

Curriculum Vitae

DR. NAZIM HUSSAIN

Assistant Professor
Heading Molecular virology & diagnostic section
Centre for Applied Molecular Biology (CAMB)
University of the Punjab
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EDUCATION:

2017: PhD (Biochemistry and Molecular Biology)- Division: 1st

Department of Biochemistry and Molecular Biology,
Xi'an Jiao tong Medical University Xian Shaanxi, China

2006: M. Phil (Biochemistry) - Division: 1st

Department of Biochemistry University of Agriculture Faisalabad,
Pakistan.

2004:M.SC Biochemistry-Division:Ist

Department of Biochemistry University of Agriculture Faisalabad, Pakistan

2002:BS.Ed.(Botany,Zoology,Chemistry&Education) -

Division: 1st Govt. College of education for science
Township, University of the Punjab, Lahore.

Academic Positions:

April 24, 2006 – March 31, 2008:	Assistant Research Officer (BPS-16) at Centre for Applied Molecular Biology (CAMB), University of the Punjab Lahore
April 01, 2008- Sep 27, 2013:	Research Officer/Lecturer (BPS-17) at Centre for Applied Molecular Biology (CAMB) University of the Punjab Lahore
Sep 28, 2013 to Oct 28, 2017	PhD fellowship at Xian Jiaotong Medical University Xian China
Oct 30, 2017- continue:	Assistant Professor (BPS-19) at Centre for Applied Molecular Biology (CAMB), University of the Punjab, Lahore
Sep 04, 2018- Continue:	In-Charge Molecular diagnostic and virology laboratory CAMB, University of the Punjab Lahore

Curriculum Vitae

COMMUNITY SERVICES:

A)

Molecular diagnosis

1. Providing PCR based Molecular diagnostics services to the general public for hepatitis B & C and generated revenue of **Rs.20 Million** in year 2019,2020 and 2021.
2. Commencement and provision of Molecular diagnosis services for Covid-19 to general public and generated revenue of **RS: 14 Million in year 2020 and 2021.**
3. Organizing free camps for screening of HCV and HBV at different places in Pakistan.
4. Provided Forensic DNA analysis services in criminal & paternity cases to the Law Enforcement Agencies & Courts throughout Pakistan and solved more than 400 cases during year 2007 to 2013

B)

External Examiner:

- 1) 2) Evaluation of thesis and viva exams of 05 M-Phil students at Institute of Biological Sciences, Khwaja Fareed University of Engineering & Information Technology (KFUEIT) Rahim Yar Khan dated [09.05.2024](#)
- 2) Evaluation of thesis and viva exam of 05 M-Phil students at Institute of Molecular Biology and Biotechnology, University of Lahore dated [15.05.2021](#)
- 3) Evaluation of thesis and viva exam of 02 M-Phil students at Institute of Molecular Biology and Biotechnology, University of Lahore dated [20.04.2021](#)
- 4) Evaluation of thesis and viva exam of 02 M-Phil students at Institute of Molecular Biology and Biotechnology, University of Lahore dated [26.01.2021](#)
- 5) Conducted practical and viva voce of M.SC Biochemistry students at Govt. P/G Islamia college Gujranwala dated 28-10-2020 to 29-10-2020
- 6) Evaluation of thesis and viva exam of 02 M-Phil students at Institute of Molecular Biology and Biotechnology, University of Lahore dated [16.09.2020](#)
- 7) Evaluation of thesis and viva voce of 02 M. Phil students at IBB department, UVAS, Lahore (July 2020)
- 8) Evaluation of thesis and viva voce of 02 M. Phil students at Institute of chemistry (Biochemistry), University of the Punjab Lahore dated 18-07-2019
- 9) Evaluation of thesis and viva voce of a M. Phil students at IBB department, UVAS, Lahore (July 2019)
- 10) Evaluation of thesis and viva voce of 02 BS students at Institute of chemistry (Biochemistry), University of the Punjab Lahore dated 18-07-2019

C)

Inspection of Exams

Inspection of examination centers of BA/B.SC during 5-04-2018 to 03-05-2018 in all over the Punjab.

Curriculum Vitae

D)

Supervised Practical Exams

- 1) Appointed as external examiner to conduct BA/BSC annual practical examination of chemistry Part-I at Govt. Degree College for women Narang Mandi dated 7-11-2020 to 10-11-2020.
- 2) Appointed as external examiner to conduct BSC practical /viva voce examination of chemistry part-II at Govt. Degree College for women Narang Mandi dated 14-11-2020 to 16-11-2020.
- 3) Appointed as external examiner to conduct BS practical/viva voce examination of Inorganic chemistry part-II at Govt. Post graduate college Sheikhpura dated 14-11-2019.
- 4) Appointed as external examiner to conduct BSC practical/viva voce examination of chemistry Part-I at Govt. Muslim College for women Narowal dated 10-06-2019 to 15-06-2019.
- 5) Appointed as external examiner to conduct BSC practical/viva voce examination of chemistry Part-I at Punjab College Narowal dated 25-05-2019 to 30-05-2019

E)

Curriculum Revision

- i. Attended national Curriculum Revision Committee (NCRC) on June 27-28, 2019 in higher Education Commission (HEC) Lahore and revised the syllabus of BS chemistry
- ii. Revised & Prepared Curriculum for BS, M-Phil and PhD at CAMB, PU Lahore

F)

Academics

Teaching M.Phil. and Ph.D courses at CAMB, PU, Lahore

G)

Extra-Curricular Activities

Departmental student Advisor (DSA)
Coordinator of character building society CAMB, University of the Punjab
In-charge tours and events organizing Committee

H)

Member of various Committees:

Member of various departmental committees including Departmental Disciplinary Committee and admission committee.

Curriculum Vitae

PROJECTS:

- 1) Received the research project grant of University of the Punjab, for the fiscal year 2020-2021 “Expression profiling of miRNAs in Hepatitis C (HCV) patients and their therapeutic role.
- 2) Received the research project grant of University of the Punjab, for the fiscal year 2021-2022 “In-house development of RT-qPCR kit for detection of Covid-19
- 3) Received the research project grant of University of the Punjab, for the fiscal year 2022-2023 Development of subunit vaccine against COVID-19 through Cloning, expression and isolation of Antigenic and Immunogenic Region of SARS-COV-2 Spike Protein

ACHIEVEMENTS /AWARDS:

1. Total publications 120 with total Impact factor 250 and more than 1700 citations.
2. Heading Molecular virology and diagnostic section at CAMB, University of the Punjab, Lahore.
3. Established state of the art Biosafety level-III (BSL-III) Laboratory at CAMB for research and Molecular testing of air born diseases including covid-19.
4. More than Rs:30 million revenues were generated through Molecular diagnosis of HCV, HBV and Covid-19 at CAMB during year 2020,2021 and 2022.
5. Awarded first position in Oral presentation, in international conference at CEMB
6. Secured foreign PhD scholarship offered by China scholarship council and completed PhD in four years
7. Recognized by Higher Education commission (HEC) as approved PhD supervisor
8. Won the Punjab University’s Research Publication Award for the year 2018, 2019 and 2020.
9. Obtained the Punjab University Teacher’s Performance Evaluation Award for the year 2018,2019 and 2020.
10. Awarded Punjab University Research Projects for the years 2019 and 2021.

RESEARCH THESIS SUPERVISED:

<i>S.NO</i>	<i>Degree</i>	<i>Name of student</i>	<i>Session</i>	<i>Status</i>
01	<i>M.Phil (Molecular Biology & Forensic Sciences)</i>	Nimrah Farooq	2015-17	Completed
02		Ayesha Ali	2015-17	Completed
03		Ayesha Akram	2015-17	Completed
04		Matee Ullah	2015-17	Completed
05		Muhammad Aqeel	2016-18	Completed

Curriculum Vitae

06	Zunaira Tanveer	2016-18	Completed
07	Maheen Mahmood	2016-18	Completed
08	Farwa Ali	2019-21	Completed
9	Namra	2020-22	Completed
10	Mehvish Mumtaz	2020-22	Completed
11	Muhammad Usama Saeed	2020-22	Completed
12	Werda	2021-2023	Completed
13	Hafsa	2021-2023	Completed
14	Maryam	2021-2023	Completed
15	MuhammadHamza Ashraf	2022-2024	Completed
16	Iqra Arif	2022-2024	Completed
17	Mahnoor Sagheer	2022-2024	Completed
18	Rimsha Haqqi	2022-2024	Completed
19	Zakriya Shabbir	2022-2024	Completed
20	Aniqa	2022-2024	Completed
21	Masooma	2023-2025	Continue
22	Zeenat Nawaz	2023-2025	Continue
23	Ayesha Munawar	2023-2025	Continue
24	Luqman Qadir	2023-2025	Continue
25	Umm e Laila	2023-2025	Continue
26	Sumreen Arshed	2023-2025	Continue

PhD (Molecular Biology &Forensic Sciences)

1	Rama Zafar	2016-21	Thesis submitted
2	Ayesha Javid	2018-23	Synopsis approved
3	Momina	2018-23	Synopsis approved
4	Rabia Arooj	2020-24	Synopsis approved

Curriculum Vitae

FOREIGN TRAINING:

1. A Training Course on Forensic DNA STR analysis was successfully completed at Indianapolis Strand Analytical Laboratories, Indiana, USA from October 15, 2007 to January 07, 2008.

Conferences/Seminar/Worshops/Symposium/ trainings attended:

- Attended and participated in the virtual conference for FIAS, August, 2021
- Attended a Training workshop on laboratory Quality Management System at Provincial Public Health Reference Laboratory Punjab AIDS control Program P&SHD Lahore on dated Feb 23, 2021 to Feb 25, 2021
- Participated in a conference on Recent Innovations in Molecular Sciences at University of the Punjab Lahore on dated Nov 6, 2019 to Nov 8, 2019.
- Organized a seminar on Bio-safety training for young researchers at Center of Excellence in Molecular Biology, University of the Punjab Lahore on dated Nov 29, 2018.
- Attended a seminar on Awareness about HEC research projects under technology development fund at University of the Punjab Lahore Pakistan dated august 10, 2018.
- Arranged one-day symposium on DNA in crime scene investigation, University of the Punjab Lahore, April 05, 2018.
- Participated in an exhibition” 7th invention to innovation summit 2018 at University of the Punjab Lahore dated March 7, 2018 to March 8, 2018
- Attended National forensic science conference at Marriott hotel Islamabad dated Feb15 2018 to Feb 16, 2018.
- Attend a one-day Symposium on Industrial biotech and bio-refining at Center for applied Molecular Biology University of the Punjab Lahore dated January 25 2018.
- Certificate of acknowledgment was awarded on **winning 1st position in an oral presentation** in International Symposium on” Advances in Molecular Biology of Plants and Health Sciences” held on 21-23 November 2017 at National Centre of Excellence in Molecular Biology, University of the Punjab Lahore.
- Participated in Shoukat khanum memorial cancer symposium at SKMCH center Lahore dated Nov 26, 2010 to Nov 28, 2010
- A 10th Training Workshop on Modern Forensic Techniques for Crime Scene Search and Investigations, jointly organized by Strand Analytical Laboratories Indiana, USA and Center of Excellence in Molecular Biology, Lahore, Pakistan dated March 24-25 2008

Curriculum Vitae

- Attended an international” Training course in Expert witness testimony at Strand Analytical laboratories Indianapolis USA dated Dec 17, 2007.
- Attended an international” training course in "Sexual Harassment awareness training" at Strand Analytical laboratories Indianapolis USA dated Dec 17, 2007 at Strand Analytical laboratories Indianapolis USA dated Dec 17 2007.
- Attended an international” Training course in business ethics at Strand Analytical laboratories Indianapolis USA dated Dec 17, 2007 at Strand Analytical laboratories Indianapolis USA dated Dec 17 2007.
- Hands on training in "forensic serology, DNA extraction and modern techniques used to solve forensic cases" Strand Analytical laboratories Indianapolis USA Sep 15, 2007 to Dec 17, 2007
- An 8th Training Workshop on Modern Forensic Techniques for Crime Scene Search and Investigations, jointly organized by Strand Analytical Laboratories Indiana, USA and Center of Excellence in Molecular Biology, Lahore, Pakistan. (July 18-19. 2007).
- A sixth Training Workshop on Modern Forensic Techniques for Crime Scene Search and Investigations, jointly organized by Strand Analytical Laboratories Indiana, USA and Center of Excellence in Molecular Biology, Lahore, Pakistan. (January, 06-07. 2006
- 18th International Symposium on Human Identification held October 01 to Oct 04, 2007 sponsored by Promega Corporation at Hollywood, California, USA.
- Dispenser course/certificate awarded by Punjab Medical faculty dated January 31, 2002

Publications:

<u>Total Publications</u>	<u>Total Chapters</u>	<u>Total Citations</u>	<u>Total Impact Factor</u>
<i>70</i>	<i>56</i>	<i>1700</i>	<i>250</i>

YEAR-2024

Maqsood Q, Sumrin A, Ali Q, **Hussain N**, Malook SU, Ali D. In-silico analysis of ribosome inactivating protein (RIP) of the Cucurbitaceae family. AMB Express. 2024 May 27;14(1):61. (**X category**)

Muneer MA, Fatima S, **Hussain N**, Mashifana T, Sayed A, Boczkaj G, Rajoka MS. Enzyme Conjugation-A Promising Tool for Bio-catalytic and Biotransformation Applications–A Review. Topics in Catalysis. 2024 Jul 4:1-7. (**W category**)

Arshad K, **Hussain N**, Ashraf MH, Saleem MZ. Air pollution and climate change as grand challenges to sustainability. Science of The Total Environment. 2024 Apr 10:172370. (**W category**)

Curriculum Vitae

Mehmood T, Saeed S, **Hussain N**, Waseem R. Biotransformation of wheat straw into biovanillin by solid-state fermentation and optimization of conditions parameters through response surface methodology. *Biomass Conversion and Biorefinery*. 2024 Mar;14(6):7569-

78. **(X category)**

Asghar A, Khalid A, Baqar Z, **Hussain N**, Saleem MZ, Rizwan K. An insights into emerging trends to control the threats of antimicrobial resistance (AMR): an address to public health risks. *Archives of Microbiology*. 2024 Feb;206(2):1-8. **(W category)**

Khan, Z., Suleman, M., Tariq, H., Mumtaz, M., Azam, H. M. H., **Hussain, N.**, ... & Zulfiqar, M. (2024). SARS-CoV-2 and Angiotensin-Converting Enzyme-2 Receptor Interaction Blocker—an In-Silico Approach: In-Silico Analysis of SARS-CoV-2 and ACE-2 Receptor Interaction Blockers. *Pakistan Journal of Health Sciences*, 100-106. **(Y category)**

Maqsood, Q., Sumrin, A., Ali, Q., **Hussain, N.**, Malook, S. U., & Ali, D. (2024). In-silico analysis of ribosome inactivating protein (RIP) of the Cucurbitaceae family. *AMB Express*, 14(1), 61. **(X category)**

Ahsan H, Anayyat U, Saeed M, Anwar A, Haider S, Intisar A, Irshad T, **Hussain N**, Rajoka MS. Synthesis, characterization and catalytic activity of rGO supported novel hybrid materials for green fuel production. *Journal of the Indian Chemical Society*. 2024 Apr 1;101(4):101141. **(Y category)**

Younas, Saima, Quratulain Maqsood, Aleena Sumrin, Muhammad Umer Khan, and **Nazim Hussain**. "Efficacy of Direct-Acting Antiviral in Treatment-Naive Chronic HCV Patients and in Those Previously Treated with Interferon and Ribavirin." (2024).

YEAR-2023

Rizvi, Nayab Batool, Hassam Farooq, Qaiser Alam Khan, Muhammad Zeeshan Rana, Sehrish Zaffar, Muhammad Shahid, 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. **(W category)**

Intisar, Azeem, Arooj Ramzan, Shahzar Hafeez, **Nazim Hussain**, Muhammad Irfan, Nasir Shakeel, Komal Aziz Gill, Amjad Iqbal, Marcin Janczarek, and Teofil Jesionowski. "Adsorptive and photocatalytic degradation potential of porous polymeric materials for removal of pesticides, pharmaceuticals, and dyes-based emerging contaminants from water." *Chemosphere* (2023): 139203. **(W category)**

Curriculum Vitae

Maqsood, Quratulain, Aleena Sumrin, Maryam Iqbal, Saima Younas, **Nazim Hussain**, Muhammada Mahnoor, and Abdul Wajid. "Hepatitis C virus/Hepatitis B virus coinfection: Current prospectives." *Antiviral therapy* 28, no. 4 (2023): 13596535231189643. (X category)

Maqsood, Quratulain, Aleena Sumrin, Maryam Iqbal, **Nazim Hussain**, Muhammada Mahnoor, Muhammad Zafar Saleem, and Rukhsana Perveen. "A Winning New Combination? Toward Clinical Application in Oncology." *Cancer Control* 30 (2023): 10732748231175240. (W category)

Naeem, Muhammad, Muhammad Imran, Shoomaila Latif, Adnan Ashraf, **Nazim Hussain**, Grzegorz Boczkaj, Wojciech Smulek, Teofil Jesionowski, and Muhammad Bilal. "Multifunctional catalyst-assisted sustainable reformation of lignocellulosic biomass into environmentally friendly biofuel and value-added chemicals." *Chemosphere* (2023): 138633. (W category)

Saddique, Zohaib, Muhammad Imran, Ayesha Javaid, Shoomaila Latif, **Nazim Hussain**, Przemysław Kowal, and Grzegorz Boczkaj. "Band engineering of BiOBr based materials for photocatalytic wastewater treatment via advanced oxidation processes (AOPs)—A review." *Water Resources and Industry* (2023): 100211. (W category)

Maqsood, Quratulain, Aleena Sumrin, Rafia Waseem, Maria Hussain, Mehwish Imtiaz, and **Nazim Hussain**. "Bioengineered microbial strains for detoxification of toxic environmental pollutants." *Environmental Research* (2023): 115665. (W category)

Anjum, Sadia, Shakira Aslam, **Nazim Hussain**, Muhammad Bilal, Grzegorz Boczkaj, Wojciech Smulek, Teofil Jesionowski, and Hafiz MN Iqbal. "Bioreactors and biophotondriven biohydrogen production strategies." *International Journal of Hydrogen Energy* (2023). (W category)

Mahmood, Tehreem, Areej Shahbaz, **Nazim Hussain**, Rahat Ali, Hamid Bashir, and Komal Rizwan. "Recent advancements in fusion protein technologies in oncotherapy: A review." *International Journal of Biological Macromolecules* (2023): 123161. (W category)

Anjum, Tayyaba, **Nazim Hussain**, Hafiz MN Iqbal, Artur Jedrzak, Teofil Jesionowski, and Muhammad Bilal. "Magnetic nanomaterials as drug delivery vehicles and therapeutic constructs to treat cancer." *Journal of Drug Delivery Science and Technology* 80 (2023): 104103. (W category)

Curriculum Vitae

Latif, Shoomaila, Amna Liaqat, Muhammad Imran, Ayesha Javaid, **Nazim Hussain**, Teofil Jesionowski, and Muhammad Bilal. "Development of zinc ferrite nanoparticles with enhanced photocatalytic performance for remediation of environmentally toxic pharmaceutical waste diclofenac sodium from wastewater." *Environmental Research* 216 (2023): 114500. (W category)

YEAR-2022

Saeed, Muhammad U., **Nazim Hussain**, Areej Shahbaz, Tooba Hameed, Hafiz MN Iqbal, and Muhammad Bilal. "Bioprospecting microalgae and cyanobacteria for biopharmaceutical applications." *Journal of Basic Microbiology* 62, no. 9 (2022): 1110-1124. (W category)

Ahmad, Namra, Shakira Aslam, **Nazim Hussain**, Muhammad Bilal, and Hafiz Iqbal. "Transforming Lignin Biomass to Value: Interplay Between Ligninolytic Enzymes and Lignocellulose Depolymerization." *BioEnergy Research* (2022): 1-18. (W category).

Bilal, Muhammad, Nida Khaliq, Mubeen Ashraf, **Nazim Hussain**, Zulqarnain Baqar, Jakub Zdarta, Teofil Jesionowski, and Hafiz MN Iqbal. "Enzyme mimic nanomaterials as nanozymes with catalytic and multifunctional attributes." *Colloids and Surfaces B: Biointerfaces* (2022): 112950. (W category)

Shakoor, Rafia, **Nazim Hussain**, Saima Younas, and Muhammad Bilal. "Novel strategies for extraction, purification, processing, and stability improvement of bioactive molecules." *Journal of Basic Microbiology* (2022). (W category)

Latif, Shoomaila, Amna Liaqat, Muhammad Imran, Ayesha Javaid, **Nazim Hussain**, Teofil Jesionowski, and Muhammad Bilal. "**Designing** regenerable zinc ferrite nanoparticles with enhanced photocatalytic performance for remediation of environmentally toxic pharmaceutical waste diclofenac sodium from wastewater." *Environmental Research* (2022): 114500. (W category)

Izhar, Fatima, Muhammad Imran, Hamyal Izhar, Shoomaila Latif, **Nazim Hussain**, Hafiz MN Iqbal, and Muhammad Bilal. "Recent advances in metal-based nanoporous materials for sensing environmentally-related biomolecules." *Chemosphere* (2022): 135999. (W category)

Raza, Ali, Mehvish Mumtaz, Uzma Hayat, **Nazim Hussain**, Mohsin Ahmad Ghauri, Muhammad Bilal, and Hafiz MN Iqbal. "Recent advancements in extrudable gel-based bioinks for biomedical settings." *Journal of Drug Delivery Science and Technology* (2022): 103697. (W category)

Riaz, Roha, Mubeen Ashraf, **Nazim Hussain**, Zulqarnain Baqar, Muhammad Bilal, and Hafiz Iqbal. "Redesigning Robust Biocatalysts by Engineering Enzyme

Curriculum Vitae

Microenvironment and Enzyme Immobilization." *Catalysis Letters* (2022): 1-15. (X category)

Saeed, Muhammad Usama, **Nazim Hussain**, Iqra Zulfiqar, Ali Raza, Mohsin Ahmad Ghauri, and Muhammad Bilal. "Tumor cell dormancy: Molecular mechanisms, and pharmacological approaches to target dormant cells for countering tumor." *Journal of Drug Delivery Science and Technology* (2022): 103645. (W category)

Javaid, Ayesha, Muhammad Imran, Shoomaila Latif, **Nazim Hussain**, and Muhammad Bilal. "Functionalized magnetic nanostructured composites and hybrids for photocatalytic elimination of pharmaceuticals and personal care products." *Science of The Total Environment* (2022): 157683. (W category)

Zeeshan, Muhammad, Nadeem Muhammad, Azeem Intisar, Aqsa Aamir, Uzma Qaisar, Muhammad Yaseen, **Nazim Hussain**, and Muhammad Bilal. "Volatile chemical profiling and potent antibacterial activity of senna occidentalis stem oil against various pathogens." *Chemical Papers* 76, no. 11 (2022): 7235-7243. (X category)

Asghar, Ayesha, Sairash Sairash, **Nazim Hussain**, Zulqarnain Baqar, Aleena Sumrin, and Muhammad Bilal. "Current challenges of biomass refinery and prospects of emerging technologies for sustainable bioproducts and bioeconomy." *Biofuels, Bioproducts and Biorefining* (2022). (W category)

Maqsood, Quratulain, **Nazim Hussain**, Mehvish Mumtaz, Muhammad Bilal, and Hafiz Iqbal. "Novel strategies and advancement in reducing heavy metals from the contaminated environment." *Archives of Microbiology* 204, no. 8 (2022): 1-18. (W category)

Ayub, Javeria, Muhammad Usama Saeed, **Nazim Hussain**, Iqra Zulfiqar, Tahir Mehmood, Hafiz Iqbal, and Muhammad Bilal. "Designing robust nano-biocatalysts using nanomaterials as multifunctional carriers-expanding the application scope of bio-enzymes." *Topics in Catalysis* (2022): 1-24. (X category)

Mumtaz, Nazish, Ayesha Javaid, Muhammad Imran, Shoomaila Latif, **Nazim Hussain**, Shahid Nawaz, and Muhammad Bilal. "Nanoengineered metal-organic framework for adsorptive and photocatalytic mitigation of pharmaceuticals and pesticide from wastewater." *Environmental Pollution* 308 (2022): 119690. (W category).

Javaid, Ayesha, Shoomaila Latif, Muhammad Imran, **Nazim Hussain**, Muhammad Bilal, and Hafiz MN Iqbal. "MXene-based hybrid composites as photocatalyst for the mitigation of pharmaceuticals." *Chemosphere* (2021): 133062. (W category)

Hussain, Nazim, Zulqarnain Baqar, Mehvish Mumtaz, Ahmed H. El-Sappah, Pau Loke Show, Hafiz MN Iqbal, Sunita Varjani, and Muhammad Bilal.

Curriculum Vitae

"Bioprospecting fungal-derived value-added bioproducts for sustainable pharmaceutical applications." *Sustainable Chemistry and Pharmacy* 29 (2022): 100755. (W category)

Farooq, Amna, Ariba Farooq, Sehrish Jabeen, Atif Islam, Nafisa Gull, Rafi Ullah Khan, HM Shifa ul Haq, Azra Mehmood, **Nazim Hussain**, and Muhammad Bilal. "Designing Kappacarrageenan/guar gum/polyvinyl alcohol-based pH-responsive silane-crosslinked hydrogels for controlled release of cephadrine." *Journal of Drug Delivery Science and Technology* 67 (2022): 102969. (IF= 0.663) (X category)

Mumtaz, Mehvish, Zulqarnain Baqar, **Nazim Hussain**, Muhammad Bilal, Hafiz Muhammad Husnain Azam, and Hafiz MN Iqbal. "Application of nanomaterials for enhanced production of biodiesel, biooil, biogas, bioethanol, and biohydrogen via lignocellulosic biomass transformation." *Fuel* 315 (2022): 122840. (IF= 6.609) (W category)

Intisar, Azeem, Arooj Ramzan, Tehzeeb Sawaira, Amatul Kareem, **Nazim Hussain**, Muhammad Imran Din, Muhammad Bilal, and Hafiz MN Iqbal. "Occurrence, toxic effects, and mitigation of pesticides as emerging environmental pollutants using robust nanomaterials—A review." *Chemosphere* (2022): 133538. (IF= 7.086) (W category)

Shahbaz, Areej, **Nazim Hussain**, Muhammad Zafar Saleem, Muhammad Usama Saeed, Muhammad Bilal, and Hafiz MN Iqbal. "Nanoparticles as stimulants for efficient generation of biofuels and renewables." *Fuel* 319 (2022): 123724. (IF= 6.609) (W category)

Riaz, Aqsa, Muhammad Saeed, Mamoona Munir, Azeem Intisar, Sabah Haider, Shahzaib Tariq, **Nazim Hussain**, Rehana Kousar, and Muhammad Bilal. "Development of reduced graphene oxide-supported novel hybrid nanomaterials (Bi₂WO₆@ rGO and Cu-WO₄@ rGO) for green and efficient oxidative desulfurization of model fuel oil for environmental depollution." *Environmental Research* 212 (2022): 113160. (IF= 6.498) (W category)

Shahbaz, Areej, **Nazim Hussain**, Muhammad Asim Raza Basra, and Muhammad Bilal. "Polysaccharides-Based Nano-Hybrid Biomaterial Platforms for Tissue Engineering, Drug Delivery, and Food Packaging Applications." *Starch-Stärke* (2022): 2200023. (IF= 2.741) (W category)

Mehmood, Tahir, Shagufta Saeed, **Nazim Hussain**, and Rida Waseem. "Biotransformation of wheat straw into biovanillin by solid-state fermentation and optimization of conditions parameters through response surface methodology." *Biomass Conversion and Biorefinery* (2022): 1-10. (IF=4.980) (X category)

Liaquat, Hina, Muhammad Imran, Shoomaila Latif, Sajid Iqbal, **Nazim Hussain**, and Muhammad Bilal. "Citric acid-capped NiWO₄/Bi₂S₃ and rGO-doped NiWO₄/Bi₂S₃ nanoarchitectures for photocatalytic decontamination of emerging

Curriculum Vitae

pollutants from the aqueous environment." *Environmental Research* 212 (2022): 113276. (IF=6.498) (W category)

Mumtaz, Mehvish, Nazim Hussain, Sidra Salam, and Muhammad Bilal. "Multifunctional nanodiamonds as emerging platforms for cancer treatment, and targeted delivery of genetic factors and protein medications." *Journal of Materials Science* (2022): 1-36. (IF=4.22) (W category)

YEAR-2021

Hussain, Nazim, Simona Bungau, Tapan Behl, Aayush Sehgal, Maheen Mahmood, Sadia

Manzoor, Muhammad Abdul Qayyum, Muhammad Imran Khan, Lavinia Cristina Moleriu, and Muhammad Bilal. "Distribution of hepatitis C virus genotypes in Punjab region, Pakistan, based on a study of 4177 specimens." *Infection, Genetics and Evolution* 91 (2021): 104811. (IF= 2.7) (W category)

Hussain, Nazim, Nimrah Farooq, Muhammad Maqsood, Muhammad Shahid Riaz Rajoka, and Muhammad Bilal. "Expression profiling of miRNA-196a biomarker in naïve hepatitis C virus-infected and Sofosbuvir plus Daclatasvir-treated patients." *Archives of Microbiology* 203, no. 5 (2021): 2365-2371. (IF= 1.7) (X category)

Mumtaz, Mehvish, Nazim Hussain, Zulqarnain Baqar, Saima Anwar, and Muhammad Bilal. "Deciphering the impact of novel coronavirus pandemic on agricultural sustainability, food security, and socio-economic sectors—a review." *Environmental Science and Pollution Research* 28, no. 36 (2021): 49410-49424. (IF=4.223) (W category)

Gull, Nafisa, Atif Islam, Abdul Ghaffar, Sehrish Jabeen, Sadia Sagar Iqbal, Shahzad Maqsood Khan, Rafi Ullah Khan, Nazim Hussain, and Muhammad Bilal. "Development and characterization of chitosan and acrylic acid-based novel biodegradable polymeric films for soil conditioning." *International Journal of Biological Macromolecules* 182 (2021): 950-958. (IF=6.953) (W category)

Shahbaz, Areej, Nazim Hussain, Azeem Intisar, Muhammad Bilal, and Hafiz Iqbal. "Immobilized Enzymes-Based Biosensing Cues for Strengthening Biocatalysis and Biorecognition." *Catalysis Letters* (2021): 1-13. (IF=3.186) (W category)

Saleem, Muhammad, Samiullah Malik, Hafiza Mahreen Mehwish, Muhammad Waqas Ali, Nazim Hussain, Mohsin Khurshid, Muhammad Shahid Riaz Rajoka, and Yougen Chen. "Isolation and functional characterization of exopolysaccharide produced by *Lactobacillus plantarum* S123 isolated from traditional Chinese cheese." *Archives of Microbiology* 203, no. 6 (2021): 3061-3070. (IF=2.552) (X category)

Curriculum Vitae

Saeed, Muhammad Usama, **Nazim Hussain**, Aleena Sumrin, Areej Shahbaz, Saman Noor, Muhammad Bilal, Lotfi Aleya, and Hafiz MN Iqbal. "Microbial bioremediation strategies with wastewater treatment potentialities–A review." *Science of The Total Environment* (2021): 151754. (IF= 7.963) (**W category**)

Bilal, Muhammad, **Nazim Hussain**, Juliana Heloisa Pinê Américo-Pinheiro, Yaaser Q. Almulaiky, and Hafiz MN Iqbal. "Multi-enzyme co-immobilized nano-assemblies: Bringing enzymes together for expanding bio-catalysis scope to meet biotechnological challenges." *International Journal of Biological Macromolecules* 186 (2021): 735-749. (**IF=6.953**) (**W category**)

Javaid, Ayesha, Shoomaila Latif, Muhammad Imran, **Nazim Hussain**, Muhammad Shahid Riaz Rajoka, Hafiz MN Iqbal, and Muhammad Bilal. "Nanohybrids-assisted photocatalytic removal of pharmaceutical pollutants to abate their toxicological effects–A review." *Chemosphere* (2021): 133056. (IF=7.086) (**W category**)

YEAR-2020:

Rajoka, Muhammad Shahid Riaz, Hafiza Mahreen Mehwish, Yongai Xiong, Xun Song, **Nazim Hussain**, Qinchang Zhu, and Zhendan He. "Gut microbiota targeted nanomedicine for cancer therapy: Challenges and future considerations." *Trends in Food Science & Technology* (2020). (**IF 11.07**) (**W category**)

YEAR-2019:

Jiang C, Xu J, Zhu W, Cai Y, Wang S, Guo Y, Xu K, Geng M, **Hussain N**, Han Y, Zhang F. Abnormal Expression of DICER1 Leads to Dysregulation of Inflammatory Effectors in Human Synoviocytes. *Mediators of Inflammation*. 2019; 2019. **IF= (3.545)** (**W category**)

YEAR-2018:

Hussain, N, Zhu, W., Jiang, C., Xu, J., Geng, M., & Wu, X., et al. (2018). Down- regulation of mir-10a-5p promotes proliferation and restricts apoptosis via targeting t-box transcription factor 5 in inflamed synoviocytes. *Bioscience Reports*, 38(2). (**IF-2.87**) (**W category**)

Rajoka, Muhammad Shahid Riaz, Haobin Zhao, Yao Lu, Ziyang Lian, Na Li, **Nazim Hussain**, Dongyan Shao, Mingliang Jin, Qi Li, and Junling Shi. "Anticancer potential against cervix cancer (HeLa) cell line of probiotic *Lactobacillus casei* and *Lactobacillus*

Curriculum Vitae

paracasei strains isolated from human breast milk." *Food & function* 9, no. 5 (2018): 2705-2715. (W category)

Hussain, S., Sun, M., Min, Z., Guo, Y., Xu, J., Mushtaq, N., Heng, L., Huang, H., Zhao, Y., Yuan, Y. and **Hussain, N.**, 2018. Down-regulated in OA cartilage, SFMBT2 contributes to NF-κB-mediated ECM degradation. *Journal of cellular and molecular medicine*, 22(11), pp.57535758. (IF-4.5) (W category)

Rajoka, Muhammad Shahid Riaz, Hafiza Mahreen Mehwish, Hafiz Fakhar Hayat, **Nazim Hussain**, Sobia Sarwar, Humaira Aslam, Ahmad Nadeem, and Junling Shi. "Characterization, the antioxidant and antimicrobial activity of exopolysaccharide isolated from poultry origin Lactobacilli." *Probiotics and antimicrobial proteins* 11, no. 4 (2019): 1132-1142. (IF=2.962) (X category)

Hussain S, Sun M, Guo Y, Mushtaq N, Zhao Y, Yuan Y, **Hussain N**, Osoro E, Suleiman A, Sadiq M, Zhang F. **SFMBT2 positively regulates SOX9 and chondrocyte proliferation**. *International journal of molecular medicine*. 2018 Dec 1;42(6):3503-12 (IF=1.880) (W category)

Rajoka MS, Jin M, Haobin Z, Li Q, Shao D, Jiang C, Huang Q, Yang H, Shi J, **Hussain N**. Functional characterization and biotechnological potential of exopolysaccharide produced by *Lactobacillus rhamnosus* strains isolated from human breast milk. *Lwt*. 2018 Mar 1;89:638-47. (W category)

YEAR **2017:**

Xu J, Zhu W, Guo Y, Jiang C, **Hussain N**, Meng L, Lu S (2017). Construction of conveniently screening plko.1-trc vector tagged with turbogfp. *Applied Biochemistry & Biotechnology*, 181(2), 1-11. (IF-1.429) (X category)

Nazim Hussain, Wenhua Zhu, Congshan Jiang, Jing Xu Xiaoying Wu, Manman Geng, Safdar Hussain, Yongsong Cai, Ke Xu, Peng Xu, Yan Han, Jian Sun, Liesu Meng, Shemin Lu (2017). Down-regulation of miR-10a-5p

Curriculum Vitae

in synoviocytes contributes to TBX5- controlled joint inflammation, J. Cell.

Mol. Med. Vol XX, No X, 2017 pp. 1-10. (IF-4.5) (X category)

YEAR-2016:

Wenhua Zhu, Jing Xu, Congshan Jiang, BoWang, Manman Geng, **Nazim Hussain**, Ning Gao, Yan Han, Dongmin Li, Xi Lan, Qilan Ning, Fujun Zhang, Rikard Holmdahl, Liesu Meng, Shemin Lu. (2016). Pristane induces autophagy in macrophages, promoting a stat1-irf1-tlr3 pathway and arthritis. *Clinical Immunology*, 175, 56. (IF-3.382) (W category)

YEAR-2015:

Shafique, M., Hussain, M., Shan, M. A., Shahzad, M., Hussain, S., & **Hussain, N.**, et al. (2015). Genetic diversity of 15 autosomal str loci in the population of southern Punjab Pakistan. *Forensic Science International Genetics*, 19(2). (IF-4.604) (W category)

Book Chapters

Sr. No	Chapter Title	Publisher	Year
1.	Porous Nanomaterials for Enzyme Immobilization and Bioremediation Applications	John Wiley & Sons, Inc.	21/08/2024
2.	Extremophilic Microorganisms for Environmental Bioremediation	John Wiley & Sons, Inc.	21/08/2024
3.	Lignocellulosic Biomass-Derived Functional Materials for Environmental Remediation	Springer Nature Singapore	11/08/2024
4.	Biodegradation of Plastic Waste: Mechanisms, Perspectives, and Challenges	Wiley-VCH GmbH	04/06/2024

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5.	Revolutionizing Breast Cancer Care: Cutting-Edge Breakthroughs and Future Frontiers in Precision Medicinez	Springer	21/5/2024
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Brief Introduction

Dr. Nazim Hussain joined the Center for Applied Molecular Biology (CAMB) PU, Lahore in 2006 as a forensic scientist and after preliminary training at CAMB went to Indianapolis USA for hands-on training in evidence examination, serology procedures, DNA extraction, Real-time PCR and, DNA Short Tandem Repeat (STR) analysis using ABI 310 Genetic Analyzer. He solved more than 400 criminal cases including parentage, theft, rape, murder, sodomy, robbery, mass disaster, and dead body identification at CAMB. Meanwhile, more than a dozen symposium, and hands-on training workshops were arranged for Medico Legal Doctors, Judiciary personals, and police officials. He had been involved in forensic DNA testing from 2006 to 2013 about seven years.

Later he Won the Doctoral Scholarship through China Scholarship council and joined the department of biochemistry and molecular biology at Xian Jiaotong University Xian China for his Doctoral program. During his Ph.D. at Xian Jiaotong medical university, he explored a novel miRNA involved in the regulation of rheumatoid arthritis and proposed its therapeutic importance for the treatment of RA. He completed his Ph.D. in four years (2013 to 2017) and published 4 articles in well reputed journals. He presented his research work in International symposium at CEMB in 2017 and was awarded first position in oral presentation.

He joined Molecular diagnostic and virology section in 2018 as In-charge and started providing PCR based testing facility not only to university employee but also general public. A total revenue of 70 Million have been generated from 2018 to 2024. Moreover, during the breakout of Covid-19 he had been actively involved, worked on front line and started covid-19 testing at CAMB Punjab University Lahore. Established BSL3 laboratory at CAMB and tested more than 15 thousand samples of Covid-19 received from Punjab Health Care Commission and from general public.

He is foreign PhD degree holder with more than 17 years of teaching and research experience, 70 publications in international reputed journals, 56 book chapters with 250 impact factor. His area of research involves investigation of infectious diseases and their causing agents at molecular level,

Curriculum Vitae

development of novel diagnostic methods, expression profiling of miRNAs, nano particles in drug delivery, Bioremediation and enzymology. He has also been recognized as HEC approved PhD supervisor and had supervised eight MPhil thesis. He often called as external examiner in different universities to conduct thesis defence of M.Phil. and Ph.D. students and has conducted thesis defence/viva voce exams of 25 MPhil students so far. Currently, as an Assistant Professor, along with teaching/supervising M-Phil and Ph.D. students, heading molecular diagnostic services including Covid-19, HCV, and HBV at molecular diagnostic section CAMB University of the Punjab Lahore.