Dr. Syed Aun Muhammad



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ResearchGate: https://www.researchgate.net/profile/Aun-Syed?ev=hdr_xprf

POSITIONS

August 22, 2024-To Date	**Professor (Tenured)**, Institute of Molecular Biology and Biotechnology, BZ University Multan
August 2020-August 2024	**Associate Professor**, Institute of Molecular Biology and Biotechnology, BZ University Multan
July 2014-August 2020	**Assistant Professor**, Institute of Molecular Biology and Biotechnology, BZ University Multan
May 2017-To Date	**Secretary Board of Study** (BOS), Institute of Molecular Biology and Biotechnology, BZ University Multan
Jan 2012-Aug 2013	**Associate Dean Research**, Riphah Institute of Pharmaceutical Sciences (RIPS), Riphah International University Islamabad, Pakistan
Jan 2026-To Date	**Member** National Curriculum Review Committee (NCRC) of Bioinformatics, Higher Education Commission (HEC) of Pakistan

ACADEMIC QUALIFICATION

2015-2016	Fellowship Training, Wenzhou Medical University, China
2009-2013	Ph.D., Quaid-I-Azam University Islamabad/Indiana University-Purdue University Indianapolis (IUPUI) Indiana, USA
2006-2008	M.Phil., Quaid-I-Azam University Islamabad, Pakistan
1997-2001	Pharmacy Graduation, B.Z. University Multan, Pakistan

ACHIEVEMENTS SUMMARY

Total Publications Impact Factor (IF) **500.24**

Total Publications **125** [IF Journals: **93**, Other Journals: **32**]

Total Experience **18** Years [Industrial Experience: **05**, Academic Experience: **13**]

CAREER VIEW

TEACHING AND RESEARCH EXPERIENCES

August 2013-July 2014	Assistant Professor, Department of Pharmacy, COMSATS Institute of Information Technology, Abbottabad, Pakistan
Aug 2008-August 2013	Assistant Professor, Riphah Institute of Pharmaceutical Sciences (RIPS) Riphah International University Islamabad, Pakistan
Jan 2011- July, 2011	Visiting Research Scholar, Indiana University-Purdue University Indianapolis (IUPUI) Indiana, USA
Jan 2007-Dec 2008	Visiting Lecturer, Department of Pharmacy, University of Lahore Islamabad Campus, Islamabad, Pakistan
Jan 2007- Dec 2008	Visiting Lecturer, Hamdard Institute of Pharmaceutical Sciences (HIPS), Islamabad, Pakistan

ORGANIZATIONAL EXPERIENCE

June 2004- Oct 2006	Production Pharmacist, Highnoon Laboratories (Pvt) Ltd, Lahore, Pakistan
Aug 2002-June 2004	Production Pharmacist, P.D.H. Laboratories (Pvt) Ltd, Lahore, Pakistan
Jan 2001-Jul 2002	Microbiologist, A.Z. Pharmaceuticals (Pvt) Ltd, Lahore, Pakistan

RESEARCH PUBLICATIONS

PubMed Link: https://pubmed.ncbi.nlm.nih.gov/?term=Syed+Aun+Muhammad

2026

1. The Lancet Child & Adolescent Health. Karly I Cini, **Syed Aun Muhammad** (Global Collaborator), et al. Adolescent health across Asia Pacific, 2000–23: a systematic analysis for the Global Burden of Disease Study 2023. Lancet Child Adolesc Health, 2026; 10: 731–54. (Listed as Global Collaborator in author group—The Lancet Journal Impact Factor: 13.4, 2024.

2. Juweria Khawar, Jinlei Guo, Saeed Akhtar, Baogang Bai, Syed Aun Muhammad, 2026. Systems-level analysis prioritizes the importance of IFNG, SULF1, and OAS3 genes in head and neck cancer. Electronic Journal of Biotechnology. https://doi.org/10.1016/j.ejbt.2026.100705.
3. Sania Sadeeq, Mehwish Sultana, Wania Shahzadi, Umm-E- Farwa, Maira Kashif, **Syed Aun Muhammad**, Ajay Pandeya, 2026. Polymorphisms ADH1B rs1229984 and NAA25 rs4767364 correlate with Head and Neck Cancer Risk in Southern Punjab, Pakistan: A Case-Control Study. Annals of Medicine & Surgery (2026) 00:1–7.

2025

1. Global Burden of Disease Collaborative Network. Schumacher AE, **Syed Aun Muhammad** (Global Collaborator), et al. Global age-sex-specific all-cause mortality and life expectancy estimates for 204 countries and territories and 660 subnational locations, 1950–2023: a demographic analysis for the Global Burden of Disease Study 2023. The Lancet. 2025;406(10513):1731–1810. (Listed as Global Collaborator in author group—The Lancet Journal Impact Factor: 88.5, 2024 JCR).
2. Global Burden of Disease Collaborative Network. Hay SI, **Syed Aun Muhammad** (Global Collaborator), et al. Burden of 375 diseases and injuries, risk-attributable burden of 88 risk factors, and healthy life expectancy in 204 countries and territories, including 660 subnational locations, 1990–2023: a systematic analysis for the Global Burden of Disease Study 2023. The Lancet Journal. 2025;406(10513):1873–1922. (Listed as Global Collaborator in author group — Lancet Journal Impact Factor: 88.5, 2024 JCR).
3. Global Burden of Disease Collaborative Network. Naghavi M, **Syed Aun Muhammad** (Global Collaborator), et al. Global burden of 292 causes of death in 204 countries and territories and 660 subnational locations, 1990–2023: a systematic analysis for the Global Burden of Disease Study 2023. The Lancet Journal. 2025;406(10513):1811–1872. (Listed as Global Collaborator in author group — Journal Impact Factor: 88.5, 2024 JCR).
4. Sidra Zafar, Yuhe Bai, **Syed Aun Muhammad**, Jinlei Guo, Haris Khurram, Saba Zafar, Iraj Muqaddas, Rehan Sadiq Shaikh, Baogang Bai, 2024. Molecular Dynamics Simulation based Prediction of T-cell Epitopes for the Production of Effector Molecules for Liver cancer immunotherapy. Plos One. 20(1): e0309049.
5. Sadaf Noor, Muhammad Aamir Hassan, Muhammad Assad Aslam, **Syed Aun Muhammad**, Tahira Quosain Naqvi, Ghalia Batool Alvi, Harini Nagaraj, Syed Bilal Hussain, Vincent Rotello, 2025. Fungal Biosystems for the Fabrication of Copper Nanoparticles: An Effective Approach for

the Treatment of Bacterial Biofilms. ACS Applied Materials & Interfaces. DOI: 10.1021/acsami.5c07764.

6. Muhammad Zafar, Syeda Tahira Qousain Naqvi, Muhammad Imran Qadir, Muhammad Baber, Syed Bilal Hussain, Syed Nawazish-i-Husain, Nighat Fatima, and **Syed Aun Muhammad**, 2025. New Emerging Resistant Strains of *Candida albicans* Against Known Antifungal Drugs. Pakistan Journal of Zoology. 1-7, 2025.
7. Noreen Samad, Natasha Manzoor, Ali Irfan, Arslan Khalid, Umer Ejaz, Bakar Bin Khatab Abbas, **Syed Aun Muhammad**, Gamal A. Shazly, Saima Khaliq, Yousef A. Bin Jardan, 2025. Gallic acid alleviates omeprazole-induced depressive behavior and memory impairment. Naunyn-Schmiedeberg's Archives of Pharmacology. https://doi.org/10.1007/s00210-025-03812-w.

2024

1. Syeda Tahira Qousain Naqvi, **Syed Aun Muhammad**, Jinlei Guo, Sidra Zafar, Amjad Ali, Larry J. Anderson, Christina A. Rostad, Baogang Bai, 2024. Experimental trials of predicted CD4+ and CD8+ T-cell epitopes of respiratory syncytial virus. Front. Immunol. 15:1349749.
2. Sana Khalid, Jinlei Guo, **Syed Aun Muhammad**, Baogang Bai, 2024. Designing, Cloning and Simulation Studies of Cancer/Testis Antigens based Multi-Epitope Vaccine Candidates against Cutaneous Melanoma: An Immunoinformatics Approach. Biochemistry and Biophysics Reports. 37: 101651.
3. Ali Ahmad, Sadaf Noor, **Syed Aun Muhammad**, and Syed Bilal Hussain, 2024. Eco-Friendly synthesis of manganese nanoparticles from *Syzygium aromaticum* and study of their biological activities. Inorganic and Nano-Metal Chemistry. doi: 10.1080/24701556.2024.2313229.
4. Muhammad Sohail Arshad, Aqsa Ayub, Saman Zafar, Sadia Jafar Rana, **Syed Aun Muhammad**, Ambreen Aleem, Ekhoerose Onaiwu, Kazem Nazari, Ming-Wei Chang, Zeeshan Ahmad, 2024. Fabrication of miconazole nitrate solid lipid nanoparticles loaded microneedle patches for the treatment of *Candida albicans* biofilms. RSC Pharmaceutics. https://doi.org/10.1039/D4PM00042K
5. **Syed Aun Muhammad**, Syeda Tahira Qousain Naqvi, Tahir Naqqash, Sadaf Noor, 2024. Computational Exploration of Adenylyl Cyclase Type 2 Inhibition by Oleandrin Glycosides via Molecular Docking Studies. Asian Journal of Biotechnology and Genetic Engineering. 7(1): 1-7.
6. Momal Saleem, Sadaf Noor, Syeda Tahira Qousain Naqvi, **Syed Aun Muhammad**, 2024. Green Synthesis of Copper Nanoparticles using *Foeniculum Vulgare* Seed Extract and Evaluation of their Biological Activities. International Journal for Research in Applied Science & Engineering Technology. 45.98. 2321-9653.

7. Tahir Naqqash, **Syed Aun Muhammad**, Syed Bilal Hussain, Muhammad Kashif Hanif, Muhammad Arshad, 2024. *In silico* characterization of nifH gene of Rhizobium sp. TN04 isolated from the rhizosphere of non-leguminous potato plants. NUST Journal of Natural Sciences.8:1-26.

2023

1. **Syed Aun Muhammad**, Jinlei Guo, Komal Noor, Aymen Mustafa, Anam Amjad and Baogang Bai, 2023. Pangenomic and Immunoinformatics Based Analysis of Nipah Virus Revealed $CD4^+$ and $CD8^+$ T-Cell Epitopes as Potential Vaccine Candidates. Frontiers in Pharmacology.14:23
2. Mehreen Ismail, Baogang Bai, Jinlei Guo, Yuhui Bai, Zureesha Sajid, **Syed Aun Muhammad**, Rehan Sadiq Shaikh, 2023. Experimental Validation of MHC Class I and II Peptide-Based Potential Vaccine Candidates for Human Papilloma Virus Using Sprague-Dawly Models. Molecules.
3. **Syed Aun Muhammad**, Waseem Raza, Saba Ghafoor, Sania Sadeeq, Syeda Zahra Abbas and Sadaf Noor, 2023. Microarray cDNA Dataset Analysis Reveals Potential Genes Associated with Type 2 Diabetes Mellitus for Further Treatment Exploration. Asian Journal of Biochemistry, Genetics and Molecular Biology. 14 (4): 44-52.
4. Fatima Ul Zahra, Sadaf Noor, Hooria Ghias and **Syed Aun Muhammad**, 2023. Green Synthesis, Characterization, and Potential Biomedical Applications of AgNPs Using Coriander sativum and Olea europaea. Asian Journal of Biochemistry, Genetics and Molecular Biology. 14 (2): 31-43.
5. Tahir Naqqash, Mashal Zahra, Syed Bilal Hussain, **Syed Aun Muhammad**, Muhammad Arshad, Mehwish Batool Kazmi, 2023. *In silico* identification and characterization of nifH protein of *Azospirillum* strains isolated from *Solanum tuberosum* L. Pakistan Journal of Biochemistry and Biotechnology, 4(2), 23-36.
6. Tahir Naqqash, **Syed Aun Muhammad**, Syed Bilal Hussain, Muhammad Kashif, Hanif, Muhammad Arshad, 2023. *In silico* characterization of *nifH* gene of Rhizobium sp. TN04 isolated from the rhizosphere of non-leguminous potato plants. NUST Journal of Natural Sciences. 8 (1): 2023.
7. Umair Ilyas, Syeda Tahira Qousain Naqvi, Tahir Naqqash, Sadaf Noor, **Syed Aun Muhammad**, 2023. In silico Study of Cardiac Troponin Inhibitors. Global Scientific Journal. 11(12):314-29.

2022

1. Waseem Raza, Jinlei Guo, Muhammad Imran Qadir, Baogang Bai, **Syed Aun Muhammad**, 2022. qPCR Analysis Reveals Association of Differential Expression of *SRR, NFKB1* and *PDE4B* Genes with Type 2 Diabetes Mellitus. Frontiers in Endocrinology. 12:774696.

2. Fawad Ali, Arifullah Khan, **Syed Aun Muhammad**, Syed Shams ul Hassan, 2022. Quantitative Real-Time Analysis of Differential Expressed Genes in Peripheral Blood Samples of Hypertension Patients. Genes, 13:87. /doi.org/10.3390/genes13020187.
3. Umair Ilyas, Bisma Nazir, Reem Altaf, Syed Aun Muhammad, Hajra Zafar, Ana Cláudia, Muhammad Abbas, Yongtao Duan, 2022. Investigation of anti-diabetic potential and molecular simulation studies of dihydropyrimidinone derivatives. Frontiers in Endocrinology.
4. Reem Altaf, Sarmad Sheraz Jadoon, Syed Aun Muhammad, Umair Ilyas and Yongtao Duan, 2022. Recent advances in immune checkpoint inhibitors for non-small lung cancer treatment. Frontiers in Oncology-Thoracic Oncology. 12:1014156. doi: 10.3389/fonc.2022.1014156.
5. Sidra Zafar, Baogang Bai, Jinlei Guo, **Syed Aun Muhammad**, Syeda Tahira Qousain Naqvi, Muhammad Nauman Shabbir, Imran Imran, Rehan Sadiq Shaikh, Amjad Ali, 2022. Experimental Study of Potential CD8+ Trivalent Synthetic Peptides for Liver Cancer Vaccine Development Using Sprague Dawley Rat Models. BioMed Research International. 2022: 1-18.
6. Hina Tariq, Muhammad Rafi, Muhammad Imran Amirzada, **Syed Aun Muhammad**, Muhammad Arfat Yameen, Abdul Mannan, Tariq Ismail, Irum Shahzadi, Ghulam Murtaza, Nighat Fatima, 2022. Photodynamic Cytotoxic and Antibacterial Evaluation of Tecoma stans and Narcissus tazetta Mediated Silver Nanoparticles. Arabian Journal of Chemistry.15:103652.
7. Reem Altaf, Humaira Nadeem, Muhammad Nasir Iqbal, Umair Ilyas, Zaman Ashraf, Muhammad Imran, **Syed Aun Muhammad**, 2022. Synthesis, biological evaluation, 2D-QSAR, and molecular simulation studies of dihydropyrimidinone derivatives as alkaline phosphatase inhibitors. ACS Omega. 10.1021/acsomega.1c06833
8. Umair Ilyas, Lina Tariq, Shagufta Naaz, **Syed Aun Muhammad**, Humaira Nadeem, Reem Altaf, Shahiq Uz Zaman, Muhammad Faheem, Fawad Shah, et al., 2022. Cytotoxic Evaluation and Molecular Docking studies of Aminopyridine derivatives as Potential Anticancer Agents. Anti-Cancer Agents in Medicinal Chemistry. 22 (14): 2599-2606. doi: 10.2174/1871520622666211228105556.
9. Fawad Ali, He Liu Fang, Fawad Ali Shah, **Syed Aun Muhammad**, Arifullah Khan, Shupeng Li, 2022. Reprofiling analysis of FDA approved drugs with upregulated differential expression genes found in hypertension. Informatics in Medicine Unlocked. 29: 100895.
10. Fawad Ali, Arif-Ullah Khan, **Syed Aun Muhammad**, Syed Qamar Abbas, Syed Shams ul Hassan, Simona Bangau, 2022. Genome Wide Meta-Analysis Reveals New Gene Signatures and Potential Drug Targets of Hypertension. ACS Omega. 7(26):22754–22772.

11. Aman Ullah, Fawad Ali, **Syed Aun Muhammad**, Syed Shams Ul Hassan, 2022. A Review of the Genetic Variants Affecting Efficacy and Adverse Effects of the Standard of Care Treatment in Patients with Chronic Myelogenous Leukemia. Precision Medicine Communications.02(1):43-58.
12. Waseem Raza, Sonia Malik, Sadaf Noor, Syeda Tahira Qousain, Syed Bilal Hussain, **Syed Aun Muhammad**, 2022. The Role of GTF2H1 and SULF1 Gene Polymorphisms in T2DM. Asian Journal of Biochemistry, Genetics and Molecular Biology. 10(1): 27-36.
13. Waseem Raza, Bushra Rao, Syeda Zahra Abbas, Syeda Tahira Qousain Naqvi and **Syed Aun Muhammad**, 2022. Association of LPAR1 Gene Variants with Type 2 Diabetes in Local Population. Asian Journal of Biochemistry, Genetics and Molecular Biology. 1(4): 23-34.

2021

1. **Syed Aun Muhammad**, Syeda Tahira Qousain Naqvi, Thanh Nguyen, Xiaogang Wu, Fahad Munir, Muhammad Babar Jamshed, QiYu Zhang, 2021. Cisplatin's Potential for Type 2 Diabetes Repositioning by Inhibiting CDKN1A, FAS, and SESN1. Computers in Biology and Medicine. 135: 104640.
2. Syeda Tahira Qousain Naqvi, Mamoona Yasmeen, Mehreen Ismail, **Syed Aun Muhammad**, Syed Nawazish-i-Husain, Amjad Ali, Fahad Munir, Qi-Yu Zhang, 2021. Designing of Potential Polyvalent Vaccine Model for Respiratory Syncytial Virus by System Level Immunoinformatics Approaches. BioMed Research International. 18: 2021. https://doi.org/10.1155/2021/9940010.
3. Reem Altaf, Humaira Nadeem, Mustafeez Mujtaba Babar, Umair Ilyas & **Syed Aun Muhammad**, 2021. Genome-scale meta-analysis of breast cancer datasets identifies promising targets for drug development. Journal of Biological Research-Thessaloniki. 28:5.
4. Asma Bukhari, Humaira Nadeem, Muhammad Imran, **Syed Aun Muhammad**. Novel oxadiazole derivatives as potent inhibitors of α-amylase and α-glucosidase enzymes: Synthesis, in vitro evaluation, and molecular docking studies. Iranian Journal of Basic Medical Sciences. 10.22038/IJBMS.2021.58429.12977.
5. Saghir Hussain, Tariq Mahmood Ansari, Hina Sahar, Shamsa Kanwal, Farrukh Mansoor, Timur Darak, M. Zubair Iqbal, Fahim Khurshid Butt, Ajaz Hussain, Syed Aun Muhammad, Sher Zaman, Ghulam Hasnain Tariq, Hafiz Muhammad Asif, 2021. Functionalization of Multi-walled Carbon Nanotubes (MWCNTs) with Piperazine and Dopamine Derivatives and Their Potential Antibacterial Activity. Micro and Nano Letters. 15: 1-5. doi: 10.1049/mnl.2020.0114.
6. Mehreen Ismail, Zureesha Sajid, Amjad Ali, Xiaogang Wu, **Syed Aun Muhammad**, Rehan Sadiq Shiekh, 2020. Prediction of Prophylactic Peptide Vaccine Candidates for Human Papillomavirus (HPV): An Immunoinformatics and Reverse Vaccinology Approach. Current Proteomics. 18(2): 178-192. Doi. 10.2174/1570164617999200505095802.

7. Humaira Imam, Tahira Imam, Syeda Zahra Abbas, Mehreen Ismail, **Syed Aun Muhammad**, 2021. Association study of NAT2 gene polymorphism and risk of oral cancer in Southern Punjab, Pakistan. JPMA. The Journal of the Pakistan Medical Association. 71 (8): 1954-58.
8. Umair Ilyas, Shagufta Naz, Shahiq uz Zaman, Reem Altaf, Humaira Nadeem, **Syed Aun Muhammad**, Muhammad Faheem and Muhammad Imran Qadir, 2021. Design, synthesis and biological evaluations of 2-aminothiazole scaffold containing amino acid moieties as anti-cancer agents. Pakistan Journal of Pharmaceutical Sciences. 34 (4): 1509-1517.
9. Syeda Zahra Abbas, Ayesha Altaf, Syed Kashif Ali, Syeda Tahira Qousain Naqvi, Umair Ilyas, Muhammad Imran Qadir, **Syed Aun Muhammad**, 2021. *In silico* Study of Adenylyl Cyclase Type 2 Inhibitors. Global Scientific Journal. 9(4).
10. Syeda Zahra Abbas, Ayesha Altaf, Syed Aun Muhammad, Tahir Naqqash, et al., 2021. Polymorphic Investigation of ADCY2 and C7 Genes in Local Population of Oral Cancer. Asian Journal of Biochemistry, Genetics and Molecular Biology. 9(4): 23-33.
11. Tahir Naqqash, Nadir Bilal, Syed Bilal Hussain, Syed Aun Muhammad and Muhammad Imran Qadir, 2021. Docking Study of Modified Acetohaxamide and Modified Metformin with IRAK Protein. Biomedical Journal of Scientific and Technical Research. 32307-9.
12. Samreen Sarwar, Syed Bilal Hussain, **Syed Aun Muhammad**, Muhammad Zubair, Tahir Naqqash, 2021. Determination of genomic diversity of upland cotton (*Gossipium hirsutum*) genotypes using SSR markers. International Journal of Multidisciplinary Research and Development. 8(9): 16-21.
13. Anum Shaheen, Syed Bilal Hussain, **Syed Aun Muhammad**, Muhammad Zubair, Tahir Naqqash, 2021. Molecular and phylogenetic study of CLCuD tolerant cotton cultivars by using microsatellite markers. International Journal of Multidisciplinary Research and Development. 8(9): 25-30.

2020

1. Syeda Zahra Abbas, Muhammad Imran Qadir, and **Syed Aun Muhammad**, 2020. Systems-Level Differential Gene Expression Analysis Reveals New Genetic Variants of Oral Cancer. Nature Scientific Reports. 10, 14667. doi.org/10.1038/s41598-020-71346-7.
2. **Syed Aun Muhammad**, Sidra Zafar, Samana Rizvi, Imran Imran, Fahad Munir, Muhammad Baber Jamshed, Amjad Ali, Xiaogang wu, Numan Shahid, Muhammad Zaeem, and Qiyu Zhang, 2020. Experimental Analysis of T-Cell Epitopes for Designing Liver Cancer Vaccine Predicted by System Level Immunoinformatics Approach. American Journal of Physiology-Gastrointestinal and Liver Physiology. 1:318(6): G1055-G1069. doi.org/10.1152/ajpgi.00068.2020.
3. **Syed Aun Muhammad**, Hiba Ashfaq, Sidra Zafar, Fahad Munir, Muhammad Babar Jamshed, Jake Chen, QiYu Zhang, 2020. Polyvalent Therapeutic Vaccine for Type 2 Diabetes Mellitus:

Immunoinformatics Approach to Study Co-Stimulation of Cytokines and GLUT1 Receptors. BMC Molecular and Cell Biology. 21:56. doi:10.1186/s12860-020-00279-w.

4. Ehsan Mughal, Jamshaid Ashraf, Amina Sadiq, Nafeesa Naeem, **Syed Aun Muhammad**, Tahira Qousain, Muhammad N Zafar, Bilal A Khan, Muhammad Anees, 2020. Design and Synthesis of New Flavonols as Dual α-Amylase and α-Glucosidase Inhibitors: Structure-Activity Relationship, Drug-likeness, *In vitro* and *in silico* Studies. Journal of Molecular Structure. 1218:128458. doi.org/10.1016/j.molstruc.2020.128458.
5. Sadaf Noor, Ziaullah Shah, Aneela Javed, Amjad Ali, Syed Bilal Hussain, Sidra Zafar, Hazrat Ali, **Syed Aun Muhammad**, 2020. A Fungal Based Synthesis Method for Copper Nanoparticles with the Determination of Anticancer, Antidiabetic and Antibacterial Activities. Journal of Microbiological Methods. 174: 105966. doi.org/10.1016/j.mimet.2020.105966.
6. Umair Ilyas, Shahiq uz Zaman, Reem Altaf, Humaira Nadeem, **Syed Aun Muhammad**, 2020. Genome Wide Meta-analysis of cDNA Datasets Reveals New Target Gene Signatures of Colorectal Cancer Based on Systems Biology Approach. Journal of Biological Research-Thessaloniki. 27: 8.
7. Fahad Munir, Muhammad Babar Jamshed, Shahid Numan, **Syed Aun Muhammad**, Abdullah Al Mamun, Qiyu Zhang, Hajar Mansoor Hussain, 2020. Advances in immunomodulatory therapy for severe acute pancreatitis. Immunology Letters. 217: 72-76. doi.org/10.1016/j.imlet.2019.11.002.
8. Ehsan Ullah Mughal, Hafiz Umar Farooq, Amina Sadiq, Hummera Rafique, Sajjad Hussain Sumrra, Muhammad Naveed Zafar, Nighat Fatima, **Syed Aun Muhammad**, Abdul Manan, Chaudhary Omer Javed, Muhammad Tayyab, 2020. An Efficient Protocol for the Synthesis, Biological Screening and Molecular Docking Studies of 3,4-Dihydropyrimidine-2-one/thione Derivatives. Letters in Drug Design & Discovery. 17 (3): 330-340. DOI: 10.2174/1570180816666190329224458.
9. Bilal Ahmed, Ruby Basheer, Muhammad Irfan, Muhammad Sajid Hamid Akash, **Syed Aun Muhammad**, Muhammad Imran Qadir, 2020. Molecular elucidations of Hutchinson Gilford progeria syndrome: A hope for managing horrors of premature aging in children. Pak. J. Pharm. Sci. 33: 1179-1182.
10. Tahreem Zaheer, Maaz Waseem, Walifa Waqar, Kanwal Naz, Muhammad Shehroz, Zaara Ishaq, Hamza Arshad Dar, Tahir Ahmad, Syeda Marriam Bakhtiar, **Syed Aun Muhammad**, Amjad Ali. Anti-COVID-19 multi-epitope vaccine designs employing global viral genome sequences. PeerJ 8: e9541. https://doi.org/10.7717/peerj.9541.
11. Abdullah Al Mamun, Afroza Akter, Sukria Hossain, Tamanna Sarker, Shoronika Alam Safa, Quazi Golam Mustafa, **Syed Aun Muhammad**, Fahad Munir. Role of NLRP3 inflammasome in liver diseases. Journal of Digestive Diseases. 21(8).10.1111/1751-2980.12918.

12. Waseem Raza, Saba Ghafoor, Syeda Zahra Abbas, **Syed Aun Muhammad**, 2020. Polymorphic Evaluation of NFKBIA and SRR with Type 2 Diabetes Mellitus in Population of Southern Punjab. Meta Gene. 26: 100803.
13. Zainab Jamil, Syeda Tahira Qousain Naqvi, Sumaira Rasul, Syed Bilal Hussain, Nighat Fatima, Muhammad Imran Qadir, **Syed Aun Muhammad**. Antibacterial Activity and Characterization of Zinc Oxide Nanoparticles Synthesized by Microalgae. Pakistan Journal of Pharmaceutical Sciences. 33: 2497-2504.

2019

1. Hamza Arshad Dar, Tahreem Zaheer, Muhammad Shehroz, Nimat Ullah, Kanwal Naz, **Syed Aun Muhammad**, Tianyu Zhang and Amjad Ali, 2019. Immunoinformatics-Aided Design and Evaluation of a Potential Multi-Epitope Vaccine against *Klebsiella Pneumoniae*. Vaccines, 7: 88; doi:10.3390/vaccines7030088.
2. Muhammad Babar Jamshed, Fahad Munir, Numan Shahid, Ussama Sadiq, **Syed Aun Muhammad**, Noor Bader Ghanem, Hong Zhong, QiYu Zhang, 2019. Antitumor Activity and Combined Inhibitory Effect of Ceritinib with Gemcitabine in Pancreatic Cancer. American Journal of Physiology-Gastrointestinal and Liver Physiology. 318(1): G109-G119. doi.org/10.1152/ajpgi.00130.2019.
3. **Syed Aun Muhammad**, Nighat Fatima, Rehan Zafar Paracha, Amjad Ali, Jake Y. Chen, 2019. A systematic simulation-based meta-analytical framework for prediction of physiological biomarkers in Alopecia. Journal of Biological Research-BMC. 26:2-16.
4. Fahad Munir, Muhammad Jamshed, Numan Shahid, **Syed Aun Muhammad**, Adheesh Bhandari, and Zhang Qiyu, 2019. Protective effects of maresin 1 against inflammation in experimentally induced acute pancreatitis and related lung injury. American Journal of Physiology-Gastrointestinal and Liver Physiology. 1;317(3): G333-G341. doi: 10.1152/ajpgi.00078.2019.
5. Muhammad Sohail Arshad, Sameen Fatima, Kazem Nazari, Radeyah Ali, Muhammad Farhan, **Syed Aun Muhammad**, Nasir Abbas, Amjad Hussain, Israfil Kucuk, Ming-Wei Chang, Prina Mehta & Zeeshan Ahmad, 2019. Engineering and Characterization of BCG-loaded polymeric microneedles. Journal of Drug Targeting. 28(5):525-532. doi.org/10.1080/1061186X.2019.1693577.
6. Huma Tariq, Muhammad Zia, Ihsan-ul-Haq, **Syed Aun Muhammad**, Shujaat Ali Khan, Nighat Fatima, Abdul Mannan, Arshad Mehmood Abbasi, and Mingxing Zhang, 2019. Antioxidant, Antimicrobial, Cytotoxic, and Protein Kinase Inhibition Potential in *Aloe vera L*. BioMed Research International. 6478187.

7. Marium Batool, Samina Afzal, Khurram Afzal, Bilal Ahmed, Khizar Abbas, **Syed Aun Muhammad**, Muhammad Imran Qadir, 2019. Anticancer activity of Ziziphus mauritiana roots against human breast cancer cell line. Pak. J. Pharm. Sci. 32(4): 1715-1716.
8. Bilal Ahmed, Akhtar Rasul, Kanwal Zia Tareen, Muhammad Sajid Hamid Akash, **Syed Aun Muhammad**, Muhammad Irfan, Khizar Abbas and Muhammad Imran Qadir, 2019. Contemporary evidence on the dynamic role of probiotics in liver diseases. Pak. J. Pharm. Sci. 32 (6): 2759-2764.
9. Fahad Munir, Muhammad Babar Jamshed, Numan Shahid, **Syed Aun Muhammad**, QiYu Zhang, 2019. Current-status of diagnosis and Mesenchymal stem cells therapy for acute pancreatitis. Physiological Reports. 7(21): e14170. doi.org/10.14814/phy2.14170.
10. Sadaf Noor, Syeda Tahira Qousain, **Syed Aun Muhammad**, 2019. *In Silico* Docking Analysis of CCL28 (C-C Motif Chemokine Ligand 28) by Astragalin as Potential Inhibitor for Rheumatoid Arthritis. F1000 Research.8:313.
11. Rimsha Khan, Syeda Tahira Qousain Naqvi, Nighat Fatima and **Syed Aun Muhammad**. Study of antidiabetic activities of endophytic fungi isolated from plants. Pure and Applied Biology. 8(2):1287-1295.

2018

1. Thanh M. Nguyen, **Syed Aun Muhammad**, Jinlei Guo, Sara Ibrahim, Lin Ma, Baogang Bai, Bixin Zeng, 2018. DeCoSTT: A New Approach in Drug Repurposing from Control System Theory. Frontiers in Pharmacology. 9:583. doi: 10.3389/fphar.2018.00583.
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CONFERENCE/ABSTRACTS PROCEEDINGS

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3. **Syed Aun Muhammad**, 2016. New azole derivatives against methicillin resistant *Staphylococcus aureus*. 1st Two days (25-26 October, 2016) National Conference on "Recent Innovation in Pharmaceutical Sciences (NCRIPS, 2016), Theme: Combating Antimicrobial Resistance" held in Islamabad, Pakistan.
4. **Syed Aun Muhammad** et al., Med.Chem. 2013, 3:4. 2nd International Conference on "Medicinal Chemistry & Computer Aided Drug Designing" October 15-17, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA.

Patents Files Submitted

- **Syed Aun Muhammad**, Safia Ahmed at Intellectual Property Organization (IPO), Pakistan, Dated: 21st June 2013. Patent Application No. 425/2013. Application Receipt Number: 031848/ISB/13.

- Umair Ilyas, Reem Altaf, **Syed Aun Muhammad,** Humaira Nadeem, Safia Ahmedat Intellectual Property Organization (IPO), Pakistan, Dated: 10th December 2013. Patent Application No. 851/2013. Application Receipt Number: 032164/ISB/13.

RESEARCH GRANTS/PROJECTS FUNDING

S. No.	Year/Duration	Funding Agency	Total Grant	Project Title	Status
1	2021-23	PHEC Pakistan [Grant No. PHEC/ARA/PIRCA/20032/1]	7.0 M	Prediction, Designing and Experimental Validation of Potential Vaccine Candidates for Respiratory Syncytial Virus	Completed
2	2018-20	HEC Pakistan [Grant No. 6913]	3.03 M	Genome Wide Meta-Analysis OF cDNA Datasets and Molecular Validation of Genetic Variants in Type II Diabetes Mellitus	Completed
3	2018-21	HEC Pakistan [Grant No. 8445]	4.925 M	Prediction, Designing and Experimental Validation of T-Cells Epitopes for Developing Liver Cancer Vaccine	Completed
4	2024-25	BZU Multan [Grant No. 145]	0.3 M	Molecular Investigation of NKX2-5 and GATA4 Association with Familial Atrial Septal Defect (ASD) in Population of Southern Punjab Pakistan	In Progress
5	2023-24	BZU Multan [Grant No. 138]	0.240 M	Genetic Polymorphism of Wilms Tumor Gene Associated with Nephrotic Syndrome in Local Population of Southern Punjab	Completed
6	2021-22	BZU Multan [Grant No. 214]	0.195 M	Synthesis, Characterization and Potential Biomedical Applications of Ag-NPs using *Coriander sativum* and *Olea europaea*	Completed
7	2017-18	BZU Multan [Grant No. D-740]	0.14586 M	Characterization and Antimicrobial activities of Zinc Oxide Nanoparticles Synthesized by Microalgae	Completed
8	2016-17	HEC-Startup [Grant No. 263]	0.3876 M	Biosynthesis, Characterization and Biological Activities of Iron Nanoparticles (FeNPs) using *Sesamum indicum* Seeds Extract	Completed
9	2016-17	BZU Multan [Grant No. D-443]	0.150 M	Characterization and Antimicrobial Studies of Copper Nanoparticles Synthesized by *Aspergillus niger*	Completed
10	2015-16	BZU Multan [Grant No. D-118]	0.138516 M	Study of Effect of Light and Glycine on Memory and Mental Behavior in Mice	Completed

RESEARCH WORK SUPERVISED

M.Phil. Thesis: 42 [36 (Completed), 06 (In Progress)]

S. No.	MPhil Scholar	Session	Thesis Title
1	Farah Bano	2013-15	Biosynthesis, Characterization and Biological Activities of Iron Nanoparticles (FENPs) Using Sesame (*Sesamum indicum*) Seeds Extract
2	Samia Imtiaz	2013-15	Study of Effect of Glycine and Sound on Memory and Mental Behaviour in Mice
3	Syeda Tahira Qousain	2014-16	Characterization and Antimicrobial Studies of Copper Nanoparticles (CuNPs) Synthesized by *Aspergillus niger*
4	Muhammad Zafar	2014-16	Study of Antimicrobial Drug Resistance against Clinical Isolates of *Candida albicans*
5	Shahpara Rehman	2014-16	Screening of *Bacillus species* from Soil Samples for Peptidase Production
6	Zainab Jamil	2015-17	Characterization of Zinc Oxide Nanoparticles Synthesized by Microalgae
7	Rimsha Khan	2015-17	Evaluation of Anti-Diabetic Activities of Endophytic Fungi Isolated from Plants
8	Juweria Khawar	2015-17	Association of *GTF2H4, SULF1, OAS3, IFNGα* Genes with the Risk of Head and Neck Cancer in Southern Punjab
9	Samana Zahra	2015-17	Prediction of Putative T-Cells Epitopes for Liver Cancer Vaccine Designing by Immunoinformatics
10	Hiba Ashfaq	2016-18	Polyvalent Vaccine for Type 2 Diabetes Mellitus: Immunoinformatics Based Approach to Study Co-Stimulation of Cytokines and GLUT1 Receptors
11	Humaira Imam	2016-18	Study of NAT2 Polymorphism: A Differentially Expressed Gene in Oral Cancer
12	Mamoona Yasmeen	2016-18	Prediction of T-Cell Epitopes of Respiratory Syncytial Virus: A Vaccinomics Based Approach
13	Uzma Noreen	2016-18	Genetic Mapping of Fiber Quality Traits of Cotton (*Gossypium Hirsutum L.*) from CIM-534 and V-7 Derived Population

14	Sonia Malik	2016-18	GTF2H4 and SULF1 Genes Polymorphisms: Investigating Association of Smoking with Type 2 Diabetes Mellitus
15	Sidra Zafar	2017-19	Experimental Validation of Predicted T-Cell Epitopes for Liver Cancer Vaccine using Animal Models
16	Saba Ghafoor	2017-19	Association of NFKB1A and SRR Genes with Type 2 Diabetes Mellitus in Population of Southern Punjab
17	Sadaf Noor	2017-19	Characterization and Anticancer Activity of Cu-Nanoparticles Synthesized from *Aspergillus niger*
18	Ayesha Altaf	2017-19	Polymorphic Investigation of ADCY2 and C7 Gene in Local Population of Oral Cancer
19	Mubashir Ali	2018-20	In Vivo Experimental Study of Potential CD8+ T-Cell Epitopes for Liver Cancer Vaccine using Mice
20	Bushra Khalid	2018-20	Studying Essential Hypertension Associated Genetic Variants Contributed to Overlapping Immune Regulatory Network
21	Bushra Rao	2018-20	Polymorphic Association of LPAR1 Gene with Type 2 Diabetes Mellitus in Southern Punjab Population of Pakistan
22	Fatima Ul Zahra	2018-20	Synthesis, Characterization and Potential Biomedical Applications of Ag-NPs using *Coriander sativum* and *Olea europaea*
23	Rafia Riaz	2019-21	Bacteriophage Mediated Synthesis of ZnO Nanoparticles and Their Activity Analysis in Cancer Cell Lines
24	Momil Saleem	2019-21	Characterization Of Copper Nanoparticles Using Seed Extract of *Foeniculum Vulgare* and Their Antihyperlipidemic Activity
25	Iraj Muqadas	2019-21	Immunoinformatics Based Prediction of B And T Cell Epitopes for Liver Cancer Vaccine
26	Ummara Maqsood	2020-22	In-Silico Analysis of Damaged SNPs of Serine-Threonine kinase Protein Associated with Thyroid cancer in Human
27	Noor Arif	2020-22	Association of Genetic Polymorphism of TG and TSHR Genes with Hyperthyroidism in Local Population of South Punjab in Pakistan

28	Komal Noor	2020-22	Pangenomic and Immuno-Proteomics Analysis of Nipah Virus Strains Revealed T-Cell Epitopes as Potential Vaccine Candidates
29	Aleesha Rimmal	2020-22	*In vivo* Experimental Validation of Predicted Helper and Cytotoxic T-cells Epitopes against Liver Cancer using Animal Models
30	Sania Sadeeq	2021-23	Studying Association of *NAA25* and *ADH1B* with the Risk of Head and Neck Cancer in Southern Population of Punjab
31	Hooria Ghias	2021-23	Polymorphic Studies of *WT1* and *WIT1* Genes with Nephrotic Syndrome in Population of Southern Punjab
32	Anam Amjad	2021-23	Computational Analysis and *In vivo* Studies of Designed Potential Vaccine Candidates of Nipah Virus
33	Sana Khalid	2021-23	*In Vivo* Validation of Predicted CD4+ And CD8+ T Cell Epitopes of Liver Cancer
34	Ayesha Arshad	2022-24	Cloning Study of Liver Cancer Associated Vitronectin Antigen in *E. coli*
35	Kashmala Kalsoom Azhar	2022-24	Production and Characterization of Antimicrobial Metabolites Produced from Bacillus species
36	Nisha Ijaz	2022-24	Pangenomic Analysis Of T-Cell Epitopes For Designing And Evaluation Of Polyvalent Vaccine Construct Against HCV
37	Eisha Javed	2023-25	Molecular Expression of Hepatocellular Carcinoma Associated Vitronectin (VTN) Antigen in Suitable Expression Systems
38	Muhammad Adnan	2023-25	Experimental Testing of $CD4^+$ and $CD8^+$ T-Cell Epitopes of Nipah Virus
39	Mahzaib Azeem	2023-25	Evaluation of *In Vitro* Anticancer activity of Secondary Metabolites Isolated from Fungus
40	Rimsha Khan	2023-25	HPLC based Purification and *In-vitro* Biomedical Studies of Medicinal Plant Extracts
41	Zainab Shafeeq	2023-25	*In Silico* SNP Based Mutational Analysis of Genes Related to Polycystic Ovarian Syndrome
42	Nosheen Fatima	2023-25	Prediction of T-Cell Epitopes for Designing Vaccine Candidates against HIV
Research In Progress			

PhD Theses: 11 [8 (Completed), 03 (In Progress)]

S. No.	PhD Scholar	Registration No.	Thesis Title
1	Waseem Raza	2014-BZBT-16	Genome wide meta-analysis of cDNA datasets to study genetic variants in type-II diabetes mellitus
2	Mehreen Ismail	PHDBT-14-03	Molecular Validation Studies of New Vaccine Candidates against *Human Papilloma Virus* Identified by Reverse Vaccinology and Pangenomic Approaches
3	Umair Ilyas	SAP NO. 1946	*In Silico* and Biological Evaluation of Aminothiazole and Aminopyridine Derivatives as Potential Anticancer Agents
4	Fawad Ali	SAP No.16484	Investigation of Genetic Variants Among Hypertension Patients of Khyber Pakhtunkhwa and Reprofiling of Antihypertensive Drugs Against Complex Trait
5	Syeda Zahra Abbas	PHDBTM-16-05	Molecular Validation of Differentially Expressed Genes from cDNA Datasets in Pakistani Oral Cancer Patients
6	Syeda Tahira Qousain Naqvi	PHBT-17-01	Experimental Validation of Predicted CD4+ and CD8+ T-Cell Epitopes of Respiratory Syncytial Virus
7	Sidra Zafar	PHBT-19-03	Designing and *In Vivo* Studies of Potential CD4+ and CD8+ T-Cell Epitopes for Therapeutic Liver Cancer Vaccine Development Based on System-Level Immunoinformatics Approaches
8	Juweria Khawar	2014-bzbt-16	Polymorphic Variations and Differential Expression Analysis of Head and Neck Cancer in Population of Punjab
Research In Progress			
9	Sadaf Saeed	PHBT-21-02	Molecular and Genetic Evaluations of Polycystic Ovary Syndrome
10	Madiha Fatima	PHBT-22-01	Pangenomic Analysis and Experimental Validation of CD4+ and CD8+ T-Cell Epitopes as Potential Polyvalent Vaccine Construct of HCV
11	Nadia Muzaffar	PHBTM-23-02	Evaluation of Vitronectin and Alpha- Fetoprotein as Potential Therapeutic Liver Cancer Vaccine Candidates in Animal Models

PROFESSIONAL RECOGNITION (EXAMINER/EXPERT/MEMBER)

- Member DTRC “Departmental Tenure Track Committee” from 2023-to this date.
- External Expert of Board of Studies (BOS) of Department of Biotechnology, Khwaja Fareed University of Engineering and Information Technology (KFUEIT), Rahim Yar Khan, Pakistan
- Atta-ur-Rahman School of Applied Biosciences, National University of Science and Technology (NUST) Islamabad, Pakistan
- University College of Pharmacy (Pharm. D.), Punjab University Lahore Pakistan
- Shah Abdul Latif University Khairpur, Sindh, Pakistan
- Department of Pharmacy, Quaid-I-Azam University Islamabad, Pakistan
- Hamdard Institute of Pharmaceutical Sciences (HIPS) Islamabad Campus, Pakistan
- Riphah Institute of Pharmaceutical Sciences (RIPS) Islamabad Campus, Pakistan
- Department of Pharmacy, University of Lahore Islamabad Campus, Pakistan
- Department of Genetics, Hazara University KPK
- Shifa Tameer-e-Millat University, Department of Pharmacy Islamabad, Pakistan
- Department of Pharmacy, Akhtar Saeed Medical College Lahore, Pakistan
- Department of Pharmacy, COMSATS Institute of Information Technology Abbottabad, Pakistan

SELECTED HONORS AND AWARDS

2025	Certificate of Successful Completion of the “Introduction to Global Burden of Diseases (GBD) Online Course” at The Institute for Health Metrics and Evaluation, the University of Washington, USA.
2018	Certificate of Appreciation by ORIC BZU for Winning ‘Two NRPU Research Grants’
2018	Certificate of Appreciation by ORIC BZU for ‘Best Researcher of the Year 2017-18’
2015	Students Advisor Appraisal Award, BZ University, Multan
2014	Research Productivity Award by COMSATS Abbottabad
2010	HEC IRSIP Scholarship Award, Islamabad

2007 Merit Scholarship Award, Department of Microbiology, QA University, Islamabad

2005 GMP Certification Award, Highnoon Laboratory LTD, Lahore

EDITORIAL MEMBERS

- Frontiers in Immunology
- Frontiers in Systems Biology
- SM Journal of Bioinformatics and Proteomics (SMJBP)
- American Journal of Microbiology and Biotechnology
- American Journal of Pharmacy and Pharmacology

REVIEWER FOR JOURNALS

- Frontiers in Physiology/Systems Biology
- Frontiers in Pharmacology
- Frontiers in Genetics
- Bioinformatics Journal
- HAYATI Journal of Biosciences
- British Journal of Pharmaceutical Sciences
- Journal of Medicinal Chemistry
- Pakistan Journal of Pharmaceutical Sciences

INTERNATIONAL COLLABORATION/CONTACTS

- Dr. Jake Chen, Indiana Center for Systems Biology and Personalized Medicine, Indiana University-Purdue University Indianapolis (IUPUI), Indiana, USA
- Dr. X. Frank Yang, Department of Microbiology and Immunology, Indiana University School of Medicine, Indianapolis, IN, USA
- Dr. Xiaogang Wu, Institute for Systems Biology (ISB), 401 Terry Ave N, Seattle, WA 98109, USA

- Prof. Dr. Baogang Bai, School of Biopharmaceutical Informatics and Technologies, Wenzhou Medical University China

NATIONAL COLLABORATION/CONTACTS

- Department of Microbiology, Quaid-I-Azam University Islamabad
- Atta-ur-Rahman School of Applied Biosciences, National University of Sciences & Technology (NUST) Islamabad
- College of Pharmacy, Punjab University Lahore
- Riphah Institute of Pharmaceutical Sciences, Riphah International University Islamabad
- Department of Biochemistry, University of Karachi-Karachi, Pakistan
- Department of Pharmacy, Sarhad University, Peshawar

MEMBERSHIPS

- American Society of Microbiology, USA
- Zakariyan Federation of Biotechnologists, Pakistan
- Quaidians Scholar Society, Pakistan
- Pakistan Pharmacist Association, Pakistan
- American Pharmacist Association, USA

ACHIEVEMENTS/DEVELOPMENTS/EXPERTISE/SKILLS

Professional expertise in:

i. **Area of Research**: Genomics and Systems Biology, Drug Designing, Bioinformatics and Reverse Vaccinology, Antimicrobial Resistance, and Production of Bioactive metabolites
Disease Area: Infectious diseases, Cancer, Diabetes

ii. **Biological assays**: Antibacterial, Antifungal, Antioxidant, Antitumor, Cytotoxic and Anti-diabetes

iii. **Basics molecular techniques**: DNA extraction and purification, PCR, gel electrophoresis, SDS-PAGE analysis

iv. **Analytical instruments**: UV-spectrophotometer, Gel permeation chromatography, HPLC

v. **Basics Microbiological techniques**: Isolation and Purification of cultures, Flask level fermentation procedures for the production of antibiotics and enzymes, Optimization Procedures, Microbial susceptibility tests

vi. **Bioinformatics Skills**: Drug target prioritization through Systems Biology Approach, Data Mining, Molecular Docking, Phylogenetic Analysis, Interactome and Reactome Analysis, Homology Modeling, Microarray Differential Analysis

vii. Successful completion of Projects at the Platform of Medeolinx Company (PVT), Indianapolis, Indiana USA [For Reference: Jake Chen, Ph.D., CEO Medeolinx, Email: j.chen@medeolinx.com]

CONFERENCES/ SEMINARS/ WORKSHOPS

1. 3-Days (02/09/2025 to 04/09/2025) HPLC Troubleshooting and Maintenance Customer Training from Agilent University, Agilent Yishun, Singapore.
2. 2-Days 4th International Conference on Recent Innovation in Pharmaceutical Sciences (ICRIPS-2025) held on November 5-6, 2025 in Islamabad, Pakistan
3. Certificate of Successful Completion of the "Introduction to Global Burden of Diseases (GBD) Online Course" at The Institute for Health Metrics and Evaluation, the University of Washington, USA in March 2025.
4. Training workshop "Enhancing Biological Laboratory Capabilities in Pakistan" arranged by Association for Biorisk Management and Health Security Partners, at Institute of Molecular Biology and Biotechnology, BZU Multan on October 23-24, 2023.
5. Research training "Capacity Building Course for Researchers" arranged by British Council-Higher Education Commission (HEC) on August 1, 2022 to August 4, 2022 at Multan, Pakistan.
6. Training workshop "Enhancing Biological Laboratory Capabilities in Pakistan" arranged by Association for Biorisk Management and Health Security Partners, at Institute of Molecular Biology and Biotechnology, BZU Multan on October 17-21, 2022.
7. Oral Presentation at 3rd International Conference on "Recent Innovations in Pharmaceutical Sciences" held on March 13-14, 2019, at Riphah Institute of Pharmaceutical Sciences, RIU Islamabad, Pakistan.

8. Participation as a Resource-Person in Two Days Hands-on Training Workshop on "Computational/Bioinformatics Activity" held on March 13-14, 2019 at Riphah Institute of Pharmaceutical Sciences, RIU Islamabad, Pakistan.
9. Participation in Hands-on Three Days Training Workshop on "Data Science: A Cross Road Between Research and Data Analysis" held on February 13-15, 2019 at Institute of Molecular Biology and Biotechnology, Bahauddin Zakariya University Multan, Pakistan.
10. Participation in the Awareness Seminar on "Technology Development Fund" (TDF) held on 15th May, 2018 at Institute of Management Science (IMS-Hall), BZU Multan.
11. Successfully completion of One Day Training on "Dynamic Teaching Skills" held on 28th March, 2018 at Bahauddin Zakariya University Multan, Pakistan.
12. Successfully completion of Research and Training on "Biopharmaceutical Informatics and Big Genomic Data" Conducted at Wenzhou 1st Affiliated Hospital, Wenzhou, Zhejiang Province, China from 15th July-20th August, 2017.
13. Participation in International Seminar on "Expanding Eastern Medicine for Health of All" held on 10th November, 2016, organized by BEMS Medical Association in collaboration with Faculty of Pharmacy Bahauddin Zakariya University Multan, Pakistan.
14. 1st Two days (25-26 October, 2016) National Conference on "Recent Innovation in Pharmaceutical Sciences (NCRIPS, 2016), Theme: Combating Antimicrobial Resistance" held in Islamabad, Pakistan.
15. Three Days Workshop on "Basic Bioinformatics" April 19-21, 2016 at Institute of Molecular Biology and Biotechnology, Bahauddin Zakariya University Multan, Pakistan.
16. 1st International Conference on "Recent Innovations in Pharmaceutical Sciences" March 3-5, 2015, Riphah Institute of Pharmaceutical Sciences, RIU Islamabad, Pakistan.
17. 2nd International Conference on "Medicinal Chemistry & Computer Aided Drug Designing" October 15-17, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA. Syed Aun Muhammad et al., Med.Chem. 2013, 3:4.

18. Faculty Development Workshop arranged at COMSATS Institute of Information Technology Abbottabad, Pakistan from 26th August-30thAugust, 2013 (Abbottabad-Pakistan).
19. "Quality Enhancement Cell" Certification in Riphah Institute of Pharmaceutical Sciences Islamabad in 2012 (Islamabad-Pakistan).
20. 3-days 17th International Pharmacy Conference in 2012 arranged by Pakistan Pharmacist Associations (Islamabad-Pakistan).
21. Participation at Seven days "Biosafety/Food Safety Enhancement Program" workshop arranged by QAU in collaboration with NorAm Food and Environment Services, Surrey, BC, Canada in 2008 (QAU Islamabad-Pakistan).
22. One-day National Conference "Pharmaceutical Waters" in 2005 arranged by Pakistan Pharmacist Associations (Lahore-Pakistan).
23. Participation and completed successfully "GMP" Courses certification at Highnoon Laboratory in 2005 (Lahore-Pakistan).
24. 2nd DIA International Conference "Pharmacists Role in Health" in January 9-12, 2001 arranged by Pakistan Pharmacist Associations and Drug Information Association USA (Lahore-Pakistan).