **(B.S)**
9. **Fahima Abdirehman** **(B.S)**
10. **Saima Javed** **(B.S)**

REVIEWER OF SCIENTIFIC JOURNALS

Worked as reviewer in the following prestigious International Scientific Journals

- *Applied Microbiology and Biotechnology*-----Springer
- *Hydrobiologia*-----Elsevier
- *African Journal of Biotechnology*-----Academic Journals
- *Journal of Microbiology and Antimicrobials*-----Academic Journals
- *Current Microbiology*-----Springer
- *Journal of Contaminant Hydrology*-----Elsevier
- *International Research Journal of Biotechnology*-----Interjournals Org
- *International Research Journal of Microbiology*-----Hindawi Publishing Co.
- *African Journal of Food Science & Technology*-----Interjournals Org
- *African J Pharmacy and Pharmacological Res*-----Interjournals Org
- *Journal of Chemistry Materials Sciences*-----Global Research Journals

PUBLICATIONS

A) Research Papers

S.No	Year	Authors	Title of Paper	Journal Name	Country	IF
1	1999	Faisal, M and Hasnain, S. 1999	Gram-negative rod shaped bacteria exhibiting high level Resistance to Chromium.	Proc. Pak. Cong. Zoo, 19: 121-132	Pakistan	
2	2001	Faisal, M and Hasnain, S. 2001.	Reduction of Toxic Hexavalent Chromium by Bacterial strains isolated from the effluents of tanneries..	Pakistan Journal of Botany, 33 (SI) 659-672	Pakistan	0.52
3	2002	Faisal, M and Hasnain, S. 2002	Bacterial mediated aerobic reduction of toxic Cr (VI) in industrial effluents.	Pakistan Journal of Microbiology, 2: 27-32.	Pakistan	
4	2003	Faisal, M and Hasnain, S. 2003	Synergistic Removal of Cr (VI) by <i>Eichornia crassipes</i> in conjunction with Bacterial Strains.	Pakistan Journal Biological Sciences, 6 (3): 264-268	Pakistan	
5	2003	Faisal, M and Hasnain, S. 2003	Accumulation and Reduction of Cr (VI) in industrial effluent by <i>Bacillus</i> Sp- strain CrM-1..	Pakistan Journal of Botany, 35(5): 797-804	Pakistan	0.52
6	2004	Faisal, M and Hasnain, S. 2004	Bacterial Role in the Reduction of Toxic Cr (VI) in to Cr (III).	Chinese Journal of Biotechnology, 20 (5): 774-778	China	
7	2004	Faisal, M and Hasnain, S. 2004	Microbial Conversion of Cr(VI) in to Cr(III) in Industrial Effluent.	African Journal of Biotechnology, 3 (11): 610-617.	Africa	0.656
8	2004	Faisal, M and Hasnain, S. 2004	Comparative Study of Cr(VI) Reduction in Industrial Effluent by <i>Ochrobactrum intermedium</i> vs. <i>Brevibacterium</i> sp.	Biotechnology Letters, 26 (21): 1623-1628	U.K	1.636
9	2004	Faisal, M and Hasnain, S. 2004	. Isolation and Characterization of Chromium Resistant Bacteria from Polluted Environment.	An International Journal of Earth and Life Sciences, 2 (4): 38-45	Pakistan	
10	2005	Faisal, M and Hasnain, S. 2005	Chromate Resistant <i>Bacillus cereus</i> improves Sunflower Growth by Reducing the Toxicity of Cr (VI)..	Journal of Plant Biology, 48(2): 187-194	Korea	0.851
11	2005	Faisal, M and Hasnain, S. 2005	Microbial Cr (VI) reduction concurrently improves <i>Helianthus annuus</i> growth.	Biotechnology Letters, 27(13): 943-947	U.K	1.636
12	2005	Faisal, M; Hameed, A and Hasnain, S. 2005.	Chromium resistant bacteria and cyanobacteria: Impact on Cr(VI) reduction potential and plant growth.	Journal of Industrial Microbiology & Biotechnology, 32(12): 615-621	USA	1.798

13	2005	Faisal, M and Hasnain, S. 2005.	Beneficial role of hydrophytes in removing Cr(VI) from wastewater along with bacterial strains.	International Journal of Phytoremediation, 7(4): 271-277	USA	1.321
14	2005	Faisal, M and Hasnain, S. 2005	Colonization of <i>Vigna radiate</i> roots by chromium resistant bacterial strains <i>Ochrobactrum intermedium</i> , <i>Bacillus cereus</i> and <i>Brevibacterium</i> sp.	Chinese Journal of Applied and Environmental Biology, 11(5): 528-530	China	
15	2005	Faisal, M and Hasnain, S. 2005	Growth improvements of <i>Helianthus annuus</i> by root associated chromium resistant PGPR.	Iranian Journal of Biotechnology, 3(4): 114-120	Iran	
16	2005	Faisal, M and Hasnain, S. 2005	Reduction of mobile Cr(VI) under different environmental conditions.	Science International, 27(3): 271-277	Pakistan	
17	2006	Faisal, M and Hasnain, S. 2006	Growth stimulatory effects of <i>Bacillus cereus</i> and <i>Ochrobactrum intermedium</i> on <i>Vigna radiata</i>	Letters in Applied Microbiology, 43: 461-466	U.K	1.640
18	2006	Faisal, M and Hasnain, S. 2006	Colonization of <i>Triticum aestivum</i> and <i>Helianthus annuus</i> roots by chromium resistant bacterial strains <i>Ochrobactrum intermedium</i> , <i>Bacillus cereus</i> and <i>Brevibacterium</i> sp.	Journal of Plant Sciences 1(1): 36-41	USA	
19	2006	Faisal, M and Hasnain, S. 2006	Detoxification of Cr(VI) by <i>Bacillus cereus</i> .	Research Journal of Microbiology, 1 (1): 45-50.	USA	
20	2006	Faisal, M and Hasnain, S. 2006	Plant growth promotion by <i>Brevibacterium</i> under chromium stress.	Research Journal of Botany, 1(1): 24-29.	USA	
21	2006	Faisal, M and Hasnain, S. 2006	Hazardous impact of chromium on environment and its appropriate remediation	Journal of Toxicology and Pharmacology, 1(3): 248-258	USA	
22	2006	Faisal, M and Hasnain, S. 2006	Reduction of toxic Cr (VI) by <i>Bacillus cereus</i> S-6 isolated from chromium polluted soil.	<i>Brownfield Asia</i> , 2006, 1-6.	Malaysia	
23	2007	Iftikhar, S., Faisal, M and Hasnain, S. 2007	Cytosolic reduction of Toxic Cr(VI) by Microorganism.	Research Journal of Environmental Sciences, 1(2): 77-81	USA	
24	2007	Iqbal, U., Mehmood, S., Faisal, M and Hasnain, S. 2007	Chromosomal analysis of girls with short stature and puberty failure.	Trends in Medical Research, 2(4): 204-207	USA	
25	2007	Saira Anwar, Anjum Nasim Sabri, Hazir Rehman, Muhammad Faisal and	Impact of Temperatures and pH on Soluble Protein Content and Protein Profile of PY79 (Wild Type) and Sporulation Defective Mutant Strains of <i>Bacillus</i> .	Research Journal of Microbiology, 2(11): 866-870	USA	

		Shahida Hasnain. 2007				
26	2007	Saima Zaidi, Azra Yasmin, Muhammad Faisal and Shahida Hasnain, 2007.	Inoculation effect of bacteria isolated from <i>Trianthema partulacastrum</i> , <i>Rumex dentatus</i> , and <i>Coronopus Didymus</i> plants on <i>Vigna radiata</i> seedlings.	World Journal of Agricultural Sciences, 3 (6): 796-800	Pakistan	
27	2008	Khushi Muhammad, Azra Yasmin, Hazir Rehman, Muhammad Faisal and Shahida Hasnain. 2008	Growth responses of <i>Vigna radiata</i> to arid land bacteria exhibiting antimicrobial activity.	Research Journal of Environmental Sciences, 2(2): 139-144	USA	
28	2010	Shazia Afrasayab, Muhammad Faisal and Shahida Hasnain. 2010	Comparative study of Wild and transformed salt tolerant bacterial strains on <i>Triticum aestivum</i> growth under salt stress.	Brazilian Journal of Microbiology, 41 (4): 946-955.	Brazil	0.622
29	2010	Madiha Ikram & Muhammad Faisal. 2010	Comparative assessment of Selenite detoxification to elemental selenium by <i>Bacillus</i> group..	Biotechnology Letters. 32: 1255-1259	U.K	1.636
30	2010	Saima Riaz, Muhammad Faisal and Shahida Hasnain. 2010	<i>Cicer arietinum</i> growth promotion by <i>Ochrobactrum intermedium</i> and <i>Bacillus cereus</i> in the presence of CrCl ₃ and K ₂ CrO ₄ .	Annals of Microbiology, 60: 729-733.	Italy	0.358
31	2011	Yasir Rehman, Muhammad Rizwan, Muhammad Faisal, Shahida Hasnain. 2011	Seasonal Effects of Domestic Wastewaters on the Cr (VI) Reduction Potential of <i>Bacillus cereus</i> S-6 and <i>Ochrobactrum intermedium</i> CrT-1.	Biology and Environment, 110B (2): xx-xx.	Ireland	0.00
32	2011	Saadia Ejaz, Samman Ikram, Muhammad Faisal and Shahida Hasnain. 2011	Hexavalent chromium detoxification of <i>Bacillus pumilus</i> -S4, <i>Pseudomonas doudoroffii</i> -S5 and <i>Exiguobacterium</i> -S8 in association with hydrophytes.	Chemistry and Ecology (revised).	Italy	

B) Books Chapters

1. **Faisal, M** and Hasnain, S. 2006. Chromium Pollution: Remediation Strategies. ASEAN - Environmental Perspectives
2. Afrasayab, S; **Faisal, M** and Hasnain, S. 2007. Induction of Salinity Tolerance in Plants through Indigenous Bacteria. Applications of Biotechnology Published by Avishankar Publisher India.

DISTINCTIONS / AWARDS

1. Awarded Government Merit Scholarship, Rawalpindi Division (on basis of result of Intermediate Exam. 1992).
2. Awarded Flemish Inter University Scholarship to participate in the summer course Sustainable water management and Technology in Urbanized areas, 2006, in the University of Antwerp, Belgium/Europe.
3. Awarded Presidential Young Innovator Award (PYI) for the year 2007 by the Higher Education commission, Islamabad, Pakistan.
4. Awarded Endeavor Post-Doctorate Research Fellowship by the Australian Government Department of Education, Science and Training (DEST) for the year 2008.

OTHER COURSES/TRAINING

1. Certificate course in Spreadsheet Management (Computer), 1998, Department of Mathematics, University of The Punjab, Lahore.
2. NCC, in Government Sarwar Shaheed Nishan-e-Haider College, Gujar Khan, 1989-1990

MEMBERSHIPS

1. Member, Botanical Society of Pakistan (1998-2002, 2011).
2. Member, Biological Society of Pakistan (one year).
3. Member, Zoological Society of Pakistan (1998-2001).
4. Member, Pakistan Society for Biochemistry and Molecular Biology (2003).
5. Member, Environment Protection Society (1997)
6. Member, Pakistan Society for Microbiology (2000)
7. Member, Society for General Microbiology, U.K (2009).

PROFESSIONAL ACTIVITIES

1. Worked as Hostel Assistant Superintendent (2004-2006).
2. Member, Department Doctoral Program Committee, MMG Department, PU.
3. Member, Admission Committee Botany Department, PU (2004-2006).
4. Member, Admission Committee MMG Department, PU
5. Incharge M.S/M.Phil/Ph.D program MMG Department, PU.
6. Member Board of Faculty of Life Sciences, Punjab University.
7. Member, Board of Studies of Genetics, Hazara University Mansehra, K.P
8. Member, Purchase Committee, Department of MMG, P.
9. Member, Board of Studies in Microbiology & Molecular Genetics, MMG.

CONFERENCE / SEMINAR / WORKSHOPS ATTENDED/PARTICIPATED /INVITED

1. Participated in the 18th congress of Zoology, held at Department of Zoology, University of Punjab, Lahore on 20-22 April, 1998.
2. Participated in the 6th National Conference of Plant Scientists, held at Department of Botany, University of Peshawar, Peshawar, on 20-22 October, 1998.
3. Participated in the 19th Congress of Zoology, held at National Agricultural Research Council, Islamabad on 19-21 April, 1999.

4. Participated in the 2nd National Symposium on Practical Applications of Plant tissue Culture and Genetic Engineering, NARC, Islamabad, 1-3 June, 1999.
5. Participated in the Third International Biennial Conference of Pakistan Society for Microbiology, held on March 28-30 2000 at PC hotel, Lahore.
6. Participated in the 2nd International Science Conference, 26-28 October 2000, at University of the Punjab, Lahore.
7. Participated in the 7th National Conference of Plant Scientists 12-14 Nov, 2000, Botany Department, Punjab University, Lahore.
8. Participated in the 1st National Conference of Biology 28-30 March, Botany Department, Government College University, Lahore, 2002.
9. Participated in the 8th National Conferences of Plant Scientists 24-28 February, Botany Department, Karachi University, Karachi, 2003.
10. Participated in the 7th International Conference “Trends in Biochemistry and Molecular Biology” Organized by Pakistan Society for Biochemistry and Molecular Biology 2-5 April, 2003, held in the Institute of Biochemistry and Biotechnology, University of the Punjab, Lahore.
11. Attended International Conference on Environmental Challenges held 11-13 March 2004, at Department of Environmental Sciences, University of Peshawar.
12. Participated in three days workshop on “Identification, Maintenance and Preservation of Microorganisms” held 10-12 May 2004 organized by Microbiology Laboratory, Quaid-e-Azam University Islamabad.
13. Participated in the Workshop on “College Teacher Training in Genetically Techniques” held July 2004 organized by Microbial & Molecular Genetics Laboratory, University of the Punjab, Lahore.
14. Participated in the International Symposium on “Salinity and Drought Tolerance” conducted by the National Commission on Biotechnology at Pakistan Academy of Sciences at Islamabad on March 27-31, 2005.
15. Participated in the “World Environment Day” conducted by the Pakistan Engineering Congress at Averi Hotel Lahore, Pakistan on June 5, 2005.
16. Participated in the 4th International Symposium on “Genomics, Bioinformatics, Biotechnology and Economic Development” conducted by the Centre for Molecular Genetics, University of Karachi, Karachi on December 4-8, 2005.
17. “International Conference on Environmental Horizons” conducted by International centre for Chemical Sciences (ICCS), University of Karachi, Karachi, December 19-21, 2005.
18. Attended meeting of Senior Staff Members of Faculty of Life Sciences, University of the Punjab with Life Sciences Core Group at HEC regional office Lahore on 15 December, 2005.
19. Participated in “26th Zoological Congress of Pakistan (International)” Organized by Member, Zoological Society of Pakistan, 3-6 April, 2006, held in the Institute of Department of Zoology, University of the Punjab, Lahore.
20. Participate in the summer course Sustainable Water Management and Technology in Urbanized areas, August, 2006, in the University of Antwerp, Belgium/Europe funded by the Flemish Inter University Council.
21. Invited as oral speaker in the Brownfield Asia 2006 Conference on International Conference on Remediation and Management of Contaminated Land, The Institution of Engineers, Kuala Lumpur, Malaysia 5-7 September 2006.
22. Paper accepted in the 22nd Annual International Conference on Soil, Sediments and Water held at University of Massachusetts, Amherst, USA, from October 16-19, 2006.
23. Participated in the two days National Conference on Life Sciences conducted by the Bahaudin Zakria University Multan on November 13-14, 2006.
24. Attended the one day workshop on self assessment manual to be held in the Quality Enhancement Cell, University of the Punjab, Lahore on 18-12-2006.

25. Attended a workshop on “Innovations in Assessment” organized by the Quality Enhancement cell, University of the Punjab, Lahore on 15 January, 2007.
26. Attended a seminar on “Education, Training and Qualifications in the Financial Services Sector” organized jointly by the City of London and Institute of Chartered Accountants of Pakistan on 11 February 2007 at Institute of Chartered Accountants of Pakistan, Lahore.
27. Attended a workshop on “Development Partnerships in Higher Education Links Programme” organized by the British Council Lahore on 12 February 2007 at Pearl Continental Hotel Lahore.
28. Participated in a training workshop on “Quality Assurance in Higher Education” organized by the Pakistan Institute of Quality Control on March 09, 2007 at Hotel Ambassador Lahore, Pakistan.
29. Attended a workshop entitled “National Training Seminar on Biosafety and Biosecurity Initiative” organized by the US Department of State Biosecurity Engagement Programme, Pakistan Agricultural Research Council and Planning Commission of Pakistan on 18-19 June, 2007 at Marriott Hotel Islamabad, Pakistan.
30. Attended a seminar entitled “The Role of Nano-Biotechnology in Diagnosis and Treatment of Diseases” organized by the Pakistan Association for the Advancement of Science at NIBGE Faisalabad on 10 September, 2007.
31. Worked as Secretary organizing committee of the symposium entitled “Genomics, Proteomics, Metabolomics: Recent Trends in Biotechnology” organized by the Department of Microbiology & Molecular Genetics, University of The Punjab, Quaid-E-Azam Campus, Lahore-54590, on 22-23 October, 2007.
32. Participated in the one day forum on the implementation of “Biosafety and Biosecurity initiatives” in research organizations and universities of Pakistan, organized by Dr. Anwar Nasim, Advisor COMSTECH, in HEC, Islamabad, Pakistan on 26 October, 2007.
33. Participated in the two days Workshop on Research Ethics in Biosciences on 26-27 November, 2007, organized by National Health Research Complex (PMRC) at Sheikh Zayed Post Graduate Medical Institute, Lahore, Pakistan.
34. Participated in the two days National Conference of Life Scientist conducted by the Bahaudin Zakria University, Multan, on January 30-31, 2008.
35. Participated in the five day “National Bioforum” organized by CEMB, University of the Punjab, Lahore on 24-28 March, 2008.
36. Attended and Member, organizing committee of the one day seminar “Microbial Resistant Paints” organized by Department of Microbiology and Molecular Genetics, University of the Punjab, Lahore on 17th April, 2008.
37. Attended one day seminar “Clues to weathering and climate change from rare earth elements” on 23 September 2008 at Institute of Applied Ecology, University of Canberra, Australia.
38. Risk Analysis: Current application in conservation and future possibilities” attended a seminar held on 30 September, 2008, organized by Dept of Environmental Sciences, University of Canberra, and Center of Excellence for Risk Analysis, University of Melbourne, Australia.
39. Attended two day AusAID-APFRN Conference entitled “*South Asia: Environment and Human Security*” organized by Government of Australia on 2nd & 3rd October, 2008 at The Visions Theatre, National Museum of Australia, Canberra, Australia.
40. Attended a seminar entitled “Too far beyond BACI? Bioassessment in a multiple stresses context using the reference condition approach” on 7th October 2008, organized by Institute of Applied Ecology, University of Canberra, Australia.
41. Attended one day seminar/workshop entitled “Scientific and Medical Research on Meditation” conducted by University of New South Wales” on 30 October, 2008 in Belconnen, ACT, Australia.
42. Attended two days conference “Mining, Gender and sustainable Livelihoods” jointly organized by ANU and the World Bank on 6-7 November, 2008 at Australian National University, Canberra, Australia.

43. Attended two days conference “Health, culture and religion in South Asia *Interdisciplinary and cross-national social science perspectives*” A workshop supported by the Australian Research Council, held in ANU, Canberra, Australia, 12-13 November, 2008.
44. Attended national seminar on “National Biodiesel Programme: Identification of Barriers on 10th July 2009 at Marriott Hotel, Islamabad, organized by Alternative Energy Development Board (AEDB).
45. Participated in the two day conference on “Development and commercialization of Biotechnology Products” organized by NIBGE and National Commission on Biotechnology, at NIBGE on 19-20 June, 2009.
46. Member organizing committee of the symposium on Modern Biotechnology: A Resource for Sustainable Development, organized by Department of Microbiology and Molecular Genetics, University of the Punjab, Lahore on 04th July, 2009.
47. Attended one day training workshop on “International Health Links Funding Scheme” organized by the British Council Lahore on 29th October 2009 at Crown Plaza Hotel, Lahore.
48. Attended three day training workshop on “Writing Project Proposals for Competitive System (CGS)” organized by Punjab Agriculture Research Board, Lahore on 9th to 11th November 2009 in Lahore.
49. Participated in III International Conference on Environmental, Industrial and Applied Microbiology (BioMicroWorld2009) in Lisbon, Portugal on 2-4 December, 2009 in the University of Lisbon, Portugal.
50. Attended Lectures series on Hepatitis A, B, C, E by Dr. Mudassar Subtain Sheikh, organized by Department of Microbiology & Molecular Genetics, University of the Punjab, Lahore on February-March, 2010.
51. Attended one day seminar on “Lahore Biotechnology Cluster” organized by Forman Christian College University, Lahore on March 15, 2010.
52. Participated in the “Chemical Safety and Security Officer Training” organized by Sandia National Laboratories, U.S Department of Energy in Bangkok, Thailand on 29th March to 2nd April, 2010.
53. Attended a seminar on “Farm Dynamics Pakistan: Working with Soil Moisture Sense” organized by Microbiology & Molecular Genetics, University of the Punjab, Lahore on April 29, 2010.
54. Member organizing committee of the symposium on “Current Agrobiotechnology and Transgenic Plants” organized by Department of Microbiology and Molecular Genetics, University of the Punjab, Lahore on 21 June, 2010.
55. Attended a three-day International symposium on “Basic Techniques in Research, Dissertation and Paper Writing” on 27th -29th of July, 2010 organized by Institute of Research Promotion (IRP) and Hazara University at Hazara University, Mansehra, KP, Pakistan.
56. Participated in a three-day Conference on “6th International conference on Plant Tissue Culture and Biotechnology” on 3-5 December, 2010 in University of Dhaka, Dhaka, Bangladesh.
57. Participated in a three-day Conference “2nd International Conference of Plant Scientists and 11th National Meeting of Plant Scientists” held on 22-24th February, 2011 at G.C University Lahore, Pakistan.
58. Attended a two days workshop on “National workshop on Environment and Health” on 8th-9th of March, 2011 organized and held at Department of Toxicology and Pharmacology, University of Veterinary and animal Sciences, Lahore, Pakistan.

FOREIGN TRAINING / WORKSHOPS / CONFERENCES / SEMINARS

Sr.No	Title	Year	Venue / Country
1	Sustainable Water Management and Technology	2006	Belgium/ Netherland
2	Clues to weathering and climate change from rare earth	2008	Australia

	elements		
3	Risk Analysis: Current application in conservation and future possibilities	2008	Australia
4	South Asia: Environment and Human Security	2008	Australia
5	Bio-assessment in a multiple stresses context using the reference condition approach	2008	Australia
6	Mining, Gender and sustainable Livelihoods	2008	Australia
	Health, culture and religion in South Asia	2008	Australia
7	Environmental, Industrial and Applied Microbiology	2009	Portugal
8	Chemical Safety and Security Officer Training	2010	Thailand
9	Plant Tissue Culture and Biotechnology	2010	Bangladesh