

CURRICULUM VITAE OF PROFESSOR DR SHAHIDA HASNAIN

NAME: Dr. Shahida Hasnain
FATHER'S NAME: Sheikh Ghulam Hasnain
DESIGNATION: Professor Emeritus; HEC Distinguish National Professor
ADDRESS: Department of Microbiology & Molecular Genetics,
Punjab University, Quaid-e-Azam Campus, Lahore-54590
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EDUCATIONAL QUALIFICATION:

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|------------------------|---------|---|----------------------------|
| -B.Sc. | 1969-71 | Bot., Zool., Chem. | Punjab University |
| -M.Sc. (Botany) | 1972-74 | research in Ecology (Session 1971-73) | Punjab University |
| -M.Sc. | 1982-83 | (Applied Genetics) Qualified towards Ph.D. | Birmingham University U.K. |
| -Ph.D. | 1982-85 | Microbial & Molecular Genetics | Birmingham University U.K. |
| Post-doctoral Research | 1994-95 | Molecular Microbiology | Birmingham University U.K. |

DISTINCTIONS:

1. Awarded govt. merit Scholarship in Botany (1972-74)
2. 2nd position in the University in M.Sc. Botany
3. Awarded Govt. of Pakistan Central Overseas Scholarship in 1982-85 for higher studies (Ph.D) in UK.

AWARDS :

1. UNESCO/ROSTSCA Award for Young Scientist (from Central and South Asian region), 1988. Visited Jawahar Lal Nehru University and Delhi Universities of India (22-31 August 1989)
2. 2nd Award in Biology for 1994 in the Scheme Incentive for Publication organized by Pakistan Book Foundation.
3. Awarded National Education Award, 2005 by Pakistan Education Forum.
4. Awarded Fatima Jinnah Gold Medal, 2006, by Government of Punjab, Pakistan.
5. Awarded "Star Laureate 2007" in Science and Technology by South Asia Publications 2008.
6. Research Productivity Award, 2010, by PCST
7. Research Productivity Award, 2011-2012, by PCST
8. Research Productivity Award, 2012-2013, by PCST
9. Research Productivity Award, 2014-2015, by PCST
10. 2017 Carlos J. Finlay UNESCO Prize for Microbiology
11. Productive Scientist of Pakistan, Research Productivity Award, 2016-2017, by PCST
12. Meritorius Alumini Award, January 2018, by Lahore College Women University Lahore
13. Life Time Achievement Award, March 2018, by Botanical Society of Pakistan
14. Pride of Performance, March 23, 2018, by President of Pakistan
15. Senior Ambassador for Pakistan, International Society for Microbial Ecology (ISME 2019-2022)
16. Selected as the 2023 recipient of the ASM Moselio Schaechter Award in Recognition of a Developing-Country Microbiologist

POSTDOCTORAL FELLOWSHIP:

“Marrie Curie Fellowship: Awarded by Commission of European Communities for working on “Salt Tolerant Plasmid”. Jan. 1994 —Jan 1995. School of Biological Sciences, University of Birmingham, Birmingham, U.K.

TEACHING, RESEARCH AND PROFESSIONALEXPERIENCE:

1. Professor Emeritus in Microbiology and Molecular Genetics Department, Punjab University (since October 19, 2019)
2. Vice Chancellor, The Women University Multan (February 25, 2013- February 24, 2017)
3. Director, School of Biological Sciences, Punjab University (May 18, 2011 –February 23, 2013)
4. Distinguish National Professor (HEC) since January 2011
5. Acting Dean, Faculty of Sciences, University of the Punjab, January 2011- May 17, 2011.
6. Acting Dean, Faculty of Pharmacy, University of the Punjab, April 2010- May 17, 2011
7. Dean, Faculty of Life Sciences December 20th, 2005 – December 19, 2008; April 21, 2009 – May 17, 2011.
8. Professor Microbiology and Molecular Genetics on Tenure Track April 2008– May 17, 2011.
9. Member Syndicate University of the Punjab, Feb 6, 2007 – December 19, 2008.
10. Chairperson, Microbiology and Molecular Genetics Department, Punjab University (Nov. 08, 2002– May 17, 2011).
11. Chairperson, Botany Department, Punjab University (Oct. 26, 2002-Oct. 25, 2005).
12. Chairperson, Doctoral Programme Co Ordination Committee, November 2005 —February 22, 2013
13. Professor of Botany, Punjab University (Jan 8, 1998-2008).
14. Incharge Honeybee Research Farm PU, Nov 2003 – April 2005
15. Incharge Fish Research Farm PU, Nov 2003 – April 2005
16. Incharge Floriculture Research Farm PU, Nov 2004 – Nov 2006
17. Incharge Conventional and non-conventional Vegetable Farm, PU, May 2003 – Nov 2006
18. Research Fellow, School of Biological Sciences, Birmingham University, U.K. (Jan 31, 1994-Jan. 30, 1995).
19. Associate Professor of Botany, Punjab University (June 10, 1990-Jan. 7, 1998).
20. Assistant Professor of Botany, Punjab University (March 27, 1986-June 9, 1990).
21. Lecturer in Botany, Punjab University (September 25, 1975-March 26, 1986)

ESTABLISHMENT OF NEW UNIVERSITY

The Women University Multan (February 25, 2013 February 24, 2017)
As First Vice Chancellor of the University

ESTABLISHMENT OF LABORATORY & NEW DEPARTMENT

1. Establishment of Microbial and Molecular Research Lab (1987-May 2011), by UGC, NSRDB, PSF, PARC, S & T funds, some grant from University and form personal resources.
2. Establishment of Microbiology and Molecular Genetics Department in University of the Punjab, Pakistan, Lahore (in 2002). Currently four years B. Sc (Hons), M. Sc and Ph.D academic courses are running in the Department. (Building partially constructed)
The Department included in list of Centre of Excellence by Third World Academy of Science (TWAS)

RENOVATION OF BOTANICAL GARDEN AND BOTANY DEPARTMENT, PU

After taking over as Chairperson Botany (2002 -2005) Botanical Garden, which was devastated, was renovated

ADMINISTRATIVE JOBS:

A. Vice Chancellor

The Women University Multan, since February 25, 2013 - February 24, 2017

B. DEAN

1. Dean, Faculty of Life Sciences 20.12.2005 to 19.12.2008 and 21.04.2009—May 17, 2011.
2. Acting Dean, Faculty of Pharmacy April 2010 – May 17, 2011.
3. Acting Dean, Faculty of Science, 18.01.2011– May 17, 2011.

C. CHAIRPERSON / DIRECTOR OF DEPARTMENTS / SCHOOL

1. Director, School of Biological Sciences, Punjab University (May 17, 2011 – Feb 23, 2013)
2. Chairperson, Microbiology and Molecular Genetics Department, Punjab University (Nov. 08, 2002 – May 17, 2011).
3. Chairperson, Botany Department, Punjab University (Oct. 26, 2002- Oct 25, 2005).
4. Chairperson Doctoral Program Coordination Committee (DPCC), Punjab University (Nov 14, 2005 – Feb 22, 2013)

D. STATUTORY BODIES OF THE UNIVERSITY

1. Elected member, Advanced Studies and Research Board, May 2003 – 2006. Nov 2005 – May 17, 2011 as Dean, May 18, 2011 – February 22, 2013 ex-officio member as Chairperson DPCC
2. Convener, Faculty Board Life Sciences, University of the Punjab, 2005- May 17, 2011.
3. Convener, Faculty Board of Pharmacy, University of the Punjab, April 2010- May 17, 2011
4. Member Syndicate University of the Punjab, Feb 6, 2007 – December 19, 2008.
5. Member Board of Faculty in Medicine and Dentistry, 2005 – 2008
6. Member, Board of Studies in Medicine and Dentistry 2007-May 17, 2011,
7. Member Board of Studies in Botany 1999-2002
8. Convener, Board of Studies in Botany 2002-2005
9. Member Board of Studies in MMG 2002—May 17, 2011.
10. Convener, Board of Studies in Microbiology and Molecular Genetics 2002-2011
11. Member Faculty Board in Faculty of Science 1998-2005
12. Member Academic Council January 1998—May 17, 2011. October 19, 2019-- present
13. Member Senate January 1998—May 17, 2011. October 19, 2019-- present
14. Member Equivalence Committee, June 2004 — 2007.
15. Chairperson, Medical Advisory Committee PU, March 2011– May 17, 2011.

E. UNIVERSITY ADMINISTRATION

1. Member, Election Committee for compiling results of Punjab University Student Union, 1981.
2. Member, Election Committee (for ASA), 1981.
3. Member, Entertainment Committee for 23rd Urdu Science Conference, 1985. Organized by Punjab University.
4. Member, Decoration Committee for 23 Urdu Science Conference, 1985, organized by Punjab University.
5. Member, Seminar/Workshop Committee, Faculty of Science, PU, March 1999-2002.
6. Member, Security (internal & external) arrangement committee, (PU Convocation), 2000.
7. Member, Entertainment Committee (PU Convocation), 2000.
8. Member of Committee to consider and finalize all Research Projects and to Allocate Funds, Punjab University. (May 2003 — 2005)
9. Member Curriculum Advisory Board, Punjab University, June 2003
10. Member of Committee for Disbursement of HEC grant, Feb. 2004

11. Member, Committee to provide guidelines for developing uniform scheme of Studies for the teaching departments May 2004.
12. Chairperson, Committee for distributing Overseas Scholarships for Ph.D. to university teachers, 2004-2005.
13. Member, Admission Committee (PU), 2006- Feb 22, 2013
14. Chairperson subcommittee ASRB for finalizing issues relating Ph D registration 2006
15. Member, Committee for resolving issue of Girls Hostel 2006
16. Member Scholarship Committee for Faculty Development 2006
17. Chairperson Committee for resolving issue of Foreign Students in Hostel 2006
18. Chairperson, Committee for admission of Disables Students, January 2003 – 2007
19. Chairperson, Special Discipline Committee for the year 2003 to deal cases of indiscipline in girls Hostels 2006
20. Member Ethical Committee Punjab University, since 2006
21. Technical committee (Purchase) for the B. A/B. Sc Programme. 2007.
22. Chairperson, Purchase and Development Committee, Faculty of Life Science, P.U. Lahore., 2006 – May 17, 2011.
23. Member, Punjab University Budget Committee for the year 2006. – May 17, 2011.
24. Chairperson, Selection Committee for the appointment in the Research Project running in the Faculty of Life Sciences, 2006. – May 17, 2011.
25. Member, Selection Committee from BS-1 to 16, 2006-2008.
26. Member, Committee constituted by the Academic Council to finalize the degree format as per international standards besides preserving its historical and traditional value.2009.
27. Member, Committee for allocation of Merit/Needy Scholarship for the year 2007-2008.
28. Member, PU Admission /Implementation Committee, since 2005 —Feb 22, 2013.
29. Member, Convocation Coordination Committee 2009, 2010.
30. Co-Opted Member, Admission in Ph. D Programme-Sessions 2009, 2010, School of Biological Science, University of the Punjab, Lahore.
31. Member, Committee for Implementation of CMS Rollout in PU, 2010– May 17, 2011.
32. Member, Committee for the Development of Proposals for Post-Doctoral Fellowship Programme, 2010.
33. Member, Finance and Planning committee of the School of Biological Sciences, 2007 – May 17, 2011.
34. Member, Committee for distributing Overseas Scholarships for Ph.D. to university teachers, 2006-2012
35. Member Committee for Implementation of Tenure Track System, 2007
36. Convener, Robes Committee (PU Convocation) 2007– May 17, 2011.
37. Member, A meeting of the Incentive Award Committee. 2006-2012
38. Chairperson project awarding committee, PU, March 2010. – May 17, 2011.
39. Member, Admission Stalls Implementation Committee-2010, 2011.
40. Member, Committee to give its recommendation on the proposed changes in the numerical ranking for the appointment of Lecturer, Assistant Professor in the Selection Board.
41. Member, Committee to rationalize the demands for funds from Lump Sum Provision for Research in PU, 2010 – May 17, 2012.

42. Chairperson committee to finalizing the stipend rates for countries not considered by HEC (for Ph D Scholarships)
43. Member, Technical Committee constituted by PU for evaluation of CEMB 2010
44. Member/Subject Expert, Qualification Equivalence Determination Committee (QEDC).
45. Member, Technical Committee for finalizing the specifications regarding procurement of Laboratory/Scientific Equipments & Chemicals during the financial year 2010-2011.
46. Member, Committee for resolving issues relating to the implementation of BS programme in six affiliated colleges, 2010
47. Chairperson, Committee to consider the issues / procedures related with Tenure Track System, January 2011-May 2012
48. Chairperson, Committee to recommend Advanced/ Annual increments to the faculty working under Tenure Track system, 2011.
49. Chairperson Management Committee for the Punjab University Jahlum Campus, February 2011-May 2012
50. Member, committee for filling the Performa for ranking of university, 2011
51. Chairperson, Committee to give suggestions (in the light of TTS Statutes and further clarifications by HEC) to resolve the promotion and other allied issues of Faculty Members working under Tanure Track System at PU, February 2018.

F. SEMESTER AND EXAMINATIONS

1. Semester Examination and Results in the Department, 1975-1978. (Botant Department)
2. Convener, Disciplinary Committee (Unfair means-PU), March 2000 – 2003, 2005 — 2008.
3. Chairperson Monitoring Team, B.A./ B.Sc. Examination PU 2001(Team No 3), 2003(Team No 2)
4. Member, Semester Implementation Committee PU, August 2005 – May 17, 2011.
5. Chairperson, Committee to scrutinize and verify the degree of the Incumbent parliamentarians received by HEC, 2010-2011.
6. Member, Monitoring Committee for BS (four years program) of Affiliated Colleges, 2011.

G. DEPARTMENTAL

1. Incharge, Departmental(Botany) Time Table, 1975-1982, Jan 1996-2005.
2. Overall Incharge of M.Sc. admission in the Department, 1981 and 1982.
3. Annual Stock taking of Department Library, 1981-82, 1986-88, 1991, 1993 and 1995-1998.
4. Supervised Annual Stock taking of Departmental Library, 1999, 2000, 2001
5. Member, Departmental (Botany) Admission Committee, 1986-88, March 1991-2002 (Convener, 1998-2002).
6. Member Department Time Table Committee, 1986-88, March 1991-Dec. 1995.
7. Member, Department Sports Committee, March 1995-98.
8. Establishment of Microbial and Molecular Research Lab in Botany Department (1987-2006), by UGC, NSRDB, PSF, PARC funds, some grant from University and form personal resources.
9. Member, Purchase Committee in the Botany Department, March 1991-Jan. 1994.
10. Student Advisor in the Botany Department, March 1991-Jan. 1994, 2001- 2006.

H. RESEARCH PROJECTS

1. Principal Investigator, PSF Project (Bio 153), 1987-90
2. Principal Investigator, UGC Project, 1991-92.
3. Principal Investigator, NSRDB Project 1991-94.
4. Principal Investigator of 3 project from PARC, Dec. 1995-Nov. 1996.
5. Principal Investigator of 2 collaborative projects from PARC, Dec. 1995-Nov. 1996.
6. Principal Investigator, PSF project (Bio 228), 1997-2000.
7. Principal Investigator, PU Project 1997-98, 1998-99, 2000, 2007, 2008, 2009, 2010, 2011, 2017
8. Principal Investigator, S & T Biotechnology project, 2001-2004.
9. Principal Investigator, HEC project No 20-139/ R&D /Acad/ 03, 2004 -2007
10. Member Committee for supervising HEC (Bovine Hormones) project in SBS 2004 – 2007
11. Principal Investigator, HEC project No 20-1034/ R&D /Acad/ 07, 2008 -2011
12. Principal Investigator, Pak-US project, 3-130/PAK-US/HEC/2008, 2008-2011
13. Principal Investigator, Project from Ministry of Health, 2009 -2011
14. Principal Investigator, HEC NRPU 2017 project No 8288, 2018 -2021

I. OTHER UNIVERSITIES AND BOARDS

1. Member of the Appointment Committee on the Board of Intermediate and Secondary Education, Gujranwala, May 2003 – 2005, 2005-2007.
2. Member Board of Studies in Botany, Hazara University 2006- 2010
3. Member Board of Studies in Genetics, Hazara University 2006- present
4. Member Board of Studies in Botany, BZ University Multan 2008- 2009
5. Member Syndicate GC Women University, Faisalabad, October 2013- September 2016.
6. Member Selection Board GC Women University, Faisalabad, January 2014- December 2016.
7. Member Syndicate Nawaz Sharif Agriculture University, Multan, April 2018- March 2021.
8. Member Academic Council Fatima Jinnah Women University, Rawalpindi, September 2019-
9. Member Search Committee for Vice Chancellor Virtual University Lahore, 2019
10. Member Board of Governor Virtual University, Lahore, 2020-2023.
11. Member Selection Board, Virtual University, Lahore, 2020-2023.

J. SCIENTIFIC SOCIETIES

1. Senior Ambassador for Pakistan, International Society for Microbial Ecology (ISME 2019-2022)
2. Member Society for General Microbiology, now Microbiology Society (redesignated 2018), UK, since 1984.
3. Member American Society for Microbiology since 2014.
4. Life Member Botanical Society of Pakistan
5. Life Fellow Zoological Society of Pakistan
6. Member, Biological Society of Pakistan.
7. Convener Editing and Publishing Committee, 7th national conference of Plant Scientists (Nov 14-16, 2000) PU
8. Life Member, Pharmacological Society of Pakistan.
9. Member, Botanical Society of Bangladesh, 1992-93.
10. Member, Bangladesh Association for Plant Tissue Culture, 1992-93.
11. Member, New York Academy of Science, 1995-98.

12. Founder member and life fellow, Genetical Society of Pakistan, vice President, Jan. 1995-Dec. 1995; Jan. 1996-Dec. 1998; President, 1999-2002.
13. Life Member, Pakistan Environment Protection Society since March 1997.

K. HEC CURRICULUM DEVELOPMENT

1. Member National Curriculum Revision Committee in Botany 2002
2. Member National Curriculum Revision Committee in Genetics 2002
3. Secretary National Curriculum Revision Committee in Botany 2005
4. Member National Curriculum Revision Committee in Bioinformatics 2007-2008.
5. Member National Curriculum Revision Committee in Biotechnology 2007 -2008
6. Member National Curriculum Revision Committee in Genetics 2008- 2017
7. Member National Curriculum Revision Committee in Fresh Water Biology 2016- 2019

L. UNIVERSITY COMMERCIAL PROJECTS

1. Incharge, Conventional and Non-Conventional Vegetable Farming, Punjab University, May 2003 – Nov 2006:
2. Incharge Honeybee Farm PU, since Nov 2003 – April 2005
3. Incharge Fish Farm PU, since Nov 2003 – April 2005
4. Incharge Floriculture Research Farm PU, since Nov 2004 –Nov 2006

M. HEC/PUNJAB GOVERNMENT

2. Member Governor's Consultative Group, January 2007 — January 2008
3. Focal Person PU HEC Ph D students, January 2006 – February 2013
4. Member, Committee for suggesting Means and Modes for Improving Internal Administration in Public Sector Universities April 2007 – January 2008(under Chancellor's directive)
5. Member, Standing Committee on Science & Technology since 2010
6. Member, Technical Committee constituted by Ministry of Science & Technology for evaluation of CAMB, 2010
7. Experts for Evaluation of Multidisciplinary Science Journals, HEC, 2011- 2016

N. EDITOR/MEMBER ADVISORY COMMITTEE OF SCIENTIFIC JOURNALS:

1. Editor, Molecular Genetics and Biotechnology Section, Pakistan Journal of Genetics. January 1996 -January 2012.
2. Member, Advisory Committee, Pakistan Journal of Zoology. 1993-97.
3. Member, Advisory Committee, Science International (Lahore), 1993-present.
4. Member, Editorial Board, Pakistan Journal of Botany, 1999 - 2002.
5. Editor of one section – Cell Biology, Genetics, Microbiology, Pakistan Journal of Botany, 2002 - 2012.
6. Member Editorial Board, Journal of Microbial World, since 2005
7. Member Journal of Biotechnology and Parasitological – open access, OMIICS Publishing Group, USA. Since 2010
8. Chief Editor, Journal of Science, PU, January – May 2011.

O. SCHOOL OF BIOLOGICAL SCIENCES

1. Incharge admission, 2011, 2012
2. Chairperson Technical committee for purchase

P. OTHERS

1. Assistant Presiding Officer in Local Bodies Election 1979.
2. Proctor, Botanical Society, Punjab University, 1973 (Session 1971-1972)
3. Proctor, Botanical Society, Punjab University, 1974 (Session 1972-73).
4. Member Chambers of Commerce's committee on Biotechnology, 2011
5. Member Technical Committee in Biology, Pakistan Science Foundation, February 2014
6. Member Ethical Committee Punjab University, since 2011
7. Member Biosafety Bioresource Committee Punjab University, since 2014

SUBJECT TAUGHT TO POSTGRADUATE CLASSES:

A: Botany Department, PU:

B. Sc Hons Biostats, Microbiology, Principles of Genetics, Microbial Genetics,

M.Sc.: Algae, Bryophytes, Comparative Pteridophytes and Gymnosperms, Embryology of Angiosperms, Morphogenesis, Radiation Biology, Biometry, Cytology, Cell Biology, General Genetics, Plant Breeding, Microbiology, Environmental Bacteriology.

M.Phil/ Ph. D: Essentials of Microbiology, Recombinant DNA Technology

B: Zoology Department, PU: Genetics and Biometry (1991-1992).

C: Institute of Biotechnology & Biochemistry Department, PU: Microbiology, 1998, 1999, 2000.

D: Institute of Geology, PU: Microbiology to Diploma in Environmental Sciences.
Microbiology to M Sc in Environmental Sciences

E: Department of Microbiology and Molecular Genetics, PU

B. Sc Hons Microbiology, Principles of Genetics, Microbial Genetics, Recombinant DNA Technology, Ethical issues in Genetics, Biometry

M.Sc.: Microbiology, Principles of Genetics, Recombinant DNA Technology, Ethical issues in Genetics, Biometry

Ph. D : Research Techniques, Problem solving – Genetics, Problem solving – Molecular Biology

F School of Biological Sciences

MS, Ph.D. Genetics

G Department of Microbiology and Molecular Genetics, Women University Multan

MS, Ph.D. Problem Solving in Genetics

COURSES FRAMED FOR POSTGRADUATE & UNDERGRADUATE CLASSES IN BOTANY:

M.Sc.: Algae, Bryophytes, Morphogenesis, Radiation Biology, Embryology of Angiosperms, Cell Biology, Biometry, General Genetics, Biometrical Genetics, Gene Manipulation, Molecular Biology of Genes, Environmental Bacteriology.

M.Phil: Essentials of Microbiology, Advances in Molecular Genetics, Recombinant DNA Technology, Biodegradation and Bioremediation.

B.Sc (Hons): Essentials of Microbiology, Environmental Bacteriology., Microbial & Molecular Genetics, Gene cloning, Genetics, Principles of Genetics, Biostat, Cytology, genetics and evolution, Recombinant DNA technology.

COURSES FRAMED FOR POSTGRADUATE & UNDERGRADUATE CLASS IN DEPARTMENT OF MICROBIOLOGY AND MOLECULAR GENETICS

B.Sc (Hons)

Fundamentals of Microbiology, Biochemistry, Biostatistics, Principles of genetics, Biodiversity of Plants, Biodiversity of Animal, Biochemistry II, Ecosystem, Cell Biology, Microbial Genetics, Microbial Diversity, Virology, Microbial Physiology
Microbial Ecology, Molecular Biology, Immunology, Bacterial Metabolism, Environmental Microbiology, Recombinant DNA Technology, Medical Microbiology,

Human Genetics, Molecular Mechanism of Gene Expression, Agricultural Microbiology, Industrial Microbiology I, Human Genetics Diseases & their Diagnosis, Gene Therapy, Genetic Counseling, Food Microbiology, Biophysics/Bioinformatics, Industrial Microbiology II, Ethical Issues of Genetics, Plant Molecular Genetics, Plant Biotechnology, Animal Biotechnology, Monoclonal Antibodies, Microbiology & Environmental Hazards, Probiotics, Biodegradation & Bioremediation, Biochemistry of Nucleic Acid, Plasmids, Episome & Insertion Sequences, Plant Diseases (Bacterial , Viral), Animal Diseases (Bacterial, Viral) ,Antiviral Agents, Oncology, Infectious Diseases, Downstream Technology, Veterinary Microbiology, DNA Damage, Repair & Carcinogenesis, Molecular Genetics of Yeast, Advanced Topics in Molecular Biology

M.Sc

Biochemistry, Cell Biology, Fundamental of Microbiology, Principles of Genetics, Virology, Biostatistics, Computer, Microbial diversity, Microbial Genetics, Bacterial Metabolism, Microbial Ecology, Microbial Physiology, Molecular biology, Immunology Soil, Agricultural & Environmental Microbiology, Food Microbiology, Medical Microbiology, Human Genetics & Gene Expression, Bioinformatics, Plant Molecular Genetics, Plant Biotechnology, Animal Biotechnology, Monoclonal Antibodies, Microbiology & Environmental Hazards, Probiotics, Biodegradation & Bioremediation, Biochemistry of Nucleic Acid, Plasmids, Episome & Insertion Sequences, Plant Diseases (Bacterial , Viral), Animal Diseases (Bacterial, Viral) , Antiviral Agents, Oncology, Infectious Diseases, Downstream Technology, Veterinary Microbiology, DNA Damage, Repair & Carcinogenesis, Recombinant DNA Technology, Industrial Microbiology, Chromosomal Abnormalities / Genetic Counseling, Gene Therapy, Ethical Issues of Genetics

M.S./Ph.D.

Research Techniques, Waste Water Treatment, Bioresources And Gene Pool Conservation, Lateral Dna Transfer, Microarray Technology & Its Applications, Molecular Basis Of Genetic Diseases, Ecological Genetics, Genome Analysis And Genomics, Molecular Biology And Human Diversity, Cellular And Molecular Immunology, Molecular Infection Biology, Process Biotechnology Fundamentals, Environmental Ethics, Communicable Diseases Common To Man And Animals, Environmental Toxicology And Microbial Control, Dna Replication And Repair, Behavioral Genetics, Cancer Genetics, Aquatic Genetics, Human Genetics, Plant Breeding, Animal Breeding , Agrobiotechnology, Pharmaceutical Biotechnology, Molecular Virology, Biotechnology For Sustainable Development, Epidemiology, Microbial Safety And Public Health, Nanotechnology And Biological Systems, Fingerprinting And Dna Fingerprinting, Biosafety, Population Genetics, Islam And Genetics, Transgenesis, Biophysics And Computational Biology, Proteomics And Genomics, Soil and Agricultural Microbiology ; Advances in Molecular Genetics ; The Biochemistry of the Nucleic acids; Biosynthetic pathways in higher plants; Recombinant DNA Technology; Biodegradation and Bioremediation; Plant Tissue Culture and its agricultural applications; Biotechnology for sustainable development.; Environmental Bacteriology; Plant Breeding and Horticulture.; Plasmids, episomes and insertion sequences; Chromosomal abnormalities, Genetic counseling and gene therapy; Proteomics and genomics; Biohazards, Biosafety, Bioethics; Computational Biology, Biophysics and Bioinformatics; Challenges of a changing earth; Microbes, Man and the Environment

HEC LEVEL: Botany (BS, MSc), Microbiology (BS, MSc), Genetics (BS, MSc), Bioinformatics (BS), Biotechnology (BS, MSc), Fresh Water Biology (BS, MS)

CONTRIBUTION IN BOOK:

- 1 Chapter II of Class XI which comprised of
 - a. Classification of living things
 - b. Viruses

- 2 Afrasyab, S., Faisal, M. and Hasnain, S. 2007. Induction of Salinity Tolerance in Plants through Indigenous Bacteria. In: *Application of Biotechnology*, Aavishkar publisher's distributors, India, pp98-119.
- 3 Ashraf Muhammad and Shahida Hasnain, 2009 Exo-polysaccharides producing bacteria of salt lands- a tiny weapon to combat salinity. LAMBERT Academic Publishing, available on Amazon.
- 4 Hina Usman, Rimsha Munir, Fatima Ameer and Shahida Hasnain, 2016. Cancer Associated Dyslipidemia (invited chepter) In: *Advances in Dyslipidemia*, publisher Avid Science
- 5 Anwar Hussain, Ihsan Ullah and Shahida Hasnain. 2017. Microbial Manipulation of Auxins and Cytokinins in Plants. In: *Auxins and Cytokinins in Plant Biology*, vol 1569 of the series *Methods in Molecular Biology* pp 61-72. Springer

RESEARCH:

1. Ph.D. (1982-85). Construction and analysis of a novel gene bank of *Bacillus subtilis* in *E. coli*; cloning of *sdh* and *gerE* loci.
2. Post-doctoral Research (1994-1995). Molecular genetic studies on plasmids associated with salt tolerant bacteria, University of Birmingham, UK.
Gene Bank Accession number of sequences of pSH1451:U5367.
3. **Research Projects Completed:**
 - (i) Studies on the stability of hybrid plasmids carrying segments of *Bacillus subtilis* genome in *E.coli* financed by Pakistan Science Foundation for three years (1987-1990.)
 - (ii) Molecular genetic analysis of *div* gene of *Bacillus subtilis* financed by National Science and Research Development Board for three years (1991-1994).
 - (iii) Host range, host specificity and transformation efficiency of *Agrobacterium tumefaciens* from plants of Pakistan financed by University Grants Commission (1991-1992).
 - (iv) Indigenous mercury resistant bacteria from polluted environment and some studies on plasmid mediated mercury resistance financed by PARC (Pakistan Agricultural Research Council), 1995-1996.
 - (v) Evaluation of the role of chromate-resistant bacteria in improving plant growth under Cr-stress: financed by PARC, 1995-1996.
 - (vi) Optimization of conditions for T-DNA in callus cultures of *Brassica oleracea* financed by PARC, 1995-1996.
 - (vii) Some studies on genetic determinant conferring resistance to chromium in bacteria from industrial effluents PU, 1997-1998.
 - (viii) Evaluation for the chromium removal/detoxification potentials of chromium resistant bacteria from industrial wastes PU, 1998-1999.
 - (ix) Evaluation of the role of salt-tolerant bacteria in developing resistance of plants to salt stress conditions. Pakistan Science Foundation. July 1997-June 2000.
 - (x) Germination response of *Bacillus subtilis div* mutants in ALA and AGFK systems PU, 1999-2000
 - (xi) The role of salt-tolerant bacteria in developing resistance of plants to salt stress conditions, 2002, NDP
 - (xii) Screening of Cr-resistant bacteria and cyanobacteria for detoxification potential and plant growth stimulation under chromium stresses 2002 – 2003, Biotechnology projects. Science and Technology for Economic Development program
 - (xiii) Molecular characterization of hypertension related loci of local population PU, 2004-05.
 - (xiv) Identification, Characterization of drug resistant *E. coli* and its treatment: A perspective of Novel Antibacterial Agents under National Research Programme for Universities by HEC at a total cost of Rs.18,71,000/- for a period of three years. 2003-2007
 - (xv) Structure elucidation of novel antibiotics from local bacteria. Grant for collaborative work in Germany by HEC 2007-2008.

- (xvi) Enzymatic and molecular characterization of protease producing bacterial strain, Punjab University 2008.
 - (xvii) Impact of osmolites on the growth of salt tolerant bacteria, Punjab University 2009. Genetic basis of noise induced hypertension, PU, 2009.
 - (xviii) Growth basis of noise induced hypertension, PU, 2010
 - (xix) Antioxidant potential of some medicinal plants, PU 2011
 - (xx) Structure elucidation of novel antibiotics from indigenous bacteria funded by Ministry of Health, 2009-2011
 - (xxi) Bioremediation of chromium and arsenic from industrial waste waters, Pak-US S&T project, funded by HEC USAID (2008-2011)
 - (xxii) Plant growth hormones from bacterial and cyanobacterial origin and its impact in tissue culture funded by HEC (2008-2011)
 - (xxiii) *In silico* and *in vitro* characterization of potential anticancer phytochemicals from *Piper nigrum* (2017-2018)
- 4. Collaborative Research Projects:**
Collaborator, Dr. A.R. Shakoori, Zoology Department, P.U.
- i “Indigenous salt tolerant bacteria form saline areas and some studies on the genetics of salt tolerance” financed by PARC, 1995-1996.
 - (ii) “Screening of bacteria for plant growth stimulation under salt stress”, financed by PARC, 1995-1996.
- 5. Research Projects Approved:**
- (i) “Molecular genetic analysis of salt tolerant plasmids” approved by USAID.1990
 — Collaborator Dr. Merna Vellarjo, Professor of Biochemistry, University of California, Davis, USA.
 -- Because of political reason funding for Pakistan was not available.
- 6. Research Projects in hand:**
- i) Preclinical Studies of Acetylcholinesterase Inhibitors: A Common Treatment to Various Neurodegenerative Disorders, HEC NRUP 2017 No 8288 (2018-2021)
- 7. Novel Plasmid Vector and Gene Bank**
- i) PTC571
 - ii) Gene Bank of *Bacillus subtilis* in low copy number vector which can also replicate at high copy number
- 8. DNA sequence of salt tolerant plasmid in Database**
 Gene Bank Accession number of sequence of pSH1451:U5367.
- 9 Bacterial Strains identified through DNA sequence analysis**
Bacillus pumilus, *Ochrobactrum intermedium* (C32411), *Bacillus cereus* (C32412), *Ochrobactrum Intermedium* (C32413), *Brevibacterium epidermidis* (C32414), *Staphylococcus xylosus* (C32415), *Halomonas pacifica* (C32417), *Bacillus fusiformis* (C32418), *Bacillus subtilis* (C32419), *Bacillus subtilis* (C32420), *Bacillus cereus* (C32421), *Cytophaga hutchinsonii* (C32423), *Cytophaga hutchinsonii* (C32424), *Serratia plymuthica* (C32426), *Halomonas aquamarina* (C38694), *Ochrobactrum intermedium* (C38695), *Bacillus subtilis* (C38696), *Bacillus* sp. ChR-1 EU276629, *B. licheniformis* FiR-1 EU276630, *Bacillus* sp. NpR-1 EU276631, *B. megaterium* MiR-4 EU368168, *B. pumilus* DaR-2 EU190455, *B. circulans* CaR-3 EU190451, *B. pumilus* AaH-1 EU368170, *Bacillus*

sp. EhH-5 EU368172, *Bacillus* sp. MtH-1 EU368173, *Bacillus* sp. CdH-3 EU190454, *B. subtilis* CaH-6 EU368171, *B. licheniformis* BP-1 EU368179, *B. cereus* EpP-2 EU368180, *B. subtilis* TpP-1 EU368182, *B. cereus* TpP-2 EU368183, *B. cereus* MpP-1 EU368181, *Pseudomonas alcaliphila* AvR-2 EU190452, *Pseudomonas* sp. AvH-4 EU190453, *P. aeruginosa* As-1 EU368174, *P. aeruginosa* As-7 EU368176, *P. aeruginosa* As-17 EU368175, *Micrococcus* sp. AvR-5 EU368178, *Escherichia hermannii* SnR-1 EU368169, *Staphylococcus saprophyticus* CdR-1 EU276627, *S. saprophyticus* CdR-2 EU276628,

10 Novel technologies

Plant growth stimulation with Bacteria

- Under salt stress – mono and mixed cultures identified
- Under heavy metal stress- specially under chromium stress

Chromium reduction and removal process by

- Bacteria
- Cyanobacteria

Use of Bacterial hormones in Tissue culture

M.Sc. / BS THESES GUIDED: 128 in field of Microbiology and Molecular Genetics; **working 2**

M.Phil THESIS GUIDED: 47 (M.Sc. Hons/ MS / Mphil) **Working 2**

| Sr. No. | Student's Name | Thesis Title | Year |
|---------|-------------------|---|-----------|
| 1 | Saima Mehdi Zaidi | Characterization of bacteria exhibiting antibacterial activity. | 1999-2001 |
| 2 | Kamran Shaukat | Impact of <i>Pseudomonas</i> , <i>Azotobacter</i> and <i>Azospirillum</i> strains on growth and yield of wheat and sunflower. | 2000-02 |
| 3 | Muhammad Hanif | Effect of varying temperature and pH on the growth, protein contents, protein profile and chromium reduction potential of chromium resistant bacterial strains. | 2002-04 |
| 4 | Basharat Ali | Screening of salt tolerant bacteria for Auxin production and its impact on plant growth. | 2002-04 |
| 5 | Sadia Salariya | Effect of curing agents on auxin, acid phosphatase and protein contents of salt tolerant bacterial strains. | 2002-04 |
| 6 | Attia Subhani | <i>In Vitro</i> organogenesis in hybrid cucumber | 2005-06 |
| 7 | Iram Nisar | Study of indigenous bacteria exhibiting antimicrobial activity & their role in plant growth. | 2006-07 |
| 8 | Sumaira Mazhar | Impact of Cr(VI) reducing cyanobacterial strains on the growth and biochemical parameters of <i>Phaseolus vulgaris</i> , <i>Oryza sativa</i> and <i>Triticum aestivum</i> | 2006-07 |
| 9 | Saima Riaz | Growth improvements of <i>Cicer arietinum</i> and <i>Lensculenta</i> by <i>Ochrobactrum intermedium</i> , <i>Bacillus cereus</i> and <i>Brevibacterium</i> SP. Under chromium stress. | 2006-07 |
| 10 | Aisha naeem | Antimicrobial potential, cultural and physiological characteristics of <i>Streptomyces</i> isolated from rare source | 2006-08 |
| 11 | Hazir Rahman | Genetic analysis of male infertility in Pakistani population | 2006-08 |
| 12 | Noor Fatima | Screening of CFTR mutations in the local infertile population | 2007-09 |
| 13 | Shabana | Effect of FTO gene variants on familial obesity in local population | 2008-10 |
| 14 | Neelum Aftab | Genetic analysis of common CFTR mutations by SSCP and restriction digestion in local infertile population | 2008-10 |

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|----|-----------------------|--|-----------|
| 15 | Humaira yasmin | Screening of antioxidant properties of different medicinal plants | 2009-11 |
| 16 | Amtul Moeez | Associated polymorphism analysis in 9p21 region in patients of coronary heart disease in Pakistan | 2010—12 |
| 17 | Muhammad Sarfraz | Prevalance & Molecular characterization of Extended spectrum Beta-Lactamases (ESBLs) producing <i>Escherichia coli</i> <i>Klebsiella</i> and <i>pneumoniae</i> | 2010—12 |
| 18 | Muhammad Imran Qadeer | Polymorphism analysis of estrogen gene receptor in multitransfused adult Thalassaemia major patient kept on iron overload | 2010—12 |
| 19 | Sinha Liaqat | Associated Polymorphism analysis in Estrogen receptors alpha and beta gene of infertile population in Pakistan | 2010—12 |
| 20 | Saher Mahmood | Comparative analysis of Phyllospheric and rhizospheric microbial community and its variation across different developmental stages of <i>Helianthus annuus</i> | 2011-13 |
| 21 | Saadia Tahir | Extraction of lipopolysaccharides from <i>Agrobacterium tumefaciens</i> and its role as potential insecticide | 2011-13 |
| 22 | Wajeeha Yusra | Seasonal variation of Cyanobacteria and sequence analysis of some of their selected genes | 2011-13 |
| 23 | Aziza Ziaudin | SNP characterization of promoter region of human growth hormone 1 gene of β -thalassemia major patients | 2011-13 |
| 24 | Fatima Ameer | Metabolic profiles of hematological cancer patients revisited: Studying the irregularities and independencies of plasma glucose and lipid levels | 2012-14 |
| 25 | Gur Charn Singh | Computational analysis of SNPs in CYP2D6 region and its association with populations. | 2012-14 |
| 26 | Noor-ul-Huda | Identification, biological and chemical screening of bacteria exhibiting antimicrobial activity isolated from indigenous soil | 2012-14 |
| 27 | Nayab Qamar | Indigenous arsenic resistant bacteria and their impact on plant growth | 2012-14 |
| 28 | Abdul Rehman | <i>In-vitro</i> and <i>in-silico</i> assessment of Natural Compounds against bacteria isolated from Peptic Ulcer | 2013-15 |
| 29 | Sarwat Saleem | Synthesis of Silver Nanoparticles and their Antibacterial Efficacy against MRSA Strains (WUM) | 2013-15 |
| 30 | Samina Kousar | Characterization of Phyllospheric Bacteria from Medicinal Plants and Analysis of Antimicrobial Activity of Leave Extracts and Bacterial Isolates (WUM) | 2014-16 |
| 31 | Sumera Ahmad | Comparison of Antibacterial Activity of Epiphytes & Endophytes with their Extract in Some Medicinal Plants (WUM) | 2014-16 |
| 32 | Sumbal Sarwer | Relationship of VNTRs and 1941G polymorphism in <i>MAO-A</i> gene in persons with aggressive behavior | 2015-2017 |
| 33 | Naila Noureen | Analysis of PKS-1, NRPS, CYP P450 hydroxylase and glycopeptide oxyB, antibiotics biosynthetic gene clusters in <i>Streptomyces</i> strains. | 2015-2017 |
| 34 | Nimra Naseer | Chromatography based purification, biological screening and partial identification of bioactive compounds from selected actinomycetes strains | 2016-2018 |

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|----|----------------------|--|-----------|
| 35 | Javeria Majeed | Screening and Characterization of Lactobacilli from different sources and their antimicrobial activity against common pathogens | 2016-2018 |
| 36 | Istabsar ul Saadat | Relationship of rs6280 polymorphism in DRD3 gene in people with aggressive behavior | 2017-2019 |
| 37 | Hira Saleem | Analysis of gut microbiome profile of school going children through metagenomics | 2017-2019 |
| 38 | Hareem Mohsin | Comparison of gut microbiome profile of children born with normal mode of delivery and caesarean section procedure (co supervisor) | 2017-2019 |
| 39 | Maham Mumtaz | Growth and productivity behavior of Mungbean (<i>Vigna radiata</i>) inoculated with rhizosphere bacteria | 2018-2020 |
| 40 | Furat Ovais | Oil degradation and metal bioremediation potential of bacterial consortia | 2018-2020 |
| 41 | Tuba Fayyaz | Effect of flaxseed intervention to reduce iron overload and its complications in beta thalassemia major patients | 2018-2020 |
| 42 | Muhammad Haseeb Arif | Prevalence of plasmid mediated colistin resistance among isolates of <i>Klebsiella</i> , <i>Enterobacter</i> and <i>E. coli</i> , in broiler and domestic hens | 2018-2020 |
| 43 | Rafia Mazhar | mcr-1 harboring colistin resistant isolates of <i>Klebsiella</i> , <i>Enterobacter</i> and <i>E. coli</i> from polluted environment | 2018-2020 |
| 44 | Hira Arooj | Association of 5-HTT and MAOA-UVNR Polymorphism with depression in Thalassemia major patients | 2019-2021 |
| 45 | Kubra Dastgir | Implication of Genetic Variants in the tryptophan hydroxylase 2 (TPH2) and dopamine transporter (DAT1) genes with depression in thalassemia major patients | 2019-2021 |
| 46 | Hifza Islm Qadri | Relationship between single nucleotide polymorphism (<i>XmnI</i>) with Hydroxy urea response in Pakistani Thalassemia major patients | 2020-2022 |
| 47 | Sara Ambreen | Biofilm forming bacterial diversity exhibited at different developmental stages of Petunia and Marigold plants | 2020-2022 |

Ph.D. GUIDANCE:

A: Ph.D. Completed:

1. Molecular genetic analysis of *div* gene of *Bacillus subtilis*. (**Anjum Nasim Sabri, 1997**)
2. Host range, host specificity and transformation efficiency of *Agrobacterium tumefaciens* from plants of Pakistan. (**Shams ul Hussnain Amir Qazi, 1997**)
3. Characterization of plasmid conferring resistance to salt tolerant bacteria. (**Azra Yasmin, 1998**)
4. Heritability estimates genetics correlations and predicted gains from S₁ families in two random mated sunflower populations. (**Wasim Hassan Shah, 2002**)
5. Genetic studies in some Brassica species and their hybrids. (**Habib Ahmad, 2003**)
6. Evaluation of the role of salt tolerant bacteria on developing resistance of plants to salt stress (**Shazia Afrasyab, 2004**)
7. Genetical studies for determining the components of variation, their interrelationship for impotent economic trials in the intraspecific populations of upland cotton (**Mohammad Aslam, 2005**)
8. Screening of chromium resistant bacteria for detoxification potential and plant growth stimulation under chromium stresses. (**Muhammad Faisal, 2005**)
9. Chromium resistant Cyanobacteria from industrial waste: characterization, chromium accumulation and reduction potential. (**Abdul Hameed, 2007**)
10. Germination potentials of spore forming bacteria from various polluted and saline environments around Lahore (**Uqba Mahmood, 2007**)

- 11 Cr-resistant bacteria from industrial wastes: Genetic analysis, chromium accumulation and reduction potentials (**Sikander Sultan, 2007**)
- 12 Role of exopolysaccharide producing bacteria in improving fertility and crop productivity of salt affected soil (**Muhammad Ashraf Malik, 2007**)
- 13 Investigating of mating types and strains of *Phytophthora infestans* : the cause of late blight of potato. (**Javed Iqbal Mirza, 2008**)
- 14 The use of *Agrobacterium tumefaciens* as a possible biocontrol agent against some insects of economic value (Co Supervisor)(**Fauzia Qamar, 2008**).
- 15 Antimicrobial efficacy of some medicinal plants against selected poultry pathogen with emphasis on avian pathogenic *Escherichia coli* (**Najma Shaheen, 2008**).
- 16 Assessment of genetic variation and inheritance of yield and yield related traits in Lentil (*Lens culinaris* Medik) (**Muhammad Ashraf , 2009**)
- 17 Molecular characterization of Hypertension related genetic *Loci* of local population (**Farrukh Mehmood Alvi, 2009**).
- 18 Screening for antibiotics from indigenous streptomycetes their genetic and mutational analysis (**Imran Sajid, 2009**)
- 19 Auxin production by plant associated bacteria: their genetical studies and impact on plant growth.(Co Supervisor**Basharat Ali, 2009**).
- 20 Bacteria exhibiting antimicrobial activities: Screening for antibiotics and associated genetic studies (**Muaaz Al- Ajlani , 2010**)
- 21 Genetically Engineered Basmati Rice for resistance against Bacterial Blight. (**Ch. Zahid Mukhtar, 2010**).
- 22 Cyanobacterial Secondary Metabolites: Their Impact on Plant Growth and Fertility Status of Soil (**Mehboob Ahmed, 2011**)
- 23 Phytohormones Cytokinin and IAA from Microbial Origin and Their Impact on Plant Growth (**Anwar Hussain, April 2011**).
- 24 Molecular Genetic analysis of Cr-resistant Cyanobacteria from industrial wastes.(**Saiqa Razi 2011**)
- 25 Effects of noise on single nucleotide polymorphisms in genes related to hypertension.(**Kashif Nawaz 2011**)
- 26 Characterization of pesticides degrading bacteria (**Farkhanda Jabeen, 2012,)**
- 27 Sociological impact of agroforestry in Punjab. (**Syed Muhammad Akmal Rahim, 2012,)**
- 28 Efficacy of bacterial hormone in plant growth promotion.(**Ambreen Ahmad , 2012**)
- 29 Molecular Characterization of Cleft Lip with or without Cleft Palate in Pakistan. (Co supervisor, **Saira Malik , 2012**)
- 30 Extended spectrum beta-lactamasees: phenotypic and genotypic study. (Co supervisor, **Saba Riaz, 2012**)
- 31 Molecular Genetic analysis of Chromate Reductase enzymes of Indigenous Chromium Resistant Bacteria.(**Rida Batool, 2012**)
- 32 Auxin and cytokinin producing Rhizobacteria and their plant growth promoting potential.(**Atia Iqbal, July 2014**)
- 33 Arsenic Oxidation Reduction Potential and Associated Genetic Analysis of Indigenous Bacteria from Polluted Envinments (**Yasir Rahman, 2014**)
- 34 Polymorphisms and mutational analysis of genes associated with Alzheimer's disease (**Mamoonah Ch, September, 2015**)
- 35 Endophytic Actinomycetes: Isolation, Identification and *InVitro* Screening for Biotechnologically Significant Compounds (**Rabia Tanveer, 2015**)
- 36 Indigenous Phytohormones producing cyanobacterial strains and their impact on plant growth and soil fertility(**Sumaira Mazhar, 2016**)
- 37 Genetic analysis coronary heart disease patents and dynamics of nuclear calcium in isolated cardiomyocytes (**Iqra Urooj , 2016**)

- 38 Mutational analysis of genes associated with Obesity in local population (**Ms. Shabana, 2016**)
- 39 Induction of salt tolerance and quality improvement in rice (*Oriza sativa*) through conventional breeding. (**Shabir Hussain – 2017**)
- 40 Antioxident and antigenotoxicity effects of Cyanobacteria in human lymphocytes cultures. (**Saadia Ajaz, 2017**)
- 41 Mutational analysis of β -globingene of thalassemia in local population of Pakistan (**Humaira Yasmeen, 2017**)
- 42 Exploration of microbiological aspects of blood bags especially platelets transfusion bags (**Hammad Tufail, 2018**)
- 43 Molecular genetic studies in Pakistan families with Schizophrenia (**Warda Fatima, 2018**)
- 44 Autosomal vs Y-STR DNA profiling of post coital vaginal swabs (**Manzoor Hussain, 2018**)
- 45 Genetic, Metabolic and Anthropometric Variations Associated with Aberrant Plasma Lipid Profile. (**Muhammad Zaid, 2019**).
- 46 Lipid Metabolism in Hematological Cancer Cells (**Hina Usman, 2019**)
- 47 Mutational Analysis of *PTPN22* Gene and HLA associations with rheumatoid arthritis in Punjab, Pakistan (**Fara Bilal, submitted December 2018**)
- 48 Prevalence and Molecular characterization of *AmpC* β -lactamases genes in *Escherichia coli* and *Klebsiella pneumonia* from clinical isolates. (**Muhammad Sarfraz, 2020**)
- 49 Exploring the genetic basis of violence and aggression in a Cohort of jail inmates of Pakistani Origin (**Muhammad Imran Qadeer, 2020**)
- 50 Studies on Dengue epidemiology and biological control of its vector (**Faiz Ahmad Raza, 2020**)
- 51 Factors affecting lipid and lipodomic profiles of malignant and non-malignant hematopoietic cells (**Fatima Ameer 2020**)
- 52 Biochemical and Molecular Characterization of Potential Anticancer Phytochemical: An *in-silico* and *in-vitro* study (**Sana Riaz 2021, WUM**)
- 53 Exploring the Interactions of Plant Microbiome in Sunflower *Helianthus annuus* (**Sadia Bashir, 2021, WUM**)
- 54 Spatio-temporal Diversity of Phyllospheric Bacteria of *Helianthus annuus* (**Saher Mahmood, 2021**)
- 55 Preclinical studies of acetylcholinesterase inhibitors: A common treatment to various neurological disorders. (**Hafsa Amat-ul-Rasool, 2021**)
- 56 PGPR: An Ecofriendly Approach in Growth Promotion of *Vigna radiata* under Drought Stress (**Malika Uzma, submitted October 2021, WUM**)
- 57 Molecular Studies of Leukemia in Pakistani Population: In Silico and In Vitro Analysis of Antileukemic Molecules (**Amara Khalid, submitted September 2021**)
- 58 Genetic Analysis of Brain derived Neurotrophic Factor (BDNF) and Neurotrophin 3 (NT3) in Malignant and non-malignant Brain Cancer. (**Gur Charn Singh, submitted February 2022**)

B. Work Under Progress: PU

- 1 Neuroprotective effect of phytochemicals against Acetylcholinesterase: Pharmacotherapeutic intervention of Alzheimer's Disease (**Zunaira Batool**)
- 2 Molecular Genetic Investigation of Ventricular Septal Defects (VSDs) in Pakistani Children (**Sumble Sarwar**)
- 3 (**Noor Fatima**)
- 4 (**Syeda Saniya Mahmood**)

Thesis Writing

Literature review and synopsis writing

Started Ph.D. course work

POSTDOCTORAL GUIDANCE

1. Anjum Nasim Sabri, March 1996- May 1997 worked on
 - a. Plant microbe interaction under chromium stress
 - b. Genetics of heavy metals tolerant bacteria
 - c. Mechanism of heavy metal resistance in bacteria
2. Azra Yasmin, 1997-1999 worked on
 - a. Mercury resistant bacteria
 - b. Salt tolerant bacteria
3. Syed Kashif Nawaz, 2010-2012 worked on Molecular Genetic of Hypertension
4. Saira Malik, 2016-2017 worked on
 - a. Molecular Characterization of Myelomeningocele in Local Population Of Multan and Suburbs
 - b. Molecular Characterization of Epilepsy in Patients from Lahore and Multan
 - c. Molecular Characterization of Congenital Adrenal Hyperplasia in Population of Gujranwala, Lahore, and Multan

RESEARCH PUBLICATIONS OF PROF DR SHAHIDA HASNAIN:

1. Hasnain, S. and Sheikh, K.H. 1976. Effects of flooding and drainage on the growth of *Capsicum annuum* L. *Biologia*, **22**, 89-106.
2. Sheikh, K.H and Hasnain, S. 1978. Iron and Manganese relations of flooded and drained plants of *Capsicum annuum* L. *Biologia*, **24**, 387-397.
3. Hasnain, S., Sammons, R., Roberts, I. and Thomas, C.M. 1985. Cloning and deletion analysis of genomic segment of *Bacillus subtilis* coding for *sdh* A. B. C. (Succinate dehydrogenase) and *gerE* (spore germination) loci. *Journal of General Microbiology*, **131**, 2269-2279. (now MICROBIOLOGY)
4. Hasnain, S., and Thomas, C.M. 1986. Construction of a novel gene bank of *Bacillus subtilis* using low copy number vector in *Escherichia coli*. *Journal of General Microbiology*, **132**, 1863-1874. (now MICROBIOLOGY)
5. Philips, M.K., Hederstedt, L., Hasnain, S., Rutberg, L. and Gust, J.R. 1987. Nucleotide sequence encoding the flavoprotein and iron sulfur protein subunits of the *Bacillus subtilis* PY79 succinate dehydrogenase complex. *Journal of Bacteriology*, **169**, 864-873.
6. Hasnain, S. 1988. Identification of the polypeptide products of *sdh* genes of *Bacillus subtilis* in *E.coli*. *Journal of Pure and Applied Sciences*, **7**(2), 9-14.
7. Zafar, F., Bilal, R., Malik, K.A., and Hasnain, S. 1988. Nitrogen fixing *Enterobacter* associated with roots of *Cynodon dactylon*. *Science International*, **1**(2), 139-142.
8. Hasnain, S., Naz, R. and Iqbal J. 1989. Modification of radiation damage with caffeine in *Vigna unguiculata*. Effects on germination, growth and anatomy of seedlings. *Journal of Pure and Applied Sciences*, **8**, 19-26.
9. Sherwani, S.K. and Hasnain, S. 1989. Mapping of *pdx* gene on *Bacillus subtilis* chromosome using PBSI mediated transduction. *Science International*, **1**(4), 265-268.
10. Gull, J. and Hasnain, S. 1989. *Agrobacterium tumefaciens* from some woody plants of Pakistan. *Science International*, **1**(5), 330-333.

11. Hasnain, S. and Taskeen, N. 1989. Characterization of salt tolerant bacteria isolated from the rhizosphere of *Leptochloa fusca* and *Atriplex rhogodoides*. *Pakistan Journal of Pharmaceutical Science*, **2**(2), 47-53.
12. Hasnain, S., Malik, A.N. and Taskeen, N. 1989. Role of salt tolerant bacteria isolated from rhizosphere of *Suaeda fruticosa* (Forsk) and *Chenchrus pennisetiformis* (Hochst) in salt tolerance status of *Helianthus annuus* (L.) seedlings. *Biologia***35**(2), 217-224.
13. Hasnain, S., Mahmood, K. and Iqbal, J. 1989. Effects of industrial wastes on the germination, early growth and nucleic acids of *Zeay mays* varieties. *Pakistan Journal of Agricultural Research*,**10**(4), 331-340.
14. Qazi, S.H. and Hasnain, S. 1990. *Agrobacterium tumefaciens* from *Punica granatum* and *Malus pumilo*. *Biologia*,**36**(1), 99-104.
15. Sardar, S. and Hasnain, S. 1990. Polycyclic aromatic hydrocarbons degrading *Pseudomonas* sp. from oil waste. *Biologia*, **36**(1), 105-108.
16. Sherwani, S.K. and Hasnain, S. 1990. Alkaliophilic, moderately halophilic, plasmid harboring Gram-negative bacteria from saline sodic soil. *Science International*,**2**(2), 147-150.
17. Hasnain, S. and Sardar, S. 1990. Plasmid bearing Gram-negative cocci capable of degrading aromatic hydrocarbons. *Science International*, **2**(3), 229-231.
18. Sabri, A.N. and Hasnain, S. 1990 Plasmid harbouring Gram-negative copper resistant bacteria from polluted waters. *Biologia*, **36**(2), 63-66.
19. Sherwani, S.K. and Hasnain, S. 1990. Akaliophilic *Halococcus* sp. from athalassohaline habitat. *Biologia*, **36**(2), 37-40.
20. Sabri, A.N., Malik, A.N. and Hasnain, S. 1990. Characterization of plasmid bearing Gram-negative nickel toxicity hindering and warning biosensors of industrial pollutants. *Science International*,**2**(4), 339-340.
21. Sherwani, S.K. and Hasnain, S. 1990. Some biochemical and early growth responses of *Allium cepa* var. Phulkara and *Gossypium hirsutum* var. NIAB-78 to different industrial effluents. *Biologia*, **36**(2), 53-62.
22. Hasnain, S. Qazi, S.H.A. and Mukhtar, Z. 1990. *Agrobacterium tumefaciens* from *Citrus sinensis* and *Ficus elastica*. Ti-plasmid mediated auxin independent growth of *Brassica oleracea* in tissue culture. *Science International*,**2**(1), 51-56.
23. Hasnain, S., and Sabri, A.N. 1990. Gram-negative bacteria harbouring mercury resistant plasmid and some factors affecting conjugal plasmid transfer. *Pakistan Journal of Zoology*, **22**(4), 335-343.
24. Hasnain, S. 1991. Molecular genetic analysis of *Bacillus subtilis* DNA fragment carrying *sdh* genes: expression and transcription of *B. subtilis* promoter in *E.coli*. *Journal of Pure and Applied Sciences*,**10**(1), 13-19.
25. Hasnain, S. and Yasmin, I. 1991. Growth performance of three *Sorghum vulgare* varieties in industrial wastes. *Journal of pure and Applied Sciences*, **10**(19), 21-28.
26. Hasnain, S., Samara, G. and Sherwani, S.K., 1991. Complementation of glutamine mutants by salt tolerant plasmid isolated from *Klebsiella pneumoniae* strain M5A1. *Karachi University Journal of Sciences*,**19**(1&2), 121-129.
27. Hasnain, S. and Sabri, A.N. 1991. Gram-negative bacteria conferring plasmid mediated cobalt resistance and some factors affecting conjugal transfer of plasmid. *Science International*,**3**(4), 303-306.
28. Qamar, F., Ali, F.A. and Hasnain, S. 1991. *Agrobacterium tumefaciens* affecting survival, histology and protein content of *Periplaneta americana* (Cockroach). *Punjab University Journal of Zoology*. **6**, 31-41.
29. Malik, A.N., Sabri, A.N. and Hasnain, S. 1991. Occurrence and transfer of iron-resistant plasmids in Gram-negative bacteria from industrial wastes. *Science International*,**3**(4), 321-326.
30. Yasmin, S. and Hasnain, S. 1991. Cobalt-resistant pseudomonads from industrial effluents. *Punjab University Journal of Zoology*,**6**, 43-48.

31. Nasim, A. and Hasnain, S. 1991. Barium resistant Gram-negative bacteria from industrial effluents. *Science International*, **3(4)**, 311-314.
32. Hasnain, S. and Sherwani, S. 1991. Plasmid stability analysis under various levels of antibiotic (kanamycin) selection pressure. *Pakistan Journal of Zoology*, **23(4)**, 291-295.
33. Hasnain, S. and Yasmin, A. 1991. Salt tolerant *Agrobacterium tumefaciens* from *Terminalia urguna* and *Solanum xanthocarpum*. *Science International*, **3(2)**, 149-152.
34. Hasnain, S. and Yasmin, S. 1991. Mn-resistant Pseudomonads from industrial wastes of Kasoor. Bacterial inoculation enhancing *Triticum aestivum* seedling growth under Mn-stresses. *Science International*, **3(2)**, 153-158.
35. Yasmin, A., Tabassum, R. and Hasnain, S. 1991. *Agrobacterium tumefaciens* inoculation improving *Triticum aestivum* seedling growth under NaCl stresses. *Science International*, **3(4)**, 337-342.
36. Hasnain, S. and Sabri, A.N. 1992. Tin-resistant plasmid bearing bacterium from the wastes of MIRDC. *Journal of pure and Applied Sciences*, **11(2)**, 115-118.
37. Hasnain, S. and Maqbool, F. 1992. Salt tolerant bacteria from the histoplans of halophytes: Bacterial inoculation improving *Triticum aestivum* seedling growth under NaCl stresses. *Biologia*, **37(2)**, 159-173.
38. Hasnain, S. and Sabri, A.N. 1992. Effects of temperatures and pH on conjugal transfer of zinc-resistant plasmids residing in Gram-negative bacteria isolated from industrial effluents. *Environmental Pollution*, **76(3)**, 245-249.
39. Jabeen, N. and Hasnain, S. 1992. Gram-negative aromatic hydrocarbons degrading bacteria from the industrial wastes. *Science International*, **4(2)**, 189-193.
40. Hasnain, S. and Yasmin, S. 1992. Cadmium resistant Pseudomonads stimulating *Triticum aestivum* seedling growth under Cd²⁺ stress. *Biologia*, **37(2)**, 187-195.
41. Qazi, S.H.A. and Hasnain, S. 1992. Comparative studies of *Agrobacterium tumefaciens* from different plants of Punjab. *Pakistan Journal of Zoology*, **24(4)**, 333-339.
42. Sabri, A.N., Yasmin, A. and Hasnain, S. 1992. Manifestation of bacterial role in stimulating *Triticum aestivum* seedling growth under stresses of lead acetate and lead nitrate. *Science International*, **4(2)**, 177-184.
43. Sabri, A.N. and Hasnain, S. 1992. Identification of hybrid plasmid capable of reverting spore forming ability of *Bacillus subtilis* divIVA mutant strain. *Pakistan Journal of Zoology*, **24(2)**, 321-327.
44. Sherwani, S.K and Hasnain, S. 1992. Effects of some environmental conditions on the plasmid stability in *recA* strain of *Escherichia coli* HB101. *Proceedings of Pakistan Congress of Zoology*, **Vol. 12**, 119-131.
45. Qazi, S.H.A. and Hasnain, S. 1992. Occurrence of *Halys dentatus* on trees infected with *Agrobacterium tumefaciens*. *Proceedings of Pakistan Congress of Zoology*, **Vol. 12**, 635-642.
46. Hasnain, S., Qazi, S.H.A. and Mukhtar, Z. 1992. *Agrobacterium tumefaciens* from *Citrus limeta*: Expression of T-DNA in tissue culture. *Proceedings of Pakistan Congress of Zoology*, **Vol. 12**, 643-653.
47. Sabri, A.N., Abbas, M. and Hasnain, S. 1993. Growth characteristics of mercury resistant pseudomonads from industrial effluents and some factors influencing conjugal transfer of a plasmid. *Science International*, **5(1)**, 51-58.
48. Hasnain, S., Yasmin, S. and Yasmin, A. 1993. Effects of lead resistant Pseudomonads on growth of *Triticum aestivum* seedling under lead stresses. *Environmental Pollution*, **81**, 179-184.
49. Yasmin, A. and Hasnain, S. 1993. Salt tolerant rhizoplane and histoplane bacteria from *Desmostachya bipinnata* and *Heleocholea schnoites*. *Pakistan Journal of Zoology*, **25(1)**, 27-35.
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| 208 | Anwar Hussain, Ihsan Ullah, Shahida Hasnain, 2017. Microbial Manipulation of Auxins and Cytokinins in Plants. In: <i>Methods in Molecular Biology</i> , book series (MIMB, volume 1569), pp 61-72. | |
| 209 | Tanvir, R.; Sajid, I.; Hasnain, S. 2017. Diversity of Bioactive Endophytic <i>Streptomyces</i> sp. Residing in a Common Weed, <i>Parthenium hysterophorus</i> (Asteraceae: Heliantheae). In <i>Proceedings of the 3rd Int. Electron. Conf. Med. Chem.</i> , 1–30 November 2017; Sciforum Electronic Conference Series, Vol. 3, 2017 ; doi:10.3390/ecmc-3-04704 | |
| 210 | Shabana, Farah Ehsan and Shahida Hasnain. 2017 Association of Gly482Ser Variant of PPARGC1 α Gene with Diabetes in Pakistani Population. <i>Pakistan J. Zoology</i> , Vol. 49 (5): 1933-1936 | 0. 478 |
| 211 | Fatima W, Mahmood S, Hasnain S, Rana NH, Khan NS, Naeem F, Ayub M. Parental Consanguineous Marriages are Associated with Early Age of Onset of Schizophrenia in a Pakistani Cohort. <i>International Journal of Human Genetic.</i> , 2017, 17 (3):135-139 | 2.471 |
| 212 | Sana Khurshid; Chand Zahid; Shahida Hasnain. 2017. Indoleacetic Acid Production And Chromium Reduction By Cyanobacteria <i>Synechocystis</i> Sp. P2a (Chroococcales) Immobilized In Alginate Beads. <i>Biosci. J., Uberlândia, V. 33 (6)</i> : 1592-1600 | 0.404 |

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| 213 | Mehwish Yousaf, Yasir Rehman, Shahida Hasnain. 2017. High-yielding wheat varieties harbour superior plant growth promoting-bacterial endophytes. <i>Applied Food Biotechnology</i> , 4 (3):143-154 | |
| 214 | Faiz Ahmed Raza, Anjum Nasim Sabri, Abdul Rehman, Shahida Hasnain. 2017. Characterization of Thermophilic Alkaline Lipase Produced by <i>Staphylococcus aureus</i> Suitable for Leather and Detergent Industries. <i>Iranian Journal of Science and Technology, Transactions A: Science</i> , 41(2): 287–294 | 0.732 |
| 215 | Uqba Mehmood and Shahida Hasnain. 2017. Antimicrobial activity of pseudomonas spp under different pH, temperature and nutritional values. <i>International Journal of Science and Research (IJSR)</i> 6(6):6-391 | |
| 216 | Shabana, Saleem Ullah Shahid, Shahida Hasnain, 2018. Identification of genetic basis of obesity and mechanistic link of genes and lipids in Pakistani population, <i>Bioscience Reports BSR20180281</i> ; DOI: 10.1042/BSR20180281 | 2.899 |
| 217 | Zaid, M. and Hasnain, S. 2018. Plasma lipid abnormalities in Pakistani population: trends, associated factors, and clinical implications. <i>Brazilian Journal of Medical and Biological Research</i> . 51(9): e7239. Doi.org/10.1590/1414.431X20187239 | 0.61 |
| 218 | Faiz Ahmad Raza, Sajjad Ashraf, Shahida Hasnain, Jameet Ahmad and Mazhar Iqbal. 2018. Dengue seroprevalence and its socioeconomic determinants in Faisalabad, Pakistan: a cross-sectional study. <i>Revista da Sociedade Brasileira de Medicina Tropical</i> , 51(4):503-507: doi:10. 1590/8682-0246-2017 | 0.66 |
| 219 | Shabana, Saleem Ullah Shahid and Shahida Hasnain. 2018. Use of a gene score of multiple low-modest effect size variants can predict the risk of obesity better than the individual SNPs. <i>Lipids in Health and Disease</i> , 17:155 | 2.663 |
| 220 | Faiz Ahmad Raza, Mazhar Iqbal, Jameet Ahmad and Shahida Hasnain 2018. Epidemiological features of Dengue fever in a four year hospital-based study in Faisalabad, Pakistan. <i>Journal of Fatima Jinnah Medical University</i> , 12: 50-55 | |
| 221 | Sarfraz, M. and Hasnain, S. 2018. Inhibitor method based detection of Amp C beta lactamases producing <i>Escherichia coli</i> and <i>Klebsiella pneumoniae</i> among clinical isolates in Lahore. <i>Pakistan. Punjab University Journal of Zoology</i> . 33(2):107-111. | |
| 222 | Iqra Arooj, and Shahida Hasnain. 2018. Association of Loci 6q25.1/rs6922269 and 9p21.3/rs1333049 with Risk of Coronary Heart Disease in Patients Visiting Hospitals of Gujranwala and Lahore Divisions. <i>Pakistan Journal of Zoology</i> , 50(6): 2295-2300. | 0.478 |
| 223 | Zahid Mukhtar and Shahida Hasnain. 2018. Optimization of particle bombardment conditions for rice (<i>Oryza sativa</i> L.) transformation. <i>Pakistan Journal of Agricultural Sciences</i> 55(2):271-278. DOI: 10.21162/PAKJAS/18.3678 | |
| 224 | Sumaira Mazhar, Jerry David Cohen and Shahida Hasnain. 2019. Novel Approach for the Determination of Nitrogen Fixation in Cyanobacteria. <i>Journal of the Chemical Society of Pakistan</i> , 41, No. 02, 105-112. | 0.28 |
| 225 | Ammara Khalid, Sara Aslam, Mehboob Ahmed, Shahida Hasnain, Aimen Aslam. 2019. Risk assessment of <i>FLT3</i> and <i>PAX5</i> variants in B-acute lymphoblastic leukemia: a case-control study in a Pakistani cohort. <i>PeerJ — the Journal of Life and Environmental Sciences</i> , 7: e719 https://doi.org/10.7717/peerj.7195 | 2.35 |
| 226 | Humaira Yasmeen & Shahida Hasnain. 2019. Quality of Life of Pakistani Children with β -Thalassemia Major, Hemoglobin, 42 (5+6):320-325. DOI: 10.1080/03630269.2018.1553183 | 0.462 |
| 227 | Humaira Yasmin and Shahida Hasnain. 2019. Epidemiology and risk factors of transfusion transmitted infections in thalassemia major: a multicenter study in pakistan. <i>Hematology, Transfusion and Cell Therapy</i> , 41 (4): 316-323. (Revista Brasileira de Hematologia e Hemoterapia). https://doi.org/10.1016/j.htct.2019.03.008 | |

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| 228 | Sadia Bashir, Atia Iqbal and Shahida Hasnain. 2020. Comparative analysis of endophytic bacterial diversity between two varieties of sunflower <i>Helianthus annuus</i> with their PGP evaluation. <i>Saudi Journal of Biological Sciences</i> 27(2): 720-726. | 2.820 |
| 229 | Warda Fatima, Sabeen Riaz, Muhammad Aiman Shahzad, Zara Naz, Saqib Mahmood and Shahida Hasnain, 2020. Chromosomal region 1q24.1 is associated with increased risk of schizophrenia in Pakistani population. <i>Gene</i> 734:144390. DOI: 10.1016/j.gene.2020.144390 | 2.638 |
| 230 | Sana Riaz, Mahboob Ahmad and Shahida Hasnain. 2020. Virtual screening of antitumour phytochemical against peroxisome proliferators activated receptor proteins PPARs. <i>Pakistan Journal of Pharmaceutical Sciences</i> . 33: 379-383. Doi.org/10.36721/PJPS | 0.596 |
| 231 | Gur Charn Singh, Mehboob Ahmed, Muhammad Zaid and Shahida Hasnain. 2020. Biochemical, serological, and genetic aspects related to gene HLA-DQB1 and its association with type 1 diabetes mellitus (T1DM). <i>Molecular Genetics and Genomic Medicine</i> . 8(5): 1147,. DOI: 10.1002/mgg3.1147 | 2.448 |
| 232 | Naila Noureen, Mohsin Tassawar Cheema, Sumaira Anwar, Shahida Hasnain, and Imran Sajid. 2020. PCR-based Screening Approach: A Rapid Method to Detect the Biosynthetic Potential of Antimicrobials in Actinobacterial Strains. <i>Polish Journal of Microbiology</i> , 69(2): 139–149. doi: 10.33073/pjm-2020-016 | 0,897 |
| 233 | Ambreen Ahmaed and Shahida Hasnain. 2020. Extraction and evaluation of bacterial IAA from <i>Enterobacter</i> , <i>Bacillus</i> , <i>Halomonas</i> , <i>Cronobacter</i> , <i>Exiguobacterium</i> , <i>Kushneria</i> and <i>Arthrobacter</i> spp. <i>Journal of Animal and Plant Sciences</i> . 30(4): 1024-1036. | 0.233 |
| 234 | Hafsa Amat-ur-Rasool, Fenella Symes, David Tooth, Larissa-Nele Schaffert, Ekramy Elmorsy, Mehboob Ahmed, Shahida Hasnain and Wayne G. Carter. 2020. Potential Nutraceutical Properties of Leaves from Several Commonly Cultivated Plants. <i>Biomolecules</i> , 10 (11): 10.3390/biom10111556 | 4.694 |
| 235 | Saiqa Razi, Shahida Hasnain, Byung-Gee-Kim. 2020. Proteomic Analysis of Cr (VI) Reducing <i>Synechocystis</i> sp. AHZ-HB-MK and its Mutant Obtained by Gamma Irradiation. <i>LGUJLS</i> , 4 (02): 172-184. | |
| 236 | Saleem S, Iqbal A, Hasnain S. 2020. Bacterial mediated silver nanoparticles and their efficacy against MRSA. <i>Tropical Biomedicine</i> , 37(2):482-488. PMID: 33612817 | 0.509 |
| 237 | Hafsa Amat-ur-Rasool, Mehboob Ahmed, Shahida Hasnain and Wayne G. Carter. 2021. Anti-Cholinesterase Combination Drug Therapy as a Potential Treatment for Alzheimer's Disease. <i>Brain Science</i> , 11(2), 184; https://doi.org/10.3390/brainsci11020184 | 3.332 |
| 238 | Muhammad Imran Qadeer, Ali Amar, Yung-Yu Huang, Eli Min, Hanga Galfalvy, Shahida Hasnain & J. John Mann. 2021. Association of serotonin system-related genes with homicidal behavior and criminal aggression in a prison population of Pakistani Origin. <i>Scientific Reports</i> , 11, Article No: 1670 | 3.998 |
| 239 | Sumbal Sarwar, Shabana, Shahida Hasnain (2021) Association of variable number of tandem repeats (VNTR) and T941G polymorphism of monoamine oxidase (MAO-A) gene with aggression in Pakistani subjects. <i>African Health Sciences</i> , Vol. 21(1); 180-188. | 0.821 |
| 240 | Sumbal Sarwar, Farah Ehsan, Shabana, Amna Tahir, Mahrukh Jamil, Saleem Ullah Shahid, Asim Khan & Shahida Hasnain. (2021) First report of polymorphisms in <i>MTRR</i> , <i>GATA4</i> , <i>VEGF</i> , and <i>ISL1</i> genes in Pakistani children with isolated ventricular septal defects (VSD). <i>Italian Journal of Pediatrics</i> , 47, Article number: 70 | 2.185 |
| 241 | Faiz Ahmed Raza, Hasnain Javed, Muhammad Mujeeb Khan, Obaid Ullah, Areeba Fatima, Muhammad Zaheer, Saima MohsinID, Shahida Hasnain, Ruqyya KhalidID, Arslan Ahmed Salam. 2021. Dengue and Chikungunya virus co-infection in major metropolitan cities of provinces of Punjab and Khyber Pakhtunkhwa: A multi-center study. <i>PLOS Neglected Tropical Diseases</i> , 15(9): e0009802. | 4.466 |
| 242 | Sadia Bashir, Atia Iqbal, Shahida Hasnain and James Francis White. 2021. Screen of sunflower associated bacteria as biocontrol agents for plant growth promotion. <i>Archives</i> | 2.552 |

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| | <i>Microbiology</i> , 203, 4901–4912 | |
| 243 | Hafsa Amat-ur-Rasool, Mehboob Ahmed, Shahida Hasnain, Abrar Ahmed, Wayne Grant Carter. 2021. In Silico Design of Dual-Binding Site Anti-Cholinesterase Phytochemical Heterodimers as Treatment Options for Alzheimer’s Disease. <i>CIMB (Current Issues In Molecular Biology)</i> , 44(1): 152-175 10.3390/cimb44010012 | 2.695 |
| 244 | Malika Uzma , Atia Iqbal, Shahida Hasnain. 2022. Drought tolerance induction and growth promotion by indole acetic acid producing <i>Pseudomonas aeruginosa</i> in <i>Vigna radiate</i> . <i>PLOS ONE</i> , 17(2): e0262932 https://doi.org/10.1371/journal.pone.0262932 | 3.24 |
| 245 | Sumbal Sarwar, Shabana, Amna Tahir, Zainab Liaqat, Saher Naseer, Rani Summeya Seme, Sabahat Mehmood, Saleem Ullah Shahid & Shahida Hasnain. 2022. Study of variants associated with ventricular septal defects (VSDs) highlights the unique genetic structure of the Pakistani population. <i>Italian Journal of Pediatrics</i> , 48, Article number: 124 | 2.638 |
| 246 | Total | 305.365 |

CONFERENCES, WORKSHOP AND SYMPOSIUM ATTENDED:

1. First all Pakistan Conference of Plant Scientists at Karachi, 1982.
2. SGM-100 meeting, April 1984, Warwick, UK.
3. SGM-102 meeting, January 1985, Birmingham, UK presented poster paper entitled “Cloning and Molecular genetic analysis of a segment of the *Bacillus subtilis* genome encoding the *sdhA*, *B*, *C* and *gerB* genes”.
4. SGM-103rd meeting, April 1985, Warwick, UK.
5. SGM-104th meeting, September 1985, Nottingham, UK Presented paper in Symposium and Workshop on Genetic Instabilities entitled “The effect of copy number on the stability of hybrid plasmid carrying segments of *Bacillus subtilis* DNA in *Escherichia coli*.”
6. Molecular Biology Workshop for *Bacillus subtilis* and other non-filamentous Gram-positive bacteria, New Castle upon Tyne, UK 26th September, 1985. Presented a paper entitled “Construction and analysis of a novel gene bank of *Bacillus subtilis*.”
7. 23rd, Urdu Science, Conference, Lahore, Pakistan 1985 (December).
8. Symposium on Biotechnology, NIAB, Faisalabad, March, 1986.
9. Mini International Symposium on “Recent Trends in Biology” held by CAMB in October 1986. Presented paper on “Plasmid Stability”.
10. Delivered lectures on “Plasmid vectors” and “Cloning Strategies” in the First Regional Training Course on Recombinant DNA techniques held by CAMB (March 1987).
11. Summer College on “Biotechnology” in Nathiagali, 107 July, 1988.
12. International Symposium on “Genetic Engineering and Biotechnology” Karachi, 2-4 January, 1989. Presented a paper “Mapping of *pdx* gene on the *B. subtilis* chromosome using PBSI mediated transduction”.
13. International Conference on “Current Developments in Salinity and Drought Tolerance of Plants”, Tandojam, 7-11 January 1990. Presented a paper “Molecular genetic studies on osmoregulation of halotolerant bacteria isolated from the rhizosphere of *Suaeda frutescens* and *Sporobolus pelidis*”.
14. National/International Telecommunication Symposium on Plant Biotechnology, Islamabad, August 16-19, 1990. Presented 1) Paper “Some physiochemical factors affecting plasmid stability” 2) Poster paper “Effect of salt (NaCl) stress on DNA, RNA and soluble protein content of callus cultures obtained from seeds of *Brassica oleracea* L. var. capitata.
15. Twelfth Pakistan Congress of Zoology, Lahore, April 11-12, 1992. Presented a paper: *Agrobacterium tumefaciens* from *Citrus limetta*: Expression of T-DNA in tissue culture.

16. All Pakistan Science Conference, Khanuspur, Pakistan, May 16-21, 1992. Presented paper: Gram negative bacterium carrying transferable iron-resistant marker and some factors affecting transfer frequency. Co-Chairperson in one session.
17. 7th Biennial Botanical Conference on "Plant and Environment" December 13-14, 1992, Dhaka, Bangladesh. Presented paper "Stimulated growth of *Triticum aestivum* seedlings with salt tolerant rhizospheric bacteria and their Na⁺ relations under NaCl stresses" Co-Chairperson in one Session.
18. First Biennial Conference of Plant tissue Culture, December 15, 1992, Dhaka, Bangladesh.
19. Second International Symposium on Genetic Engineering and Biotechnology on "Biotechnology for Environment and Agriculture", Karachi, January 6-9, 1993. Presented a paper "Lead resistant bacteria form industrial effluents and their effects on the *Triticum aestivum* seedling growth under lead stresses".
20. Thirteenth Congress of Zoology, Islamabad, March 31-Ist April, 1993. Presented paper "Growth characteristics of lead resistant bacteria from polluted waters". Co-Chairperson in one Session. Another presentation by my Ph.D student.
21. Seventeenth International congress of Genetics, 15-21 August, 1993, Birmingham (UK). Presented paper "Altered stability of hybrid plasmid by deleting cloned DNA segments".
22. "Biotechnology for Sustainable Environment" December 1993, Faisalabad,. Paper presented: Curing of Zinc resistant plasmids from Gram negative bacteria and their effect on growth of *Triticum aestivum* under Zn-stress. Poster Papers: (i) *Agrobacterium tumefaciens*: Host range and T-DNA expression. (ii) Conjugal transfer of chromium-resistant plasmids residing in Pseudomonads. (iii) Moderately halophilic bacteria associated with roots of *Chenopodium album*, *Oxalis corniculata*, and *Lyceum europium*.
23. 2nd All Pakistan Science Conference, Lahore, December, 1993. Paper presented: Na⁺ and auxin relations of *Triticum aestivum* seedlings grown under NaCl stresses after inoculating with *Agrobacterium tumefaciens*. Co-Chairperson in one Session.
24. UK Plasmid Workshop, Birmingham March 7, 1994.
25. Non-isotopic Technologies, Manchester, UK June 10, 1994.
26. Meeting of Northern Molecular Genetics Group, Leeds, UK. July 7, 1994.
27. Invited speaker by Dr. Max Mergeay, VITO, Mol, Belgium, Gave Seminar on "Heavy metal resistant bacteria and their impact on plant growth" in September, 1994.
28. SGM, Symposium 52 on population Genetics of Bacteria, Leicester, UK, January 1995.
29. Fifth National Conference of Plant Scientists, NARC, Islamabad 28-30, 1995. Presented two oral and one poster presentation from my Laboratory and Chairperson of one session.
30. Fourth International Symposium-Workshop on Applications of Molecular Biological Research in Agriculture, Health and Environment, CEMB, Lahore, April 9-11, 1995. Presentation of three papers (one oral and two posters) from my lab.
31. International Symposium on Biodiversity of Pakistan, November 7-8, 1995, Pakistan Museum of National History, Pakistan. Presentation of Two papers from my lab.
32. International Workshop on "The impact of Air Pollution on Crop Yields in Pakistan". December 7, 1995. Pakistan Agricultural Research Council, NARC, Islamabad.
33. Fourth All Pakistan Science Conference, Faisalabad, December 1995. Two papers presented from my lab. and Chairperson of one Session.
34. 16th Congress of Zoology, Islamabad, Quaid-e-Azam University, April 13-15, 1996. Five papers presented from my lab. Co-Chairperson of one Session.
35. Workshop for Inservice Teachers organized by UGC, June 1996. Gave lectures on i) Genetic Engineering and its applications, ii) Biotechnology.
36. Inaugural International Conference on Genetics, Islamabad, Pakistan, November 26-28, 1996. Presentation of three posters and three oral papers from my lab. Coordinator in two sessions.
37. 17th Congress of Zoology, Karachi University, April 5-7, 1997. Two papers and poster paper was presented from my lab. Co-Chairperson in one Session.
38. Acted as Judge in "ART AND SCIENCE FAIR", City School, April 25, 1997.

39. Pakistan 2010 program May 23, 1997 organized by Pakistan Science Foundation and Ministry of Science and Technology.
40. Fourth meeting of Tissue Culture, Baragali, June 15-19, 1997 organized by University of Peshawar. Two papers presented by Ph.D students. Chairperson in one Session. Contribution in workshop "Biotechnology and its role in the development of Pakistan".
41. First National Symposium on "Biotechnology For Sustainable Development" Nov. 25-27, 1997 Government College, Lahore. Two oral papers and one poster paper presented from my lab. Poster was awarded 2nd prize in Poster Competition.
42. 18th congress of Zoology, University of Punjab, April 20-22, 1998. Two papers and two poster paper was presented from my Laboratory. Co-Chairperson in one session.
43. Sixth, National Conference of Plant Scientists, University of Peshawar, Peshawar, October 20-22, 1998. Five papers and tow poster paper was presented form my lab. Chairperson in one Session.
44. Seminar on "Genetic Engineering and its applications: in Home Economics College, February 18, 1999.
45. 19th Congress of Zoology, NARC, Islamabad, April 19-21, 1999. Three papers and one poster paper was presented from my lab. Chairperson in two sessions.
46. Second National Symposium on Practical Applications of Plant tissue Culture and Genetic Engineering, NARC, Islamabad, June 1-3, 1999. Four papers and three posters papers was presented from my lab. Chairperson in two Session.
47. Three lectures in "Teachers training program" in Botany , October 1999, organized by UGC.
48. Seminar on "Bacterial degradation and deterioration of monuments: Introduction to bacteria and bacterial mechanism" in "Training workshop on biological & environmental degradation of monuments with special reference to Taxila, sponsored by UNESCO and organized by the Department of Archaeology, Government of Pakistan in collaboration with P.N.C.U. (16th January-5th February, 2000) at PIATR, Lahore & Archaeological museum taxila.
49. Third International Biennial Conference of Microbiology, March 28-30, 2000, Lahore. Presented two papers and two posters.
50. 2nd International Science Conference, 26-28 October, 2000, Punjab University, Lahore. Presented one paper. Chaired one session.
51. 7TH National Conference of Plant Scientists, November 14-16, 2000, Department of Botany, University of the Punjab, Quaid-e-Azam Campus, Lahore. One oral and three Poster papers from my Lab., Convener Editing and Publishing Committee.
52. Two lectures in "Teachers training program" in Botany , September 24-30, 2001, organized by UGC.
53. GENETICS, CLONING AND GENETIC ENGINEERING in Eilaf Club, December 25, 2002.
54. "Bacteria – A threat to Archaeological monuments and its control measures" in REGINAL TRAINING COURSE FOR THE CONSERVATION OF BRICKS / MONUMENTS in Pakistan Institute of Archaeological Training and Research (PIATR) Old Fort, Lahore, March 21, 2003
55. 7th Biannual Conference of Pakistan Society for Biochemistry and molecular Biology on Trends in Biochemistry and Molecular Biology, April 2-5, 2003 at Department of Biochemistry and Biotechnology University of the Punjab , Lahore Pakistan. 2 oral and 5 poster presentations from my laboratory.
56. Organized three days workshop on "Honey Bee Keeping" Jauary 2004
57. Organized three days workshop on "Queen Raising" JMay 2004
58. Organized seminar on "Bird Flue" May 2004
59. Symposium on "Agricultural Biotechnology" organized by CEMB, May 2004. Presented one paper and chair one session.
60. Curriculum of BOTANY as well as MICROBIOLOGY AND MOLECULAR GENETICS in Governor's House May 30 & June 7 2004
61. First National Conference on Agricultural Biotechnology, Nathiagali, August 16-18, 2004 organized by National Commission on Biotechnology and Ministry of Science and Technology. Presented paper entitled "Improved growth and yield parameters of *Triticum aestivum* under Cr(VI) stress by chromium resistant plant growth promoting Bacteria" and co-chaired one session.

62. Resource Person in workshop for inservice college teachers organized by department of Botany, University of Sindh, Tandojam and HEC in November 2004. Given lectures on “DNA cloning and its applications”.
63. Presented paper entitled “Screening of bacterial strains for auxin production and their impact on *in vitro* plant growth” in the “Fifth International Plant Tissue Culture & Biotechnology Conference, from 4-6 December 2004 at Dhaka, Bangladesh”.
64. Participate as Resource Person in a Workshop entitled “Genetics for Medical Universities and College Teachers” at Karachi University from December 6- 12, 2004. Lectures on “Recombinant DNA Technology” and “Bioethics”.
65. Presented paper entitled “Microorganisms – Agricultural and Environmental concerns “ International Conference on ‘BIOETHICS’ March 26 - 28 , 2005, organized by NIGEB, Tehran, Iran
66. Chaired seminar on “Knock-out ice: relative role in neurophysiology ” by Dr Gul Nasreen Shah organized by CEMB, November 12, 2005.
67. Pre – 18TH FAOBMB Symposium Satellite Workshop on Bioinformatics at National Centre of Excellence in Molecular Biology, Punjab University, Lahore, 14th – 19th November, 2005. Participated in Panel Discussion.
68. Lecture on “Recombinant DNA Technology” in Queen Marry College, Lahore. November 25, 2005
69. Presented paper entitled “Bioinformatics: Ribotyping- A Tool For Bacterial Identification” 4th International Symposium Of Genetic Engineering & Biotechnology On Genomics, Bioinformatics, Biotechnology & Economics Development”. December 4-8 2005. Organized by Centre for Molecular Genetics, University of Karachi in collaboration with Kohat University of Science And Technology and Higher Education Commission.
70. Delivered a lecture entitled “Report of work at Molecular Genetics, Lahore” on March 11-12, 2006 at National Centre of Excellence in Molecular Biology, University of the Punjab, Lahore.
71. Participated in the Bioforum on March 11-12, 2006 at National Centre of Excellence in Molecular Biology, by displaying the Microbiological Products prepared in the Microbiology and Molecular Genetics Lab, University of the Punjab, Lahore.
72. Delivered a popular lecture entitled “Scientific Research in Pakistan- Facts and Figures” in the International Symposium on Application of Plant Sciences in Emerging Scenario, at Government College University, Faisalabad, on March 20-22, 2006.
73. Chaired a session entitled “Phytoremediation” in the International Symposium on Application of Plant Sciences in Emerging Scenario, at Government College University, Faisalabad, on March 20-22, 2006.
74. Participated in the HEC-BC Workshop on “Logframe and Proposal Writing” at Awari Tower Lahore, on 27 May, 2006.
75. Presented paper entitled “Mechanism of Cyanobacterial Bioremediation of Polluted Environment” and Chaired a session entitled “Plant Biotechnology” in the National Symposium on Biotechnology for Economic Prosperity Organized by the National Commission on Biotechnology, Ministry of Science and Technology at Nathiagali, on July 24-26, 2006.
76. Presented paper entitled “Genetic analysis of heavy metals detoxification in cyanobacteria” in the 12th International Symposium on Phototrophic Prokaryotes held on August 27th –September 1st, 2006 at Palais Beaumont- France.
77. Delivered a lecture entitled “Molecular Systematics Environmental and Population Genetics of Bacteria” in the two days conference of life scientist at Bahauddin Zakariya University Multan, on November 13-14, 2006.
78. Lecture given on the Genetic Diseases on the World Environment Day, 3rd December, 2006 organized by the Pakistan Society for The Rehabilitation of the Disabled.
79. Attended a workshop on “Development Partnerships in Higher Education Links Programme” organized by the British Council Lahore on 12 February 2007 at Pearl Continental Hotel Lahore.
80. Presented a lead paper on “Systematics and Population Genetics of Bacteria” in International Symposium on Microbial Technologies for Sustainable Agriculture – exploring the hidden potentials of microbes, at NIBGE, Faisalabad, on 12-16 March, 2007.

81. Presented paper entitled “Antimicrobial Peptide From *Bacillus Subtilis*” in the 12th Microbiology Conference held in Cairo, Egypt on 18-20 March, 2007.
82. Presented paper entitled “Gamma Irridation: Treated Cyanobacterial effects on the growth and biochemical parameters of *Triticum aestivum* (Wheat) under chromium stress” in the 9th Cyanobacterial Molecular Biology Workshop held in Wisconsin, USA, from 06-10 June, 2007.
83. Organized International Symposium on “Genomics, Proteomics. Metablomics : Recent trends in Biotechnology” October 22-23, 2007, in the University of the Punjab, Lahore, Pakistan.
84. Organized Workshop on “Proteomics” October 24-25, 2007, in the University of the Punjab, Lahore, Pakistan
85. Presented paper entitled “Impect of bacterial inoculation on salinity tolerance status of plants of economic importance” in USA-Pakistan Symposium on Plant Stress Biology held in University of California, Davis, USA, November 4-5, 2007.
86. Invited Speaker in 2nd 2nd National Conference of Life Scientists, Presented paper “Scientific Research - Problems and solutions Future Strategies” at Bahauddin Zakariya University, Multan on January 30-31, 2008.
87. Organized seminar on “Solid Waste Management” 1st February, 2008 in the Department of Microbiology and Molecular Genetics, University of the Punjab, Lahore, Pakistan.
88. Presented paper entitled “Plant microbe interaction : a new strategy for plant growth improvement under stress” and co. chaired a session in the *National Conference on Recent Advances in Agriculture Biotechnology* organized by National Commission on Biotechnology, March 18-19, 2008 Islamabad.
89. Presented paper entitled “Environmental Biotechnology” in a National Bioforum 2008 and Workshop on University- Industry Linkage organized by CEMB Lahore, March 25 – 28, 2008.
90. Organized one day seminar on “Microbial Resistant Paints” April 17, 2008, Department of Microbiology and Molecular Genetics, University of the Punjab, Lahore.
91. Presented papers entitled “Enrichment and Isolation of Endosulfan Degrading Bacteria from Agricultural Soils” and “Biodegradation of Organochlorine Pesticides: Endosulfan and Endosulfan Sulfate by Soil Bacteria” In Sixth International Conference (Remediation of Chlorinated and Recalcitrant Compounds), May 19-22, 2008 Monterey, California, USA.
92. Invited speaker on behalf of Vice Chancellor in Agri-Mela on Agri-Finance Products / Schemes of Banks held at Sheikhpura on November 13, 2008, organized by State Bank of Pakistan. Presented paper on “Plant Microbe Interaction – A strategy to improve crop production ”
93. Invited speaker in National Symposium on "Modern Trends and Applications in Microbiology" on January 21, 2009, organized by BahuDin Zakeria University, Multan. Presented paper entitled “Antibiotics Screening From Indigenous Bacteria”
94. Presented poster entitled “Antibiotics screening From Indigenous Bacteria of Pakistan” in the First International Conference in Biotechnology “Towards Knowledge – Based Economy” February 16 – 18, 2009 Riyadh, Saudi Arabia, organized by Center of Excellence in Biotechnology Research King Saud University, Riyadh, Saudi Arabia.
95. Invited lecture entitled “Syncyanoses: Cyano-Plant Associations” in the International symposium on “Future Trends in Molecular Biological Research and its Applications in Agriculture and Health” March 25-28, 2009 organized by National Center of Excellence in Molecular Biology, Center for Applied Molecular Biology, University of the Punjab, Lahore Pakistan
96. Guest Speaker in Seminar on Agriculture Biotechnology presented “Role of Microbes in Agriculture Biotechnology” organized by Center for Molecular Genetics, Karachi University, April 25, 2009.
97. Organized Symposium in collaboration with MONSANTO on “Modern Biotechnology: A Resource for Sustainable Development” on July 4, 2009 in Pearl Continental Hotel, Lahore, and gave talk on “Biofertilizer, a strategy for growth improvement ”
98. Invited speaker/ Panelist in Workshop on training of in-service teachers of PU June 25, 2009
99. Invited Speaker in Workshop for MD/MS students of KE University July 2, 2009, gave seminar on “Scientific Writing, a critical appraisal”

100. Presented paper "Antimicrobial activity exhibiting *Bacillus*: Screening for the antibiotics and associated genetic studies" in III International Conference on Environmental, Industrial and Applied Microbiology (BioMicroWorld2009), Lisbon, Portugal, 2-4 December, 2009.
101. Gave seminar on "Bioremediation of Chromium and Arsenic from Industrial Wastewater" on December 9, 2009 in Department of Botany and Microbiology, University of Oklahoma, Norman, USA
102. Presented paper "Antimicrobial activity exhibiting Bacteria from Pakistan" in II International Conference on Drug Discovery, Dubai 2-4 February 2010. Also chaired one session.
103. Organized series of seminars on Hepatitis (C, B, A, E) in the Department, Feb- March 2010.
104. Invited speaker in Biotechnology Lahore Cluster meeting held in FC College (chartered university) on March 15, 2010. Presented "Research Work at Department of Microbiology & Molecular Genetics".
105. Resource person in the Second Academic Retreat for HEC approved Ph.D supervisors, held at COMSATS Institute of Information Technology, Abbottabad on June 3-5, 2010, and given lecture on Effective Ph.D Supervision.
106. Chairman Organizing Committee of the symposium on "Current Agro Biotechnology and Transgenic Crops" held in Pearl Continental Hotel, Lahore on June 21, 2010, organized by Department of Microbiology & Molecular Genetics" and give Lecture on Genetic Road Map to Crop Improvement.
107. Participated in the Panel Discussion on "Semester System" in "HRDC New Faculty Orientation Program" organized by Institute of Administrative Sciences, University of the Punjab, Lahore on July 5-8, 2010.
108. Participated and presented lecture entitled "Constraints/opportunities and government initiatives for Establishing Biotech Culture in Pakistan" in National Biotechnology Exhibition and Seminar 2010 held in Institute of Biochemistry & Biotechnology, University of Veterinary and Animal Sciences, Lahore on October 20-21, 2010.
109. Participated and presented paper entitled "Bacterial phytohormones induce organogenesis in *Brassica oleraceae* ex-plants" in 6th International Plant Tissue Culture and Biotechnology Conference Held in University of Dhaka, Dhaka, Bangladesh on 3-5 December, 2010.
110. Invited Speaker in the "2nd International Conference of Plant Scientists & 11th National Meeting of Plant Scientists under the auspicious of Pakistan Botanical Society, held at GCU Lahore February 22-24, 2011, Chair session and gave lecture on "Plant Microbe Interaction- Emerging Strategy To Enhance Plant Growth"
111. Organized Workshop on "Biosafety" with collaboration with Sure Bio-Diagnostics in Department of Microbiology and Molecular Genetics, March 4, 2011
112. Organized seminar on "Nanotechnology" by Dr Patrice Marche (Inserm, France) in Department of Microbiology and Molecular Genetics, March 7, 2011
113. Participated in "Pakistan-U.S. Science and Technology Conference 2011" held I Dubai March 21-24, 2011. Presented work on "Bioremediation of chromium and arsenic from industrial wastewater"
114. Attended National Conference on "Setting Standards for 21st Century Pakistan" Islamabad May 26, 2011 organized by HEC, participated in Exhibition on behalf of Punjab University
115. Invited Speaker in the International Conference on "Prospects and Challenges to Sustainable Agriculture" University of Azad Jammu and Kashmir, Rawalakot July 14-16, 2011. Gave lecture on "Role of Microbes in Agriculture Biotechnology"
116. Invited speaker and Patron in Symposium on "Dengue" organized by Department of Microbiology and Molecular Genetics, University of The Punjab, September 22, 2011. Gave lecture on "Strategy to Combat Dengue: Microbiological Approach".
117. Patron one day workshop on "Fluorescent Microscopy" organized by Department of Microbiology and Molecular Genetics, September 24, 2011
118. Patron one day workshop on "Immunofluorescent Techniques" organized by Department of Microbiology and Molecular Genetics, October 20, 2011
119. Participated and presented lecture entitled "Auxin synthesis and root colonization by two rhizospheric unicellular cyanobacteria" in The 6th Asian Pacific Phycological Forum "Algae, The Future Resources" organized by Society of Phycology October 9-14, 2011, Yeosu, Korea

120. Attended International Symposium on “Tuberculosis – Epidemiology, Diagnostics and Treatments” organized by School of Biological Sciences, Punjab University, November 3, 2011.
121. Gave lecture on ” Genetics Counseling” in Symposium “Lesson Learned from Iran – Pre-marriage Counseling and Volunteer Programme ” organized by Jang Group on January 12, 2012 in PC Lahore
122. Gave seminar entitled “Cyanobacteria: Biotechnological Aspects” in The University of Lahore on April 3, 2012.
123. Gave seminar entitled “Biotechnological Aspects of Cyanobacteria:” in Hazara University, KPK April 5, 2012
124. Gave awareness speech about “Thalassemia” in saminar on Thalassemia in Governor House, Lahore, organized by SUNDAS FOUNDATION on May 17, 2012.
125. Invited speaker in SAARC Conference on New Frontiers in Agricultural Genomics & Biotechnology held at Marriott Hotel Islamabad from 5 to 7 June 2012 by NIGAB. Gave lecture on “Metagenomics: an approach to study soil microbial communities and their effects on plants”
126. Invited Speaker in Agriculture and Food Security Issues in Global Environmental Prospectives" 11th to 13th July 2012 organised by University of Poonch Rawalakot. Gave presentation “Use of metagenomics and high throughput sequencing to understand plant microbe interactions”
127. Invited Speaker in National seminar on “Current Status of Food Industry in Pakistan: Threats and Challenges” organized by PCSIR September 6, 2012. Gave lecture on Genetic modifications- road map to crop improvement”
128. Presented paper entitled “Impact of treated *synechocystis* ahz-hb-mkon the growth and biochemical parameters of *triticum aestivum* (wheat) under chromium stress” in second Phycological Conference held in University of Karachi October 16-18.2012
129. Gave seminar on “Biotechnological aspect of Cyanobacteria” In Department of Microbiology, University of Karachi, October 17, 2012.
130. Gave seminar on “Metagenomics: a stretigy to study microbial communittees” In Department of Microbiology, University of Karachi, October 17, 2012.
131. Planinary Lecture entiteld “Evaluating Indigenous Cyanobacteria for their Phytostimulatory Effects” in ninth international biennial conferance organized by Pakistan Society for Microbiology, Karachi January 28-31, 2013.
132. Attended First Pakistan-U.S. Science & Technology Cooperation Program Symposium: Economic Growth through Technology Transfer. Organized by HEC in NUST Islamabad, January 31- February 1st, 2013
133. Planinary Lecture entitled “Green Economy in Technopreneurship” in two days conference on Bio-physicoChemical basis for technoprenuership organized by Department of Microbiology and Molecular Genetics Lahore, April 2-3, 2013.
134. Delivered a presentation entitled “Biosafety and Bioresource Committee: Role and Evaluation Criterion for Research Proposals” in One Day Workshop on “Biosafety and Risk Assessment” organized by Department of Microbiology and Molecular Genetics, University of the Punjab, Lahore, 19th April, 2013.
135. Organised two workshops on different aspects of University Administration for Administrative Staff of the Women University University Multan, August 22-28, August 29- September 2, 2014
136. Gave lecture on “Recombinent DNA Technology” in a saminar organized by Emerson College Multan, April 30, 2013.
137. Vice Chancellors’ Conference “Future Roadmap of Higher Education in Punjab” GCU Lahore, March 28, 2014
138. 15th Vice Chancellors’ Committee Meeting organized by HEC, Margala Hotel, Islamabad April 05, 2014.
139. Delivered a presentation entitled “Assessment of Plant Microbe Interactions using Metagenomics” in “International Conference of Plant Sciences” organized by the Department of Botany, GC University, Lahore, 22nd-24th September, 2014.

140. One Day Symposium on “Emerging Issues of Multidrug Resistance: A Threat to the Globe” organized by the Department of Microbiology and Molecular Genetics, University of the Punjab, Lahore, 2nd October, 2014
141. Invited Speaker in 5th International Symposium-cum-training Course on Molecular Medicine and Drug Research. Presented paper “Prokaryotes: A Refectory to Antibiotics” organized by HEJ Karachi University January 12-15, 2015 Karachi, Pakistan
142. Attended Vidio Seminar on “Modren Practice and Trends in American Higher Education” by Prof Rodger A. Randle from University of Oklahoma, organized by HEC February 4, 2015.
143. Attended 2nd meeting of General Assembly of 3rd Vice Chancellor’s Forum 2015 “Unicersities in the Islamic World: Facing Globle Challenges” and participated in panal discussion entitled “Equality of Access and Role of Women in Higher Education and Society” organized by HEC and COMSATS Institute of Information Technology, February 23-24, 2015 Serena Hotel Islamabad.
144. Invited Speaker in preconference workshop on “Vaccinology”, gave lecture on “Role of Molecular Biology in vaccine production” in University of Lahore, March 24,2015.
145. Invited Speaker in 10th biennual International Conference of Pakistan Society for Microbiology “Exploring Microbes for Future Endeavor” presented paper on “MICROBIOLOGY IN PAKISTAN: TRENDS & CONCERNS” organized by Department of Microbiology and Molecular Genetics, Univesity of the Punjab, Lahore, March 25-28, 2015.
146. SENIOR MANAGEMENT LEADERSHIP TRAINING PROGRAM COL CANADA, April 25- May 07 2015.
147. 16th Vice Chancellors’ Committee Meeting organized by HEC, Margala Hotel, Islamabad April 05, 2015.
148. Panalist in discussion on “Promotion of Quality Research” National seminar on “Higher Education in Pakistan: the Way Forward” organized by Sindh Madressatul Islam University Karachi, October 16,2015
149. 17th Vice Chancellors’ Committee Meeting organized by HEC, PC Lahore, May23-25, 2016
150. Participatedin one day Symposium on “Awarness on HIV / AIDS” organized by PACP and Microbiology and Molecular Genetics Department, Punjab University, Lahore, March 30, 2017.
151. Gave talk on " Microbes : Foe or Friends " in ceremony of 2017 Carlos J. Finlay UNESCO Prize for Microbiology in 39th session of the General Conference of UNESCO on Science and Technology, France, November 6, 2017.
152. Chaired Plannary session II inCelebrating 20th Anniversity of IBB International Conference on Trends and Prospects in Molecular Biosciences organized by IBB, PU, Lahore November 23-26, 2017.
153. Keynote Speaker in International Confrance on “Conventional and Modren Approaches in Plant Sciences (CMAPS-2017)” presented” Biotechnological Aspects of Cyanobacteria” organized by Botany Department, Punjab Universit, Lahore November 27-28, 2017.
154. Guest Speaker in Seminar on “Playing with Genes” gave lecture on “Cancer Genetics” organized by Faculty of Allied Health Sciences, Superior University, Lahore December 05, 2017.
155. Invited Lecture “Microbes : Foe or Friends ” in MMG2018, a confrance on Microbiology and Molecular Genetics organized by MMG Department, Punjab University, Lahore February 7-9, 2018.
156. Attended Saminar “Towards two decades (1995-2015) of Plant Biotechnology: Success, Failures, and Prospects “ by Dr Javaid Iqbal organized by Botany Department, Punjab University, Lahore February 14, 2018.
157. Invited Lecture “Converting Microbes into Money: Oppertunities for Microbiologists” in National Conference on Entrepreneurship Avenues in Biological Sciences(NCEB)organized by Lahore Garrison University, Lahore January 6-8, 2020.
158. Key Not Speaker in two sessions presented “Metagenomics to unveil microbiomes” and “Nature determins destination” as well as chaired one session in SARSME2020 Southeast Asian Regional Symposium on Microbial Ecology 12-14 February 2020, Pokhara, Nepale

159. Key Not Speaker in Closing Cerimony presented “Unveil the Secret Life of Phyllosphere” in Conference on Recent Advances in Applied Biosciences (CRAABS) organized by Lahore Garrison University, Lahore, Pakistan, March 30-31, 2021.
160. Attended and presented poster entitled “Phyllosphere: Endophytic bacterial diversity and impact on plant growth” in 18th International Symposium on Microbial Ecology (ISME) organized by The International Society for Microbial Ecology in Lousanne, Swizerland, from 14-19 August 2022.