

**Dr. Imran Sajid**  
Associate Professor  
Department of Microbiology & Molecular Genetics,  
Quaid-e-Azam Campus, University of the Punjab,  
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**Fulbright Fellow**

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## CURRICULUM VITAE

**Nationality:** Pakistani (NIC# 33202-4802513-9)  
**Date of birth:** 25/12/1979

### RESEARCH INTERESTS

Drugs discovery, screening bioactive microbial natural products (Streptomycetes, Rare actinomycetes, etc)

- Selective isolation and identification of streptomycetes and rare actinomycetes
- Biological and chemical screening of the selected isolates
- Isolation, purification and structure elucidation of bioactive microbial natural products
- Cell culturing, antimicrobial, insecticidal, antiviral and antitumor/anticancer assays
- Metagenomics and PCR based screening for antibiotics

### INSTRUMENTAL SKILLS AND EXPERIENCE IN ANALYTICAL METHODS

- Gel electrophoresis, PCR, DNA sequencing, ultracentrifugation, handling of pilot scale fermenters, lyophilization, Solvent extractions, Microplate readers, Rotary vac evaporators
- HPLC-UV/RI, HPLC- MS, PTLC, Silica gel chromatography, Sephadex chromatography
- Amberlite XAD resins, Gas chromatography (GC)
- Multi-wavelength TLC-scanners, Ultra sonication,
- Whole Genome Sequencing and Data Analysis etc

### EDUCATION

YEAR	INSTITUTION	CERTIFICATE OBTAINED
2018-2019	College of Pharmacy University of Kentucky, USA	Post Doctorate
2003- 2009	University of the Punjab, Lahore, Pakistan and University of Gottingen Germany	PhD. Microbiology and Molecular Genetics/Industrial Microbiology
1999- 2001	Islamia University of Bahawalpur (IUB)	M.Sc Botany
1997-1999	University of the Punjab, Lahore	B.Sc (Bot, Zoo, Chemistry)
1995-1997	BISE Faisalabad	F.Sc (Pre medical)
1993-1995	BISE Faisalabad	Secondary School (Science group)

### WORK EXPERIENCE

PERIOD	Institution/Place
March 2011-to date	Assistant Professor (Department MMG, University of the Punjab, Lahore, Pakistan)
Jan 08 to March, 2011	Lecturer (Department of Microbiology and Molecular Genetics, University of the Punjab, Lahore 54590, Pakistan)
Dec 2018 to Dec 2019	Fulbright Postdoctoral Fellow, at the Centre for Pharmaceutical Research and Innovation, College of Pharmacy, University of Kentucky, Lexington, USA
Oct 2014-Nov, 2014	Guest Scientist (Department of Chemistry, University of Turku, Finland)
Feb 07-Aug 2007	Guest scientist (Institute of Organic and Biomolecular Chemistry, Georg-August University of Gottingen, Germany)
Aug 07-Oct 2007	Guest scientist (Department of Molecular Genetics and Preparative Molecular Biology, Georg-August University of Gottingen, Germany)
2005-2007	Part time teacher/research scholar (Department of Microbiology and Molecular Genetics, University of the Punjab, Lahore 54590, Pakistan)
2001-2003	Quality Control Officer (Q.A/Q.C Department, Microbiological Section, Pharmagen Pharmaceutical Company, Lahore, Pakistan)

### THESIS

**PhD Thesis:** Screening for antibiotics from indigenous streptomycetes, their genetic and mutational analysis (April 2009).

## Research Supervision

I am actively involved in research at home institute; following is the summary of my research supervision

Program	Number of Students Supervised	Completed	In Progress
BS	19	17	02
MSC	12	11	01
MS/MPhil	20	18	02
PhD	12	06	05

## Courses Taught

I am teaching courses at undergraduate as well as postgraduate levels, following are the subjects I am teaching at the home institute

S. No.	Title of the Course	Programs/Semesters
1	Industrial Microbiology	BS 6 <sup>th</sup> , MSc 4 <sup>th</sup> semester
2	Industrial Microbiology II	BS 7 <sup>th</sup> semester
3	Fundamentals of Antibiotics Discovery	MS/MPhil, 1 <sup>st</sup> semester
4	Pharmaceutical Biotechnology	MS/MPhil, 2 <sup>nd</sup> semester
5	Research Techniques (Chromatography)	PhD Course Work

## Publications

1. **Sajid, I.**, Shaaban, K, A., Frauendorf, H., Hasnain, S., Laatsch, H., 2008. Val-genthioicin: Structure Elucidation and MS<sup>n</sup> Fragmentation of Thiopeptide Antibiotics Produced by *Streptomyces* sp.RSF 18, Z. Naturforsch, 63(10), 1223-1230. <https://doi.org/10.1515/znb-2008-1014>
2. **Sajid, I.**, Yao, C. B., Shaaban, K, A., Hasnain, S., Laatsch, H., 2009. Antifungal and antibacterial activities of indigenous *Streptomyces* isolated from saline farmlands, prescreening, ribotyping and metabolite diversity, World J Microbiol Biotechnol, 25(4): 601-610. DOI 10.1007/s11274-008-9928.
3. Rashid, F., Ali, I., **Sajid, I.**, Elamin, S., Yuan, Q., 2009. Recombinant expression of an antimicrobial peptide Hepcidin in *Pichia pastoris*, *Pakistan. J. Zool.* 41(5): 349-356. [http://zsp.com.pk/pdf1/349-356%20\(4\).pdf](http://zsp.com.pk/pdf1/349-356%20(4).pdf)
4. Saeed A., Kheera R. A., Abbas N., Latif M., **Sajid I.** and Florke U. 2010. Synthesis, characterization, crystal structures, and antibacterial activity of some new 1-(3,4,5-trimethoxybenzoyl)-3-aryl thioureas, Turk. J. Chem. 34(3): 335-345.
5. **Sajid, I.**, Shaaban, K, A., Hasnain, S. 2011. Identification, Isolation and Optimization of Antifungal Metabolites from *Streptomyces malachitofuscus* CTF9. Brazillian J. Microbiol. 42(2): 592-604.
6. **Sajid, I.**, Shaaban, K, A., Hasnain, S. 2011. Antitumor Compounds from a Saline Soil Isolate *Streptomyces griseoincarnatus* CTF15, Natural Products Research 25(5): 549-559. <https://doi.org/10.1080/14786419.2010.534993>
7. Hira M, Rabbia S, **Sajid, I** and Hasnain, S., 2012. Isolation, identification and screening of endophytic bacteria antagonistic to biofilm formers, Pakistan Journal of Zoology 44(1): 249-257.
8. Tanveer, R., **Sajid, I.**, Hasnain, S. 2013. Screening of endophytic streptomycetes isolated from *parthenium hysterophorus* L. against nosocomial pathogens. Pakistan journal of Pharmaceutical Sciences 26(2): 277-283.
9. **Sajid, I.**, Shaaban, K, A., Hasnain, S. 2013. Purification and identification of bioactive angucyclinones from *Streptomyces matensis* BG5, isolated from the rhizosphere of *Rosa indica* L. Preparative Biochemistry and Biotechnology 43(1):22-32. DOI:10.1080/10826068.2012.693897
10. Tanveer, R., **Sajid, I.**, Hasnain, S. 2013. Screening for type I polyketide synthases genes of endophytic streptomycetes isolated from *Parthimium hysterophorus* L. Molecular Genetics, Microbiology and virology. 28(1):32-39.
11. Yaqoob, A., Farooq, N., **Sajid, I.**, Ali, B. 2013. Auxin production by *Azospirillum*: Role in growth promotion of *Triticum aestivum* L. and *Lens culinaris* Medik. Global Journal of Scientific Researches 1(1), 26-32.
12. Tanveer, R., **Sajid, I.**, Hasnain, S. 2014. Biotechnological potential of endophytic actinomycetes associated with Asteraceae plants: isolation, biodiversity and bioactivities. Biotechnology letters, 36(4), 767-773. DOI 10.1007/s10529-013-1430-0

13. **Sajid, I.**, Shaaban, K, A., Hasnain, S. 2014. Purification and Structure Elucidation of the Polyether Antibiotic Alborixin from *Streptomyces pulcher* CRF17. British Journal of Pharmaceutical Research. 4(6): 695-704.
14. Anwar, S., Ali, B., Qamar, F., **Sajid, I.** 2014. Insecticidal activity of actinomycetes isolated from salt range Pakistan against mosquitoes and red flour beetle. Pakistan Journal of Zoology. 46(1): 83-92.
15. Tanveer, R., **Sajid, I.**, Hasnain, S. 2014. Larvicidal potential of Asteraceae family endophytic actinomycetes against *Culex quinquefasciatus* mosquito larvae. Natural Products Research. 28(22), 2048-2052. <http://dx.doi.org/10.1080/14786419.2014.919579>
16. Zareen, M., Sajid, I., Ali, B. 2014. Isolation and Detection of *Escherichia coli* O157 From Potable Water System of Lahore, Pakistan. Pakistan Journal of Zoology. 46(5): 1239-1247.
17. Hassan, A., Sajid, I. 2014. Antimicrobial screening and metabolic fingerprinting of soil bacilli against urinary tract infections (UTIs) causing *E. coli*. Science International (26)4: 1569-1576.
18. Murtaza, G., Aftab, U., **Sajid, I.**, Abbas, Z and Sabri, A. 2015. Effect of crude extracts of selected actinomycetes on biofilm formation of *A. schindleri*, *M. aci* and *B. Cereus*. Journal of Basic Microbiology, 55(5): 645-651.
19. Iqbal, Z. and Sajid, I. 2015. Antimicrobial activity and metabolic fingerprinting of rare actinomycetes isolated from fresh water lakes and seasonal ponds in northern Punjab, Pakistan. Journal of Advances in Biology and Biotechnology, 4(4): 1-11.
20. Riaz, R., Sajid, I., Sarwar, A., Rehman, F., Akhtar, M., Sadiq, S. A., Naseem, M. and Ahmed, N. 2015. Molecular Characterization and Assessment of Phylogenetic Relationship among Tomato Rhizospheric Bacterial Population. Biologia, 61(1): 7-15.
21. Aftab, U., Zechel, D.L., and Sajid, I. 2015. Antitumor compounds from *Streptomyces* sp. KML-2, isolated from Khewra salt mines, Pakistan. Biological Research, 48:58, 1-10. DOI: 10.1186/s40659-015-0046-3
22. Hassan, A. and Sajid, I. 2015. Inhibitory effects of plant extracts and putative endophytic actinomycetes from the selected members of Meliaceae family against MDR *Pseudomonas aeruginosa*. European Journal of Medicinal Plants, 10(4):1-14.
23. Anwar, N. Saleem, M and **Sajid, I.** 2015. Antimicrobial Screening and chemical profiling of soil streptomycetes against group B *Streptococcus* (GBS), Science International, 27(6): 6449-6454.
24. Tanveer, R., **Sajid, I.**, Hasnain, S., Kulik, A and Grond, S. 2016. Rare actinomycetes *Nocardia caishijiensis* and *Pseudonocardia carboxydvorans* as endophytes, their bioactivity and metabolites evaluation. Microbiological Research, 185: 22-35.
25. Noureen, N. Amjad, A. Aftab, U and **Sajid, I.** 2016. Antibiotics resistance profiling and in-vitro inhibition of clinical Klebsella strain by actinomycetes isolated from different ecological niches in Pakistan. Avicenna Journal of Clinical Microbiology and Infection, 3(1): 1-10. doi: 10.17795/ajcmi-35228
26. Aslam, S. and **Sajid, I.** 2016. Antimicrobial potential of halophilic actinomycetes against multi drug resistant (MDR) ventilator associated pneumonia causing bacterial pathogens. Pakistan Journal of Pharmaceutical Sciences, 29(2): 367-374.
27. Aftab, U., Qureshi, Z.A., and **Sajid, I.** 2016. *In-vitro* Antitumor Activity and Metabolic Finger Printing of the Actinomycetes Isolated from Various Ecological Niches in Pakistan. Pakistan Journal of Zoology, 48(5): 1291-1305.
28. Anwar, S., Ali, B., **Sajid, I.** 2016. Screening of rhizospheric actinomycetes for various *in-vitro* and *in-vivo* plant growth promoting (PGP) traits and for agroactive compounds. Frontiers in Microbiology. **7:1334.doi: 10.3389/fmicb.2016.01334**
29. Aftab, U. and **Sajid, I.** 2017. Antitumor peptides from *Streptomyces* sp. SSA-13, isolated from Arabian Sea. International Journal of Peptide Research and Therapeutics. 23(2): 199-211. **DOI 10.1007/s10989-016-9552-6**
30. Abid, O. R., Khatoun, G., Arfan, M., Sajid, I., Langer, P., Rehman, W., Rahim, F., Yasir, M., Waqar, M. and Haleem, K. S. 2017. Synthesis of Hydrazones from Amino Acids and their Antimicrobial and Cytotoxic Activities. Journal of the Chinese Chemical Society. 64(9), 1079-1087.
31. Hassan, H. and Sajid, I. 2017. Antimicrobial natural products II - Terrestrial and marine organisms, In: Antimicrobial Research: Novel Bioknowledge and Educational Program (A. Mendez-Vilas, Ed.) Formatex. Pp 96-107.

32. Bhukari, S., Fatima, A., Hassan, A. and Sajid, I. 2017. Biological screening and chemical profiling of actinomycetes strains isolated from extreme environment. *LGU Journal of Life Sciences* 1(4): 270-283.
33. Larai, I., Raza, F.A., Kiran, A and Sajid, I. 2018. Antimicrobial and larvicidal potential of sweet basil (*Ocimum basilicum* L.) extracts against lymphatic filariasis vector *Culex quinquefasciatus*. *Pakistan journal of science* 70(1): 48-55.
34. Munir, A., Umer, H. M., Sabri, A. N. and Sajid, I. 2018. *In-vitro* Growth Inhibition and Biofilm Dispersion of Caries causing *Streptococcus mutans* by the Natural Extracts of Soil *Streptomyces*. *Pakistan Journal of Zoology* 50(4): 1443-1452.
35. Nadeem, R. A., Qadar, M. A., Ahmed, M., **Sajid, I.** and Shahzady, T. G. 2018. Development of sulfonamides of contemporary drugs as anticancer agents. *Latin American Journal of Pharmacy*, 37(6): 1144-8.
36. Fatima, A., Riaz, S. and Sajid, I. 2018. Anti-MRSA Potential and Metabolic Fingerprinting of the Actinobacteria from an Extreme Environment. *Tropical Journal of Pharmaceutical Research*. 17(10): 2037-2046.
37. Naseer, N., Fatima, A., and Sajid, I. 2018. Molecular characterization and secondary metabolites profiling of actinomycetes strains active against various MDR bacterial pathogens. *Punjab University Journal of Zoology*, 33(2):149-160.
38. Muhammad Abbas, Sherif I. Elshahawi, Xiachang Wang, Larissa V. Ponomareva, Imran Sajid, Khaled A. Shaaban, and Jon S. Thorson. 2018. Puromycins B–E, Naturally Occurring Amino-Nucleosides Produced by the Himalayan Isolate *Streptomyces* sp. PU-14G. *Journal of Natural Products*, 81 (11): 2560-2566. DOI: 10.1021/acs.jnatprod.8b00720
39. Fatima, A., Usman, A., Shaaban, K.A., Thorson, J.S and Sajid, I. 2019. Spore Forming Actinobacterial Diversity of Cholistan Desert Pakistan: Polyphasic Taxonomy, Antimicrobial Potential and Chemical Profiling. *BMC Microbiology*, 19(49): 1-17.
40. Nafisa Gull, Shahzad Maqsood Khan, Muhammad Taqi Zahid Butt, Saba Zia, Syed Khalid, Atif Islam Imran Sajid, Rafi Ullah Khan, Martin William King, 2019. Hybrid cross-linked hydrogels as a technology platform for in vitro release of cephadrine. *Polym Adv Technol*: 30:2414–2424.
41. Kanwal Z, Raza MA, Riaz S, Manzoor S, Tayyeb A, Sajid I, Naseem S. 2019. Synthesis and characterization of silver nanoparticle-decorated cobalt nanocomposites (Co@AgNPs) and their density-dependent antibacterial activity. *R. Soc. Open Sci.* 6: 182135. 1-15. <http://dx.doi.org/10.1098/rsos.182135>
42. Xiachang Wang, Muhammad Abbas, Yinan Zhang, Sherif I. Elshahawi, Larissa V. Ponomareva, Zheng Cui, Steven G. Van Lanen, Imran Sajid, S. Randal Voss, Khaled A. Shaaban, Jon S. Thorson, 2019. Baraphenazines A–G, Divergent Fused Phenazine-Based Metabolites from a Himalayan *Streptomyces*. *J. Nat. Prod.* 82(6):1686-1693. <https://doi.org/10.1021/acs.jnatprod.9b00289>.
43. Misbah Sultan, Rahid Masood, Ismat Bibi, Imran Sajid, Atif Islam, Sadia Attar, Maliha Uroos, Yusra Safa, Haq Nawaz Bhatti, 2019. Impact of soft segment size on physicochemical and antimicrobial properties of waterborne polyurethane dispersions for textile applications. *Progress in Organic Coatings*, 133: 174-179. <https://doi.org/10.1016/j.porgcoat.2019.04.051>.
44. Farhat Jubeen, Aisha Liaqat, Misbah Sultan, Sania Zafar Iqbal, Imran Sajid Farooq Sher, 2019. Green synthesis and biological evaluation of novel 5-fluorouracil derivatives as potent anticancer agents. *Saudi Pharmaceutical Journal*. <https://doi.org/10.1016/j.jsps.2019.09.013>
45. Mohsin Tassawar Cheema, Jing- Jing Ye, Fei- Na Li, Qin- Pei Lu, Muhammad Abbas, Imran Sajid, Da- Lin Huang, Shao- Wei Liu and Cheng- Hang Sun. 2020. *Auraticoccus cholistanensis* sp. nov., an actinomycete isolated from soil of the Cholistan Desert, and emended description of the genus *Auraticoccus*. *International Journal of Systematic and Evolutionary Microbiology*, 70(5): 3179-3185. DOI 10.1099/ijsem.0.004152.
46. Jabeen, F., Liaqat, A., Amjad, F., Sultan, M., Iqbal, S. Z., Sajid, I., Niazi, M. B. K., Sher, F. 2020. Synthesis of 5-fluorouracil crystals with novel organic acids as cofomers and its anticancer evaluation against HCT-116 colorectal cell lines. *Crystal Growth and Design*. 20, 4, 2406–2414.
47. Sana Aslam, Wayne Thomas Shier and Imran Sajid. 2020. Taxonomic Diversity, Antimicrobial Potential and Metabolite Profiling of Aquatic Actinobacteria from Kallar Kahar Lake, Pakistan. *Pakistan Journal of Zoology*, 52( 3). 1101-1110.
48. M. Saleem, M. T. Cheema, A. Hassan, S. Shaikat and I. Sajid. 2020. Endophytes and plant extracts of *Carica papaya* linn. exhibit promising antibacterial and *in-vitro* antitumor activity. *The Journal of Animal & Plant Sciences*, 30(4): 1037-1046.
49. Naila Noureen, Mohsin Tassawar Cheema, Sumaira Anwar, Shahida Hasnain and Imran Sajid. 2020. PCR-based Screening Approach: A Rapid Method to Detect the Biosynthetic Potential of

Antimicrobials in Actinobacterial Strains. Polish Journal of Microbiology, <https://doi.org/10.33073/pjm-2020-016>.

50. Liu, S. W., Ye, J. J., Lu, Q. P., Cheema, M. T., Abbas, M., Huang, D. L., Sajid, I., Sun, Chenghang. 2020. *Motilibacter deserti* sp. nov. and *Motilibacter aurantiacus* sp. nov., two novel actinobacteria isolated from soil of Cholistan Desert and emended description of the genus *Motilibacter*. Systematic and Applied Microbiology, 43: 126150.
51. Ye, J. J., Liu, S. W., Lu, Q. P., Cheema, M. T., Abbas, M., Sajid, I., Huang, D. L., Sun, Chenghang. 2020. *Arthrobacter mobilis* sp. nov., a novel actinobacterium isolated from Cholistan desert soil. International Journal of Systematic and Evolutionary Microbiology, 70:5445–5452.

#### Conferences/Seminars/Workshops Attended

1. 26<sup>th</sup> International congress of Zoology, University of Punjab, Lahore Pakistan April 03-05, 2006.
2. Training Workshop on “Principles of Immunoassays for Diagnostic Use” at Sheikh Zayed Medical complex Lahore, 15-18 May, 2006.
3. 1<sup>st</sup> National conference of cultural and Biological resources of Pakistan at Bara Gali Summer campus of Peshawar University, 23-25 August, 2006.
4. 1<sup>st</sup> GOTTINGER CHEMIE-FORUM, 1Day Symposium at Georg-August Universitat Gottingen, Germany, July 10 2007.
5. GOTTINGER-TUBINGER, Natural Product Chemistry conference, **Eberhard-Karl State University Tubingen, Germany, Sep 2007.**
6. 1<sup>st</sup> Symposium of Microbiology and Molecular Genetics, on Genomics, proteomics, Metabolomics: Recent trends in Biotechnology, University of the Punjab, Lahore, 22-23, Oct 2007.
7. Training workshop on Proteomics in the Department of Microbiology and Molecular Genetics, University of the Punjab, Lahore, Pakistan, Oct 2007.
8. Industrialization of Biotechnological Products, seminar, Lahore Chamber of Commerce, Lahore, Pakistan, Nov 2007.
9. “Funding research possibilities in developing countries” biannual international conference of **TWAS/Bio Vision Alexandria, Egypt, April 11-16, 2008.**
10. Second national conference on “Health Biotechnology” 27-28 May, 2008. Organized by “National Commission on Biotechnology” Islamabad, Pakistan.
11. 13<sup>th</sup> International Biotechnology Symposium and Exhibition, IBS 2008, (Biotechnology for the Sustainability of Human Society) **12-17 Oct 2008, Dalian China.**
12. National symposium on “Modern Trends and Approaches in Microbiology” Organized by Institute of Pure and Applied Biology (IPAB), Bahauddin Zakariya University Multan, 21 Jan 2009.
13. Workshop on “Separation Science and the Omics” Organized by School of Biological Sciences (SBS), University of the Punjab, Lahore-Pakistan, April 06-10, 2009.
14. Writing Project Proposals for Competitive Grant System (CGS), Punjab, Agriculture Research Board (PARB) 09-11 Nov, 2009, Lahore, Pakistan.
15. 3<sup>rd</sup> International conference on “Environmental, Industrial and Applied Microbiology, **BioMicroWorld 2009, 2-4 December, 2009, Lisbon, Portugal.**
16. 13<sup>th</sup> Master trainers faculty professional development program (13<sup>th</sup> MT-FPDP), organized by Learning Innovation Division, Higher Education Commission of Pakistan (LID-HEC), from April 14<sup>th</sup> to June 9<sup>th</sup> 2010, Islamabad, Pakistan.
17. National Workshop on Molecular Diagnostics, organized by Institute of Biochemistry and Biotechnology, University of Veterinary and Animal Sciences, Lahore, Jan 11-12, 2011, Lahore, Pakistan.
18. Two days workshop on “understanding the adult learners” on 15-16 July, 2011 organized by LID-HEC at HEC regional center Lahore, Pakistan.
19. International Workshop on “Modern Techniques in Structural Biology” 1-2 Oct, 2011, organized by ICCB-HEJ research institute-Karachi University in collaboration with COMSTECH Islamabad, Pakistan
20. Oral presentation in IFS – AFASSA International Symposium on Natural Products and their Applications in Health and Agriculture, **October 3-8, 2011, Kandy, Sri Lanka.**
21. Organized: In-Service Faculty Training Program at University of the Punjab in collaboration with Learning Innovation Division (LID), HEC 18-22 Oct, 2011.
22. Participation in: International Workshop on Bioinformatics: Database Mining and High Throughput Genomic Analysis, organized by OIC-COMSTECH in collaboration with Sindh Institute of Urology

- and Transplant (SIUT), Civil Hospital Karachi, held from 19-21 March, 2012 at COMSTECH secretariat Islamabad, Pakistan.
23. Participation in: International Workshop on Industrial Biotechnology, organized by OIC-COMSTECH in collaboration with Institute of Industrial Biotechnology, GC University Lahore, held from 10-12 July, 2012 at COMSTECH secretariat Islamabad, Pakistan.
  24. Attended: Advanced faculty professional training program for “Ensuring Training Effectiveness” (ETE), organized by LID-HEC Pakistan, in collaboration with Asian Institute of Technology (AIT) Bangkok, Thailand, held from 26<sup>th</sup> November to 14<sup>th</sup> December, 2012, **at AIT, Bangkok, Thailand.**
  25. Oral presentation in “Ninth International Biennial Conference of Pakistan Society for Microbiology” January, 28-31, 2013. Karachi, Pakistan.
  26. Organized: 2<sup>nd</sup> In-Service Faculty Training Program at University of the Punjab in collaboration with Learning Innovation Division (LID), HEC, 04-08 February, 2013.
  27. Member Organizing Committee of two days seminar “Bio-physicochemical basis for technopreneurship” organized by department of MMG, University of the Punjab, Lahore, Pakistan, 2-4 April, 2013.
  28. Acted as Resource person in “3 days AIT cascading program for ensuring training effectiveness” at University of Veterinary and Animal Sciences (UVAS), Lahore, Pakistan, July 08-10, 2013.
  29. Acted as Resource person in “3 days AIT cascading program for ensuring training effectiveness” at College Veterinary and Animal Sciences (CVAS) Jhang campus of University of Veterinary and Animal Sciences (UVAS), Jhang, Pakistan, 11 - 13 September, 2013.
  30. Member organizing committee “Hands on training workshop on Basic Biosafety Measures in Research” at department of MMG, University of the Punjab, in collaboration with NAYS Pakistan, 27 September, 2013.
  31. Presentation and participation in “5<sup>th</sup> international conference on environment, industrial and applied microbiology (**BioMicroWorld2013**), held at **Madrid, Spain from 2-4 October 2013.**
  32. Participation in “11<sup>th</sup> Biennial Conference of Pakistan Society for Biochemistry and Molecular Biology” November, 25-28, 2013. Organized by Institute of Biochemistry and Biotechnology (IBB), University of the Punjab, Lahore, Pakistan.
  33. Oral Presentation in, International Conference of Biochemical and Chemical Sciences (ICBCS-2014), February, 24-26, 2014, Organized by Department of Chemistry and Biochemistry, University of Agriculture, Faisalabad, Pakistan.
  34. Participation in “Workshop on “Biosafety and Risk Assessment” April, 19, 2014, MMG, University of the Punjab, Lahore, Pakistan.
  35. Participation in “International Conference on “Innovative Biological and Public Health Research” May, 06-08, 2014, Department of Zoology, GC University, Lahore, Pakistan.
  36. Participation in “The 1<sup>st</sup> International Seminar on “Soil Health Reclamation Approaches” June, 11, 2014, Organized by College of Earth and Environmental Sciences (CEES), University of the Punjab, Lahore, Pakistan.
  37. Participation in “one day symposium on “Emerging issues of multidrug resistance: A threat to the globe” 2<sup>nd</sup> October., 2014, Organized by Department of MMG, University of the Punjab, Lahore, Pakistan.
  38. Organized: 3<sup>rd</sup> In-Service Faculty Training Program at University of the Punjab in collaboration with Learning Innovation Division (LID), HEC, 17-21, November, 2014.
  39. Participation in “Indigenous on campus faculty training program, organized by university of the Punjab, at Institute of Administrative Sciences, December, 15-19, 2014.
  40. Participation and oral presentation in “10 International Biennial Conference of Pakistan Society for Microbiology” held on 25-28 March, 2015 at Lahore, Pakistan.
  41. Participation in ASMCUE-2015 Leadership Program for International Microbiology Educators Organized by **American Society for Microbiology (ASM), on 28-31 May, 2015 at Austin, Texas, USA.**
  42. Participation and oral presentation in “World Congress and Expo on Applied Microbiology” held on 18-20 August, 2015 at **Frankfurt, Germany.**
  43. Participation and oral presentation in one day seminar on “Biosafety” jointly organized by Department of Microbiology, GC University Faisalabad and American Society for Microbiology (ASM), on 10<sup>th</sup> November, 2015.
  44. Participation and oral presentation in “ Diversity in Microbiology: A Cross Talk” jointly organized by the Department of Microbiology and Molecular Genetics, University of the Punjab and American Society for Microbiology (ASM), on 17<sup>th</sup> December, 2015.

45. Participation and oral presentation in “2<sup>nd</sup> International Conference on Biotechnology: Challenges and Opportunities in Pakistan. Organized by University of South Asia (USA), Lahore, on 24-25 February, 2016.
46. Participation in two days workshop on “Patent Filing and Research Paper Writing” organized by National Center of Excellence in Physical Chemistry, University of Peshawar, at Nathia Gali, Pakistan, on 30-31 May, 2016.
47. Organized, 4<sup>th</sup> one week In-Service Faculty Training Program at University of the Punjab, Lahore, on 21-25 November, 2016.
48. Participation in the symposium on “Modern strategies in drugs discovery and vaccine design” held at Syed Baber Ali School of Science and Engineering, Lahore University of Management Sciences (LUMS) Lahore, Pakistan, on 2-3 December, 2016.
49. Participation in the three day workshop on “Drugs discovery and Development” held at ORIC, COMSATS Institute of Information Technology, Islamabad, Pakistan, on 21-23 December, 2016.
50. Participation and oral presentation in “3<sup>rd</sup> International Conference on Biotechnology: Challenges and Opportunities in Pakistan. Organized by University of South Asia (USA), Lahore, on February 8-9, 2017.
51. Participation and presentation in “18<sup>th</sup> International Symposium on the Biology of Actinomycetes (18<sup>th</sup> ISBA)” held on **May 23-27, 2017, at Jeju, Korea.**
52. Participation and oral Presentation: in 1st International Conference on Biotechnology, Organized by Lahore Garrison University (LGU), Lahore, on 11-12, October 2017.
53. Participation and oral Presentation: in International Conference on “Advances in Drug Discovery” organized by AWKUM at NARC, Islamabad, on 3-5 January, 2018.
54. Participation and oral Presentation: in International Conference on Microbiology and Molecular Genetics (MMG 2018), organized by department of MMG, University of the Punjab, Lahore, on 7-9 February, 2018.
55. Visited and gave oral presentation at: The Institute of Medicinal Biotechnology (IMB), Peking Union Medical College (PUMC) **Beijing, China**, in the collaborative research project funded by Chinese Academy of Medical Sciences (CAMS) under “belt and road initiative” on 15-23<sup>th</sup> March, 2018.
56. Participated and presented at: UK-CCTS 14<sup>th</sup> Annual Spring Conference 2019 “The Science of Health Policy and Systems Change” organized by UK-College of Clinical and Translational Sciences, on Aril 15<sup>th</sup> at Lexington, Kentucky, USA.
57. Participated and presented at: 10th Annual TODD Symposium: Development of Substance Use Disorder Therapeutics: from Prevention to Cure” organized by UK-College of Pharmacy, on November 12<sup>th</sup> at Lexington, Kentucky, USA.
58. Participated and attended: Fulbright Enrichment Seminar 2019 entitled “American Security: Economic and Food Solutions” held at Minneapolis, Minnesota from April 24-27, 2019 USA.
59. Participation in, 1st National Conference on entrepreneurship avenues in biological sciences, Organized by Lahore Garrison University (LGU), Lahore, January 8-9, 2020.
60. Participation and Invited Speaker: CancerBio Conference 2020, Organized by Cancer Research Center, University of the Punjab, Lahore, on February 13-14, 2020.
61. Organized online seminar entitled “COVID-19: Current status of vaccines and immunological variations in communities” on 15<sup>th</sup> September, 2020 at the forum of ASM-Punjab university students chapter.
62. Participation and Invited Speaker: 1st International Symposium On Current Trends and Future Prospects in Botanical Research, Organized by University of Okara, Pakistan, on November 10, 2020

### **Awards/Achievements**

1. Award of best poster presentation in, 1<sup>st</sup> GOTTINGER CHEMIE-FORUM, June 2007, Georg-August Universitat Gottingen, Germany.
2. **Higher Education Commission of Pakistan Award** under “**International Research Support Initiative Programme (IRSIP)**” for six months stay and research in Georg-August Universitat Gottingen, Germany.
3. **TWAS/BVA.NXT award** for the participation in biannual international conference of BioVision Alexandria/Egypt 2008.
4. Punjab University Travel Grant for participation in “13<sup>th</sup> International Biotechnology Symposium and Exhibition, (IBS, 2008), 12-17 Oct 2008, Dalian, China.
5. Punjab university research publications award for the year 2008.
6. Punjab University Travel Grant for participation in “3<sup>rd</sup> International conference on “Environmental, Industrial and Applied Microbiology, BioMicroWorld 2009, 2-4 December, 2009, Lisbon, Portugal.

7. Punjab University Travel Grant for participation in “IFS – AFASSA International Symposium on Natural Products and their Applications in Health and Agriculture, October 3-8, 2011, Kandy, Sri Lanka.
8. LID-HEC award for attending three week Advanced faculty professional training program for “Ensuring Training Effectiveness” (ETE), held from 26<sup>th</sup> November to 14<sup>th</sup> December, 2012, at Asian Institute of Technology (AIT), Bangkok, Thailand.
9. Punjab University Travel Grant for participation in “5<sup>th</sup> International conference on “Environmental, Industrial and Applied Microbiology, BioMicroWorld 2013, 2-4 October, 2013, Madrid, Spain.
10. **Erasmus Mundus Action 2, Experts4Asia**, Academic Exchange Award, for one month stay, academic/research interaction at Department of Chemistry, University of Turku, Finland.
11. **ASMCUE Leadership award** for International Microbiology Educators by American Society for Microbiology, for Participation in ASMCUE 2015 held on 28-31 May, 2015 at Austin, Texas, USA.
12. **Fulbright Postdoctoral Fellowship 2018-19**, for one year postdoctoral research at the Centre for Pharmaceutical Research and Innovation, College of Pharmacy, University of Kentucky, Lexington, USA.

### **Research Projects**

1. **Screening for antitumor/anticancer compounds from indigenous actinomycetes. Higher Education Commission of Pakistan (of worth PKR 8.96136 million) Completed**
2. Investigation of endophytes and extracts of Papaya (*Carica papaya*) for antimicrobial potential against MDR bacterial pathogens and for larvicidal compounds. Punjab University Research Grant 2015-16, **Ongoing**
3. Screening of endophytic actinomycetes from the members of Meliaceae family (Neem and Dharek) for antimicrobial activity and compounds against multidrug resistant (MDR) *Pseudomonas aeruginosa* strains. Punjab University Research Grant 2014-15, **Completed**
4. Preparative screening of Streptomyces sp. LSA-14 for antitumor compounds. Punjab University Research Grant 2013-2014, **(Completed)**
5. The insecticidal activity of *streptomyces species* isolated from the saline soils of Kalar Kahar, Punjab, Pakistan. Punjab University Research Grant 2011-2012, **Completed**
6. Screening of desert actinomycetes for antimicrobial activity against methicillin resistant *Staphylococcus aureus* (MRSA). Punjab University Research Grant, 2010-2011 **(Completed)**
7. PCR Based Screening for Polyketide Antibiotics from Endophytic Streptomyces, Punjab University Research Grant 2009-2010 **(Completed)**.
8. Endophytic actinomycetes, selective isolation, identification and Screening for anti microbial compounds, Punjab University Research Grant 2008-2009 **(Completed)**.
9. Screening for antibiotics from indigenous actinomycetes, their genetic and mutational analysis, Punjab University Research Grant 2007-2008 **(Completed)**.



## References

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