

Career Summary

I am a molecular ecologist with background in population genetics, phylogenetics, speciation, biodiversity and conservation. I began my career as a plant systematist & taxonomist and moved into molecular ecology, mainly working on speciation, biodiversity and conservation utilizing tools from next generation phylogenetics, and population genetics combined with ecological niche modelling. My research integrates knowledge of genetic diversity into conservation strategies. Previous research projects include accessing hybridization and introgression in some *Melocactus* species from eastern Brazil to see their effects on conservation by using ddRAD-seq protocol, population genetic structure in an microendemic and threatened cactus species from eastern Brazil, taxonomic challenges posed by a naturally fragmented system in microendemic cactus species, and molecular phylogenetics and comparative Phylogeography of *Spiroides* (Rosaceae) found on the Qinghai-Tibetan Plateau. I am committed to research about next generation biogeography, population genetics, evolution, and Phylogenomics to contribute towards conservation issues.

Research interests

High Priority and Microendemic species; Determinants of genetic diversity; Genetic Conservation; Next generation population genomics; Gene Flow; Landscape genomics.

Key specialist training

Involved in ddRAD libraries preparation for next generation DNA sequencing through Illumina platform using different protocols.

Involved that how to simulate the fragments which we could get using different restriction enzymes with the information of genome size and GC contents in non-model species without a reference genome.

Involved to use pyRAD, ipyRAD and STACKS pipelines.

Involved in genotyping of chloroplast, nuclear, SSR markers, and transcriptome analysis.

Involved to use Ecological Niche Modelling with different algorithms to know the distributions of taxa at different climatic oscillations by using different ecological variables.

Involved in field works at Qinghai Tibetan Plateau PR China, in Caatinga, Cerrado and Mata Atlantica in Brazilian Plateau, and tropical flora of Peshawar, Tribal areas of Pakistan, Northern, Temperate and Himalaya Regions of Pakistan.

Teaching Training and Interests

I have degree in Bachelor of Education where studied to teach the students with different individual differences, studied Education Psychology, Curriculum Development and Student Evolution at degree level. Having teaching experience of lecturer of Biological science and Botany at graduate and post graduate levels, subject specialist in Biology at undergrad level, teaching assistant, instructure, and guest lecturer. These teaching roles, coupled with my undergraduate, graduate, and Post-doctoral experiences have equipped me with good teaching skills. My teaching philosophy is to foster an environment which can promotes: (1) Enthusiasm, (2) Long-lasting learning, (3) Connection to the real world, and (4) Confidence building. I have great enthusiasm for biological science and I look forward to teaching both courses in Biological sciences and develop others.

Current and previous positions (selected)

Research Associate, AG Biodiversität und Evolution der Pflanzen, The Carl von Ossietzky University of Oldenburg, 26129, Germany (still working)

RA to Prof. Dr. Dirk C. Alback. Working on "Patterns of integration in *Veronica spicata*".

Research Assistant, Biosystematics and Taxonomy Lab, Department of Botany, University of Peshawar, Peshawar, Pakistan (July, 2018-December, 2018)

RA to Prof. Dr. Siraj ud Din. Involved to establish Sin-Pakistan Biodiversity research Centre at University of Peshawar. In this program we also made combine visit to Northwest Institute of Plateau Biology, University of Chinese Academy of Sciences for a month. This was a volunteer work without any payment.

Postdoctoral Research Assistant, Laboratory of Genetics and Evolution, Department of Biology, Federal University of Sao Carlos, Campus Sorocaba, Sao Paulo, Brazil (May, 2015-June, 2018)

PDRA to Prof. Dr. Evandro Marsola Moraes. Worked with hybridization and introgression in some species of genus *Melocactus* (Cactaceae) through Next Generation Sequencing Technology; genetic population structure in a microendemic and endangered species of genus *Pilosocereus* from eastern Brazil (Published); taxonomic challenges in the cactus *Pilosocereus jauruensis* posed by a naturally fragmented system.

Doctorate (Ph.D), Northwest Institute of plateau Biology, University of Chinese Academy of Sciences, Xining 810001, Qinghai, PR China (2011-2015)

To Prof. Dr. Chen Shilong. Worked with molecular phylogenetics and comparative phylogeography of the Genus *Spiraea* L. (Rosaceae): Found on the Qinghai-Tibetan Plateau.

Lecturer of Botany, for Higher Education and Archive, Peshawar, KP, Pakistan (Sep, 2009-Aug, 2011)

Involved to teach botany to grad and post grad students while general biology to grad students. Some other side works were include examination and evaluation of these students.

Master of Philosophy (M.Phil.), Faculty of Biological Sciences, Quid-I-Azam University, Islamabad, Pakistan (Sep, 2007-Aug, 2009)

To Prof. Dr. Mir Ajab Khan. Worked on morphological, anatomical and palynological study of the flora of Peshawar, KP, Pakistan.

Education

2011-2015 Ph.D. Biological Sciences, Northwest Institute of plateau Biology; University of Chinese Academy of Sciences. Advisor: Prof. Dr. Chen Shilong.

Dissertation Title: Molecular Phylogenetics and Comparative Phylogeography of the Genus *Spiraea* L. (Rosaceae): Found on the Qinghai-Tibetan Plateau.

2007-2009 Master of Philosophy. (18 years education) Plant Sciences, Department of Plant Sciences, Faculty of Biological Sciences, Quaid-I-Azam University Islamabad, Pakistan. Advisor: Prof. Dr. Mir Ajab Khan.

Dissertation Title: Morphological, anatomical and Palynological study of the flora of Peshawar, KP, Pakistan.

2004-2006 Master of Science in Botany, Department of Botany, University of Peshawar, Pakistan.

Conference Presentations & Lectures (selected)

2018 “Ecological Niche Modelling in R” at northwest institute of Plateau Biology, UCAS, China.

2018 “Maintaining genetic integrity with high promiscuity: Frequent hybridization with low introgression in multiple hybrid zones of *Melocactus* (Cactaceae)” at northwest institute of Plateau Biology, UCAS, China.

2018 “Biomass and sustainability” Federal University of Sao Carlos, SP, Brazil.

2017 “Researcher Connect–How to collaborate, write proposals, Reports and Manuscript writing”. British Council-FAPESP, Brazil.

2016 “Genetic and Evolution” Department of Biology, UFSCAR, Sorocaba, SP, Brazil.

2016 “II Congresso de Ciência e Tecnologia Florestal e Ambiental” UFSCAR, Sorocaba, SP, Brazil.

2016 “Network for Neotropical Biogeography (NNB5)” NNB5 in Santiago, Chile.

2016 “2nd International Symposium on “Biodiversity of Pakistan; Prospects and Associated Issues” University of Peshawar, Pakistan.

2016 “15th National Congress and the 80th Anniversary symposium” Botanical Society of PR China.

2014 “Workshop about how to write scientific article” NWIPB, UCAS, Xining, Qinghai, PR China.

2013 “Next generation sequencing Technologies” NWIPB, UCAS, Xining, Qinghai, PR China.

2014 “Thematic workshop on biotechnology and economic developments” COMSTECH, Islamabad, Pakistan.

2012 “Thematic workshop on plants Biology and economic developments” COMSTECH, Islamabad, Pakistan.

Publications

1. Zhang Y, Mingze X, [Gulzar Khan](#), Jingya Y, Shilong C, Faqi Z. 2019. The complete chloroplast genome of *Comastoma falcatum* (Gentianaceae). Mitochondrial DNA Part B. <https://www.tandfonline.com/doi/full/10.1080/23802359.2019.1581110>. IF: 0.488
2. [Gulzar Khan](#), Paulianny MR, Isabel ASB, Manolo FP, Fernando FF, Evandro M.M. 2018. Weak population structure and no genetic erosion in *Pilosocereus aureispinus*: a microendemic and threatened cactus species from eastern Brazil. PLoS ONE. <https://doi.org/10.1371/journal.pone.0195475>. IF: 2.766
3. [Gulzar Khan](#), Faqi Zhang, Gao Qingbo, Pengcheng Fu, Zhang Yu, Chen Shilong. 2018. Spiroides reaction to Pliocene and Pleistocene climatic oscillation: Comparative phylogeography of *Spiraea alpina* and *Spiraea mongolica* (Rosaceae) in Qinghai–Tibetan Plateau and adjacent areas. Molecular Phylogenetics and Evolution. <https://doi.org/10.1016/j.ympev.2018.02.009>. IF: 4.018
4. [Gulzar Khan](#), Zhang FQ, Gao QB, Fu PC, Yu Z, Chen SL. 2018. Integrated dataset for multilocus phylogeography and palaeodistributional reconstruction of *Spiraea alpina* and *S. mongolica* (Rosaceae) distributed at Qinghai–Tibetan Plateau. (Accepted in Data in Brief).
5. Perez MF, Franco FF, Bombonato JR, Bonatelli IAS, [Khan Gulzar](#), Romeiro–Brito M, Fegies AC, Ribeiro PM, Silva GAR, Moraes EM. 2018. Assessing population structure in the face of isolation by distance: Are we neglecting the problem?. Diversity and Distributions. <https://onlinelibrary.wiley.com/doi/pdf/10.1111/ddi.12816>. IF: 4.830
6. Hairui Liu, Qingbo Gao, Faqi Zhang, [Gulzar Khan](#), Shilong Chen. 2018. Westwards and Northwards dispersal of *Triosteum himalayanum* (Caprifoliaceae) from the Hengduan mountains region based on chloroplast DNA phylogeography. PeerJ. <https://peerj.com/articles/4748.pdf>. IF: 2.188
7. Mingze Xia, Faqi Zhang, Tian Zunzhe, [Khan Gulzar](#), Yu Zhang, Shilong Chen. 2018. Deep intraspecific divergence in *Lancea tibetica* (Mazaceae) distributed over the Qinghai-Tibetan Plateau. Frontier in Genetics. <https://www.frontiersin.org/articles/10.3389/fgene.2018.00492/full> IF: 4.151
8. Xia M, Zhang F, Hua R, Chi XF, [Gulzar Khan](#), Yu Z, Yu J, Chen SL. 2018. Complete chloroplast genome sequencing of *Parnassia* spp. (Celastraceae) and comparative analysis with related species. Mitochondrial DNA Part B. <https://doi.org/10.1080/23802359.2018.1524725>. IF: 0.488
9. [Gulzar Khan](#), Mariana O. Godoy, Nigel P. Taylor, Daniela C. Zappi, Marlon C. Machado, Evandro M. Moraes. 2017. Extreme population subdivision or cryptic speciation in the cactus *Pilosocereus jauaruensis*? A taxonomic challenge posed by a naturally fragmented system. Systematics and Biodiversity. <http://dx.doi.org/10.1080/14772000.2017.1359215>. IF: 2.215
10. [Gulzar Khan](#), Faqi Zhang, Qingbo Gao, Pegcheng Fu, Rui Xing, Jiuli Wang, Hairui Liu, Shilong Chen. (2016). Phylogenetic reconstruction between the old and new world Spiroides inferred from plastid trnL–F and nrDNA ITS sequences. Pakistan Journal of Botany. 48(6): 2399–2407. IF: 0.69
11. Wu XP, Liu D, [Gulzar K](#), Shen YF, Wang HQ. 2016. Population genetic structure and demographic history of *Medicago ruthenica* (Fabaceae) on the Qinghai–Tibetan Plateau based on nuclear ITS and chloroplast markers. Biochemical Systematics and Ecology. <http://dx.doi.org/10.1016/j.bse.2016.10.005>. IF: 0.931
12. Pengcheng Fu, Qingbo Gao, Faqi Zhang, Rui Xing, [Gulzar Khan](#), Jiuli Wang, Hai–Rui Liu, Shi–Long Chen (2016). Responses of plants to changes in Qinghai–Tibetan Plateau and glaciations: Evidence from phylogeography of a *Sibiraea* (Rosaceae) complex. Biochemical Systematics and Ecology. <http://dx.doi.org/10.1016/j.bse.2016.01.006>. IF: 0.931

13. [Gulzar Khan](#), Faqi Zhang, Qingbo Gao, Pengcheng Fu, Rui Xing, Jiuli Wang, Hairui Liu, Shi-Long CHEN. 2015. Phylogenetic analysis of Genus *Spiraea* (Rosaceae) distributed in the Qinghai-Tibetan Plateau and adjacent regions: insights from molecular data. *Plant Systematics and Evolution*. <https://link.springer.com/article/10.1007/s00606-015-1238-6>. IF: 1.154
14. Faqi Zhang, Yinhu Li, Qingbo Gao, Shuyun Lei, [Gulzar Khan](#), Huiling Yang, and Shilong Chen. 2015. Development and Characterization of Polymorphic Microsatellite Loci for *Saxifraga egregia* (Saxifragaceae). *APPS*. <http://www.bioone.org/doi/full/10.3732/apps.1500037>. IF: 1.187
15. FQ Zhang, SY Lei, QB Gao, [Gulzar Khan](#), R Xing, HL Yang and SL Chen. 2015. Isolation of microsatellite loci for *Rhodiola alsia* (Crassulaceae), an important ethno-medicinal herb endemic to the Qinghai-Tibetan plateau. *GMR*. <https://www.ncbi.nlm.nih.gov/pubmed/26125721>. IF: 0.765
16. Faqi Zhang, Qingbo Gao, [Gulzar Khan](#), Luo Keming, Shilong Chen. 2014. Comparative transcriptome analysis of aboveground and underground tissues of *Rhodiola algida*, an important ethno-medicinal herb endemic to the Qinghai-Tibetan Plateau. *Gene*. <http://dx.doi.org/10.1016/j.gene.2014.09.063>. IF: 2.319
17. [Gulzar Khan](#), Faqi Zhang, Qingbo Gao, Pengcheng Fu, Rui Xing, Jiuli Wang, Hairui Liu, Shilong Chen. 2014. Molecular Phylogeography and Intraspecific Divergence of *Spiraea alpina* (Rosaceae) distributed in the Qinghai-Tibetan Plateau and adjacent regions inferred from nrDNA. *Biochemical Systematic and Ecology*. <http://dx.doi.org/10.1016/j.bse.2014.08.013>. IF: 0.931
18. [Gulzar Khan](#), Zhang F, Gao Q, Jiao X, Fu P, et al. 2014. Isolation of 16 Microsatellite Markers for *Spiraea alpina* and *S. mongolica* (ROSACEAE) of the Qinghai-Tibet Plateau. *Applications in Plant Sciences*. <http://www.bioone.org/doi/full/10.3732/apps.1300059>. IF: 1.187
19. Rui Xing, Qingbo Gao, Fa-qi Zhang, Yin-Hu Li, Peng-cheng Fu, Jinhua Zhang, Jiu-li Wang, [Gulzar Khan](#), Shi-long Chen. 2014. Genetic diversity and population structure of *Armillaria luteo-virens* (Physalacriaceae) in Qinghai-Tibet plateau revealed by SSR markers: *Biochemical Systematics and Ecology*. <http://dx.doi.org/10.1016/j.bse.2014.04.006>. IF: 0.931
20. Fu Pengcheng, Gao Qingbo, Zhang Faqi, Li Yinhu, Xing Rui, [Khan Gulzar](#), Zhang Jinhua, Wang Jiuli, Chen Shilong. 2013. Isolation of microsatellite markers for a Qinghai-Tibetan Plateau bush species, *Sibiraea angustata* (Rosaceae): Permanent Genetic Resources added to Molecular Ecology Resources Database 1 December 2012-31 January 2013. *Molecular Ecology Resources*. doi: 10.1111/1755-0998.12095. IF: 7.059
21. Zhang Jinhua, [Gulzar Khan](#), Fu Pengcheng, Lei Shuyun, Chen Shilong, Zhang Faqi. 2013. Isolation and screening of molecular genetic marker SSR in *Spiraea* based on magnetic beads enriched. *Journal of Biology* 31(3): 79-87. (Chinese Journal).
22. Zhang Faqi, Gao Qingbo, Zhang Dejun, Duan Yizhong, Li Yinhu, Fu Pengcheng, Xing Rui, [Gulzar Khan](#), Chen Shilong. 2012. Phylogeography of *Spiraea alpina* (Rosaceae) on the Qinghai-Tibetan plateau inferred from the chloroplast DNA. *Journal of Systematics and Evolution*. <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1759-6831.2012.00194.x>. IF: 3.657
23. Gao Qingbo, Zhang Faqi, Fu PengCheng, Xing Rui, Li Yinhu, [Gulzar Khan](#), Zhang Jinhua, Chen Shilong. 2013. Seed Coat Micromorphology of Five Species from *Allium* in Qinghai Province. *Plant Diversity and Resources*. 35(3): 285-289. (Chinese Journal).
24. Zhang Faqi, Fu Pengcheng, Gao Qingbo, Li Yinhu, [Gulzar Khan](#), Chen Shilong. 2013. Comparative Study on Plant Seed Morphological Characteristics of Zygophyllaceae and Two New Families Separated from It. *Plant Diversity and Resources*. <http://journal.kib.ac.cn/EN/abstract/abstract3149.shtml>. (Chinese Journal).

25. [Gulzar Khan](#), Faqi Zhang, Qingbo Gao, ZiaurRehman Mashwani, Khalid Rehman, Mir Ajab Khan, Shilong Chen. 2013. Trichomes diversity in the tropical flora of Pakistan. Journal of Medicinal Plants Research. https://academicjournals.org/article/article1380792908_Khan%20et%20al.pdf. ISI
26. Wang Jiuli, Gao Qingbo, Fu Pengcheng, [Gulzar Khan](#), Chen Shilong, Zhang Faqi. 2014. Phylogeography of *Spiraea mongolica* (Rosaceae) on the Qinghai–Tibetan Plateau and Adjacent Highlands. Acta Bot. Boreal. Occident. Sin. [Doi: 10.7606/j.issn.1000–4025.2014.10.0001](#). (Chinese Journal).

Manuscripts Submitted

1. [Gulzar Khan](#), Fernando FF, Silva GAR, Juliana RB, Machado M, Alonso DP, Ribolla EM, Evandro MM. 2018. Maintaining genetic integrity with high promiscuity: Hybridization with low introgression in multiple hybrid zones of Melon cactus (Cactaceae). (Under Review).
2. Fu PC, Sun SS, Dong XX, [Gulzar K](#), Tan JZ, Zhang FQ, Chen SL. 2019. Hybridization in refugium: Similar demography history resulted in hybridization between two congeneric *Gentiana* species at the Qinghai-Tibetan Plateau, with the dealing of a synonym. (Under Review in group)

Awards (selected)

- 2018 selected as foreign field work expert, NWIPB, UCAS, PR China
- 2017 selected as foreign field work expert, NWIPB, UCAS, PR China
- 2016 selected as foreign field work expert, NWIPB, UCAS, PR China
- 2016 Selected as a young promising Scientist from the Developing World by Academy of Sciences for the Developing World (TWAS), to participate in TWAS/Bio Vision Alexandria. NXT 2014 and BioVisionAlexandria, Alexandria, Egypt.
- 2016 Selected for 14th CAS–TWAS–WMO FORUM Data Assimilation Summer School Coupled Data Assimilation Symposium, Foreign Expert Building, Beijing, China.
- 2015 Awarded FAPESP fellowship for Post Doctorate, UFSCar, Sorocaba, Sao Paulo, Brazil.
- 2014 Selected as a young promising Scientist from the Developing World, (TWAS), to participate in TWAS/Bio Vision Alexandria. NXT 2014 and BioVisionAlexandria, Alexandria, Egypt.
- 2014 Selected for BIOVISION in Lyon France by TWAS, to participate to the BIOVISION.Next, Lyon France.
- 2011 Award of University of Chinese Academy of Sciences for Doctorate Studies.

Personal Information

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References:

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