

# DR. MUHAMMAD SHAHID

**Assistant Professor**

**CEMB, University of the Punjab Lahore-Pakistan**

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## PROFESSIONAL EXPERIENCE:

<b>February, 2020-Present</b>	<b>Assistant Professor</b> Centre of Excellence in Molecular Biology (CEMB), University of the Punjab, Lahore-Pakistan.
<b>January, 2010-February, 2020</b>	<b>Research Officer/Lecturer</b> Centre of Excellence in Molecular Biology (CEMB), University of the Punjab, Lahore-Pakistan
<b>April, 2008-December, 2009</b>	<b>Research Officer/Lecturer</b> Centre of Excellence in Molecular Biology (CEMB), University of the Punjab, Lahore-Pakistan
<b>April, 2006-March, 2008</b>	<b>Assistant Research Officer</b> Centre of Excellence in Molecular Biology (CEMB), University of the Punjab, Lahore-Pakistan

## EDUCATION:

2012-18	<b>Ph.D. in Molecular Biology</b> CEMB, University of the Punjab, Lahore-Pakistan <b>Thesis Title;</b> Identification and Correlation Analysis Of Host Genes Expression In Response To Hepatitis C Virus Infection And Therapy
2010-12	<b>M. Phil in Molecular Biology</b> CEMB, University of the Punjab, Lahore-Pakistan <b>Thesis Title:</b> Pathway-Focused Intrahepatic Gene Expression Study of Human Oxidative Stress and Antioxidant Molecules In Patients With Hepatitis C Virus-Induced Liver Fibrosis.
2003-05	<b>M.Sc. Chemistry</b> Govt. College University, Lahore-Pakistan <b>Thesis Title;</b> Production of Alpha Amylase from Thermophilic Bacillus Subtilis
2008	<b>PGD in Total Quality Management</b> IQTM, University of The Punjab, Lahore-Pakistan

**Thesis Title; Veterinary Hospital Management**

**AWARDS:**

1. Award of International Research Support Initiative Program (IRSIP) by Higher Education Commission (HEC) of Pakistan.
2. Performance Evaluation Award for the Year 2020 by University of the Punjab.
3. Performance Evaluation Award for the Year 2019 by University of the Punjab.
4. Performance Evaluation Award for the Year 2018 by University of the Punjab.
5. Performance Evaluation Award for the Year 2017 by University of the Punjab.
6. Performance Evaluation Award for the Year 2016 by University of the Punjab.
7. Performance Evaluation Award for the Year 2015 by University of the Punjab.
8. Research Incentive Award for the Year 2020 by University of the Punjab
9. Research Incentive Award for the Year 2019 by University of the Punjab.
10. Research Incentive Award for the Year 2017 by University of the Punjab.
11. Research Incentive Award for the Year 2016 by University of the Punjab.

**RESEARCH AREA (Area of interest):**

Viral hepatitis

HIV

Host-virus interaction!

Role of Host-Virus Genes in therapy outcomes

Transcriptome study (mRNA, circRNA, lncRNA, miRNA, and piRNA)

Competing Endogenous RNA Networks

Epidemiology of viral infectious Diseases

**PROFESSIONAL SKILLS:**

**Biochemistry & Molecular Biology (Techniques) Skills**

- Total RNA, viral RNA/DNA Extraction
- PCR / Multiplex PCR / Real-Time PCR / Sequencing PCR
- Restriction Analysis
- Direct and Indirect ELISA
- Spectrophotometry for Biomolecules
- Clinical Laboratory Technique
- cDNA synthesis, Mass Array, Spectrophotometry
- Cloning, SDS-PAGE, and Western Blot

**Bioinformatician & Computer Skills**

- Secondary and tertiary protein structure prediction
- Protein and DNA sequence and phylogenetic analysis

- Primer designing, BLAST, BLAT, CLUSTAL W, T Coffee, SPSS data Analysis.
- Pathways analysis, enrichment Analysis (GO)
- Competing Endogenous RNA Networks
- Cytoscape tool

#### RESEARCH PROJECTS (PROFESSIONAL):

- Working on a project of the Antiviral effects of Thiazolide derivatives on the Hepatitis C Virus in Huh-7 cell line and characterization of HCV subgenomic replicons.
- Worked on Dengue Outbreaks 2011-2014 in Punjab, Pakistan.
- In order to forecast any potential outbreak in various districts of Punjab and KPK, I worked on the detection of the Dengue virus in larvae and adult Aedes mosquitoes—the primary vector of Dengue fever—collected from different districts in 2014 and 2015.
- Worked in association with Ph.D. Scholar on Establishment of stable cell lines of structural and nonstructural genes of Hepatitis C Virus Genotype 3a.
- Worked on Genotype based co-relation of Hepatitis D virus with Hepatitis B virus
- Hepatitis B virus genotypes circulating in Pakistan.

#### DIPLOMA/ COURSES:

- A Basic Course on “*R-Language*” [1.4 ECTS], Erasmus MC, Rotterdam, Netherlands (17-20 May 2016).
- A “*Basic Introduction Course on SPSS*” [1.0 ECTS], Erasmus MC, Rotterdam, Netherlands (9-11 May 2016).
- A Basic Course on “*Analysis of microarray and RNA Seq expression data using R/BioC and web tools*” [2.0 ECTS], Erasmus MC, Rotterdam, Netherlands (04-08 July 2016).
- “*The course in Virology*” [1.8 ECTS], Erasmus MC, Rotterdam, Netherlands (27-30 June 2016).
- A Course on “*Survival Analysis*” [0.5 ECTS], Erasmus MC, Rotterdam, Netherlands (23-24 June 2016).
- A Course on “*Ensemble Workshop XII*” [0.6 ECTS], Erasmus MC, Rotterdam, Netherlands (22-23 March 2016).
- A Conference on “*molmed*” [0.3 ECTS], Erasmus MC, Rotterdam, Netherlands (03 March 2016).
- Diploma in “*Public Health Administration*” MIIM, Islamabad-Pakistan (2008).
- Diploma in “*Occupational Health, Safety, and Environment*” MIIM, Islamabad-Pakistan (2008).
- Professional certificate in “*Total Quality Management*” Virtual University of Pakistan, 2009

#### PUBLICATIONS:

S.NO	Publication
71	Mammalian Cell Expression of a Fully Functional Recombinant E6 Protein Encoded by HPV16 Isolate from Pakistani Population . Ayesha Vajeeda, Shazia Rafique, Sameen Ahmed, Muhammad Idrees, Rakhtasha Munir, Gulshan Zaidi, Khadija Zahid and <b>Muhammad Shahid</b> . Pakistan J. Zool., pp 1-8, 2025. DOI: <a href="https://dx.doi.org/10.17582/journal.pjz/20221116071159">https://dx.doi.org/10.17582/journal.pjz/20221116071159</a>
70	Shah, B.S.Y., Umer, K.M., Aymn, Z., Tazeen, Z., Usman, G.M., Iram, A., <b>Muhammad, S.</b> , Rakhtasha, M., Saima, Y. and Ayesha, V., 2024. Recent updates on molecular epidemiology of hepatitis C virus in Gujranwala, Pakistan. <i>African Health Sciences</i> , 24(4), pp.20-28.
69	Almas, I., Tariq, S., Amin, I. et al. Molecular epidemiology and genetic characterization of hepatitis B virus in two major provinces of Pakistan. Arch Virol 169, 239 (2024). <a href="https://doi.org/10.1007/s00705-024-06163-8">https://doi.org/10.1007/s00705-024-06163-8</a>
68	Choudry MW, Riaz R, Raza MH, Nawaz P, Ahmad B, Jahan N, Rafique S, Afza S, Amin I, Shahid M. Development of Non-Viral Targeted RNA Delivery Vehicles - A Key Factor in Success of Therapeutic RNA. J Drug Target. 2024 Oct 11:1-24. doi: 10.1080/1061186X.2024.2416241. Epub ahead of print. PMID: 39392510.
67	Nawaz, R., Husnain, A., Ali Arif, M., Hassan, Z., Ahad, A., Amat Ur Rasool, H., Shahid, M., Mehmood, U., Razzaq, A., Idrees, M. and G. Carter, W., 2024. Computational prediction of a phage cocktail active against multidrug-resistant bacteria. <i>F1000Research</i> , 13, p.1292.
66	Rabia Nawaz1 *, Mohi-Ud-Din Nasir1 , Muhammad Khizar1 , Haroon Riaz1 , Jalees ul Hassan2 , Ammara Ahad1 , Ghazanfar Ali1 , Zohal Hassan1 , M. Mushtaq1 , M. Shahid3 and Uqba Mehmoodhylogenetic Analysis and Structural Prediction of NSP9 and NSP11 of SARSCoV-2 Variants Across the Globe. Pakistan J. Zool., pp 1-6, 2024. DOI: <a href="https://dx.doi.org/10.17582/journal.pjz/20221107051149">https://dx.doi.org/10.17582/journal.pjz/20221107051149</a>
65	Amin, I., Rafique, S., Ali, A., Ahmed, N., Shahid, M., Afzal, S., Tahir, S., Waqas, M., Bibi, S., Elgorban, A.M. and Idrees, M., 2024. Improving Access to Anti-HDV Testing: Development and Validation of an Affordable In-House ELISA Assay. ACS Omega.
64	Iqra Khurram, Muhammad Umer Khan, Ayman Saleem, Saooda Ibrahim, Muhammad Usman Ghani, Muhammad Shahid, Iram Amin, Daniela Calina, Javad Sharifi-Rad. The Potential of Cell-Free DNA in Cancer: towards Standardization and Optimization for Enhanced Diagnosis and Monitoring. Journal of Biological Regulators and Homeostatic Agents. 2024, 38(4):2713-2732 <a href="https://doi.org/10.23812/j.biol.regul.homeost.agents.20243804.213">https://doi.org/10.23812/j.biol.regul.homeost.agents.20243804.213</a>
63	presence of anti-nuclear and anti-double standard DNA antibodies among healthy individuals twin cities (Rawalpindi and Islamabad) of Pakistan, Pakistan Journal of Scientific and Industrial Research Series B: Biological Sciences
62	Nawaz, R., Arif, M.A., Ahmad, Z. et al. An ncRNA transcriptomics-based approach to design siRNA molecules against SARS-CoV-2 double membrane vesicle formation and accessory genes. BMC Infect Dis 23, 872 (2023). <a href="https://doi.org/10.1186/s12879-023-08870-0">https://doi.org/10.1186/s12879-023-08870-0</a>
61	Khan, Muhammad Umer, Nauman Khokkar, Muhammad Ahmad Ashraf, Muhammad Usman Ghani, Saima Younas, Iram Amin, <b>Muhammad Shahid</b> , Inam

	Ullah, Rakhtasha Munir, and Sameen Ahmed. "Association between COVID-19 Infection Susceptibility and ABO Blood Groups and Rhesus Antigen: COVID-19 Infection Susceptibility and ABO Blood Groups." Pakistan Journal of Health Sciences (2023): 46-50.
60	Rizvi, Nayab Batool, Hassam Farooq, Qaiser Alam Khan, Muhammad Zeeshan Rana, Sehrish Zaffar, <b>Muhammad Shahid</b> , and Nazim Hussain. "Comparative Analysis of IgG Antibody Titers Induced by Three Different SARS-COV-2 Vaccines in Healthy Adults of Pakistan." Current Microbiology 80, no. 12 (2023): 373.
59	<b>Muhammad Shahid</b> , Iram Amin*, Rabia Nawaz, Samia Afzal, Afza Rasul, Muhammad Umer Khan, Fatima Arshad Butt, and Muhammad Idrees. A Comparative Analysis of Baseline Variables in Responder and Non-Responder Groups of Chronic Hepatitis C patients. Pakistan Journal of Zoology ( <b>accepted</b> )
58	Rakhtasha Munir, Shazia Rafique, Iram Amin, Amjad Ali, <b>Muhammad Shahid</b> , Muhammad Umer Khan, and Muhammad Idrees. Potential Role of Recombinant Capsid Protein of Dengue Virus Serotype 2 in the Development of an In-House Elisa-Based Detection of Infection. Pakistan Journal of Zoology ( <b>accepted</b> )
57	Iqra Almas, Samia Afzal, Iram Amin, <b>Muhammad Shahid</b> , Muhammad Idrees Quasispecies analysis through NGS and Identification of Escape mutation in a family infected with Hepatitis B Virus: A study from Lahore, Pakistan Journal of Zoology
56	<b>Shahid, M.</b> , Idrees, M., Rasul, A., Amin, I. and Afzal, S., 2022. Identification of Predictive Factors in Chronic Hepatitis C Patients with Non-Infected Individuals: A Comparative Analysis. Pakistan Journal of Zoology
55	Zaman, H., Khan, A., Khan, K., Toheed, S., Abdullah, M., Zeeshan, H.M., Hameed, A., Umar, M., Shahid, M., Malik, K. and Afzal, S., ADENO-ASSOCIATED VIRUSES MEDIATED GENE THERAPY. Critical Reviews™ in Eukaryotic Gene Expression.
54	Faiqa Noor, Rabia Nawaz, Ammara Ahad, Anum Ajmal, Samyyia Abrar, <b>Muhammad Shahid</b> , Aqsa Sarwar, Aramish Naz, Uqba Mehmood, and Muhammad Idrees. Structural Analysis and Epitope Prediction of S2 Domain of SARS-CoV-2, Conservation Analysis Among Major Variants. Viral Immunology.Mar 2023.110-121. <a href="http://doi.org/10.1089/vim.2022.0101">http://doi.org/10.1089/vim.2022.0101</a> . Published in Volume: 36 Issue 2: March 13, 2023
53	Butt, F., <b>Shahid, M.</b> , Hassan, M., Tawakkal, F., Amin, I., Afzal, S., Bhatti, R., Nawaz, R. and Idrees, M., 2022. A review on hepatitis C virus: role of viral and host-cellular factors in replication and existing therapeutic strategies. Egyptian Liver Journal, 12(1), pp.1-8.
52	Syyam, A., Nawaz, A., Ijaz, A., Sajjad, U., Fazil, A., Irfan, S., Muzaffar, A., <b>Shahid, M.</b> , Idrees, M., Malik, K. and Afzal, S., 2022. Adenovirus vector system: construction, history and therapeutic applications. BioTechniques.
51	Ahmed, A., Safdar, M., Sardar, S., Yousaf, S., Farooq, F., Raza, A., <b>Shahid, M.</b> , Malik, K. and Afzal, S., 2022. Modern vaccine strategies for emerging zoonotic viruses. Expert Review of Vaccines.
50	Munir, R., Rafique, S., Ali, A., Amin, I., Ahmed, S., Vajeelha, A., Shahid, M., Samiullah, T.R., Idrees, M., Tao, Y.J. and Khan, M.U., 2023. Molecular characterization of recombinant premembrane protein of dengue virus serotype-2 for development of diagnostic assay. Journal of Basic Microbiology, 63(5), pp.489-498.

49	Mir, I., Aamir, S., Shah, S.R.H., Shahid, M., Amin, I., Afzal, S., Nawaz, A., Khan, M.U. and Idrees, M., 2022. Immune-related therapeutics: an update on antiviral drugs and vaccines to tackle the COVID-19 pandemic. <i>Osong Public Health and Research Perspectives</i> , 13(2), p.84.
48	Aamir, S., Mir, I., <b>Shahid, M.</b> , Amin, I., Afzal, S., Rafique, S., Bhatti, R., Nawaz, A., Butt, F., Munir, R. and Idrees, M., 2022. Insights into the Structure, Replication, and Pathogenesis of the Severe Acute Respiratory Syndrome Coronavirus 2. <i>Re: GEN Open</i> , 2(1), pp.85-92.
47	Samia Afzal, Iram Amin, <b>Muhammad Shahid</b> , Muhammad Idrees. Frequency of Hepatitis D Viral Infection in Chronic Hepatitis B Patients Circulating in Pakistan. <i>Pakistan Journal of Zoology</i> .2022
46	Aqsa Sarwar, Rabia Nawaz, Saba Batool, <b>Muhammad Shahid</b> , Areena Aftab, Kainat Ahmed, Aneesa Naseer, Anum Ajmal, & Uqba Mehmood. (2022). Role of PBMCs in advancements of HCV-induced disease progression of the liver. <i>Pakistan Journal of Emerging Science and Technologies</i> , 3(1), 13. <a href="https://doi.org/10.5281/zenodo.6509586">https://doi.org/10.5281/zenodo.6509586</a>
45	Nawaz R, Shakoor H, <b>Shahid M</b> , Ahad A, Sabri S, Ajmal A, Mehmood U, Riaz H, Rehman F, Akhtar S, Rehman A, Rasheed R, Kabir M, Jabeen A, Sharif M. Prevalence of Hepatitis B and C, Tuberculosis, and Human Immune Deficiency Virus among injection drug users of Punjab, Pakistan-A cross-sectional study. <i>JUCMD</i> [Internet]. 25Jun.2022 [cited 13Jul.2022];1(2). Available from: <a href="https://sites2.uol.edu.pk/journals/jucmd/article/view/1613">https://sites2.uol.edu.pk/journals/jucmd/article/view/1613</a>
44	Muhammad Alamgir Khan1, Rabia Nawaz1,2*, Khadija Akhter1, Ammara Ahad1, Samyyia Abrar1, Uqba Mehmood1, <b>MuhammadShahid2</b> , Sabeen Sabri3, Sana Sajjad1, Marhaba Khurshid1, SaadAhmed4Case report of multiple concomitant infections (HCV, HEV, Typhoid, and Oralthrush) and their treatment challenges in a developing country case report2022   Volume 8   issue 2   Pages 157-161DOI: <a href="https://doi.org/10.47262/BL/8.2.20220523">https://doi.org/10.47262/BL/8.2.20220523</a>
43	Zainab Ahmad1, Rabia Nawaz1,2*, <b>Muhammad Shahid2</b> , SabeenSabri3, Ammara Ahad1, Uqba Mehmood1, Ghazia Batool1, BushraSiddiqui1, Muhammad Usman Adolescent fibroadenoma diagnosis via ultrasound and mammographyCase study2022   Volume 8   issue 2   Pages 123-125DOI: <a href="https://doi.org/10.47262/BL/8.2.20211202">https://doi.org/10.47262/BL/8.2.20211202</a>
	<b>2022</b>
42	Rafique, S., Saeed, M., Ilyas, I., Asad, Z. Shahid, M., and Afzal, S., 2021. Advancements in Biosensing Technologies for the Detection of Human Immunodeficiency Virus. <i>Adv. Prev. Med. Health Care</i> , 4, p.1030.
41	Hassan, M., Hassan, A., Farooq, M., Afzal, S., Khan, M.A., Amin, I., <b>Shahid, M.</b> , Idrees, M. and Shahid, A.A., 2021. Dengue Vaccines: Ongoing Challenges and Current Status in the Advancement of Different Candidates. <i>Critical Reviews™ in Eukaryotic Gene Expression</i> , 31(5).
40	Hassan, M., Zalkifal, M., Wahab, A., Afzal, S., Rafique, S., <b>Shahid, M.</b> , Khan, M., Ahmed, N., Idrees, M. and Shahid, A.A., 2021. Novel Coronavirus: A Review from Origin to Current Status of Therapeutic Strategies. <i>Critical Reviews™ in Eukaryotic Gene Expression</i> , 31(3).
	<b>2021</b>

39	Zahid, S., Andleeb, S., Anjum, S., Afzal, S., Amin, I., <b>Shahid, M.</b> , Rafique, S. and Idrees, M., 2020. A Molecular Based Approach to Characterize Untypable HCV Genotype. <i>International Journal of Pathology</i> , 18(4), pp.128-135.
38	Almas, I., Afzal, S., Imtiaz, H., Shaheen, M.A., Daud, M., Saghir, A., Amin, I., <b>Shahid, M.</b> and Idrees, M., 2020. Drug Resistance in Hepatitis C Virus: Future Prospects and Strategies to Combat It. <i>Critical Reviews™ in Eukaryotic Gene Expression</i> , 30(4).
37	Bukhari, M.M.M., Mir, I., Idrees, M., Afzal, S. and <b>Shahid, M.</b> , 2020. Role of MicroRNAs in Establishing Latency of Human Immunodeficiency Virus. <i>Critical Reviews™ in Eukaryotic Gene Expression</i> , 30(4).
36	Shaheen, M., Afzal, S., Khubaib, B., Amin, I., <b>Shahid, M.</b> and Idrees, M., 2020. Association of Interleukin 28B Polymorphism with Clearance of Hepatitis C Virus: A Mini Review. <i>Critical Reviews™ in Eukaryotic Gene Expression</i> , 30(3).
35	Ali, S., Afzal, S., Yousaf, M.Z., <b>Shahid, M.</b> , Amin, I., Idrees, M. and Aftab, A., 2020. Paradoxical Role of Dengue Virus Envelope Protein Domain III Antibodies in Dengue Virus Infection. <i>Critical Reviews™ in Eukaryotic Gene Expression</i> , 30(3).
34	<b>Shahid, M.</b> , Idrees, M., Butt, A.M., Raza, S.M., Amin, I., Rasul, A. and Afzal, S., 2020. Blood-based gene expression profile of oxidative stress and antioxidant genes for identifying surrogate markers of liver tissue injury in chronic hepatitis C patients. <i>Archives of Virology</i> , pp.1-14.
33	Hassan, A., Saeed, A., Afzal, S., <b>Shahid, M.</b> , Amin, I. and Idrees, M., 2020. Applications and hazards associated with carbon nanotubes in biomedical sciences. <i>Inorganic and Nano-Metal Chemistry</i> , pp.1-12.
32	Zahid, K., Shakoor, S., Sajid, H.A., Afzal, S., Ali, L., Amin, I., <b>Shahid, M.</b> and Idrees, M., 2020. Advancements in developing an effective and preventive dengue vaccine. <i>Future Virology</i> , (00).
31	Afzal, S., Zahid, S., Amin, I., <b>Shahid, M.</b> and Idrees, M., 2020. Prevalence and Upcoming Threats of Chikungunya Virus in Pakistani Population. <i>Pakistan Journal of Zoology</i> , 52(4), pp.1623-1626.
30	Sherzada, S., Khan, M.N., Babar, M.E., Idrees, M., Wajid, A., Sharif, M.N., Iqbal, M.S., Amin, I. and <b>Shahid, M.</b> , 2020. Identification of Three Cyprinidae Family Members through Cytochrome Oxidase I. <i>Pakistan J. Zool</i> , 52(1), pp.417-420.
29	Nazir, A., Malik, K., Qamar, H., Basit, M.H., Liaqat, A., <b>Shahid, M.</b> , Khan, M.I., Fatima, A., Irshad, A. and Sadia, H., 2020. 9. A review: Use of plant extracts and their phytochemical constituents to control antibiotic resistance in <i>S. aureus</i> . <i>Pure and Applied Biology (PAB)</i> , 9(1), pp.720-727.
	<b>2020</b>
28	<b>Shahid, M.</b> , Idrees, M., Butt, A.M., Raza, S.M., Amin, I., Rasul, A., Afzal, S., Zahid, S. and Nawaz, R., 2019. Short article: Hepatitis C and G virus coinfection in Punjab, Pakistan: incidence and its correlation analysis with clinical data. <i>European Journal of Gastroenterology &amp; Hepatology</i> , 31(3), pp.389-392.
27	Amin, I., Younas, S., Afzal, S., <b>Shahid, M.</b> and Idrees, M., 2019. Herpes Simplex Virus Type 1 and Host Antiviral Immune Responses: An Update. <i>Viral immunology</i> , 32(10), pp.424-429.
26	Amin, I., Vajeeda, A., Younas, S., Afzal, S., <b>Shahid, M.</b> , Nawaz, R., Khan, M.U. and Idrees, M., 2019. HSV-1 Infection: Role of Viral Proteins and Cellular

	Receptors. <i>Critical Reviews™ in Eukaryotic Gene Expression</i> , 29(5).
25	<b>Shahid, M.</b> , Amin, I., Afzal, S., Fatima, Z. and Idrees, M., 2019. Comparative Analysis of Immunological and Genomic Outcomes of Dengue Virus Outbreak in Pakistan. <i>Pakistan Journal of Zoology</i> , 51(5), pp.1971-1974.
24	Kausar Malik*, Aleem Razzaq, Hafiz Ghufuran, Muhammad Abid Naseer, Yahya Tariq, Zaheer Abbas, Muhammad Hamza Basit, Arshia Nazir, Adeena Saeed, Rashid Bhatti, <b>Muhammad Shahid</b> , Areeba Fatima, Haleema Sadia Urgency of novel anti-tuberculosis strategies: a prospective challenge <i>International Journal of Biosciences   IJB   Vol. 15, No. 2, p. 281-296, 2019</i>
	<b>2019</b>
23	Almas, I., Afzal, S., Idrees, M., Ashraf, M.U., Amin, I., Shahid, M., Zahid, K. and Zahid, S., 2017. Role of circulatory microRNAs in the pathogenesis of hepatitis C virus. <i>Virus disease</i> , 28(4), pp.360-367.
22	Khubaib, B., Idrees, M., Fatima, Z., Akram, M., Afzal, S., Amin, I., <b>Shahid, M.</b> and Wasim, M., 2017. Evaluation of three techniques for detection of IL28B SNP: A prognostic tool for HCV treatment outcome. <i>Journal of digestive diseases</i> , 18(7), pp.404-409.
21	<b>Shahid, M.</b> , Amin, I., Afzal, S., Fatima, Z., Zahid, S., Ashraf, U. and Idrees, M., 2017. Prevalence and molecular detection of dengue virus in 2013 outbreak in KPK and Punjab, Pakistan. <i>Pakistan Journal of Zoology</i> , 49(3).
20	Nawaz, R., Zahid, S., Idrees, M., Rafique, S., <b>Shahid, M.</b> , Ahad, A., Amin, I., Almas, I. and Afzal, S., 2017. HCV-induced regulatory alterations of IL-1 $\beta$ , IL-6, TNF- $\alpha$ , and IFN- $\gamma$ operative, leading liver en-route to non-alcoholic steatohepatitis. <i>Inflammation Research</i> , 66(6), pp.477-486.
19	Manzoor, F., Amin, I., <b>Shahid, M.</b> , Afzal, S., Ramzan, H., Samiullah, T.R. and Idrees, M., 2017. Aedes aegypti is the Major Vector for Transmission of Dengue Virus in Lahore, Pakistan. <i>Pakistan Journal of Zoology</i> , 49(2).
18	Javeed, S., Almas, M., <b>Shahid, M.</b> , Sumrin, A., Bashir, H., Bilal, M., Saleem, Z., Jahangir, G.Z., Afzal, S., Idrees, M. and Amin, I., 2017. Nrf2: A MASTER REGULATOR OF CELLULAR DEFENSE MECHANISM AND A NOVEL THERAPEUTIC FACTOR. <i>Pak. J. Biotechnol. Vol, 14(1)</i> , pp.121-126.
17	Afzal, S., Idrees, M., Almas, I., Rafique, S., Amin, I. and <b>Shahid, M.</b> , 2017, January. Study of inhibition of interferon-inducible genes by dephosphorylation of E2 envelope gene of HCV genotype 1a. In <i>2017 14th International Bhurban Conference on Applied Sciences and Technology (IBCAST)</i> (pp. 183-188). IEEE.
	<b>2017</b>
16	Amin, I., Naz, S., <b>Shahid, M.</b> , Afzal, S., Ashraf, U., Rasheed, A., Rasul, A., Nawaz, R., Zahid, S., Almas, I. and Zahid, K., 2016. Inhibitory Effects of Thiazolide Compounds against Hepatitis C virus: in vitro Study. 2016, 5(2): 27-33
15	Awan, Z., Idrees, M., Hussain, A., Ur Rehman, I., Ali, M., Afzal, S., Ali, L., Butt, S., Saleem, S., Amin, I. and <b>Shahid, M.</b> , 2016. Influence of Hepatitis B Virus Genetic Heterogeneity on Treatment Response Against Lamivudine and Interferon in Pakistani Isolates. <i>Anti-Infective Agents</i> , 14(2), pp.121-125.
14	Butt, A.M., Raja, A.J., Siddique, S., Khan, J.S., <b>Shahid, M.</b> , Minhas, Z., Umar, M., Idrees, M. and Tong, Y., 2016. Parallel expression profiling of hepatic and serum microRNA-122 associated with clinical features and treatment responses in chronic



	hepatitis C patients. <i>Scientific reports</i> , 6, p.21510.
13	Younas, S., Amin, I., <b>Shahid, M.</b> , Fatima, Z. and Idrees, M., 2016. Detection of Salmonella enterica, Subsp. enterica Serovar Typhi in Dengue Virus Seropositive Samples. <i>Pakistan Journal of Zoology</i> , 48(6).
12	Akram, M., Fatima, Z., Purdy, M.A., Sue, A., Saleem, S., Amin, I., <b>Shahid, M.</b> , Idrees, M. and Nawaz, R., 2015. Introduction and evolution of dengue virus type 2 in Pakistan: a phylogeographic analysis. <i>Virology journal</i> , 12(1), p.148.
	<b>2016</b>
11	<b>Shahid, M.</b> , Butt, A., Amin, I., Rasul, A. and Idrees, M., 2015. Gene expression profiling of human oxidative stress and antioxidant genes in patients with hepatitis C virus-induced liver fibrosis: P26. <i>Journal of Viral Hepatitis</i> , 22, pp.36-37.
	<b>2015</b>
10	<b>Shahid, M.</b> , Idrees, M., Nasir, B., Raja, A.J., Raza, S.M., Amin, I., Rasul, A. and Tayyab, G.U., 2014. Correlation of biochemical markers and HCV RNA titers with fibrosis stages and grades in chronic HCV-3a patients. <i>European Journal of Gastroenterology &amp; Hepatology</i> , 26(7), pp.788-794.
	<b>2014</b>
9	Fatima, Z., Afzal, S., Idrees, M., Rafique, S., Akram, M., Khubaib, B., Saleem, S., Amin, I. and <b>Shahid, M.</b> , 2013. Change in demographic pattern of dengue virus infection: evidence from 2011 dengue outbreak in Punjab, Pakistan. <i>Public health</i> , 127(9), pp.875-7.
	<b>2013</b>
8	Idrees, M., Hussain, W., Rehman, H.U., Tayyab, G.N., Afzal, S. <b>Shahid, M.</b> , and Fatima, Z., 2012. Dengue virus serotype 2 (DEN-2): the causative agent of the 2011-dengue epidemic in Pakistan. <i>Am J Biomed Sci</i> , 4(4), pp.307-315.
	<b>2012</b>
7	Amin, I., Idrees, M., Awan, Z., <b>Shahid, M.</b> , Afzal, S. and Hussain, A., 2011. PCR could be a method of choice for identification of both pulmonary and extra-pulmonary tuberculosis. <i>BMC Research Notes</i> , 4(1), p.332.
6	Butt, S., Idrees, M., Rehman, I.U., Akbar, H., <b>Shahid, M.</b> , Afzal, S., Younas, S. and Amin, I., 2011. Mixed genotype infections with hepatitis C virus, Pakistan. <i>Emerging infectious diseases</i> , 17(8), p.1565.
5	Butt, S., Idrees, M., <b>Shahid, M.</b> , Amin, I., Younas, S., Afzal, S., Akbar, H. and Ur Rehman, I., 2011. Change in hepatitis C virus clades: A cross-sectional study of chronic HCV patients in Pakistan from 2000–2010. <i>European journal of clinical microbiology &amp; infectious diseases</i> , 30(5), pp.669-672.
4	Afzal, S., Idrees, M., Ali, M., Ilyas, M., Hussain, A., Akram, M., Butt, S., Saleem, S., Rehman, I., Ali, L. and <b>Shahid, M.</b> , 2011. Envelope 2 protein phosphorylation sites S75 & 277 of hepatitis C virus genotype 1a and interferon resistance: A sequence alignment approach. <i>Virology Journal</i> , 8(1), pp.1-6.
	<b>2011</b>
3	Awan, Z., Idrees, M., Amin, I., Butt, S., Afzal, S., Akbar, H., Rehman, I.U., Younas, S., <b>Shahid, M.</b> , Lal, A. and Saleem, S., 2010. Pattern and molecular epidemiology of Hepatitis B virus genotypes circulating in Pakistan. <i>Infection, Genetics and Evolution</i> , 10(8), pp.1242-1246.
2	Zaidi, G., Idrees, M., Malik, F.A., Amin, I., <b>Shahid, M.</b> , Younas, S., Hussain, R.,

	Awan, Z., Tariq, A. and Parveen, K., 2010. Prevalence of hepatitis delta virus infection among hepatitis B virus surface antigen positive patients circulating in the largest province of Pakistan. <i>Virology journal</i> , 7(1), p.283.
1	Butt, S., Idrees, M., Akbar, H., ur Rehman, I., Awan, Z., Afzal, S., Hussain, A., <b>Shahid, M.</b> , Manzoor, S. and Rafique, S., 2010. The changing epidemiology pattern and frequency distribution of hepatitis C virus in Pakistan. <i>Infection, Genetics and Evolution</i> , 10(5), pp.595-600.
	<b>2010</b>

#### REVIEWERS/ADVISORY BOARD/MEMBERSHIP:

Scientific Report Nature

World Journal of Gastroenterology

Journal: Biologia

Pakistan Journal of Zoology

Frontiers Journals

Turkish Journal

Advisory Board Membership for Pakistan Journal of Biological and Allied Health Sciences

Advisory editorial board of The Journal of Experimental and Basic Medical Sciences (JEBMS)

Mol Med Society Netherland

The American Society for Microbiology

World Society of Virology

Bio technique

Old Ravian Society GCU

#### STUDENT SUPERVISED:

##### Student Supervised PhD

S.NO	NAME OF STUDENT	TITLE OF THESIS	NAME OF UNIVERSITY	SESSION
1	MAHNOOR FATIMA	"IDENTIFICATION OF CIRCULAR RNA EXPRESSION BASED COMPETING ENDOGENOUS RNA NETWORKS AND DRUG RESISTANCE IN HIV-INFECTED PATIENTS"	University Of The Punjab	2022-25
2	Humera Naveed	INVESTIGATING THE ROLE OF LONG NON-CODING RNAs IN HEPATITIS VIRUS-INDUCED HEPATOCELLULAR CARCINOMA AS PROGNOSTIC BIOMARKER AND THERAPEUTIC INTERVENTION	University Of The Punjab	2022-25

### Student Supervised MPhil

S.NO	NAME OF STUDENT	TITLE OF THESIS	NAME OF UNIVERSITY	SESSION
15	HIFZA MANZOOR	<i>Molecular Characterization of Hepatitis Delta Virus Antigen from Pakistani Isolate using Prokaryotic System and Assessing Its Immunogenic Response in Rabbits</i>	University Of The Punjab	2022-24
14	SANA MAZHAR	<i>Expression Profiling of Circular RNA as Biomarker in Hepatitis C Virus Infection and its Correlation with Direct Acting Antivirals Treatment in Pakistani Population</i>	University Of The Punjab	2022-24
13	IZZA TAUFIQ	<i>GENETIC PROFILING OF INTERLEUKIN VARIANTS AND THEIR CORRELATION WITH HEPATITIS C VIRAL RESPONSE TO DIRECT ACTING ANTIVIRALS THERAPY ADMINISTERED IN PAKISTANI PATIENTS</i>	University Of The Punjab	2022-24
12	UMME HABIBA	<i>EXPRESSION PROFILE OF CIRCULAR RNAs (CIRC RNAs) IN PATIENTS INFECTED WITH HEPATITIS C VIRUS (HCV) AND THERAPY RESPONSE</i>	University Of The Punjab	2021-23
11	FIZZA FAROOQ	<i>EXPRESSION PROFILING OF LONG NON-CODING RNAs IN HCV INFECTED PATIENTS AND ANTI-VIRAL RESPONSE</i>	University Of The Punjab	2021-23
10	FATIMA BUTT	<i>EXPRESSION PROFILE OF CIRC RNAs IN PATIENTS INFECTED WITH HEPATITIS C VIRUS INFECTION AND THERAPY RESPONSE</i>	University Of The Punjab	2020-22
9	AMJAD NAWAZ	<i>IN SILICO DESIGNING AND EXPRESSION STUDY OF GLYCOPROTEIN 63 (GP63) GENE AS CANDIDATE SUBUNIT VACCINE AGAINST LEISHMANIA TROPICA</i>	University Of The Punjab	2020-22
8	HIRA RAHEEM AKBAR	<i>ASSOCIATION OF INTERLEUKIN-10 GENE SNPs WITH DAAs TREATMENT RESPONSE IN HEPATITIS C VIRUS PATIENTS</i>	University Of The Punjab	2020-22
7	ANUM SYIAM	<i>ANALYSIS OF HOST RESPONSE TO GENETIC POLYMORPHISM IN CYTOKINES IN RECURRENCE OF CHRONIC HCV INFECTION AFTER DAAS TREATMENT</i>	University Of The Punjab	2020-22
6	SANIA AMIR	<i>LONG NON-CODING RNA</i>	University Of	2019-21

		(HOTAIR) AND MESSENGER RNAs (CCL5 AND TNF- $\alpha$ ) AS POTENTIAL BIOMARKERS IN CHRONIC HEPATITIS C VIRUS INFECTED PAKISTANI PATIENTS	The Punjab	
5	IQRA MIR	BLOOD BASED EXPRESSION ANALYSIS OF LONG NON-CODING RNA (HULC) AND MESSENGER RNA (CXCL10 AND CTGF) IN PATIENTS INFECTED WITH HEPATITIS C VIRUS GENOTYPE-3a	University Of The Punjab	2019-21
4	MUHAMMAD FAROOQ	IDENTIFICATION OF SNPS IN IL-28 GENE AND THEIR ROLE IN THE TREATMEN OF HCV PATIENTS IN ASSOCIATED WITH DDAS TREATMENT	University Of The Punjab	2019-21
3	MUHAMMAD ALAMGIRKHAN (BSBB-F17-001)	HCV CO-PREVALENCE IN HBV POSITIVE CLINICAL SAMPLES OF PAKISTANI POPULATION	Superior College, University Campus, Lahore.	2017-21
2	SANA SAJJAD (BSMB-F17-007)	HCV PREVALENCE IN UNSUSPECTED CLINICAL SAMPLES OF VITAMIN D DEFICIENCY IN PAKISTANI POPULATION	Superior College, University Campus, Lahore.	2017-21
1	MUHAMMAD RIZWAN ALI BSMB-F16-027	HCV PREVALENCE IN UNSUSPECTED CLINICAL SAMPLES OF BETA HCG IN PAKISTANI POPULATION	Superior College, University Campus, Lahore.	2017-21

### PROJECTS/GRANTS (FUNDED):

**Project: National Institutes of Health (NIH) Islamabad -NHCG-22/R2-60:** "Identification and comprehensive analysis of competing endogenous RNA networks in human immunodeficiency virus infection and treatment responses". **3.799512 million**

**HEC Project as PI # HEC/R&D/RGA/NRPU/2021/19603:** Exosomal circRNA, lncRNA, miRNA, and piRNA genes expression profiling analysis in patients with Hepatitis C and B Virus-induced liver cancer

**HEC NRPU Project (13151):** Identification and Comprehensive Analysis of Competing Endogenous RNA (CeRNA) Network in Hepatitis C Virus-induced Hepatocellular Carcinoma by using Next-Generation Sequencing.

**2024-25 Joint EMRO-TDR Impact Grants for Regional**

Proposal, reference ID "CA240023"."AP24-01955". Innovative Solutions for Human Immunodeficiency Virus Prevention by Scaling Up Testing and Self-Testing Services in Pakistan

**Pakistan Science Foundation (PSF):** Paper # CP-2-2024-1001-76AA Concept Papers (Natural Sciences Linkage Programme) Title: **Identification and Comprehensive Analysis of Competing Endogenous RNA (CeRNA) Network in Viral Hepatitis induced Hepatocellular Carcinoma by Real-Time PCR**

**NIH Islamabad:** Title of the Research Project: *Identification and comprehensive analysis of competing endogenous RNA network and therapy response in tuberculosis.*

#### **POSTDOCTORAL FELLOWSHIPS PROGRAMME (PHASE III)**

Title of Project: **Identification of Viral Resistance-Associated Substitution (RAS) Patterns and Host circRNAs In Chronic Hepatitis C Virus Infected Patients Treated with Direct-Acting Antivirals**

**Gene expression of human oxidative stress genes in hepatocytes of patients with chronic HCV infection.** Punjab University-Oric

**Punjab University Project:** " Expression profile of circRNA as a biomarker in antiviral therapy response in patients infected patients with hepatitis C virus.

#### **DIAGNOSTIC/RESEARCH PROJECTS (COMPLETED):**

Development of Dengue Assays based on ELISA and PCR Diagnosis Systems for reproducible and early detection of Dengue Virus. Lumpus Provision for Research, University of the Punjab, Lahore. 2016-17. (PKR 10'00'000 grant).

Streamlined Analysis of Dengue Virus Genome, Serotypes, Genotypes & Heterogeneity: Application to Molecular Epidemiology and Clinical Studies. University of the Punjab, Lahore. 2015. (PKR 2'00'000 grant).

Dengue detection and serotyping analysis of patients from major hospitals of Punjab during Dengue Outbreaks of 2011-2014. Free of cost diagnostic services conducted at CEMB, University of the Punjab, Lahore-Pakistan

Prime Minister Program for control and prevention of Hepatitis B & C in Pakistan from 2006-2010 conducted at CAMB, University of the Punjab, Lahore-Pakistan.

Punjab TB control program 2006-2010 conducted at CAMB, University of the Punjab, Lahore-Pakistan

#### **CONFERENCES/SYMPOSIUM/WORKSHOP ORGANIZED:**

Hands-on Training Workshop Mammalian Cell Culture Technique SEP 11-12,2024 at Centre of Excellence in Molecular Biology (CEMB), University of the Punjab, Lahore, Pakistan.

A one-day workshop on Computational Tools for Molecular Docking and Molecular Dynamics Simulation in Drug Discovery. May 15, 2024, at Centre of Excellence in Molecular Biology (CEMB), University of the Punjab, Lahore, Pakistan.

Hands-on Training Workshop on q-PCR Assay Zoonotic Diseases. April 24-25, 2024 at Centre of Excellence in Molecular Biology (CEMB), University of the Punjab, Lahore, Pakistan.

International Conference, Current Trends, Prospects and Opportunities in Vaccine Research Unlocking a Healthier Tomorrow: The Crucial Role of Vaccines, Dated 28-29 February 2024 at Centre of Excellence in Molecular Biology (CEMB), University of the Punjab, Lahore, Pakistan. [www.vaccine.cemb.edu.pk](http://www.vaccine.cemb.edu.pk)

International Conference on Trends and Challenges in Health Sciences, held on 1-2 March 2023 at CEMB, University of the Punjab, Lahore.

3rd International Symposium on Advances in Molecular Biology of Plants and Health held in Centre of Excellence in Molecular Biology, University of the Punjab, Lahore, December 19-21, 2018

2nd International Symposium in Advance in Molecular Biology of Plants and Health Sciences held at CEMB Punjab University. November 21-23, 2017.

1st International Symposium on Advances in Molecular Biology of Plants and Health Sciences held in Centre of Excellence in Molecular Biology, University of the Punjab, Lahore, October 14-16, 2015.

#### **WORKSHOPS/ CONFERENCES/ SEMINARS ATTENDED:**

- LUMS WORKSHOP 25 MARCH 2023
- Participated in “Project Formulation Workshop” held on May 24-25, 2023 at Forman Christian College University, Lahore organized by Pakistan Science Foundation, Islamabad.
- CERTIFICATE OF COMPLETION. This certificate is presented to Muhammad Shahid for the successful completion of the course. HIV Basics 4 hours. April 10, 2023
- Record of Achievement. One Health in Action against Neglected Tropical Diseases Dep Tropical Diseases of Neglected Tropical Diseases. Muhammad Shahid March 25, 2023
- Certificate of Completion. This certifies that Muhammad Shahid has successfully completed the following module 3.1 How to Write a helpful peer review Report on Saturday 25 March 2023
- Certificate of Completion. This certifies that Muhammad Shahid has successfully completed the following module How to get your book published on Saturday 25 March 2023
- Certificate of Completion. This certifies that Muhammad Shahid has successfully completed the following module. How to easily spot reliable journals on Tuesday 04 April, 2023
- Certificate of Achievement in Standard precautions: Injection safety and needle-stick injury management. April 1, 2023
- Certificate of Participation Pan American Health Organization certifies that: Muhammad Shahid Clinical Management of Tuberculosis/ Human Immunodeficiency Virus (TB/HIV) Coinfection Offered through the Virtual Campus of Public Health Hours: 60 - Passing Grade: 73.75 % 30 April 2023

- Certificate of Participation in Foresight Approaches in Global Public Health. Latest WHO HIV service delivery and differentiated service delivery for HIV treatment. April 8, 2023
- AIDS: Fear and hope an online non-credit course authorized by University of Michigan and offered through Coursera. May 27, 2023
- Mpox: Epidemiology, preparedness, and response for African outbreak contexts. May 27, 2023
- **2023**
- COVID Vaccine Ambassador Training: How to Talk to Parents an online course authorized by Johns Hopkins University and offered through Coursera Feb 4, 2022
- A course on “Molecular Epidemiology” WILEY 7-26 2022
- A Webinar on “MONKEYPX is a treat” ASM 01-01 2022
- attended the following Two-day workshop on “Promoting Research Excellence in Academics across Pakistan” (1st and 2nd February 2022) at Higher Education Commission, Pakistan, on Wednesday 02 February 2022
- A course on “Empowering knowledge on ethical publishing: Mastering the art of identifying predatory, fake and cloned journals” ELSEVIER 08-06 2022
- A course on “How to design effective figures for review articles” ELSEVIER 01-06 2022
- A course on “How to easily spot reliable journal” ELSEVIER 09-04 2022
- Why writes a book? on Friday 20 May, 2022
- Reviewer workshop: How to get the most out of being a reviewer of scientific articles at APAC Customer Success Hub Workshop, on Wednesday 10 August 2022
- A course on “TUBERCULOSIS” CDC 09-04 2022
- A course on “MODERNA COVID19 VACCINE” CDC 20-03 2022
- A course on “JANSSEN COVID19 VACCINE” CDC 12-03 2022
- The Pan American Health Organization certifies that: - Muhammad Shahid has participated in and passed the: Identification methods and antifungal susceptibility testing in *Candida* spp Offered through the Virtual Campus for Public Health 29 October 2022 Hours: 10
- “Vaccine Safety Basics” May 10, 2022
- Record of Achievement Inequality monitoring in HIV, TB and malaria DIVISION OF DATA, ANALYTICS & DELIVERY FOR IMPACT Muhammad Shahid August 30, 2022
- A course on “HIV, TB and malaria DIVISION OF DATA, ANALYTICS & DELIVERY FOR IMPACT” August 30, 2022
- A course on Engaging the private sector to deliver COVID-19 tools and achieve Health for All March 13, 2022

- A course on Standard precautions: The role of personal protective equipment (PPE) March 22, 2022
- A course on “COVID-19 vaccine-specific resources” March 21, 2022
- A course on “Bloodstream infections” December 31, 2022
- A course on “Introduction to Nipah virus disease” December 30, 2022
- A course on “cholera” December 30, 2022
- A course on “Bloodstream infections” December 31, 2022
- **Webinar**
- Attended a one-hour webinar and Q&A session entitled Transmission Raman: A versatile tool for pharmaceutical formulation development to end-product testing Tuesday 3rd May 2022
- Attended a one-hour webinar and Q&A session entitled Scaling sample throughput in your NGS workflow Friday 20th May 2022
- Attended a one-hour webinar and Q&A session entitled NanoDrop innovations and the classroom: Inspiring the next generation of scientists Wednesday 11th May 2022
- Attended a one-hour webinar on virtual microbiology and infectious diseases summit 2022 17th May 2022
- Attended a one-hour webinar Monkeypox is a threat?: What we need to know
- Date: 01st June 2022
- Online webinar on Molecular epidemiology 26-7-2022
- **2022**
- Attended the **EMBL Conference: SARS-CoV-2 - Two years on: Science Meets the Challenge**
- 10 December 2021, Virtual
- **CERTIFICATE OF PRESENTATION:** Presented the following e-Poster HEPATIC GENE EXPRESSION PROFILE OF CXCL10 (C-X-C MOTIF CHEMOKINE LIGAND 10) IN CHRONIC HCV PATIENTS TO IDENTIFY THE THERAPY RESPONSE At the 20th Shaukat Khanum Cancer Symposium Held in Lahore, Pakistan The AACME Accreditation Review Committee designates this educational activity for a maximum of **30.00 category I AACME credit hours**. November 5 – 7, 2021
- Participated in the international webinar” AGRICULTURAL NANOTECHNOLOGY” organized by the faculty of Agriculture UNIVERSITY OF THE PUNJAB LAHORE JULY 29,2021
- Participated in the international webinar” PLASTIC POLLUTION FREE PAKISTAN” organized by the faculty of Agriculture UNIVERSITY OF THE PUNJAB LAHORE JULY 29,2021
- Attended international webinar“Targeted DNA integration without double-strand breaks using CRISPR RNA-guided transposons” August 30th, 2021



- Attended a one-hour webinar and Q&A session entitled “An Agilent and Atturo pathway for the development of routine automated targeted protein biomarker measurements for precision medicine” August 26th, 2021.
- Attended a one-hour webinar and Q&A session entitled new era of “RNA detection: Exploring new technologies and prospects” July 6th, 2021.
- Attended a webinar "Coronavirus—SARS-CoV-2 Update for Clinical Laboratories". Stay up to date with the latest on SARS-CoV-2 in the clinical laboratory. SPONSORS: ASM Press and Wiley –Aug 12, 2021

## **2021**

- Three-day “CancerBio Conference 2020” held University of the Punjab, Lahore, February 13-15 2020
- One-day symposium “Brain, Neurogenetics and Regenerative Medicine ” held Centre of Excellence in Molecular Biology, University of the Punjab, Lahore, October 03, 2019
- One day conference on “Web Of Science Conference” held Centre of Excellence in Molecular Biology, University of the Punjab, Lahore, March 11, 2019
- Workshop on “Basic Tool In Bioinformatic: Molecular Modeling” GC University, Lahore March 7-8, 2019
- One-day seminar on “Risk Assessment of Genetically Modified Crops” held Centre of Excellence in Molecular Biology, University of the Punjab, Lahore, July 20, 2018
- One-day symposium on “Industrial Biotech and Biorefining” held Centre of Excellence in Molecular Biology, University of the Punjab, Lahore, July 20, 2018
- 17<sup>th</sup> Shaukat Khanum Cancer Symposium held in Pearl Continental Hotel Lahore Pakistan, 2 -4 November 2018
- One-day seminar on “Biosecurity training” held in Centre for Applied Molecular Biology, University of the Punjab, Lahore, November 29, 2018
- International Symposium on Advances in Molecular Biology of Plants and Health Sciences held in Centre of Excellence in Molecular Biology, University of the Punjab, Lahore, December 19-21, 2018
- 6<sup>th</sup> INVENTION TO INNOVATION SUMMIT 2017 held at Punjab University. March 08-09, 2017.
- 2<sup>ND</sup> International Symposium In Advance in Molecular Biology of Plants and Health Sciences held at CEMB Punjab University. November 21-23, 2017.
- 16<sup>th</sup> Shaukat Khanum cancer symposium held in Pearl Continental Hotel Lahore Pakistan, 10 -12 November 2018
- A seminar on “Advances in PCR Technology” was held at CEMB Punjab University. April 5, 2017.
- Workshop on behavioral-based “Communication and Negotiation Interlock” held at CEMB Punjab University. April 25, 2017.

- Bioinformatics Workshop: Hands-on Training on analysis Of Biological Data Using R Virtual University Of Pakistan, Lahore. January 5, 2016
- A seminar on “Advances in Nucleic Acid Technology” held at CEMB Punjab University. September 1, 2017.
- INVENTION TO INNOVATION SUMMIT 2016 held at Punjab University. November 17-17, 2016.
- Workshop on behavioral based “Biosafety culture” held at CEMB Punjab University. August 23, 2017.
- Workshop on “Communication skill” held at CEMB Punjab University. April 25, 2017.
- Seminar on “Congo virus” held in CEMB, University of Punjab, 5 September 2016.
- Awareness Seminar on “Lungs and Bronchial Diseases” held in CEMB, University of Punjab, and November 17, 2017.
- Seminar on “A Day with Biosafety” held in CEMB, University of Punjab, 25 October 2016.
- Recent Advancements in “Stem Cell Research” Institute of Biochemistry and Biotechnology, University of the Punjab
- One day Workshop on “Introduction to Next Generation Data Analysis and its Application in agricultural science” hold at the Institute of agricultural science, University of the Punjab, Lahore, April 14, 2015.
- Hands-On Training Workshop on “Next Generation Data Analysis” held in Centre of Excellence in Molecular Biology, University of the Punjab, Lahore, October 14-16, 2015.
- 38<sup>th</sup> annual conference/3<sup>rd</sup> joint conference of societies of pathology collaboration of royal collage of pathologist and British Association of Pakistan pathologist hold in Pearl continental hotel Lahore Pakistan, 6<sup>th</sup> -8<sup>th</sup> November 2015.
- Hands-On Training Workshop on “GeneXpert (real-time PCR system by Cepheid, USA)” held in Centre of Applied in Molecular Biology, University of the Punjab, Lahore, 28<sup>th</sup> October 2015
- International Symposium on Advances in Molecular Biology of Plants and Health Sciences held in Centre of Excellence in Molecular Biology, University of the Punjab, Lahore, October 14-16, 2015.
- Training Workshop on “New Trends in Biomedical Research Grant writing” in Centre of Excellence in Molecular Biology (CEMB), University of Punjab, Lahore-Pakistan on 22 December 2014
- Attended the International Workshop on “Biosafety” in the University of Veterinary and Animal Sciences, Lahore-Pakistan dated 18-20 December 2014.
- Attended the Dengue Seminar organized by Dengue Research Group (DRG), University of Punjab, Lahore-Pakistan in September 2014 on “Detection of Dengue Virus in Larvae and adult Aedes Mosquitoes in Punjab.”

- Attended and presented the poster in “Lahore Biotech Cluster meeting”: August 18, 2014, Department of Biological Sciences in Forman Christian College University Lahore.
- Attended the Dengue Seminar organized by Dengue Research Group (DRG), University of the Punjab, Lahore-Pakistan in February 2014 on “Dengue Progress Report 2013-2014.”
- DNA DAY AND NAYS EMERGING IDEASE CONFERENCE held in Centre Of Excellence In Molecular Biology (CEMB), University Of The Punjab, Lahore-Pakistan On April 25, 2013
- 2<sup>nd</sup> One Day Workshop on Young Researchers Skill Development And Naysemerging Ideas Conference held in Centre Of Excellence In Molecular Biology (Cemb), University Of Punjab, Lahore-Pakistan On January 07, 2012
- 11<sup>th</sup> Shaukat Khanum Memorial Cancer Symposium. November 09-11, 2012
- Attended workshop on “Literature Review and Managing Reference Using Endnote Software” 31 March- 1 April 2011
- 10<sup>th</sup> Shaukat Khanum Memorial Cancer Symposium. November 18-20, 2011
- Participated in 2<sup>nd</sup> the workshop on “Young Researcher Skill Development and Nays Emerging Idea” conference at CEMB University of Punjab on 7-January 2012.
- One day workshop on young researcher skill development NUST Islamabad, 26 November 2011.
- Pakistan association of medical laboratory science 27-28 February 2011
- 9<sup>th</sup> Shaukat Khanum Memorial Cancer Symposium. 26-28 November 2010
- Workshop on Sepration Science and omics University of Punjab, 6-10 April 2009.
- International symposium on Glycoprotein in Health and Disease University of Punjab 27-29 April 2008.
- Short course on ISO 17025-2005 IQTM Punjab University. June 21-22, 2008
- Short course on autocad IQTM Punjab University. June 29, 2011
- Short course on autocad IQTM Punjab university. June 12-13, 2008