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# Dr. Shazia Rafique

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## WORK EXPERIENCE

- June 2016 to date **Assistant Prof. CEMB**, University of the Punjab.
- Jan, 2012 to June 2016 **Assistant Professor**  
Centre for Applied Molecular Biology.
- 2010-2012 **Research Fellow**  
LUMS School of Science and Engineering, Lahore, Pakistan
- 2010 **Lecturer (biotechnology)**  
Govt. College University, Lahore.
- 2004-2007 **Lecturer (Chemistry)**  
Garrison Post Graduate College for Women, Lahore.
- 2003-2004 **Demonstrator**  
Institute of Chemistry, University of the Punjab, Lahore, Pakistan.

## EDUCATIONAL PROFILE

- 2005-2010 **Ph.D in Virology.**  
Center of Excellence in Molecular Biology, (University of the Punjab, Lahore, Pakistan).  
Thesis: Generation of Infectious Hepatitis C Pseudo-particles Containing Functional E1-E2 Envelope Protein Complexes and their neutralization Assay.
- 2003-05 **M.Phil. in Chemistry** 1<sup>st</sup> Division (First Class)  
Institute of Chemistry, University of the Punjab, Lahore, Pakistan.  
Thesis: Preparation Of Metal Complexes Of Dehydro Acetic Acid and Their Biological Assay. Major Subject: Co-ordination Chemistry.
- 1999-2002 **Master in Chemistry (M.Sc.)**; 1<sup>st</sup> Division (First Class).  
Thesis: Development of brighteners for basic zinc electroplating bath. Institute of Chemistry, University of the Punjab, Quaid-e-Azam Campus, Lahore, Pakistan.  
Major Subject: Organic Chemistry.
- 1997-1999 **B.Sc.;** 1<sup>st</sup> Division (First Class).  
Lahore college for women, Lahore, Pakistan. Major subjects: Botany, Zoology and Chemistry
- 1995-1997 **HSSC (Pre-Medical)**; 1<sup>st</sup> Division (First Class). Lahore college for women, Lahore, Pakistan.
- 1992-1994 **SSC (Secondary School Certificate)**; 1<sup>st</sup> Division (First Class). Cathedral High School, Lahore, Pakistan.

## ACHIEVEMENTS & AWARDS

- 2014 Attended course on Protein Purification by Cold Spring Harbor Lab, USA.
- 2009 Nominee for the **Maurice Hillman** earlier career Investigation Award. **NFID** Baltimore, USA.
- 2008 **Recipient of Arthur Kornberg Fellowship Award. 31<sup>st</sup> A-IMBO/AMBO** International training course, International Vaccine Institute, Seoul, Korea.
- 2005 **Second Position in M Phil.** University of the Punjab, Lahore, Pakistan.
- 2000 **Academic Roll of Honour in B.Sc.** Lahore College for Women University, Lahore. Academic Roll of Honour in B.Sc. is an award given in acknowledgement of top position in every semester in the c

## RESEARCH GRANT

- 1- Higher education commission Start up grant for new PhD Scholars 0.5Million.
- 2- NRPU award on robust production of recombinant collagen & elastin proteins in serum-free adapted 293T cell line using ubiquitous chromatin opening elements containing lentiviral vectors.2016. worth 4.19M.

## TRAVEL GRANTS

- 2010 Travel Award by NFID for poster presentation in The Thirteenth Annual Conference on Vaccine Research. April 26-28, 2010, Bethesda, Maryland.
- 2010 Travel Award by ICGEB for Workshop "Human RNA Viruses" India.
- 2008 Travel Award by International Vaccine Institute, Seoul, Korea.

## Publications

- 1- Braira Wahid, Amjad Ali, Shazia Rafique, and Muhammad Idrees (2017).Current status of therapeutic and vaccine approaches against Zika virus.European Journal of Internal Medicine · August 2017 **IF: 2.049**.
- 2- Amjad Ali, Braira Wahid, Shazia Rafique, Muhammad Idrees (2017). Advances in research on Zika virus.Asian Pacific Journal of Tropical Medicine ·DOI:10.1016/j.apjtm.2017.03.020. **IF: 0.945**.
- 3- Braira Wahid, Sana Usman,Amjad Ali, Komal Saleem,Shazia Rafique, and Muhammad Idrees (2017).Therapeutic Strategies of Clustered Regularly Interspaced Palindromic Repeats-Cas Systems for Different Viral Infections. Viral immunology.DOI: 10.1089/vim.2017.0055 **IF:1.432**

- 4- Braira Wahid, Amjad Ali, Shazia Rafique, and Muhammad Idrees (2017). New Insights into the Epigenetics of Hepatocellular Carcinoma BioMed Research International, Article ID 1609575, 16 pages. doi.org/10.1155/2017/1609575 **IF:2.134**
- 5- Braira Wahid, Amjad Ali, Shazia Rafique, Muhammad Idrees (2017) Global expansion of Chikungunya Virus: Mapping the 64 year history.DOI: 10.1016/j.ijid.2017.03.006. **IF: 2.229**
- 6- Mobeen Munir, Waqas Nazeer, Shazia Rafique, Shin Min Kang(2016). Some Computational Aspects of Boron Triangular Nanotubes. Symmetry 9(6). DOI:10.3390/sym9010006. **IF:1.457**
- 7- Muhammad Usman, Shazia Rafique· Amjad Ali · [...] · Muhammad Idrees (2016) Towards peptide vaccines against Zika virus:Immuno-informatics combined with molecular dynamics simulations to predict antigenic epitopes of Zika virus. Nature Scientific Reports in proteins 6:37313. **IF: 4.235**
- 8- Braira Wahid· Amjad Ali · Muhammad Idrees· Shazia Rafique (2016). Immunotherapeutic strategies for sexually transmitted viral infections: HIV, HSV and HPV. DOI: 10.1016/j.cellimm.2016.08.001 **IF: 2.4**
- 9- Braira Wahid · Amjad Ali· Shazia Rafique· Muhammad Idrees (2016).Zika: As an emergent Asian Pacific Journal of in epidemic Tropical Medicine 9(8) DOI: 10.1016/j.apjtm.2016.06.019. **IF: 0.84.**
- 10- Mobeen Munir, Waqas Nazeer, Shazia Rafique, Shin Min Kang (2016). M-Polynomial and Degree-Based Topological Indices of Polyhex Nanotubes Symmetry 8(12) DOI: 10.3390/sym8120149 **IF: 1.457.**
- 11- Mobeen Munir, Waqas Nazeer, Abdul Nizami. Shazia Rafique, Shin Kang (2016). M-Polynomials and Topological Indices of Titania Nanotubes . Symmetry 8(12):117 DOI: 10.3390/sym8110117. **IF: 1.457**
- 12- Mobeen Munir, Waqas Nazeer, Shazia Rafique, Shin Kang (2016). M-Polynomial and Related Topological Indices of Nanostar Dendrimers . Symmetry 8(9):97. DOI: 10.3390/sym8090097. **IF: 1.457.**
- 13- Rabia Nawaz, Sadia Zahid, Muhammad Idrees, Shazia Rafique et al.HCV-induced regulatory alterations of IL-1 $\beta$ , IL-6, TNF- $\alpha$ , and IFN- $\gamma$  operative, leading liver en-route to non-alcoholic steatohepatitis.March 2017.Inflammation Research 66(4). DOI:10.1007/s00011-017-1029-3. **IF:2.955.**
- 14- Braira, Amjad Ali, Shazia Rafique, and Muhammad Idrees . Rising relapse rate in hepatitis C virus type 3a-infected patients against sofosbuvir and ribavirin combination therapy: A Pakistani experience. European journal of gastroenterology & hepatology. May, 2017. 10.1016/j.ejim.2017.08.001. **IF: 1.968.**

- 15- Young Chel Kwun, Mobeen Munir, Waqas Nazir, Shazia Rafique, Shin Min Kang. M-Polynomials and topological indices of V-Phenylenic Nanotubes and Nanotori. Dec,2017. DOI: 10.1038/s41598-017-08309. **IF:4.259.**
- 16- Shazia Rafique, Basit Jabbar, Outi Sahalo, Muhammad Idrees, et al. Antigenic peptide prediction from E6 and E7 oncoproteins of HPV 16 and 18 for therapeutic vaccine design using immunoinformatics and MD simulation analysis *Frontiers in Immunology*. doi: 10.3389/fimmu.2018.03000. **IF: 5.5.**
- 17- Young Chel Kwun, Mobeen Munir, Waqas Nazir, Shazia Rafique, Shin Min Kang. Computational Analysis of topological indices of two Boron Nanotubes scientific reports. 8(1) Oct,2018. **IF:4.25.**
- 18- Braira Wahid, Amjad Ali, Shazia Rafique, and Muhammad Idrees. Tattooing trend: major cause of HCV transmission among youngsters *Journal of Infectious disease*. 10.1080/23744232018.1518586. 2018, Aug. **IF:1.2.**
- 19- Braira Wahid, Amjad Ali, Shazia Rafique, and Muhammad Idrees. Recent trends in molecular epidemiology of Hepatitis C virus in Mardan, KPK Pakistan. *Infection genetics and evolution*. DOI:10.1016/j.meegid.2018.09.003. Sep,2018. **IF:2.885.**
- 20- Zafar Hussain, Mobeen Munir, Waqas Nazir, Shazia Rafique, Shin Min Kang. Topological Characterizations and Index-Analysis of New Degree-Based Descriptors of Honeycomb Networks. *Symmetry –Basel*. 10(10)478. DOI:10.3390/sym10100478. Oct,2018. **IF:1.45.**
- 21- Braira Wahid, Amjad Ali, Shazia Rafique, and Muhammad Idrees. Zika virus: Is Pakistan next? *Asian Pacific Journal of Tropical Medicine*. 11(7). July, 2018. **IF:0.925.**
- 22- Braira Wahid, Shazia Rafique, Amjad Ali, and Muhammad Idrees. Biomarkers for diagnosis of preeclampsia and endometriosis. *Biomarkers in Medicine*. 12(70). June,2018. **IF:2.02.**
- 23- Braira Wahid, Amjad Ali, Shazia Rafique, and Muhammad. Role of altered immune cells in liver diseases: a review. *Gastroenterología* 41(6):377-388. June, 2018. **IF:1**
- 24- Zara Naz, Braira Wahid, sana usman, Shazia Rafique, and Muhammad Idrees. Expression of SOCS1 and SOCS3 Genes in Interferon-Treated and Direct-Acting Antiviral Drugs-Treated Hepatitis C Patients. *Journal of Interferon & Cytokine Research*. 38(6):255-260 June, 2018. **IF:2.419.**
- 25- Mehwish Aftab, Irum Amin, , Shazia Rafique, and Muhammad Idrees. Molecular epidemiology of hepatitis delta and hepatitis B viruses circulating in two major provinces (East and North-West) of Pakistan. *Infection, genetics and evolution*. DOI: 10.1016/j. **IF:2.885.**
- 26- Braira Wahid, Amjad Ali, Shazia Rafique, and Muhammad Idrees. An overview of cancer immunotherapeutic strategies. *Immunotherapy*. 10(11). April,2018. **IF:2.716.**

- 27- Komal saleem, Braira Wahid, Amjad Ali, Shazia Rafique, and Muhammad Idrees. Unexpected Response Profiles Seen in Hepatitis C Virus-Infected Patients Treated with Sofosbuvir Plus Ribavirin: Five Case Reports. *Viral Immunology*. 31(6). April,2018. **IF:1.531**.
- 28- Mobeen Munir, Shazia Rafique et al. Calculation of Wiener Indices of Thiazolides: The Potent Inhibitors of Hepatitis B Virus and Hepatitis C Virus Replication. *Hepatitis Monthly* DOI: 10.581. Mar,2018. **IF:1.81**.
- 29- Braira Wahid, Shazia Rafique et al. An Increase in expression of SOCS1 Gene with Increase in Hepatitis C Virus Viral Load. *Journal of Interferon & Cytokine Research*. 38(3). **IF:2.419**.
- 30- Tahir yousaf, Shazia Rafique et.al Phytochemical profiling and antiviral activity of *Ajuga bracteosa*, *Ajuga parviflora*, *Berberis lycium* and *Citrus lemon* against Hepatitis C Virus. *Microbial Pathogenesis*.118. Mar,2018. **IF:1.968**.
- 31- Usman Mirza, Michiel Vanmeert, Metheus Froeyen, Amjad Ali, Shazia Rafique et al. In silico structural elucidation of RNA-dependent RNA polymerase towards the identification of potential Crimean-Congo Hemorrhagic Fever Virus inhibitors May 2019. *Scientific Reports* 9(1):6809. DOI:10.1038/s41598-019-43129. **IF:4.25**.
- 32- Amjad Ali, Zareen Fatima, Braira Wahid, Shazia Rafique, et al. Cosmopolitan A1 lineage of Dengue Virus Serotype 2 is circulating in Pakistan: A study from 2017 dengue viral outbreak. July 2019. *Journal of Medical Virology*. DOI: 10.1002/jmv.25537. **IF:2.049**.
- 33- Faiza Shams, Shazia Rafique, Sadia Zahid et.al. Advances in the role of HCV nonstructural protein 5a (NS5A) of 3a genotype in inducing insulin resistance by possible phosphorylation of AKT/PKB. Dec 2019. *Scientific Reports* 9(1) DOI:10.1038/s41598-019-42602-2. **IF:4.25**.
- 34- Zafar Hussain, Mobeen Munir, Muhammad Bilal, Shazia Rafique, Shin Min Kang. Computational Analysis of new Degree-based descriptors of oxide network. April 2019. *Open Chemistry* 17(1):177–182. DOI: 10.1515/chem-2019-0023. **IF:1.51**.

## POSTER PRESENTED

- 1- Molecular Characterization of HCV Induced Epigenetic Changes LUMS School of Science & Engineering Lahore. Pakistan.
- 2- Stable expression of envelope glycoproteins of HCV 3a genotype in Huh-7 cell line ICGEB-IUBMB work shop on human RNA viruses. Delhi, India.
- 3- Development of genotype specific cell cultured based system for the detection of anti- envelope antibodies in the serum of HCV infected patients at The Thirteenth Annual Conference on Vaccine Research. April 26-28, 2010, Bethesda, Maryland.
- 4- Study of antigenic site in serine protease gene of HCV 3a genotype in 11<sup>th</sup> Biennial conference. Molecular Biosciences-Challenges and Opportunities at University of the Punjab.

## MPhil SUPERVISION (COMPLETED)

Sr.No.	Student's Name	Thesis Title	Year
1.	Faiza Shams 2008-dph-119	Studies on the possible role of HCV non-structural protein 5a (NS5A) of 3a genotype in inducing insulin resistance	2016
2.	Iqra Ghaffar	Studies on the possible role of HCV non-structural protein 3 (NS3) of 3a genotype in inducing insulin resistance	2016
3.	Anum Fatima	Studies on the role of HCV-3a encoded envelope proteins in the development of insulin resistance	2016
4.	Braira Wahid	Study Of The Expression Of Socs1 mRNA In Interferon Resistant, Interfeorn Treated, And Interferon ineligible sofosbuvir treated hcv patients of district Lahore.	2017
5.	Zara Naz	Expression Of Socs3 Mrna In Naiveand Direct Acting Antiviral Drugs Treated Hepatitis C Patients Of District Sargodha.	2017
6	Sana Usman	Expression Of Socs1 Gene In Naive And Direct Acting Antiviral Drugs Treated Hepatitis C Patients Of District Lahore.	2017
7.	Neha Ahmad	Cloning and expression of NS3 gene of HCV3a genotype in mammalian cell line and studding its role in apoptosis.	2018
8.	Yahya Tariq	Cloning and expression of NS5a gene of HCV3a genotype in mammalian cell line and studding its role in apoptosis	2018
9.	Usama Ishtiaq	Molecular Epidemiological studies on prevalence of HCV circulating in highly populated province of Punjab	2019
10	Zulqarnain Haider	Cloning and expression studies of high risk HPV E6 and E7 genes of type 16 in UCOE lentiviral vector.	2019
11.	Umair Hassan Khan	Cloning, Expression and molecular characterization of HPV E7 gene from high risk genotype 16 local isolates	2019
12	Muhammad Siqaf	Isolation, Cloning and Expression of E6 protein of HPV type 16 isolated from Pakistani population.	2019

## PhD students

Sr.No	Student Name	Thesis title	Year
1	Sabeen Sabri	Studies on the role of NS3 and NS5A non-structural genes of HCV genotype 3A local isolates in apoptosis	2011-14 Completed
2	Amjad Ali	Production & Characterization of Antigenic recombinant proteins encoded by structural genes of HCV 3a local isolates.	2011-14 Completed
5	Sadia Zahid	study of methylation profile of promoters of irs1 and irs2 genes in hepatitis c virus 3a genotype induced diabetes patients	2015-18 Completed
6	Javeria Rafique	Association of HCV Genomic Regions Variants with the Outcomes of HCV Treatment	2015-18 Writing
7	Rabia Nawaz	Hepatitis C virus whole genome mass sequencing and viral evolution, epistasis and from Pakistani isolates	2015-18 Writing

## REFERENCES

- 1- Dr. Idrees Khan, Associate.Prof.  
Centre of Excellence in Molecular Biology  
87-West Canal Bank, Thokar Niaz Beg, Lahore.  
EMAIL: Idreeskhan96@yahoo.com
- 2- Dr- Haiba Kaul. Asst.Prof.  
Department of Biochemistry  
University of Health Sciences,Lahore.  
EMAIL:haibakaul@gmail.com