



Curriculum Vitae

Dr. Zafar Siddiq (Ph.D. Ecology)

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Personal Information

Designation Associate Professor (BS-20) Department of Botany Government College University Lahore, Pakistan

Date of Birth 28th April 1980

Nationality Pakistani

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Office Address Department of Botany, Government College University, Lahore, Pakistan.

Education

- **Ph.D. Ecology** (2011 - 2016) University of Chinese Academy of Sciences, (UCAS) China
Supervisor: Prof. Dr. Kun-Fang Cao. Thesis Title: *“Transpirational Water Consumption and its Regulation in Evergreen and Deciduous Timber species under a Northern Tropical Seasonal Climate”*
- **An International Diploma “Botanic Garden Management”** (June - August 2009) Royal Botanic Gardens Kew, UK
- **M. Phil. Botany** (2002 - 2004) Government College University Lahore, Pakistan
- **M.Sc. Botany** (2000 - 2002) Government College University Lahore, Pakistan
- **B.Sc. Science** (1998 - 2000) University of the Punjab, Lahore, Pakistan
- **Intermediate** (1996 - 1998) Government Higher Secondary School GT Road, Gujranwala Pakistan
- **Matriculation** (1994 - 1996) KT Model Higher Secondary School, Kashmir Road, Gujranwala, Pakistan

Work Experience at Government College University Lahore, Pakistan: Over 20 years

- Associate Professor, Department of Botany (BS-20) 2nd February 2023 to date
- Assistant Professor, Department of Botany (BS-19) 6th January 2018 - 2nd February 2023

- Senior Curator in Botany, (BS-18) April 2008 - January 2018
- Assistant Curator in Botany, (BS-17) April 2004 - April 2008
- Assistant Curator in Botany, (BS-14) February 2003 - April 2004

Work Responsibilities and Accomplishments

Teaching the Ph.D., M. Phil., M.Sc. and B.Sc. (Hons.) students at the Department of Botany (2005 - to date) and supervised over 50 post-graduate students. Looking after the academic and management responsibilities of 'Botanic Garden', improving the plant collection and their catalogue etc (2003 - to date). Looked after the plant collection and improved the landscape of University's main and New campus. Also designed, established, and maintained the new plant collections including an 'Urban Forest' having 5,000 trees from 15 different species and a 'Miyawaki Forest' having over 10,000 plants from 25 different species at the new and main campuses of Government College University Lahore, Pakistan respectively (2018 - 2023) through the private donors. With the additional responsibility as 'In charge Estate Office' of University campuses for two years tenure (2021-2023), introduced the zero waste policy for organic waste to be used as compost. Have completed two research projects sponsored by International agencies from UK. Currently, two research projects are under investigation, one of which is being sponsored by UK.

Research Interests and Research Laboratory

Plant Physiological ecology, Modeling trees Water and Carbon fluxes, Na⁺, K⁺ up-take, Drought & Climate Change, Botanic Gardens, Habitat Restoration, and Plant Conservation. In charge Plant Eco-physiology Laboratory of Botany Department.

Awards

- 10th Invention to Innovation Summit 2025. Award for Exemplary Contribution to Research and Innovation, by ORIC University of the Punjab, and UMT Lahore, Pakistan
- Visiting Fellow, Plant Stress Physiology Group, Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, 9th – 14th February 2025
- April 2019 - to date: HEC Approved Ph.D. Research Supervisor
- 2011 - 2016: Ph.D. Scholarship, University of Chinese Academy of Sciences
- 2009: Charles Wallace Fellowship, British Council, Pakistan

Research Projects Grants Awarded:

| Sr. No. | Title of Research Project and Role as Principal Investigator or Co- Principal Investigator | Sponsoring Agency | Amount and Duration |
|----------------|---|---|-----------------------------|
| 1. | Integrated <i>ex</i> and <i>in situ</i> conservation of <i>Tecomella undulata</i> (EN). (As Principal Investigator). | Botanic Gardens Conservation International , BGCI, UK | 36000/- GBP. 2025 – 2027 |
| 2. | Seed banking of 12 native species of Punjab. (As Principal Investigator). | Global Seed Conservation Challenge, UK | 2000/- US \$ 2018 – 2020 |
| 3. | Conserving and Restoring the threatened trees of Dry land Ecosystems in Punjab. (As Co-Principal Investigator). | Botanic Gardens Conservation International (BGCI) UK. | 25000/-US \$ 2010 – 2011 |
| 4. | Drought tolerance in the saplings of three selected tree species commonly planted on Road sides of Lahore. (As Principal Investigator). | Office of Research Innovation and Commercialization (ORIC) GC University Lahore, Pakistan | 300,000 PKR. 2024 - 2026 |
| 5. | Conservation status of Flora of Punjab; Environmental implications and Plant Red Data list for Punjab. (As Co-Principal Investigator). | Higher Education Commission, Islamabad, Pakistan. | 523,038 PKR. 2008 - 2011 |

Applications of Research Grant Proposals (submitted)

- As Co-Principal Investigator “Water use and its regulation mechanisms of tropical and subtropical forests across a rainfall gradient in southern China and northeastern Pakistan” A joint Research Project between Pakistan Science Foundation (PSF) & National Natural Science Foundation of China (NSFC) 2016 (400,000 US \$).
- As Principal Investigator “Carbon and water fluxes of some trees growing in Lahore, Pakistan” National Research Program for Universities 2020. 16.55 Million PKR.
- As Principal Investigator “Commercialization of Aloe gel”. Submitted to ORIC GC University Lahore. April 2021. 0.5 million PKR.

Research/Developmental Projects Completed

- Team member “Establishment of Pakistan Botanic Gardens Network Secretariat, Botanic Garden Government College University, Lahore 2008 - 2011 (36 Million Rs.).

Unique Expertise

- Manufacturing of Granier’s sap flow measuring sensors for estimating whole tree water consumption, dynamics of sap flow and stand-level transpiration.

Courses Taught (2005 - 2025)

| Sr. No. | Class | Course Title | Year (s) | Teacher’s Course Evaluation by students (Over all Excellent) |
|----------------|----------------------------------|---------------------------------|--------------------------|---|
| 1. | Ph.D. (Botany) | Trees Water and Carbon Dynamics | 2019 - 2025 | Not available |
| 2. | M. Phil. (Environmental Science) | Sustainable Agriculture | 2005 | A |
| 3. | M. Phil. (Botany) | Ethnobotany | 2006 - 2010, 2016 - 2019 | A |
| 4. | M. Phil. (Botany) | Botanic Garden Management | 2020 - 2025 | Not Available |
| 5. | B.Sc. Hons. (Botany) | Biodiversity and Conservation | 2011, 2017-2025 | A |
| 6. | B.Sc. Hons. (Botany) | Ethnobotany | 2018-2019, 2021-2025 | A |
| 7. | M.Sc. (Botany) | Environmental Biology | 2019, 2021 | A |
| 8. | M.Sc. (Botany) | Diversity of Vascular Plants | 2018 - 2019 | B |

Total Publications 52 (Reads 10,220; Citations: 663; Impact Factor: 142.55, h-index 16,

Research Internet Score 615, Recommendations 288 (*Corresponding author)

1. Role of *Bacillus pseudomycoides* in enhancing the nutritional profile of five *Vigna radiata* (L.) cultivars under saline stress. Bushra Bilal, Zafar Siddiq*, Tehreema Iftikhar, Muhammad

- Umar Hayyat, Hammad Majeed. Journal of Soil Science and Plant Nutrition. 2025 (**Impact Factor 3.6**)
2. Cross-linking of fungal β -glucosidase on Al_2O_3 nanocrystals synthesized using *Cajanus cajan* L. Millsp. extracts for in suit genistein manufacture. Scientific Reports. 2025 (**Impact factor 3.8**)
 3. Bioremediation of Metal (loid) toxicity in maize (*Zea mays* L.) by inoculating metal resistant bacterial strains. M. U. Hayyat, S. Iqbal, Q. F. Khan, **Z. Siddiq**, F. Sharif, S. Ali, L. Shahzad, Z. Tahir, M. Farhan, T. A. Shah, T. M. Dawoud, M. Bourhia. International Journal of Environmental Science and Technology. 2025 (**Impact factor 3.0**)
 4. Assessment of growth, and ion uptake of plant species, *Conocarpus erectus* and *Dodonaea viscosa*, on industrial solid waste. 2024. **Zafar Siddiq***, Umair Azam, Muhammad Atif Irshad, Noor Mirza, Rab Nawaz*, Muhammad Umar Hayyat, Ali Irfan, Abdulaziz Abdullah Alsahli, Mohammed Bourhia, Amare Bitew Mekonnen*, Zulkifl Ahmed and Rabia Ghaffar. BMC Plant Biology. (**Impact factor 4.3**)
 5. Green synthesis of *Agaricus avensis*-mediated silver nanoparticles for improved catalytic efficiency of Tyrosin hydroxylase towards potential biomedical implications. Sikander Ali, Laraib Fatima, Muhammad Usman Ahmad, Qaiser Fareed Khan, Muhammad Umar Hayyat, **Zafar Siddiq**, Tawaf Ali Shah, Yousef A. Bin Jordan, Gezahign Fentahun Wondmie, Mohammad Bourhia. 2024. Discover Life. (**Impact factor 1.9**)
 6. Synergistic photovoltaic performance of DSSCs based on ZnO charge transport layers, counter electrodes and *C. annuum* and *T. indica* as natural dyes. 2024. Nasim Sarwar, Rabia Ghaffar, Monas Shahzad, Khalid Javed, Mahroze Munam, **Zafar Siddiq**, Aneel Pervez, Muhammad Zubair Khan, Mohsin Saleem, Jung-Hyuk Koh, Abdul Ghaffar. Materials Science & Engineering B. (**Impact factor 3.9**)
 7. Mitigating NaCl stress in *Vigna radiata* L. cultivars using *Bacillus pseudomycolides* Bushra Bilal, **Zafar Siddiq**, Tehreema Iftikhar and Muhammad Umar Hayyat. PeerJ. 2024. (**Impact factor 3.06**)
 8. NaCl stress, tissue specific Na^+ and K^+ up-take and their effect on growth and physiology of *Helianthus annuus* L. and *Solanum lycopersicum* L. Aymen Abbas, Shaharbano Mansha Hira Waheed, **Zafar Siddiq***, Muhammad Umar Hayyat, Yongjiang Zhang, Khairiah Alwutayd. 2024. Scientia Horticulturae (**Impact factor 4.3**)

9. Exploring the potential of immobilized phytase to enhance phosphorus uptake by *Catharanthus roseus*. 2023. Aqsa Zahid, Sikander Ali, M. Umar Hayyat, M. Usman Ahmad, Rabab Maqsood, Zafar Siddiq and M. Nauman Aftab. 2023. South African Journal of Botany (**Impact factor 3.1**)
10. Na⁺ and K⁺ compartmentalization in *Spinacea oleracea* and their effects on growth, water relations, endogenous melatonin, and non-structural carbohydrates. Aymen Abbas, **Zafar Siddiq***, Muhammad Umar Hayyat, Yong-Jiang Zhang, Rabia Ghaffar, Mansour K. Gatasheh. 2023. Scientia Horticulturae (**Impact factor 4.3**)
11. Conserving the threatened woody vegetation on dune slopes: monitoring the decline and designing adaptive strategies for restoration. Amin U Khan, Asad Abbas, Faiza Sharif, Asma Manzoor, **Zafar Siddiq**. 2023. Nature Conservation (**Impact factor 1.6**)
12. Hydraulic traits and photosynthesis are coordinated with trunk sapwood capacitance in tropical tree species. Yang Wei, Ya-Jun Chen, **Zafar Siddiq**, Jiao-Lin Zhang, Shu-Bin Zhang, Steven Jansen, Kun-Fang Cao. 2023. Tree Physiology (**Impact factor 4.0**).
13. Evaluating the phytoremediation potential of *Eichhornia crassipes* for the removal of Cr and Li from synthetic polluted water. Muhammad Umar Hayyat , Rab Nawaz, Ali Irfan, Sami A. Al-Hussain, Mehlil Aziz, **Zafar Siddiq**, Sajjad Ahmad, Magdi E. A. Zaki. 2023. International Journal of Environmental Research and Public Health. (**Impact factor 4.61**).
14. Carbon Sequestration Potential of different Forest types in Pakistan and its role in Regulating Services for Public Health. Shahab Ali, Shujaul M. Khan, Zeeshan Ahmad, **Zafar Siddiq**, Abd ullah, Sunghoon Yoo, Heesup Han, Antonio Raposo. 2023. Frontiers in Public Health. (**Impact factor 6.46**).
15. Leaves as bottlenecks: The contribution of tree leaves to hydraulic resistance within the soil-plant-atmosphere continuum. Wolfe, B., Detto, M., Zhang, Y.,... **Siddiq, Z., et al.**, 2023. Plant Cell and Environment. (**Impact factor 7.94**).
16. Water consumption during a leafless period in a dry season in three deciduous tropical timber species. **Zafar Siddiq*** and Kun-Fang Cao. 2023. Journal of Hydrology. (**Impact Factor 6.7**).
17. Chitosan polymerized silica composite as a potential silican source: modulation on antioxidant enzymes, ionic homeostasis, and grain quality in maize under Na⁺ stress.

- Waqas-ud-Din Khan, Faiza Sharif, Muhammad Asif Naeem, Muhammad Ansar Farooq, **Zafar Siddiq**, Muhammad Imran. 2022. Journal of Plant Growth Regulation (**Impact Factor 4.16**).
18. Comparative efficiency of silica gel, biochar and bacterial species in chromium and lead bioaccumulation of *Solanum melongena* L. grown on wastewater treated soil. Waqas-ud-din Khan, Muhammad Ali, Muhammad Ansar Farooq, **Zafar Siddiq**, Saud Alamri, Manzer H. Siddiqui. 2022. Frontiers in Plant Science. (**Impact Factor 5.75**).
 19. Carbon sequestration potential of reserve forests present in protected national parks. Shahab Ali, Shujaul MulkKhan, **Zafar Siddiq**, Zeeshan Ahmad, Khawaja Shafique Ahmad, Murtaza Hussain, Abeer Hashem, Al-Bandari Fahad Al-Arjani, Elsayed Fathi Abd Allah. 2022. Journal of King Saud University - Science. (**Impact Factor 4.01**).
 20. Use of scanning electron microscopy to analyze sculpturing pattern and internal features of pollen grain wall in some members of Astragaleae (subfamily: Papilionoidae). Neelam Rashid, Muhammad Zafar, Mushtaq Ahmad, Khafsa Malik, Syed Nasar Shah, Shazia Sultana, Nafeesa Zahid, Qumqum Noshad, **Zafar Siddiq**. 2022. Microscopy Research and Technique (**Impact factor 2.76**).
 21. **Zafar Siddiq*** and Yong-Jian Zhang. Cool-dry season depression in canopy photosynthesis and water flux of tropical trees at the northern limit of Asian tropics. 2021. Plant Ecology (**Impact factor 1.8**).
 22. Relative growth rate and biomass allocation among some important commonly planted trees in an irrigated urban landscape. Rida Ayub, **Zafar Siddiq***, Muhammad Umar Hayyat, Tehreema Iftikhar. 2021. Journal of Sustainable Forestry. (**Impact Factor: 1.50**).
 23. Effect of climate warming on seedling growth and biomass accumulation of two subtropical tree species. Gul Zareen Ghafoor, Faiza Sharif, Amin U Khan, Memuna Ghafoor Shahid, **Zafar Siddiq**, Laila Shahzad. 2021. Ecoscience (**Impact Factor: 1.95**).
 24. Limestone quarry waste promotes the growth of two native woody angiosperms. Muhammad Umar Hayyat, **Zafar Siddiq***, Rashid Mahmood, Amin U Khan, Kun-Fang Cao. Frontiers in Ecology and Evolution. 2021. (**Impact factor 4.71**).
 25. Models to estimate the above and below ground carbon stocks from a subtropical scrub forest of Pakistan. **Zafar Siddiq***, Muhammad Umar Hayyat, Amin U Khan, Rashid

- Mahmood, Laila Shahzad, Rabia Ghaffar, Kun-Fang Cao. Global Ecology and Conservation. 2021. (**Impact Factor 3.38**).
26. **Zafar Siddiq***, Ya-Jun Chen, Kun-Fang Cao. Water flux responses of tropical trees and lianas to foliage loss caused by a heavy hailstorm. 2021. Ecohydrology (**Impact factor 2.76**).
 27. Investigation of lithium application and effect of organic matter on soil physicochemical properties. Muhammad Umar Hayyat, Rab Nawaz, **Zafar Siddiq**, Muhammad Bilal Shakoor, Maira Mushtaq, Sajid Rashid Ahmad, Shafaqat Ali, Afzal Hussain, Muhammad Atif Irshad, Abdulaziz Abdullah Alsahli, Mohammed Nasser Alyemeni. 2021. Sustainability (**Impact factor: 3.25**).
 28. Alleviation of lithium toxicity in *Sorghum vulgare* Pers. by inoculation of lithium resistant bacteria. Muhammad Umar Hayyat, Sikander Ali, Amin U Khan, **Zafar Siddiq**. 2020. Applied Ecology and Environmental Research (**Impact factor: 0.74**).
 29. Hydraulic safety margins of co-occurring woody plants in a tropical karst forest experiencing frequent extreme droughts. Feng-Sen Tan, Hui-Qing Song, Pei-Li Fu, Ya-Jun Chen, **Zafar Siddiq**, Kun-Fang Cao, Shi-Dan Zhu. 2020. Agricultural and Forest Meteorology (**Impact factor: 5.73**).
 30. Piloting Restoration Initiatives in Subtropical Scrub Forest: Specifying Areas Wanting Adaptive Management. Amin Ul Haq Khan, Faiza Sharif, **Zafar Siddiq**, Muhammad Umar Hayyat, Laila Shahzad and Joachim Gratzfeld. 2019. Environmental Monitoring and Assessment (**Impact factor: 1.80**).
 31. **Zafar Siddiq**, Kyle W. Tomlinson, Kun-Fang Cao. Does fluctuation of meteorological conditions across years influence stand transpiration of *Tectona grandis* plantation? 2019. Ecohydrology (**Impact factor: 2.75**).
 32. **Zafar Siddiq**, Yong-Jiang Zhang, Shi-Dan Zhu, Kun-Fang Cao. Canopy water status and photosynthesis of tropical trees are associated with trunk sapwood hydraulic properties. 2019. Plant Physiology and Biochemistry (**Impact factor: 2.72**).
 33. Saeeda Naz, Muhammad Zafar, Mushtaq Ahmad, Rabia Asma Memon, Shazia Sultana, Saraj Bahadur, Fethi Ahmet Ozdemir, **Zafar Siddiq**, Muhammad Ajmal Shah. Palynological investigation of lactiferous flora (Apocynaceae) of District Rawalpindi,

- Pakistan, using light and scanning electron microscopy. 2019. Microscopy Research and Technique. (**Impact factor: 1.08**).
34. Shi-Dan Zhu, Rong-Hua Li, Peng-Cheng He, **Zafar Siddiq**, Kun-Fang Cao, Qing Ye. Large Branch and Leaf Hydraulic Safety Margins in Subtropical Evergreen Broadleaved Forest. 2019. Tree Physiology (**Impact factor: 3.38**).
 35. Sidra Nisar Ahmed, Mushtaq Ahmad, Muhammad Zafar, Sofia Rashid, Ghulam Yaseen, Shazia Sultana, **Zafar Siddiq**, Omer Kilic, Fethi Ahmet Ozdemir, Sadaf Kayani. Comparative Light and Scanning Electron Microscopy in Authentication of Adulterated Traded Medicinal Plants. 2019. Microscopy Research and Technique (**Impact factor: 1.08**).
 36. **Zafar Siddiq** and Kun-Fang Cao. Nocturnal transpiration in 18 broadleaf timber species under a tropical seasonal climate. 2018. Forest Ecology and Management (**Impact factor: 3.0**).
 37. Saba Gul, Mushtaq Ahmad, Muhammad Zafar, Saraj Bahadur Shazia Sultana, Shomaila Ashfaq, Fazal Ullah, Omer Kilic, Fayyaz ul Hassan, **Zafar Siddiq**. 2018. Foliar epidermal anatomy of Lamiaceae with special emphasis on their trichomes diversity using Scanning Electron Microscopy. Microscopy Research and Technique (**Impact factor: 1.08**).
 38. **Zafar Siddiq**, Ya-Jun Chen, Yong-Jiang Zhang, Jiao-Lin Zhang, Kun-Fang Cao. 2017. More sensitive crown conductance response to VPD and larger water consumption in tropical evergreen than in deciduous broadleaf timber trees. Agricultural and Forest Meteorology. 247, 399 - 407 (**Impact factor: 3.88**).
 39. Wan-Li Zhao, **Zafar Siddiq**, Pei-Li Fu, Jiao-Lin Zhang, Kun-Fang Cao. 2017. Stable stomatal number per minor vein length indicates the coordination between leaf water supply and demand in three leguminous species. Scientific Reports 7:2211 (**Impact factor: 4.25**).
 40. **Zafar Siddiq** and Kun-Fang Cao. 2016. Increased water use in dry season in eight dipterocarp species in the northern boundary of Asian tropics. Ecohydrology 9, 871-881 (**Impact factor: 2.85**).
 41. Farzana Kausar, Muhammad Umar Hayyat, **Zafar Siddiq**, Rashid Mahmood. 2012. Effect of different dilutions of municipal waste water on some physiological aspects

- Eichornia crassipes* Solms. Pakistan Journal of Botany. 44: 97-100 (**Impact factor: 0.87**).
42. Muhammad Umar Hayyat, Mariyam Mahmood, Amin U Khan, **Zafar Siddiq**, Rashid Mahmood, Farooq Ahmad. 2014. Study on the antioxidant activity and composition of *Olea cuspidata* seed pulp. International Journal of current Research and Academic Review. 2 (7) 65-70.
 43. Rashid Mahmood, Faiza Sharif, Muhammad Umar Hayyat, Sikander Ali, **Zafar Siddiq**, Syed Tariq Rizwan. 2015. Biotreatment of Textile Effluent for irrigation purpose using indigenous Bacterial consortium (BMPI/SDSC/01). A step towards reducing fresh water scarcity. Environment and Ecology Research. 3 (1) 9-14.
 44. Use of Alleviators to reduce Toxicity of Chromium in Germination of Common Agricultural Crops. Muhammad Umar Hayyat, Rashid Mahmood, Sadia Akram, Zawar Haider, Syed Tariq Rizwan, **Zafar Siddiq**, Rab Nawaz. 2015. 3(2): 44-49 Environment and Ecology Research 3(2): 44-49, 2015.
 45. **Zafar Siddiq** and Athar Hussain. Viable seeds production through the induced Pollination in *Cycas circinalis* L. Proceedings, Pakistan Botanic Gardens Conference on “Botanic Garden a vehicle to promote public/private/NGOs partnership” Government College University Lahore, 4th - 6th February 2008.
 45. Roheena Munir, **Zafar Siddiq** and Amin U Khan. Variability of *Solanum nigrum* complex at GC University Lahore, Botanic Garden. Khan Amin U (Ed.) Proceedings, Pakistan Botanic Gardens Conference on “Action Plan for Botanic Gardens Network in Pakistan” Government College University Lahore, 24th - 25th March 2006. ISBN, 969907100-1.
 46. Amin U Khan and **Zafar Siddiq** Government College University Lahore Botanic Garden; A Center for Research, Conservation and educational activities. Khan Amin U (Ed.) Proceedings, Pakistan Botanic Gardens Conference on “Action Plan for Botanic Gardens Network in Pakistan” GC University Lahore on 24th - 25th March 2006. ISBN, 969907100-1.
 47. **Zafar Siddiq** and Amin U Khan. *Euphorbia lactea* and *Cerus peruvianus* from a private site to Botanic Garden for promoting the public private partnership. Proceedings, 2nd

- Pakistan Botanic Gardens Conference on “Botanic Garden a vehicle to promote public/private/NGOs partnership. ISBN: 978-969-9071-05-8.
48. Ikram-ul-Haq, Muhammad Mohsin Javed, Tehmina Saleem Khan & **Zafar Siddiq**. Cotton Saccharifying Activity of Cellulases Produced by Co-culture of *Aspergillus niger* and *Trichoderma viride*. Research Journal of Agriculture and Biological Sciences, 1(3) 241-245, 2005.
 49. Ikram-ul-Haq, Muhammad Mohsin Javed, **Zafar Siddiq** and Tehmina Saleem. Triggering of β -glucosidase production in *Trichoderma viride* with nutritional and environmental control. INSINET Publications, Faisalabad Pakistan. Journal of Applied Scientific Research. (14) 884-889. 2006 ISSN-1816157X
 50. Ikram ul Haq, Mirza Ahsen Baig, Sikander Ali, Shazia Mirza, Kiran Shafiq **Zafar Siddiq**. Optimization of cultural conditions for the biosynthesis of beta-fructofuranosidase by *Sacchromyces cerevisea*. Pakistan Journal of Biological Sciences 2003, 6, (11) 952-954.
 51. **Zafar Siddiq**. Global warming and Climate Change
The Scientific Ravi 2002, Government College University Lahore, Pakistan
 52. **Zafar Siddiq**. All Flesh is Grass
The Scientific Ravi 2003, Government College University Lahore,, Pakistan

Book Chapter

1. **Zafar Siddiq**, Muhammad Umar Hayyat, Dawood Ayub. 2024. Exploring the Resilience of Water in a Socioecological System. Apple Academic Press, Taylor and Francis Group, London, UK (*In press*).

Patent Filed:

1. Method of extended edibility of Green Chili Paste Using *Nigella sativa* L. and *Zingiber officinale* L. Hammad Majeed, Tehreema Iftikhar, Aneela Afzal, **Zafar Siddiq**, Khizar Qureshi, Khalil Ahmad, Haq Nawaz Bhatti. Application number: 966/2024. Filling date: 30/12/2024. In process.

Project/Technical Reports

1. Amin U Khan, **Zafar Siddiq**, Faiza Sharif, Muhammad Umar Hayyat. 2011.

Conserving dry-land ecosystems in the Indus plains of Pakistan. 1st Annual report submitted to Botanic Gardens Conservation International (BGCI), UK

2. Amin U Khan, **Zafar Siddiq**, Muhammad Umar Hayyat and M.Bilal Saeed, 2006 Environmental Impact Assessment (EIA) of ICI, quarry site in Tobar, Jahlum, Pakistan.

News Letter/Booklets/brochures

- First Annual report of Pakistan Botanic Gardens Network Secretariat (2007-2008)
- Second Edition of “Catalogue of Plants in Government College University Lahore, Botanic Garden” (2007)
- Second Edition of “A Brief Guide To Botanic Garden” Government College University Lahore (2007)
- First annual “News Letter of Government College University Lahore, Botanic Garden” (2005)
- Awareness brochures (03) for Punjab’s dry land ecosystem conservation (in Urdu, 2011)
- Third Edition of “Catalogue of Plants in Botanic Garden” Government College University Lahore (2022)
- Third Edition of “A Brief Guide To Botanic Garden” Government College University, Lahore (2023)
- First Edition “Index Semnium” of plants in Botanic Garden, Government College University Lahore (in press).

New Courses Designed

1. Trees Water and Carbon Dynamics (Ph.D.)
2. Botanic Garden Management (M. Phil.)
3. Plant Conservation (M.Phil)
4. Kitchen gardening (6 weeks certificate)
5. Landscaping (6 weeks certificate)

Theses Supervision = 53 students

Ph.D.

1. Bushra Bilal (2021-2024)

Thesis Title: Impact of salinity stress on growth, biomass and nutritional values of five varieties of *Vigna radiata* L. and its alleviation by using locally isolated bacteria.

2. Muhammad Shariq Khawaja (2022 - 2025)

Thesis Title: Impact of varying temperature on growth and active ingredients of two selected species of *Viola* from Pakistan.

3. Iqra Mubeen (2023 - 2026)

Thesis Title: Assessing the seedlings drought tolerance in some selected urban trees of Punjab, Pakistan.

M. Phil

1. Roheena Munir (2005 - 2006). A study on the differences in morphological characters of *Solanum nigrum* complex in and around Botanic Garden GC University Lahore.

2. Kinza Hassan (2017 - 2018). Leaf economic spectrum of some shrubs and herbs of Botanic Garden, GC University, Lahore.

3. Rida Ayub (2018 - 2019). Relative growth rate and biomass allocation among the saplings of some commonly planted trees of Lahore.

4. Muhammad Ahmad (2019 - 2020). Xylem anatomical studies and estimation of non-structural carbohydrates in some deciduous trees planted in GCU Botanic Garden Lahore.

5. Fariha Badar (2019 - 2020). Branch xylem anatomical features and estimation of non-structural carbohydrates in some evergreen trees of Botanic Garden.

6. Usama Shafiq (2019 - 2021). Compartmentalization of sodium in indigenous *Prosopis cineraria* (L.) Druce and invasive *Prosopis juliflora* (Swartz) DC trees at seedling and adult stages.

7. Zikra Mahak (2019-2021). Impact of temperature stress on the growth, anatomy, and yield of three cultivars of Wheat (Cv. Ajwa-17, cv. Johar-16, cv. Ujala-16).

8. Zainab Noor Bajwa (2021 - 2022). Impact of ambient air pollutants on growth and physiology of *Syzygium cumini* (L.) Skeel

9. Iqra Mubeen (2021 - 2022). Impact of ambient air pollutants on growth and physiology of *Cassia fistula* L.

10. Shan Ali (2021 - 2022). Impact of various concentrations of NaCl on growth, physiology, and anatomy of *Acacia modesta* Wall.

11. Bakhtawar Sarwar (2021-2023). Sodium and Lithium up-take in above and below ground parts of *Oryza sativa* L. cv. Super 2000 exposed to different concentrations of Sodium and Lithium Chloride

12. Kanwal Shehzad (2021-2023). Utilizing the Salinity and Lithium resistant bacteria to alleviate Sodium and Lithium stress in three Rice cv. Super 2000, Super 1509 and Super Kainat.
13. Ifrah Hareem (2021-2023). Grains bio-chemical analyses of three Rice cultivars Super 2000, Super 1509 and Super Kainat exposed to different concentrations of Sodium and Lithium Chloride.
14. Misbah Kalsoom (2021-2023). Tissue level uptake of Sodium and Lithium in (*Oryza sativa* L) Cultivar Super Kainat exposed to different concentrations of Sodium chloride and Lithium chloride.
15. Tehreem Akram (2021-2023). Sodium and Lithium flux in above and below ground parts of Rice cultivar Super 1509 exposed to different concentrations of Sodium chloride and Lithium chloride.
16. Aliza Javaid (2022-2024). Effect of sodium, potassium uptake, physiological, and anatomical changes in NaCl stress exposed cultivars of *Brassica napus* L. (cv. sandal canola and cv. super canola)
17. Fazal-e-Rasool (2022-2024). Physiological and anatomical changes in some selected tree seedlings exposed to water stress.
18. Rida-tu-Zohra (2022-2024). Investigation on lithium (Li) uptake in *Putranjiva roxburghii* and *Eucalyptus globulus* seedlings and its effect on their anatomy and physiology.
19. Sahar Abdul Haq (2022-2024). Foliar and branch anatomical studies of *Conocarpus erectus* and *Cassia fistula* exposed to different concentration of lithium chloride.
20. Kashaf Iqbal. 2023-2025. Investigations on growth and survival of *Albizia lebbeck* (L.) Benth. and *Parkinsonia aculeata* L. seedlings exposed to an industrial solid waste.
21. Muhammad Shahbaz. 2023-2025. Comparative growth response and ion uptake in *Acacia modesta* Wall. and *Acacia nilotica* L. seedlings exposed to an industrial solid waste.
22. Umair Azam. 2023-2025. Investigations of the growth and ion uptake in *Prosopis cineraria* (L.) Druce. and *Prosopis juliflora* (Sw.) DC. seedlings exposed to an industrial solid waste.

Theses Supervision BSc (Hons.) / MSc.

1. Muhammad Zaheer Azam (2015 - 2019)

Growth and physiological performance of some trees planted in Kala Shah Kaku (KSK) campus of GC University Lahore.

2. Muhammad Taha Ejaz (2015 - 2019). Soil Fertility Status of Kala Shah Kaku Campus GC University, Lahore.
3. Zunaira Irshad (2015 - 2019). Foliar, branch and root anatomy of some trees commonly planted in and around Lahore.
4. Aymen Abbas (2017 - 2021). Study of Physiological and Anatomical changes during Na⁺ compartmentalization in *Spinacia oleracea* L. during various growth stages exposed to different concentrations of NaCl.
5. Shehar Bano (2017 - 2021). Effect of Na⁺ compartmentalization on growth, anatomy, and physiology of *Solanum lycopersicum* L.
6. Hira Waheed (2017 - 2021). Effect of Na⁺ and K⁺ compartmentalization on the growth yield and anatomy of Sunflower *Helianthus annuus* L.
7. Umair Azam (2019 - 2021). Impact of Ittehad chemical Industry solid waste on the growth, anatomy, and physiology of *Dodonea viscosa* Jacq.
8. Noor Mirza (2019 - 2021). Impact of Ittehad Chemical Industry solid waste on the growth, anatomy, and physiology of *Conocarpus erectus* L.
9. Zaki ur Rahman (2018 - 2022). Physio-anatomical responses of two different cultivars of *Capsicum annuum* L. treated with different concentrations of NaCl.
10. Fazal-e-Rasool (2018 - 2022). Physio-anatomical responses of two different cultivars of *Capsicum annuum* L. treated with different concentrations of NaCl.
11. Iqra Naseem (2018 - 2022). Effects of various concentrations of NaCl on physioanatomical changes in *Brassica napus* L. (cv. Super canola).
12. Aliza Javed (2018 - 2022). Effects of various concentrations of NaCl on physioanatomical changes in *Brassica napus* L. (cv. Sandal canola).
13. Dawood Ayub (2019-2023). Leaf and xylem anatomical investigations of *Salvadora oleoides* Decne and *Salvadora persica* L from different saline habitats.
14. Abdu Subhan (2019-2023). Foliar anatomy of some wild species of tehsil Matta, district Swat
15. Ayesha Fayyaz (2019-2023). Leaf hydraulic architecture of some wild species of district Layyah.
16. Aymen Khalid (2019-2023). Leaf hydraulic architecture of some wild species of Gujrat

17. Ifrah Ayub (2020-2022). Uptake of sodium in different plant parts of *Oryza sativa* (CV. Super 515) treated with different concentrations of NaCl.
18. Nayyab Gull (2020-2022). Sodium up-take in different parts of *Oryza sativa* CV. Kernel exposed to different concentrations of NaCl.
19. Rana Abdul Basit (2020-2024). Effect of heat wave on growth anatomy and physiology of *Acacia nilotica*.
20. Rabia Siab (2020-2024). Seasonal flux of Potassium in 10 species of *Ficus* from Botanic Garden, Government College University, Lahore
21. Zeesha Khokar (2020-2024). An Investigation on the effect of Lithium uptake on leaves and shoots anatomy of *Acacia nilotica* at seedling and adult stages.
22. Muhammad Muneeb (2020-2024). Impact of temperature stress on growth anatomy and physiology of *Syzygium cumini*.
23. Usman Younus (2020-2024). Uptake of Lithium in leaves and shoots of *Ficus religiosa* in seedlings and mature trees.
24. Hammad Ur Rehman (2020-2024). Impact of Lithium chloride on anatomical traits of *Morus alba* in seedling and mature trees.
25. Abdullah Hassan (2020-2024). Estimating seasonal variations of Na⁺ and K⁺ uptake in *Tamarix aphylla* from different saline habitats.
26. Ajmal Khan (2021-2025). *In-situ* population monitoring and *Ex-situ* growth response of *Tecomella undulata* (Sm.) Seem.
27. Azhar Mehboob (2021-2025). Seasonal flux of K⁺ in 10 species of Euphorbiaceae from Botanic Garden, Government College University, Lahore, Pakistan.
28. Muhammad Faizan Ullah (2021-2025). Variations in K⁺ flux across eight species of Apocynaceae from Botanic Garden, Government College University, Lahore, Pakistan.

Co-supervisor

Four student (BS and M.Phil), Government College University, Lahore, Pakistan.

Reviewer of Journals and Manuscript Reviewed

| Sr. No. | Journal Name | No. of Manuscripts |
|----------------|--|---------------------------|
| 1. | Sustainability | 05 |
| 2. | Journal of Sustainable Forestry | 04 |
| 3. | PeerJ | 01 |
| 4. | Frontiers in Plant Sciences | 02 |
| 5. | Biologia, Pakistan | 07 |
| 6. | Plant Ecology (Springer) | 03 |
| 7. | Wet-land Ecology and Management | 01 |
| 8. | Journal of Sustainable Agriculture | 01 |
| 9. | Environment Development and Sustainability | 01 |
| 10. | Frontiers in Forest and Global Change | 01 |
| 11. | Forests | 06 |
| 12. | Land | 03 |
| 13. | European Journal of Forestry | 03 |
| 14. | Water | 02 |

Member Editorial Board

Journal of Sustainable Forestry (2022 – to date)

Ravian Journal of Plant Sciences (2023 – to date)

University of Lahore (2024 – to date)

External Examiner at the Affiliated College of GC University Lahore

BSc. (Hons.) and MSc. (Botany) 2018 to date.

Member Recruitment Panel

- Lecturer in Botany, Punjab Public Service Commission Lahore 2021.
- Malis/Baildars, Government College University Lahore 2019-2021.

Analytical soft wares

- Base-liner for processing the tree sap flow data
- R- Programming, selected package
- Sigma Plot

- Image J
- SPSS

Instruments Handling

- LICOR-64000 Portable photosynthetic system
- Pressure chamber for plant water status
- Wood sectioning sliding microtome
- WP-4 Potential meter
- LAI-2000 Plant canopy analyzer
- Campbell scientific CR-1000 data logger
- LI-3000 C Leaf area meter
- Soil moisture PR-2 (Delta devices)

Workshops, Seminars and Training courses

- Developing Strategies for Enhancing Forest Cover in Punjab, 8th – 9th September 2025. Organized by Forestry, Wildlife and Fisheries Department Government of Punjab and IUCN-Pakistan.
- OIC-COMSTECH & IiLM joint workshop on ‘Healthcare Leadership Global Models for Transforming System & Culture, organized by STIC-COMSTECH & IiLM’ 17th July, 2025
- One week International Phycological workshop-2024 on; “Identification of Freshwater Microalgae and Biotechnology” 11th - 15th November 2024, University of Punjab, Pakistan.
- One Day Training Course on; “Intellectual Property Rights, Focused on Patent Writing/Drafting and Submission” held on 09th October 2024. Office of Research Innovation and Commercialization (ORIC) Government College University Lahore.
- National Online Seminar on “sustainable Conservation Practices for Medical and Aromatic Plants of Pakistan” jointly organized by PARC-PGRI and MSBP-Kew, UK on 29th May 2024.
- Invited talk ‘Medicinal Plants of low and high-land areas of Pakistan’ Forest Department workshop on ‘Non-Timber Forest Produce’ 16th March 2022, Ravi Road, Lahore.

- “A Successful Journey from Research to Publications” 17th February 2022. Organized by Office of Research Innovation and Commercialization, Government College University, Lahore, Pakistan
- BGCI, Google Art and Culture UK (online workshop) 9th July 2020,
- International Seminar on “Crop Wild Genetic Resources of Pakistan and their Utilization” 14th November 2018 at National Agriculture Research Center, organized by Pakistan Agriculture Research Council, Islamabad & The Crop Trust, Germany.
- “Botanical Garden Development and Management” training course organized by International Association of Botanical Gardens-Asian Division, Ministry of Science and Technology China, Shanghai Chenshan Botanical Garden, China. 24th August - 15th September 2018.
- “Seed conservation training course” 4th - 8th September 2017, Kathmandu, Nepal, organized by Botanic Gardens Conservation International (BGCI), UK
- On-line workshop “Applying seed-based approaches to ecological restoration: an overview and examples from across the globe” 25th April 2017. Organized by Society for Ecological Restoration, USA.
- On-line workshop “How to create a report using FLIR tools” 24th March 2017, California USA.
- On-line workshop “Sap Flow Methods” arranged by Edaphic Scientific 7th March 2017, Sydney, Australia
- ***Zafar Siddiq** and Kun-Fang Cao. “Relationship of sap flux density with tree size, environmental variables and canopy gas exchange in some timber trees in Xishuangbanna” International workshop on; “Trees sap flow technology.” 16th - 22nd September 2013, South China Botanic Garden, Chinese Academy of Sciences. Trainer, Prof. Ram Oren, Duke University, USA.
- Tree Architecture 8th -12th May 2013 Xishuangbanna Tropical Botanical Garden, University of Chinese Academy of Sciences, China. Trainer, Dr. Yoshiko Lida, Hokkaido University, Japan.
- Workshop on scientific writing. 22nd -23rd March 2012, Xishuangbanna Tropical Botanical Garden, University of Chinese Academy of Sciences, China, Trainer, Prof. Richard Corlett.

- ***Zafar Siddiq** “Introduction to trees sap flow and its applications” Advance filed Course, 18th June 2014, Xishuangbanna Tropical Botanical Garden, CAS.
 - “Forests Carbon stock Assessment” organized by Sustainable Development Policy Institute, Islamabad, Pakistan, 11-15th February 2011
 - Atmospheric Sciences, 27th-30th November 2007, Pakistan Space and Upper Atmosphere Research Commission (SUPARCO) Karachi.
 - “Training of Trainees in Conservation Strategies For Plant Biodiversity of Pakistan” 20th -21st August, 2007, Center of Plant Biodiversity, University of Peshawar, Peshawar
 - “Communication Skill Development” organized by HEC in regional center Lahore 9th - 14th April, 2007
 - “Modern Trends in Flowering Plants Systematics” organized by Karachi University in collaboration with Higher Education Commission Islamabad (HEC) 29th September - 1st August 2006.
 - “National IPM training course” organized by National Agriculture Research Council, Islamabad 7th - 9th Feb. 2005 at HEC (Higher Education Commission of Pakistan) regional center, Lahore.
 - Participated as a Resource Person and oral presenter in Workshop on “Training of Trainees in Plant Biodiversity.” November, 23rd - 25th 2006. Organized by Center of Plant Biodiversity, University of Peshawar
- *Participated as oral presenter.

Conferences/Symposia

- **Zafar Siddiq** “Whole tree water use and species selections for establishing timber plantation in tropical China” 3rd International Conference of Tropical Plants (ICTP 2025) February 13th -16th , 2025, Kunming, China.
- 6th International Conference on; “Advances in Bio Sciences (ICABS-2024) held on 18th - 19th April 2024 at Government College University Lahore.
- **Zafar Siddiq**. Botanic Garden its establishment and role in education. Invited lecture on webinar. 30th June 2021. University of Veterinary and Animal Sciences, Ravi campus, Pattoki.
- **Zafar Siddiq** “Estimating and modeling the whole tree water consumption and stand-level transpiration in the northern boundary of Asian tropics” invited lecture on the

conference “Biodiversity Conservation, Livelihood and Sustainable Development” 10th - 12th July 2017 organized by Center of Plant Biodiversity and Botanical Garden at Baragali campus of University of Peshawar.

- *Kun-Fang Cao and **Zafar Siddiq** “Regulation mechanisms of forest water utilization, and the implications for forestation” 5th International EcoSummit: Engineering the Change 29th August - 1st September 2016, Le Corum, Montpellier France.
- **Zafar Siddiq** and *Kun-Fang Cao “Does fluctuation of annual rainfall influence stand transpiration of *Tectona grandis* plantation?” 5th International EcoSummit: Engineering the Change 29th August - 1st September 2016, Le Corum, Montpellier France.
- International Conference on “Conservation of Biodiversity and Sustainable Use of Tropical and Subtropical Plants” 1st - 4th November 2015, Guangxi Institute of Botany, Guangxi, China.
- ***Zafar Siddiq** and Kun-Fang Cao “Using the Common Garden Trees for Estimation of Water Use, their Response to Climatic Factors and Implications for Climate Change” Third International Symposium on “Botanical Gardens and Climate Change” 13th - 16th January 2014 Xishuangbanna Tropical Botanical Garden CAS.
- ***Zafar Siddiq** “Species invasion in Pakistan: Survey results of six alien species in Punjab” International conference on Global Change and Biological Invasions, 9th -10th September 2013, Shenyang University, China.
- “Association for Tropical Biology & Conservation, Asia-Pacific Chapter Annual Meeting” Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, Yunnan, China. 24th - 27th March 2012.
- Climate Change and Threats to Biodiversity, Karakoram International University, Pakistan, June 2011.
- International symposium on "Compatible with climate change" March 27th -29th, 2009, Khairpur, Pakistan.
- Pakistan Botanic Gardens Conference on “Botanic Garden a vehicle to promote public/private/NGOs partnership” GC University Lahore 4th - 6th February 2008.
- Pakistan Botanic Gardens Conference on “Action Plan for Botanic Gardens Network in Pakistan” held at GC University Lahore, 24th -25th March, 2006.

- International Symposium on “Biofertilizer and Biocontrol Technology” held at University of the Punjab, Lahore, 25th - 27th July 2005.
- “First National Conference of Biology” held at GC University Lahore, 2002
- “Second National Conference of Biology” held at GC University Lahore, 2004
- International Symposium on “Sustainable Use of Pesticides in Modern Agriculture” held at University of Veterinary and Animal Sciences Lahore on 24 - 25th Feb. 2006

*** Presenter**

Conferences/workshops Organized as Organizer/Focal Person

- One day workshop “Management of Botanic Gardens and Museum” Organizer / Focal person and oral presenter. 25th October 2023, Department of Botany, Government College University, Lahore Pakistan
- One day training workshop “Citation and Literature Management Using Mendeley Software” Organizer / Focal person. 19th January 2022, Department of Botany, Government College University, Lahore Pakistan
- One day workshop on; “Kitchen Gardening” 2nd November 2022 at Department of Botany, Government College University, Lahore.
- One day collaborative workshop on; “Non-Timber Forest Products” 12th October 2021 at Botanic Garden, Department of Botany, Government College University, Lahore.
- 4th Pakistan Botanic Gardens Conference “Role of Botanic Gardens in Climate Change Adaptation and Mitigation” 21st – 23rd February 2018.
- “Challenges Impacting Rehabilitation of Natural Vegetation in the Three Threatened Dry Land Ecosystems of Punjab” 24th March, 2011
- “Creating Demonstration Sites (*in situ*) for Conservation of Dry-Land Ecosystems” 29th July, 2010
- 2nd International conference “Botanic Garden a vehicle to promote public/private/NGOs partnership” Government College University Lahore, 4th - 6th February 2009.
- 1st International conference “Action Plan for Botanic Gardens Network in Pakistan” 24th - 25th March, 2006.

Departmental and University-level additional Responsibilities

- Member Grievance Committee, Faculty of Chemistry and Life Sciences 3rd October 2024
- Member Board of Studies, Department of Botany, 20-03-2023 – to date

- Member Board of Faculty (Chemistry and Life Sciences) 03-03-2021 to 02-03-2024
- Member Admission Committee (BS, M.Phil) Botany 2023 - to date
- Member Recruitment Committee for Visiting Faculty in Botany 2023-2025
- Focal Person Hepatitis Free Drive in Government College University Lahore 30th November 2022
- Member Research publication committee, department of Botany (2021 - to date)
- Member Study and Recreational Tours, department of Botany (2021 - to date)
- In-Charge non-teaching staff, department of Botany (2021 - to date)
- Sr. Curator, Botanic Garden (10th July 2018 - to date) Additional charge
- Co In-charge Grounds and Gardens (4th April 2018 - December 2023)
- In-charge Estate Office (2nd February 2021 - 15th May 2023) Additional charge
- Member HEC Green Youth Club (March 2022 – October 2023)
- Clean and Green Pakistan (October 2019 – October 2023)
- Innovation and Commercialization committee (2020 - 2023)
- Tutor for intermediate students (2020 - to date)
- Member Annual sports committee (2020-2023)
- Member Convocation committee for venue management, seating, invitation and decoration (2018- 2023)
- Member Employees Loan committee (July 2021 - to date)
- President Body building club (GCU Sports Executive committee) 2nd August 2021- to date
- Focal person dengue control programme (2021 - 2023)
- Member Dengue Control Committee (2022 - to date)

Member Recruitment Panel

- Lecturer in Botany, Punjab Public Service Commission Lahore 2021.
- Malis/Baildars/sanitary workers Government College University Lahore 2019-2022.

Community Services

- Advisory services to Establish Botanic Garden at Government MAO College Lahore
- Collaborative work with Lahore Binele Foundation for Afforestation of Lahore
- Scientific labeling of Trees in Mayo Gardens of Lahore Railway Headquarter

- Advisory service to Civil Service Academy Walton Road for establishing and maintain a Mayawaki forest
- Scientific labeling of Trees in Mall Road campus of Civil Services Academy Lahore

Visits to Forest/Nature reserves/Botanic Gardens

1. Forest/Nature reserves (National and International)

- *Butea* Forests in Shakargarh, Pakistan 2003, 2005, 2011,, 2018
- Thorn Forest Restoration site at Harrapa, Pakistan 2003, 2008, 2010 -11, 2019
- Scrub forest Soan Valley 2006-2011, 2016 Pakistan
- Cholistan Desert, Pakistan 2007
- Ayubia National Park, Pakistan, 2017
- Wakehurst Palace UK, 2009
- Eden Project Cornwall, UK, 2009
- Dinghu Mountain, Guangdong, China, 2014
- Tianmu Mountain, China, 2018

2. Botanic Gardens

China

- Xishunagbanna Tropical Botanic Garden, Chinese Academy of Sciences (CAS).
- South China Botanic Garden, CAS, Guangzhou
- Botanic Garden of Kunming Institute of Botany
- Beijing Botanic Garden
- Guillin Botanic Garden
- Pingxiang research institute Botanic Garden
- Shanghai Chenshan Botanical Garden
- Shanghai Botanical Garden
- Hanzhou Botanical Garden

UK

- Royal Botanic Gardens Kew
- Oxford University Botanic Garden and Arboretum
- Cambridge University Botanic Garden
- Chelsea Physic Garden.

- Hillier Gardens and Arboretum

Nepal

- National Botanical Garden, Nepal

Pakistan

- Shah Abdul Latif University Khairpur
- University of Peshawar
- University of Karachi
- University of the Punjab, Lahore
- University of Agriculture, Faisalabad

International and National Collaborations

- Botanic Gardens Conservation International (BGCI) UK
- Department of Organismic and Evolutionary Biology, Harvard University, Cambridge, USA
- Key Laboratory of Tropical Forest Ecology, Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, Menglun, Mengla, Yunnan 666303, China
- Ecology and Evolution Laboratories, Guangxi University, China
- Department of Plant Sciences, Quaid-e-Azam University, Islamabad

International Memberships

- International Association of Botanical Gardens and Arboreta USA, 2004 - to date
- Botanic Gardens Conservation International (BGCI) UK, 2005 - to date
- Association of Tropical Biology and Conservation (ATBC) 2011 - to date
- Society of Ecological Restoration (SER) 2011 - to date

Languages

Arabic (Reading), Chinese (Mandarine), English, Punjabi, Urdu.

Hobbies

Badminton, Cricket, Horticulture and Landscaping, Photography.

References

1. Name: Prof. Dr. Kun-Fang Cao

Designation: Professor and Group Head

Organization: Guangxi University, Nanning, China

E-mail: kunfangcao@gxu.edu.cn

2. Name: Prof. Dr. Chen Ya-Jun

Designation: Professor, Plant Ecophysiology Group

Organization: Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences

E-mail: chenyj@xtbg.org.cn

3. Name: Prof. Dr. Amin U Khan

Distinguished Professor

Department of Botany

Government College University Lahore, Pakistan

E-mail: akeco@yahoo.com

Date: November 2025