



## DR. JAVARIA QAZI

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google scholar: public profile

## PROFILE

Over 20 years of research experience in Plant Biotechnology and Molecular Virology. Worked as a scientist for federally funded molecular biotechnology institute; (<http://nibge.org>) for 10 years and afterwards worked as a university teacher for 11 years. Founding member and team lead of Molecular virology and Epidemiology lab at the department of Biotechnology QAU. Published 45 papers, with 1273 citations and h-index 19 (google scholar). Supervised 37 M.Phil. and 3 PhD students and 5 M.Phil. and 4 PhD are in progress. Extensive administrative and office work experience.

## CONTACT

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## Ph.D. PLANT BIOTECHNOLOGY/VIROLOGY

### THESIS TITLE: GENETIC DISECTION OF BETA-C1 GENE

2005-2010

Beta-C1 gene is encoded on Cotton Leaf Curl Disease Virus associated satellite. Its functions, pathogenicity and interaction with plant hosts were investigated by genetic dissection of the gene and its transient and stable expression in model plants.

## EXPERIENCE

### UNIVERSITY TEACHER, GROUP LEAD

### VIROLOGY/EPIDEMIOLOGY LAB, BIOTECHNOLOGY DEPARTMENT, QUAID-I-AZAM UNIVERSITY (QAU), ISLAMABAD, PAKISTAN

2011-PRESENT

Experience includes teaching post/undergraduate courses, research supervision of M.Phil./PhD students, office work, administrative responsibilities. I joined QAU as Assistant professor (TTS) in 2011 and promoted to Associate professor in 2019. I have worked as member of Departmental Board of studies, Admission committee, Tenure committee, Faculty Board of Biological sciences and member sports committee of the university. I am in charge of Students affairs and library facilities at the department.

Founding member and group lead of a plant biotechnology and molecular virology/epidemiology lab.

Worked for 20 years in the area of diagnostic virology for detection of economically important single stranded plant DNA viruses, their transmission, characterization of insect vector and host-pathogen interactions.

As insects are vectors for plant virus transmission my lab has introduced modern methods for plant pests characterization.

My lab is a pioneering lab in Pakistan for introducing modern insect barcoding systems and contributing to global barcode data of insects.

Additionally, I utilized my experience in molecular virology and training on spectroscopic techniques for the

Diagnosis of human pathogenic viruses using unconventional approach making my lab one of the pioneering labs in the world in this area.

After COVID we are also working in collaboration on

Data mining employing computational strategies using Artificial intelligence for prediction of viral outbreaks and public behaviors.

## SERVICE RECORD

2019-PRESENT

Associate Professor, Biotechnology, QAU, Islamabad

2011-2019

Assistant Professor, Biotechnology, QAU, Islamabad

2010-2011

Senior Scientist, NIBGE, Faisalabad

2007-2010

Junior Scientist, NIBGE, Faisalabad

2004-2007

Research Associate, NIBGE, Faisalabad

## EDUCATION

2005-2010

Ph.D. Biotechnology, NIBGE, Faisalabad, Affiliation QAU

2002-2004

M.Phil. Biotechnology, NIBGE, Faisalabad, Affiliation QAU

1999-2001

M.Sc. Botany, University of Peshawar, Peshawar

1996-1998

B. Sc. Biology, Govt. College for Woman, Haripur, Affiliation University of Peshawar

## TEACHING

Post graduate courses

Advances in Biotechnology

Diagnostic Virology

Modern Biotechnology: Principles and Applications

Undergraduate courses

Agriculture Biotechnology

Introduction to Biotechnology

Cell Biology

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## SCIENTIST, AGRICULTURE BIOTECHNOLOGY DIVISION, NATIONAL INSTITUTE FOR BIOTECHNOLOGY AND GENETIC ENGINEERING, FAISALABAD, PAKISTAN

2002-2011

M-Phil researcher 2002-2004, worked as a Research Associate 2004-2007, as Junior scientist 2007-2010 and then Senior scientist 2010-2011 for Molecular Virology and Epidemiology Lab of Agriculture Biotechnology Division. In the same duration completed Ph.D. with Dr. Rob W Briddon distinguished professor of John Innes Centre Norwich UK, working as foreign faculty for higher education commission, Pakistan. As scientist I worked on molecular characterization, gene function studies, deletion mutations, epidemiology and PCR based diagnosis of viruses, expert of creating pathogen derived resistance constructs, stable and transient transformation of host plants and tissue culture. Extensively worked as a trainer and supervised and designed research activities and worked on administrative positions including In-charge of ladies' hostel. Taught as faculty member of PIEAS (Pakistan Institute of Engineering and Applied Sciences) while my tenure at NIBGE.

## EXPERTISE

### MOLECULAR BIOLOGY/GENETIC ENGINEERING

PCR and its modifications, gene cloning, construct designing for disease resistance, DNA sequencing, DNA probes, DNA/protein electrophoresis, making of plant viral vectors and infectivity analysis. Plant and bacterial protein expression systems and protein purification. Microbiological techniques; culturing, preservation, transformation, plasmid isolation. Stable plant transformation of model and crop plants and field trial analysis.

### INSTRUMENTATION

Extensive experience of working with all basic molecular biology equipment from autoclaves to ultracentrifuges and its maintenance. Trained to use Helios Gene Gun, ABI sequencers, Real Time PCR, Electron microscopy, Confocal microscopy, Scanning electron microscopy, Raman Spectroscopy and Fourier Transform Infrared Spectroscopy and sample preparation for these instruments.

### COMPUTATION

Other than Microsoft applications experienced to use multiple bioinformatics tools for DNA/protein data analysis, phylogenetic analysis and Raman and FTIR, spectroscopic data analysis and presentation. Data mining and use artificial intelligence for prediction of viral outbreaks and public behaviors.

## PUBLICATIONS

### 2004

- 1- Hussain, M., Qazi, J., Mansoor, S., Iram, S., Bashir, M., and Zafar, Y. 2004. First report of Mungbean yellow mosaic India virus on mungbean in Pakistan. *Plant Pathology* 53:518  
<https://doi.org/10.1111/j.1365-3059.2004.01037.x>

### 2005

- 2- Mansoor, S., Qazi, J., Amin, I., Abdullah, K., Imtiaz, A., Saboohi, R., Zafar, Y., and Briddon, R. 2005. A PCR-based method, with internal control, for the detection of *Banana Bunchy Top Virus* in Banana. *Molecular Biotechnology* 30:167-169  
<https://doi.org/10.1385/mb:30:2:167>

### 2006

- 3- Qazi, J., Mansoor, S., Amin, I., Awan, M. Y., Briddon, R. and Zafar, Y. 2006. First report of *Mungbean Yellow Mosaic India Virus* on mothbean in Pakistan. *Plant Pathology* 55:818  
<http://dx.doi.org/10.1111/j.1365-3059.2006.01475.x>

### 2007

- 4- Qazi, J., Amin, I., Mansoor, S., Iqbal, M.J. and Briddon, R. 2007. Contribution of the satellite encoded gene  $\beta$ C1 to cotton leaf curl disease symptoms. *Virus Research* 128:135-139  
<https://doi.org/10.1016/j.virusres.2007.04.002>
- 5- Qazi, J., Ilyas, M., Mansoor, S. and Briddon, R. 2007. Mungbean Yellow Mosaic Viruses: Genetically isolated begomoviruses. *Molecular Plant Pathology* 8(4):343-348  
<https://doi.org/10.1111/j.1364-3703.2007.00402.x>

### 2008

- 6- Amin, I., Qazi, J., Mansoor, S., Ilyas, M. and Briddon, R. 2008. Molecular characterization of Banana bunchy top virus (BBTV) from Pakistan. *Virus Genes* 36:191-198  
<https://doi.org/10.1007/s11262-007-0168-y>

### 2009

- 7- Akhter, A., Qazi, J., Saeed, M and Mansoor, S. 2009. A Severe Leaf Curl Disease on Chilies in Pakistan is Associated with Multiple Begomovirus Components. *Plant Disease* 93(9):962  
<https://doi.org/10.1094/pdis-93-9-0962b>
- 8- Ilyas, M., Qazi, J., Mansoor, S. and Briddon, R. 2009. [Molecular characterization and infectivity of a "Legumovirus" \(genus Begomovirus: family Geminiviridae\) infecting the leguminous weed \*Rhynchosia minima\* in Pakistan.](#) *Virus Research* 145(2):279-284

<https://doi.org/10.1016/j.virusres.2009.07.018>

2010

- 9- Ilyas, M., Qazi, J., Mansoor, S. and Briddon, R. 2010. Genetic diversity and phylogeography of begomoviruses infecting legumes in Pakistan. *Journal of General Virology* 91:2091-2101

<https://doi.org/10.1099/vir.0.020404-0>

2011

- 10- Amin, I, Bashir, R, Ilyas, M, Qazi, J, Yadav, J.S, Mansoor, S, Fauquet, C. And Briddon, R.W. 2011. Identification of a major pathogenicity determinant and suppressors of RNA silencing encoded by a South Pacific isolate of Banana bunchy top virus originating from Pakistan. *Virus Genes* 42(2):272-81

<https://doi.org/10.1007/s11262-010-0559-3>

- 11- Amin, I., Hussain, K., Akbergenov, R., Yadav, J.S., Qazi, J., Mansoor, S., Hohn, T., Fauquet, C.M and Briddon, R.W. 2011. Suppressors of RNA silencing encoded by the essential components of the cotton leaf curl begomovirus betasatellite complex. *Molecular Plant-Microbe Interactions* 24:973-983

<https://doi.org/10.1094/mpmi-01-11-0001>

2013

- 12- Khan, T and Qazi, J. 2013. Hurdles to the global anti-polio campaign in Pakistan: an outline of the current status and future prospects to achieve a polio free world. *Journal of Epidemiology and Community Health* 67:696–702

<https://doi.org/10.1136/jech-2012-202162>

2015

- 13- Haider, Z., Ahmad, F. Z., Mahmood, A., Waseem, T., Shafiq, I., Raza, T., Qazi, J., Siddique, N and Humayun, M. A. 2015. Dengue fever in Pakistan: a paradigm shift; changing epidemiology and clinical patterns. *Perspectives in public health* doi.10.1177/1757913915599019

<https://doi.org/10.1177/1757913915599019>

- 14- Khan, T and Qazi, J. 2015. Measels hectic in Pakistan: Upsurge versus the lurking vaccination. *J Pak Med Assoc* 65(2): 213-214

<https://jpma.org.pk/article-details/7173>

2016

- 15- Manya, S and Qazi, J. 2016. "From Pakistan a line of hope for 'The Polio Eradication and Endgame Strategic Plan 2013–2018'." *Infectious Diseases* 48(2): 167-168

<https://doi.org/10.3109/23744235.2015.1092050>

- 16- Qazi, J. 2016. Banana Bunchy Top virus and the bunchy top disease. *J Gen Plant Pathology* 82:2–11

<http://dx.doi.org/10.1007/s10327-015-0642-7>

- 17- Saqib S., Khan, M.Z., Gardyzi, S.I.S.H and Qazi, J. 2016. Prevalence and epidemiology of blood borne pathogens in health care workers of Rawalpindi/Islamabad. *J Pak Med Assoc* 66(2): 170-173  
<https://pubmed.ncbi.nlm.nih.gov/26819162/>
- 18- Qazi, J. 2016. End of Year 2015 in Polio Endemic Pakistan: Yet Another Beginning Towards End. *Food Environ Virol* 8:109-111  
<http://dx.doi.org/10.1007/s12560-016-9230-z>
- 19- Khan, M.Z., Saqib S., Gardyzi, S.I.S.H and Qazi, J. 2016. Prevalence of Blood-Borne Viruses in Health Care Workers of a Northern District in Pakistan: Risk Factors and Preventive Behaviors. *Canadian Journal of Infectious Diseases and Medical Microbiology* 2016: 2393942  
<https://doi.org/10.1155/2016/2393942>
- 2017
- 20- Khan, Z., Qazi, J., Rasheed, A and Mujeeb-Kazi, A. 2017. Diversity in D-genome synthetic hexaploid wheat association panel for seedling emergence traits under salinity stress. *Plant Genetic Resources* 15 (6), 488-495  
<http://dx.doi.org/10.1017/S1479262116000198>
- 21- Amin A, Ghouri N, Ali S, Ahmed M, Saleem M and Qazi J. 2017. Identification of new spectral signatures associated with dengue virus infected sera. *Journal of Raman Spectroscopy* 48:705-710  
<http://dx.doi.org/10.1002/jrs.5110>
- 2018
- 22- Khan, A and Qazi, J. 2018. Risk factors and molecular epidemiology of HBV and HCV in internally displaced persons (IDPs) of North Waziristan Agency, Pakistan. *Pak Med Association* 68(2):165-169  
<https://pubmed.ncbi.nlm.nih.gov/29479087/>
- 2019
- 23- Naseer, K., Amin, A., Saleem, M., & Qazi, J. (2019). Raman spectroscopy based differentiation of typhoid and dengue fever in infected human sera. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 206, 197-201  
<https://doi.org/10.1016/j.saa.2018.08.008>
- 24- Badar N, Salman M, Ansari J, Ikram A, Qazi J, Alam M M (2019) Epidemiological trend of chikungunya outbreak in Pakistan: 2016–2018. *PLoS Neglected Tropical Diseases* 13(4): e0007118

<https://doi.org/10.1371/journal.pntd.0007118>

25- Naseer, K., Saleem, M., Ali, S., Mirza, B., & Qazi, J. (2019). Identification of new spectral signatures from hepatitis C virus infected human sera. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 222, 117181

<https://doi.org/10.1016/j.saa.2019.117181>

26- Naseer, K., Ali, S., Mubarik, S., Hussain, I., Mirza, B., & Qazi, J. (2019). FTIR spectroscopy of freeze-dried human sera as a novel approach for dengue diagnosis. *Infrared Physics & Technology* 102: 102998

<https://doi.org/10.1016/j.infrared.2019.102998>

27- Shah SHJ, Malik N, Malik AH, Faqiri M and Qaz J. 2019. First mtCO-I based molecular identification of two cryptic species of Bemisia tabaci from Afghanistan. *Archives of Phytopathology and Plant Protection* 52(5-6) 497-500

<http://dx.doi.org/10.1080/03235408.2019.1648918>

28- Ali, S., Naseer, K., Hussain, S. Z., & Qazi, J. (2019). Evaluation of freeze-dried human sera as a novel approach for ATR-FTIR spectroscopic analysis as compared to conventionally used thin dry film sera. *Biotechnology Letters* 41(12): 1355-136

<https://doi.org/10.1007/s10529-019-02739-6>

2020

29- Mubin, M., Ijaz, S., Nahid, N et al. 2020. Journey of begomovirus betasatellite molecules: from satellites to indispensable partners. *Virus genes* 56:16-26

<https://doi.org/10.1007/s11262-019-01716-5>

30- Naseer, K., Ali, S., & Qazi, J. (2020). ATR-FTIR spectroscopy as the future of diagnostics: a systematic review of the approach using bio-fluids. *Applied Spectroscopy Reviews* 56(2): 85-97

<http://dx.doi.org/10.1080/05704928.2020.1738453>

31- Naseer, K., Saleem, M., & Qazi, J. (2020). Optical diagnosis of typhoid infection in human blood sera using Raman spectroscopy. *Spectroscopy Letters* 53(4): 249-255

<http://dx.doi.org/10.1080/00387010.2020.1734841>

32- Shah, S.H.J., Paredes-Montero, J.R., Malik, A.H., Brown, J.K. Qazi, J., 2020. Distribution of *Bemisia tabaci* (Gennadius) (Hemiptera: Aleyrodidae) mitotypes in commercial cotton fields in the Punjab province of Pakistan. *Florida Entomologist* 103: 41-47

<http://dx.doi.org/10.1653/024.103.0407>



- 33- Qazi, A., Qazi, J., Naseer, K., Zeeshan, M., Hardaker, G., Maitama, JZ, Haruna, K. 2020. Analyzing situational awareness through public opinion to predict adoption of social distancing amid pandemic COVID-19. *J Medical Virology* 92:849–855  
<https://doi.org/10.1002/jmv.25840>
- 34- J. Qazi, K. Naseer, A. Qazi, H. A., Salman, U. Naseem, S. Yang, G. Hardaker, A. Gumaei, Evolution to Online Education around the globe during a SARS-CoV-2 Coronavirus (COVID-19) Pandemic: Do develop and underdeveloped cope alike?, *Children and Youth Services Review* 119:105585  
<https://doi.org/10.1016/j.chilyouth.2020.105582>
- 35- Shah, SHJ., Malik, AH., Zhang, B., Bao, Y., Qazi, J. 2020. Metagenomic analysis of relative abundance and diversity of bacterial microbiota in Bemisia tabaci infesting cotton crop in Pakistan. *Infection, Genetics and Evolution* 84:104381  
<https://doi.org/10.1016/j.meegid.2020.104381>
- 36- Naseer, K., Ali, S., Mubarik, S., Hussain, Z., Qazi, J. 2020. Use of ATR-FTIR for detection of *Salmonella typhi* infection in human blood sera. *Infrared Physics and Technology*. 110:103473  
<https://doi.org/10.1016/j.infrared.2020.103473>
- 37- Badar N, Salman M, Ansari J, Aamir U, Alam M, Arshad Y, et al. 2020. Emergence of Chikungunya Virus, Pakistan, 2016–2017. *Emerging Infectious Diseases* 26(2):307-310  
<https://doi.org/10.3201/eid2602.171636>
- 2021
- 38- Badar N, Ikram A, Salman M, Alam MM, Umair M, Arshad Y, Mushtaq N, Mirza HA, Ahad A, Yasin MT, Qazi J. 2021. Epidemiology of Chikungunya virus isolates 2016-2018 in Pakistan. *Journal of Medical Virology*. 93:6124–6131  
<https://doi.org/10.1002/jmv.26957>
- 39- Naseer, K., Ali, S., & Qazi, J. 2021. ATR-FTIR spectroscopy based differentiation of typhoid and dengue fever in infected human sera. *Infrared Physics & Technology* 114: 103664  
<http://dx.doi.org/10.1016/j.infrared.2021.103664>
- 40- Ali, S., Naseer, K., Hussain, I., & Qazi, J. (2021). ATR-FTIR spectroscopy-based differentiation of hepatitis C and dengue infection in human freeze-dried sera. *Infrared Physics & Technology*, 118:103912  
<http://dx.doi.org/10.1016/j.infrared.2021.103664>

- 41- Qazi, A., Qazi, J., Naseer, K., Zeeshan, M., Qazi, S., Abayomi-Alli, O., ... & Haruna, K. (2021). Adaption of distance learning to continue the academic year amid COVID-19 lockdown. *Children and Youth Services Review* 126:106038  
<https://doi.org/10.1016/j.chilyouth.2021.106038>
- 42- Naseer, K., Qazi, J., Qazi, A., Avuglah, B. K., Tahir, R., Rasheed, R. A., ... & Naseem, U. (2021). Travel behaviour prediction amid covid-19 underlaying situational awareness theory and health belief model. *Behaviour & Information Technology* 1-11  
<http://dx.doi.org/10.1080/0144929X.2021.1984579>
- 43- Badar, N., Ikram, A., Salman, M., Alam, M. M., Umair, M., Arshad, Y., ... & Qazi, J. 2021. Chikungunya virus: Molecular epidemiology of nonstructural proteins in Pakistan. *Plos One* 16(12): e0260424  
<https://doi.org/10.1371/journal.pone.0260424>
- 44- Alghazzawi, D., Qazi, A., Qazi, J., Naseer, K., Zeeshan, M., Abo, M. E. M., ... & Yang, S. 2021. Prediction of the Infectious Outbreak COVID-19 and Prevalence of Anxiety  
*Sustainability* 13: 11339  
<https://doi.org/10.3390/su132011339>
- 2022
- 45- Ali, S., Naseer, K., & Qazi, J. 2021. Diagnosis of HCV Infection Using Attenuated Total Reflection-FTIR Spectra of Freeze-Dried Sera  
*Infrared Physics & Technology* 121:104019  
<https://doi.org/10.1016/j.infrared.2021.104019>