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DR. NOREEN KHALID

Assistant Professor,
Department of Botany
GC Women University Sialkot
noreenbasra@gmail.com
Noreen.khalid@gcwus.edu.pk

EDUCATION

University of Agriculture Faisalabad, Pakistan

PhD, Botany (August, 2016)

Dissertation: "Effect of automobile related metal pollution on plants: a case study along two roads (Faisalabad to Sargodha and Pindi Bhattian to Lillah) in the Punjab, Pakistan."

Advisor: Prof. Dr. Mumtaz Hussain

Researcher: University of California Santa Barbara, USA

Advisor: Prof. Dr. Hillary S. Young

Mphil, Botany (2011)

Dissertation: "Effect of simulated acid rain (SAR) and growth promoters on physiological and biochemical attributes of sunflower (*Helianthus annuus* L.)."

Advisor: Prof. Dr. Mumtaz Hussain

University of the Punjab, Lahore, Pakistan

MSc, Botany (2006)

BSc, Botany, Chemistry, Zoology (2004)

Board of Intermediate and Secondary Education Gujranwala, Pakistan

FSc, Biology, Chemistry, Physics (2002)

Matriculation, Biology, Chemistry, Physics (2000)

RESEARCH INTERESTS

Emerging contaminants

Environmental Pollution

Phytoremediation

Environmental Toxicology

Environmental Management and modelling

Plant Ecology

Wetlands

Climate Change

1. Aqeel, M., **Khalid, N.**, Noman, A., Ran, J., Manan, A., Hou, Q., Dong, L., Ying, S., Deng, Y., Lee, S.S. and Hu, W., 2023. Interplay between edaphic and climatic factors unravels plant and microbial diversity along an altitudinal gradient. *Environmental Research*. 242:117711. <https://doi.org/10.1016/j.envres.2023.117711> **IF 8.3**
2. Alomran, M.M., Noman, A., **Khalid, N.**, Hadayat, N., Alqahtani, F.M., Alzuaibr, F.M., Akhter, N., Hashem, M., Habeeb, T., Al-Zoubi, O.M. and Aqeel, M., 2023. Harnessing Melatonin Protective Efficacy in Capsicum Plants Against Nickel-Contaminated Soil. *Journal of Soil Science and Plant Nutrition*, pp.1-13 <https://doi.org/10.1007/s42729-023-01551-6> **IF 3.9**
3. Alwutayd, K.M., Alghanem, S.M.S., Alwutayd, R., Alghamdi, S.A., Alabdallah, N.M., Al-Qthanin, R.N., Sarfraz, W., **Khalid, N.**, Naeem, N., Ali, B. and Saleem, M.H., 2023. Mitigating chromium toxicity in rice (*Oryza sativa* L.) via ABA and 6-BAP: Unveiling synergistic benefits on morphophysiological traits and ASA-GSH cycle. *Science of The Total Environment*. 908:168208. <https://doi.org/10.1016/j.scitotenv.2023.168208>. **IF 9.8**
4. Qaiser, Z., Aqeel, M., Sarfraz, W., Rizvi, Z.F., Noman, A., Naeem, S. and **Khalid, N.**, 2023. Microplastics in wastewaters and their potential effects on aquatic and terrestrial biota. *Case Studies in Chemical and Environmental Engineering*. 8:100536. <https://doi.org/10.1016/j.cscee.2023.100536>
5. KhokharVoytas, A., Shahbaz, M., Maqsood, M.F., Zulfiqar, U., Naz, N., Iqbal, U.Z., Sara, M., Aqeel, M., **Khalid, N.**, Noman, A. and Zulfiqar, F., 2023. Genetic modification strategies for enhancing plant resilience to abiotic stresses in the context of climate change. *Functional & Integrative Genomics*, 23(3): 283. <https://doi.org/10.1007/s10142-023-01202-0> **IF 2.9**
6. Alomran, M.M., Noman, A., Aqeel, M., **Khalid, N.**, Maqsood, M.F., Akhter, N., Arshad, M., Alqahtani, F.M., Alzuaibr, F.M., Hashem, M. and Habeeb, T., 2023. Relative biochemical and physiological docking of cucumber varieties for supporting innate immunity against *Podospaera xanthii*. *Microbial Pathogenesis*. 184: 106359. <https://doi.org/10.1016/j.micpath.2023.106359> **IF 3.8**
7. Alharbi, K., Aqeel, M., **Khalid, N.**, Nazir, A., Irshad, M.K., Alzuaibr, F.M., Alhaithloul, H.A.S., Akhter, N., Al-Zoubi, O.M., Qasim, M., Syaad, K.M., AlShaqhaa, M.A., Noman, A. 2023. Microplastics in soil differentially interfere with nutritional aspects of chilli pepper. *South African Journal of Botany*, 160: 402-413. <https://doi.org/10.1016/j.sajb.2023.07.027>. **IF 3.1**
8. Ejaz, U., Khan, S.M., **Khalid, N.**, Ahmad, Z., Jehangir, S., Rizvi, Z.F., Lho, L.H., Han, H., Raposo, A. 2023. Detoxifying the Heavy Metals: A Multipronged Study of Tolerance Strategies against Heavy Metals Toxicity in Plants. *Frontiers in Plant Science*. <https://doi.org/10.3389/fpls.2023.1154571>. **IF 6.627**
9. Zaka, S., Aqeel, M., Mahmood, A., Noman, A., Rizvi, Z.F., Sarfraz, W., Nazir, A., Arshad, K., **Khalid, N.** 2023. Integrative evaluation of the ecological hazards by microplastics and heavy metals in wetland ecosystem. *Bulletin of Environmental Contamination & Toxicology*. <https://doi.org/10.1007/s00128-023-03716-6> **IF 2.807**
10. Akhter, N., Noreen, A., Saifullah, S., Noman, A., Shahnaz, M.M., Letuma, P.M., Kausar, A., Siddique, M., Hashem, M., Alamri, S., Al-zoubi, O.M., Saleem, M., **Khalid, N.**, Aqeel, M. 2023. Salt ions mediated changes in biochemical and anatomical characteristics of Brassica napus can be countered with Moringa Leaf extract. *South African Journal of Botany*. 156:352-364. <https://doi.org/10.1016/j.sajb.2023.03.040> **IF 3.111**
11. Chen, F., Aqeel, M., **Khalid, N.**, Nazir, A., Irshad, M.K., Akbar, M.U., Alzuaibr, F.M., Ma, J., Noman, A. 2023. Interactive effects of polystyrene microplastics and Pb on growth and phytochemicals in mung bean (*Vigna radiata* L.). *Journal of Hazardous Materials*. 130966. <https://doi.org/10.1016/j.jhazmat.2023.130966> **IF 14.224**
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13. Tufail, A., Ahmad, F., Hameed, M., Ahsan, M., Siddiqua, U.H., **Khalid, N.**, Rashid, M., Momtaz, M., Shah, A.A., AbdElgawad, H. 2023. Structural modifications in Bermuda grass [*Cynodon dactylon* (L.) Pers.] ecotypes for

- adaptation to environmental heterogeneity. *Frontiers in Plant Science*, 13, p.5426. <https://doi.org/10.3389/fpls.2022.1084706> **IF 6.627**
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 15. Arshad, K., Aqeel, M., Noman, A., Nazir, A., Mahmood, A., Rizvi, Z.F., Sarfraz, W., Hyder, S., Zaka, S., **Khalid, N.** 2023. Ecological health risk assessment of microplastics and heavy metals in sediments, water, hydrophytes (*Alternanthera philoxeroides*, *Typha latifolia*, and *Ipomoea carnea*), and fish (*Labeo rohita*) in Marala wetlands in Sialkot, Pakistan. *Environmental Science and Pollution Research*. 30:41272-41285. <https://doi.org/10.1007/s11356-023-25142-1> **IF 5.8**
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 21. **Khalid, N.**, Aqeel, M., Noman, A., Rizvi, Z.F., 2022. Impact of plastic mulching as a major source of microplastics in agroecosystems. *Journal of Hazardous Materials*.44:130455. <https://doi.org/10.1016/j.jhazmat.2022.130455> **IF 14.224**
 22. Ejaz, U., Khan, S.M., Aqeel, M., **Khalid, N.**, Sarfraz, W., Naeem, N., Han, H., Yu, J., Yue, G., and Raposo, A. 2022. Use of *Parthenium hysterophorus* with synthetic chelator for enhanced uptake of cadmium and lead from contaminated soils—a step toward better public health. *Frontiers in Public Health*. <https://doi.org/10.3389/fpubh.2022.1009479> **IF 6.461**
 23. Ma, J., Aqeel, M., **Khalid, N.**, Nazir, A., Alzuaibr, F.M., Al-Mushhin, A.A., Hakami, O., Iqbal, M.F., Chen, F., Alamri, S. and Hashem, M., 2022. Effects of microplastics on growth and metabolism of rice (*Oryza sativa* L.). *Chemosphere*, 307(1): 135749. <https://doi.org/10.1016/j.chemosphere.2022.135749> **IF 8.943**
 24. Chen, F., Aqeel, M., Maqsood, M.F., **Khalid, N.**, Irshad, M.K., Ibrahim, M., Akhter, N., Afzaal, M., Ma, J., Hashem, M., Alamri, S., Noman, A., Lam, S.S. 2022. Mitigation of lead toxicity in *Vigna radiata* genotypes by silver nanoparticles. *Environmental Pollution*, (308): 119606. <https://doi.org/10.1016/j.envpol.2022.119606> **IF 9.988**
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26. Akhter, N., Habiba, O., Hina, M., Shahnaz, M.M., Alzuaibr, F.M., Alamri, S., Hashem, M., **Khalid, N.**, Aqeel, M., Noman, A. (2022) Structural, biochemical, and physiological adjustments for toxicity management, accumulation, and remediation of cadmium in wetland ecosystems by *Typha domingensis* Pers. *Water Air & Soil Pollution*. 233:151. <https://doi.org/10.1007/s11270-022-05613-w> IF 2.52
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30. **Khalid, N.**, Aqeel, M., Noman, A., Khan, S.M. and Akhter, N., 2021. Interactions and effects of microplastics with heavy metals in aquatic and terrestrial environments. *Environmental Pollution*, 290: 118104 <https://doi.org/10.1016/j.envpol.2021.118104>. IF 8.071 **highly cited paper**
31. Noman, A., Aqeel, M., Akhter, N., Zafar, S., **Khalid, N.** 2021. Covid-19 treatment with herbal medicines: Dark room can be enlightened in other way too. *J. Plant Environ*. 02 (01): 01-03. DOI: 10.33687/jpe.002.01.3581
32. Akhtar, N., Aqeel, M., Hameed, M., Alhaithloul, H.A.S., Alghanem, S.M., Shahnaz, M.M., Hashem, M., Alamri, S., **Khalid, N.**, Alzoubi, O.M., Iqbal, M.F., Masood, T., Noman, A. 2021. Foliar architecture and physio-biochemical plasticity determines survival of *Typha domingensis* Pers. ecotypes in nickel and salt affected soil. *Environmental Pollution*. 286: 117316. Doi: 10.1016/j.envpol.2021.117316. IF 8.071
33. Naeem, N., **Khalid, N.**, Sarfraz, W., Ejaz, U., Yousaf, Y., Rizvi, Z.F., Ikram, S. 2021. Assessment of lead and cadmium pollution in soil and wild plants at different functional areas of Sialkot. *Bulletin of Environmental Contamination and Toxicology*. 107(2), 336-342. DOI: [10.1007/s00128-021-03251-2](https://doi.org/10.1007/s00128-021-03251-2) IF 2.807
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35. **Khalid, N.**, Rizvi, Z.F., Yousaf, N. Khan, S.M., Noman, A., Aqeel, M., Latif, K., Rafique, A. 2021. Rising Metals Concentration in the Environment: A Response to Effluents of Leather Industries in Sialkot. *Bulletin of Environmental Contamination and Toxicology*. 106(3), 493-500. <http://link.springer.com/article/10.1007/s00128-021-03111-z> IF 2.807
36. Aqeel, M., **Khalid, N.**, Tufail, A., Ahmad, R.Z., Akhter, M.S., Luqman, M., Javed, M.T., Irshad, M.K., Alamri, S., Hashem, M., Noman, A. 2021. Elucidating the distinct interactive impact of cadmium and nickel on growth, photosynthesis, metal-homeostasis, and yield responses of mung bean (*Vigna radiata* L.) varieties. *Environmental Science and Pollution Research*. <https://doi.org/10.1007/s11356-021-12579-5>. IF 4.223
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39. **Khalid, N.**, Aqeel, M. and Noman, A., 2020. Microplastics could be a threat to plants in terrestrial systems directly or indirectly. *Environmental Pollution*, 267:115653. <https://doi.org/10.1016/j.envpol.2020.115653>. IF 8.071 **highly cited paper**
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62. **Khalid, N.**, Hussain, M., & Aqeel, M. (2013). Amelioration of adverse effects of simulated acid rain (SAR) on growth and yield attributes of sunflower (*Helianthus annuus* L.) by growth tonics. *Pakistan Journal of Botany*, 45(6), 1989-1993. **IF 1.326**

BOOK CHAPTERS

1. Sarfraz, W., Farid, M., **Khalid, N.**, Ditta, A., Ejaz, U., Rizvi, Z.F., Raza, N., Ali, S. 2023. Ecophysiological Responses of Tropical Plants to Varying Resources Availability. In: *Ecophysiology of Tropical Plants*. CRC Press, Taylor & Francis. DOI: [10.1201/9781003335054-11](https://doi.org/10.1201/9781003335054-11)
2. Abdullah, Shujaul Mulk Khan, Zahoor Ul Haq, **Noreen Khalid**, Ujala Ejaz. 2022. Utilization of three indigenous plant species as alternative to plastic can reduce pollution and bring sustainability in environment. *Natural Resources Conservation and Advances for Sustainability*. Pages 533-544 <https://doi.org/10.1016/B978-0-12-822976-7.00001-6>. Elsevier
3. Islam, W., Sanaullah, T., **Khalid, N.**, Aqeel, M., Noreen, S., Irshad, M.K., Noman, A. 2021. In: Fahad, S., Sonmez, O., Saud, S., Wang, D., Wu, C., Adnan, M., Turan, V. (eds.) "Plants, Environmental Constraints, and Climate Change." *Climate Change and Plants: Biodiversity, Growth and Interactions*. p171. CRC Press, Taylor & Francis. <https://www.routledge.com/Climate-Change-and-Plants-Biodiversity-Growth-and-Interactions/Fahad-Sonmez-Saud-Wang-Wu-Adnan-Turan/p/book/9780367623272>
4. Nazakat, S., Khan, S.M., Abdullah, Noor, R., Zaman, I., Arif, M., **Khalid, N.**, Ahmad, Z. 2021. Floral Composition, Sustainable Utilization, and Conservation of Important Medicinal Plants in the Ayubia National Park, Abbottabad, Khyber Pakhtunkhwa, Pakistan. In: A.M. Abbasi, R.W. Bussmann (eds.), *Ethnobiology of Mountain Communities in Asia*, Springer Nature, Switzerland. <https://www.springer.com/gp/book/9783030554934#aboutBook>
5. **Khalid, N.**, Aqeel, M., Noman, A. 2019. System biology of metal tolerance in plants: An integrated view of genomics, transcriptomics, metabolomics and phenomics. In: G. Sablok (ed.) *Plant metabolomics and functional omics*. Springer Nature, Switzerland. https://doi.org/10.1007/978-3-030-19103-0_6
6. Noman, A., Sanaullah T., **Khalid N.**, Islam W., Khan S., Irshad M.K., Aqeel, M. 2019. Crosstalk Between Plant miRNA and Heavy Metal Toxicity. In: G. Sablok (ed.) *Plant metabolomics and functional omics*. Springer Nature, Switzerland. https://doi.org/10.1007/978-3-030-19103-0_7

SELECTED PRESENTATIONS

1. "Microplastics in our soils and waters" organized by INTI International University, Malaysia (September 20, 2023)
Invited Guest Lecture

2. “Climate change may worsen the management of weeds in agroecosystems” 2nd International Conference on Recent Approaches in Plant Sciences (May 4-5, 2023) organized by University of Education, Lahore, Pakistan. **Oral Presentation**
3. “Influence of foraging and edaphic factors on the distribution of Bermudagrass (*Cynodon dactylon* Pers.) in an arid area of Pakistan”. ESACSEE joint annual meeting (August 14-19, 2022) organized by Ecological Society of America and Canadian Society for Ecology & Evolution, Montreal, Canada. **Online Oral Presentation**
4. “Ecological risk assessment and physicochemical characterization of various ecosystem components of Marala and Bajwat wetlands in Sialkot, Pakistan” Joint Aquatic Sciences Meeting (May 14-20, 2022) organized by the Society of Wetland Scientists and American Fisheries Society at Grand Rapids, USA. **Online Oral Presentation**
5. “Sustainable Management of Traffic Borne Elemental Enriched Roadside Soils by Using *Nerium oleander* L.” International Conference on Sustainable Development Goals: Localizing the SDGs through academia (March 29-31, 2022) organized by Lahore College for Women University, Lahore, Pakistan. **Oral Presentation**
6. “Remediation of chromium and arsenic contaminated soils by using *Ricinus communis*” 1st International Conference on Recent Approaches in Plant Sciences (March 30-31, 2022) organized by University of Education Lahore, Pakistan. **Online Oral Presentation**
7. “Use of *Parthenium hysterophorus* in remediation of chromium and arsenic contaminated soils” 3rd International Conference on Environment and Sustainable Development (Sept 13-15, 2021) organized by Government College University Lahore, Pakistan. **Online Oral Presentation**
8. “How roadside belts can be managed for a sustainable environment?” IENE International Conference: LIFE LINES – Linear Infrastructure Networks with Ecological Solutions (January 12-14, 2021) organized by University of Évora, Portugal. **Online Oral Presentation**
9. “Effect of climate change on plant-soil interactions”. International Conference on “Post Pandemic Ecological Sustainability: Challenges and Role of IT” (Oct 6-7, 2020) organized by Virtual University of Pakistan. **Online Oral Presentation**
10. “Impact of vehicle exhaust pollution on the environment in Pakistan”. 2nd International Conference of Plant Sciences (Dec 5-7, 2018) at Government College University Lahore, Pakistan. **Oral Presentation**
11. “Study of the responses of two biomonitors plant species to road side air pollution.” 15th International Phytotechnology Conference (Oct 1-5, 2018) at University of Novi Sad, Novi Sad, Serbia. **Oral Presentation**
12. “Assessment of native plant species (*Xanthium strumarium*) for phytoremediation of heavy metals in the vicinity of a major road in Pakistan.” 1st International Conference on “Conventional and Modern Approaches in Plant Sciences” (Nov 28-29, 2017) at University of the Punjab, Lahore, Pakistan. **Oral Presentation**
13. “Tracing the highway contributions to carbon and nitrogen deposition using plant biomonitors and soil” International conference on Ecology and Transportation. May 14-18, 2017. Salt Palace Convention Centre, Salt Lake City, Utah, USA. Organized by North Carolina State University, USA. **Oral Presentation**
14. “Effect of simulated acid rain (SAR) and growth promoters on physiological and biochemical attributes of Sunflower (*Helianthus annuus* L.)” International conference on “Environmental constraints to plants: Assessment and Reclamations”. 2016. Government College University, Faisalabad, Pakistan. **Oral presentation**
15. “Spatio-Temporal variation in Cadmium released by automobiles along two roads in Pakistan”. International conference on Climate Change and Phytodiversity “Challenges and Opportunities”. 2016. University of Karachi, Karachi, Pakistan. **Oral presentation**
16. “Nitrogen and carbon pollution from vehicular emissions: measurements along a major highway in Punjab, Pakistan.” International conference on Forestry and Environment: Challenges and Prospects. 2016. University of Agriculture Faisalabad, Pakistan. **Oral presentation**

CONFERENCE PROCEEDINGS

1. Yousaf, N and **Khalid N.** 2021. Spatial variation of weed populations in Wheat crops of Sialkot under the influence of various Edaphic factors. Proceedings of the International conference of Smart Plant Protection, January 27-28, 2021. Organized by Institute of Plant Protection, MNS University of Agriculture, Multan, Pakistan.
2. **Khalid, N.**, Anjum, S., Hadayat, N. 2021. “How roadside belts can be managed for a sustainable environment?” Proceedings of the IENE International Conference: LIFE LINES –Linear Infrastructure Networks with Ecological Solutions (January 12-14, 2021) organized by University of Évora, Portugal.
3. **Khalid, N.** 2017. miRNAs mediated heavy metal stress tolerance in plants. Proceedings of the 1st International Conference on “Conventional and Modern Approaches in Plant Sciences” (Nov 28-29, 2017). University of the Punjab, Lahore, Pakistan.
4. **Khalid, N.** 2017. Tracing the highway contributions to carbon and nitrogen deposition using plant biomonitors and soil. Proceedings of the International conference on Ecology and Transportation. May 14-18, 2017. Salt Palace Convention Centre, Salt Lake City, Utah, USA. Organized by North Carolina State University, USA.
5. N. Hadayat, M. Hussain, S. Anjum and **N. Khalid.** 2016. Simulated acid rain: its effect on growth and yield of sunflower (*Helianthus annuus* L.). Proceedings of the International conference on “Environmental constraints to plants: Assessment and Reclamations”. Government College University, Faisalabad, Pakistan.
6. S. Anjum, M. Hussain, N. Hadayat and **N. Khalid.** 2016. Combined effect of micronutrients and cadmium on chlorophyll and nutrient contents of mungbean [*Vigna radiata* (L.) Wilczek]. Proceedings of the International conference on “Environmental constraints to plants: Assessment and Reclamations”. Government College University, Faisalabad, Pakistan.

HONOURS, FELLOWSHIPS AND AWARDS

HEC Approved PhD Supervisor since April 2019

1. Won **British Council’s Charles Wallace Visiting Fellowship** to visit **University of Exeter**, United Kingdom for two weeks (2023-2024)
2. Won fully funded **International Award** (\$2500) from Society of Wetland Scientists, United States to present research at 2019 Annual Meeting, The Role of Wetlands in Meeting Global Environmental Challenges: Linking Wetland Science, Policy, and Society Baltimore, Maryland, USA
3. Received **Travel Grant** from PHEC to present research at 15th International Phytotechnology Conference 2018 in Novi Sad, Serbia (2018)
4. Received **Travel Grant** from Higher Education Commission (HEC) of Pakistan to present paper at ICOET 2017 in USA (2017).
5. Received research training at **University of California Santa Barbara, USA** under **IRSIP** (International Research Support Initiative Program scholarship by the Higher Education Commission of Pakistan (2014-2015).
6. Received merit based **Indigenous Ph.D. fellowship** by Higher Education Commission of Pakistan (2012-2016).

TEACHING AND ADVISING EXPERIENCE

Assistant Professor (2016-Todate)

Department of Botany,

Govt. College Women University Sialkot

RESEARCH PROJECTS

PI of the HEC funded (0.5 million Rs) SRGP project “Phytoremediation of industrial waste contaminated soil using native wild plant species” No:21-1306/SRGP/R&D/HEC/2017 (2017-2018)

EDITING/REVIEWING EXPERIENCE

Editor:

Frontiers in Environmental Science

Reviewer:

Environmental Pollution
Science of the Total Environment
Chemosphere
Critical Reviews in Environmental Science and Technology
Journal of Hazardous Materials
Journal of Environmental Chemical Engineering
Water, Air, and Soil Pollution
Bulletin of Environmental Contamination and Toxicology
Pedosphere
Environmental Earth Sciences
Environmental Science and Pollution Research
Ecological Letters
Applied Soil Ecology

PROFESSIONAL MEMBERSHIPS

1. Member of SWS's **Global outreach and *hoc* committee** (representing Asia) (2020 – continue)
2. Member of SWS's **Publication Committee** since 2020
3. Member, Society of Wetland Scientists (SWS) 2018-2024
4. Member, Ecological Society of America (ESA) since 2022
5. Member, Infrastructure and Ecology Network Europe (IENE) since 2013.
6. Member, British Ecological Society (BES) (2015-2021)
7. Member, International Environment Forum (IEF) since 2015
8. Member, 'Green Peace International' since 2016
9. Member, Pakistan Botanical Society 2013-2016

EXTRACURRICULAR ACTIVITIES

- Convener/Focal person of the **Character-Building Society** of the GC Women University Sialkot formulated by **National Accountability Bureau Lahore (NAB), Pakistan**
- Organized an ethical 'Movie Show' on film 'Aik Hai Nigar' in collaboration with NAB, Lahore, on May 31st, 2023 at GC Women University Sialkot
- Organized a seminar on "**Character Development Among Youth**" on March 16, 2023 at GC Women University Sialkot
- Organized a session on **Character building** on March 09, 2023 at GC Women University Sialkot
- Organized "**awareness walk**" on **Internal Anticorruption Day** on Dec 09, 2022 at GC Women University Sialkot
- Organized a webinar on "**Anticorruption**" with **NAB Lahore** on Dec 19, 2022 at GC Women University Sialkot
- Organized various activities (English & Urdu declamation contests, English and Urdu essay writing competitions, Poster competition, Seminar, and Awareness walks) to celebrate "**International Anti-corruption Week 2021 (December 06-12, 2021)**" at GC Women University Sialkot
- Organized a **Seminar on Anti-corruption and Character Building** on March 02, 2021 at GC Women University Sialkot

- Conducted a series of various activities to celebrate **Anti-Corruption Week** during Dec 07-12, 2021 at GC Women University Sialkot
- Organized an online essay writing competition on the topic “**Corruption Overtakes Patriotism**” in December, 2020
- Organized an online essay writing competition on the topic “**Impact of Pandemic on Character Building**” in April, 2020
- Member of the **Clean Water Committee** of the GC Women University Sialkot
- **Sketching Artist** for a Novel to be published soon in California, USA.

PHD STUDENTS SUPERVISED

1. **Zonaira Qaiser (2022)** Microplastic contamination in agroecosystems and its effects on growth, physio-biochemical and yield attributes of *Solanum tuberosum* L.

MS STUDENTS SUPERVISED

1. **Maleeha Ishaq (2023)** effect of rubber wear microplastics from vehicles on roadside wheat agroecosystems
2. **Hira Azhar (2023)** Microplastic adsorption by *Spirodela polyrriza* and *Lemna minor* at urban runoff sites in Sialkot
3. **Jawaria Khalid (2023)** Influence of tyre wear microplastics on urban roadside plant communities in Sialkot
4. **Asmara Iftikhar (2023)** Effect of microplastics on plant community composition in urban wetlands in Sialkot
5. **Shanza Mukhtar (2022)** Phytomonitoring of urban runoff heavy metal pollutants using *Lemna minor* L.
6. **Anisa Iftikhar (2022)** Use of *Eichhornia crassipes* for monitoring of urban runoff heavy metal pollution
7. **Farwa Yasir (2022)** Ecological risk assessment of heavy metals in fresh water stream-Nala Palkhu, Sialkot using sediments and aquatic plants
8. **Kinza Rafaqat (2022)** Pollution characteristics and ecological risk assessment of heavy metals in Nala Ek, Sialkot using sediments and aquatic plants
9. **Komal Arshad (2021)** Physicochemical characterization of sediments and some aquatic plants at Marala wetlands, Sialkot
10. **Shanza Zaka (2021)** Ecological risk assessment of some trace elements in sediments and some aquatic plants at Bajwat wetlands, Sialkot
11. **Yusra Munir (2020)** Weed diversity, distribution, and spatial variation in rice crops in Sialkot
12. **Anum Yousaf (2020)** Spatial variation of weed populations in Wheat crops of Sialkot under the influence of various edaphic factors
13. **Ujala Ejaz (2019)** Phytoextraction of cadmium and lead by *Parthenium hysterophorus* mediated by EDTA
14. **Shumaila Akbar (2019)** Phytoextraction potential of *Calotropis procera* for cadmium and lead
15. **Nayab Naeem (2019)** Assessment of lead and cadmium pollution in soil and plants at different functional areas of Sialkot
16. **Zonaira Qaiser (2019)** Assessment of the phytoextraction capacity of *Ricinus communis* for chromium and arsenic
17. **Arifa Khalid (2019)** Effect of EDTA on phytoextraction of chromium and arsenic by *Parthenium hysterophorus*
18. **Wajiha Sarfraz (2019)** Evaluation of the phytoremediation potential of *Ricinus communis* for cadmium and lead
19. **Asmara Rafique (2019)** Effect of industrial effluents on soil and growth of wild plants in Sialkot
20. **Hafiza Komal Latif (2019)** Effect of industrial waste contaminants on wild plants and soil in Sialkot