DR. MUHAMMAD QASIM

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EDUCATION

• **Postdoc (2018- 2019)**
Supported by *Talented Young Scientist Program (TYSP), CSTEC*, China,
Zhejiang Sci-Tech University, Hangzhou, China.

• **Ph.D. in Botany (2015)**
Adviser: Prof. Dr. M. Ajmal Khan
Institute of Sustainable Halophyte Utilization, University of Karachi, Pakistan

• **M.Sc. (2006)**
Department of Botany, University of Karachi, Karachi, Pakistan **(Stands 3rd)**

• **B.Sc. Hons. (2005)**
Department of Botany, University of Karachi, Karachi, Pakistan

EXTRA QUALIFICATION

- **2013:** Graduate Assessment Test (GAT) Subject (92 percentile)
- **2007:** Graduate Assessment Test (GAT) General (97 percentile)
- MS Office, SPSS, Sigma Plot, Sigma Stat, and other statistical software

RESEARCH INTEREST

My research interests center around understanding the stress tolerance mechanisms of halophytes and developing innovative strategies to strengthen crop resilience in the face of changing climate conditions. I am particularly fascinated by the role of secondary metabolites in these responses, and their potential for sustainable and industrial applications. My work integrates plant physiology, biochemistry, molecular biology, and secondary metabolism to explore how these plants can be utilized on marginal lands to produce food and bioactive compounds. This holistic approach aims to integrate plant stress tolerance with practical, eco-friendly applications in agriculture and industry, contributing to the development of resilient crops and novel bioactive compounds for various sectors. This interdisciplinary approach aims to bridge the gap between fundamental plant science and applied industrial innovation, creating pathways for the sustainable use of plant resources.

ACADEMIC AWARDS AND HONORS

- **2022:** Certificate of appreciation for winning competitive research grant (NRPU) from HEC by Vice Chancellor, University of Karachi at MAK-ISHU.
- **2020:** HEC approved PhD supervisor by Higher Education Commission of Pakistan.

- **2018:** Awarded Postdoctoral Research Fellowship by Talented Young Scientist Program, P.R. China.
- **2017:** Ranked among the Productive Scientists of Pakistan by Pakistan Council of Science and Technology, Islamabad.
- **2017:** Ranked among the Young Scientists of Pakistan by Pakistan Council of Science and Technology, Islamabad.
- **2016:** First Prize in poster competition: International Conference on major Environmental Constraints to Plants: Assessments & Reclamation, held on March 28-30, 2016 at Department of Botany, Government College University, Faisalabad, Pakistan.
- **2011:** Received a scholarship (split Ph.D.) from Higher Education Commission through "International linkage between University of Karachi, Pakistan and University of Tsukuba, Japan for completion of Ph.D. research work.
- **2007:** Indigenous Ph.D. scholarship from Higher Education Commission, Islamabad, Pakistan.
- **2006:** Stands 3rd in M. Sc., Department of Botany, University of Karachi.

INSTRUMENTATION

GC-MS, HPLC, Atomic absorption spectrometer, Elementar (CHNS) analyzer, Ion chromatography, Flame photometry, Electrophoresis, PCR, LICOR X-600, PAM Chlorophyll fluorescence, ELISA, microscopy, etc.

RESEARCH GRANTS/ PROJECTS

- **2022 (ongoing):** Medicinal potential of antioxidant rich halophytes for epilepsy, cognitive impairment, and oxidative stress management, funded by Higher Education Commission (HEC) of Pakistan (PI).
- **2022 (completed):** Differential Effects of Seasonal and Phenological Variations on Phytochemical Composition and Antioxidant Activity of Medicinal Halophytes, funded by Dean Research Grant, University of Karachi (PI).
- **2022 (ongoing):** Bio-fertilizer production through Advanced anaerobic digestion of organic waste for Biosaline agriculture on marginal lands funded by Higher Education Commission (HEC) of Pakistan (academic collaborator).
- **2022 (ongoing):** Improving Salinity Tolerance of Rice using Endophytes from its wild Halophytic Relative *Oriza coarctata*: Physiological and Molecular Mechanism of Action" funded by Higher Education Commission (HEC) of Pakistan (academic collaborator).
- **2020-21:** Salt induced enhancement of bioactive compounds in medicinal halophytes: a source of high value natural antioxidants from saline resources. Funding Agency International Foundation for Science (IFS), Sweden. (PI)
- **2018-19 (completed):** Anti-angiogenesis inhibits the growth and metastasis of breast cancer and its targeted inhibitors, funded by National Natural Science Foundation of China (NSFC) (Co-PI).
- **2016-17 (completed):** Synthesis, spectroscopic characterization, and pharmacological evaluation of thioureides and their metal complexes. Funded by Higher Education Commission (HEC) of Pakistan (Co-PI).

MEMBERSHIP OF SOCIETIES/ COUNCILS/ COMMITTEES

- **2022:** First master trainer/ super user ERP program, University of Karachi, Pakistan.
- **2019:** Landscape and Gardening Council, University of Karachi, Pakistan
- **2019:** TYSP Post-Doc Society, China
- **2019:** Post-Doc Society, Zhejhing Sci-Tech, University, Hangzhou, China
- **2017-2018:** Students Presentation Committie, University of Karachi, Pakistan
- **2015:** Departmental Research Committie, ISHU, University of Karachi, Pakistan
- **2015:** International Society of Biology and Biochemistry
- **2013:** Karachi University Alumni Association
- **2012:** Weed Science Society of Japan
- **2011:** Pakistan Botanical Society
- **2010:** International Society for Halophyte Utilization (ISHU)

REVIEWER OF MANUSCRIPTS

Science of the Total Environment, Food Chemistry, Journal of Food and Drug Analysis, British Food Journal, RCS Advances- Royal Society of Chemistry, Frontiers in Plant Science, Molecules, Chemistry Select, Environment, Development and Sustainability, Food Chemistry, Current Nutrition & Food Science, Pharmacognocy Magazine, Journal of Cereal Science, Journal of Coastal Life Medicine, Oxidative Medicine and Cellular Longevity, Agronomy Research Journal, South African Journal of Botany, Biofuels, International Journal of Food Science, LWT- Food Science and Technology, Current Traditional Medicine, Complementary Therapies in Clinical Practice, Journal of Food Composition and Analysis, Recent Patents on Food, Nutrition & Agriculture, Processes, Journal of Herbal Medicine, Heliyon, Pakistan Journal of Pharmaceutical Sciences, Pakistan Journal of Botany, Journal of the Chemical Society of Pakistan, Journal of the Pakistan Medical Association.

TEACHING EXPERIENCE

- **2013-Present:** Teaching Biology of Stress Tolerant Plants, Agronomy of Halophytes, Ecology of Saline Habitats, Traditional Medicinal Plants, Phytochemistry, and Chromatography, at Institute of Sustainable Halophyte Utilization, University of Karachi, Karachi-75270, Pakistan.
- **2018-2019:** Taught Biotechnology and Saline Agriculture at College of Life Science and Medicine, Zhejiang Sci-Tech University, Hangzhou, China.
- **2011-2012:** Taught Functional Botany and Utilization of Plants and Natural Products at Tokyo University of Agriculture and Technology, Tokyo, Japan.

RESEARCH EXPERIENCE

International Work Experience

- **2018-2019: Post-Doc** at the College of Life Sciences and Medicine, Zhejhing Sci-Tech University, Hangzhou, China.
- **2011-2012:** ***Research Fellow*** Gene Research Center, Graduate School of Life and Environmental Sciences, University of Tsukuba, Tsukuba, Ibaraki, Japan.
- **2011-2012*: Visiting Researcher:*** at Tokyo University of Agriculture and Technology (TAT), International Environmental and Agricultural Sciences (IEAS), Fuchu Campus, Saiwai-cho, Fuchu, Tokyo, Japan.

Work Eperince as a Member of a Multidisciplinary Team in Pakistan

- **2022:** Working as an ***accademic collborator*** in an HEC approved NRPU research project "*Bio-fertilizer production through Advanced anaerobic digestion of organic waste for Biosaline agriculture on marginal lands"* with PI Dr. Muhammad Azeem from Department of Botany University of Karachi.
- **2022:** Working as an ***accademic collborator*** in an HEC approved NRPU research project "*Improving Salinity Tolerance of Rice using Endophytes from its wild Halophytic Relative* Oriza coarctata*: Physiological and Molecular Mechanism of Action*" with PI Dr. Naeem Ahmed from Department of Botany University of Karachi.
- **2022:** Working as an ***accademic collborator*** in an HEC approved NRPU research project "*Bio-fertilizer production through Advanced anaerobic digestion of organic waste for Biosaline agriculture on marginal lands*" with PI Dr. Zainul Abideen from Institute of Sustainable Halophyte Utilization, University of Karachi.
- **2019-2020:** ***Field Expert*** Cultivation of Halophytes at Urban Forest Project, Clifton, Karachi, Pakistan.
- **2016-2017:** ***Field Expert*** Biosaline Agriculture of a Potential Fodder Crop at Thar Desert, Sindh, in collaboration with Sindh Engro Coal Mining Company.
- **2016-2017:** ***Field Expert*** Domesticating Various Halophyte to Serve as a Source of Fodder, Forage, Biofuel, Oilseeds, and Medicinal Plants, in collboration with Iqra University, Karachi.
- **2015-2017:** Worked in HEC Approved Project entitled Assessing and Improving Bioethanol Production Potential of Selected Halophytes at Institute of Sustainable Halophyte Utilization (ISHU), University of Karachi, Karachi, Pakistan.
- **2012-2014:** Worked in Faculty of Science Project entitled Effect of Humic Acid on Seed Germination and Seedling Growth of Halophytes at Institute of Sustainable Halophyte Utilization (ISHU), University of Karachi, Karachi, Pakistan.
- **2007-2009:** Worked in HEC approved project entitled Domectication of Halophytic Grasses: A Sustainable Feed Alternative for Cattle in Saline Areas at Institute of Sustainable Halophyte Utilization (ISHU), University of Karachi, Karachi, Pakistan.
- **2006-2009:** Worked in HEC Approved Project entitled Exploiting the Potential of Halophytes as Source of Edible Oil at Institute of Sustainable Halophyte Utilization (ISHU), University of Karachi, Karachi, Pakistan.
- **2006-2008:** Worked in HEC Approved Project entitled "Small scale resource heterogeneity among halophytes in some coastal communities of Pakistan at Institute of Sustainable Halophyte Utilization (ISHU), University of Karachi, Karachi, Pakistan.

Other Research Exerience

- **2013-Present:** ***Research Officer*** **(BPS-18)** at Institute of Sustainable Halophyte Utilization (ISHU), University of Karachi, Karachi, Pakistan.
- **2008-2011:** ***Research Fellow*** Worked on Antioxidant Properties of Medicinal Halophyte Institute of Sustainable Halophyte Utilization (ISHU), University of Karachi, Karachi, Pakistan.
- **2005-2006:** ***Research Student*** Worked on Comparative effect of NaCl, Sea Salt and PEG on Germination of Coastal Halophytes (Master's Thesis) at Department of Botany, University of Karachi, Karachi, Pakistan.

STUDENTS SUPERVISED

M.Phil. 10 students and **Ph.D.** 02 students

SEMINARS / CONFERENCES / WORKSHOPS

- **2024:** Seminar on importance of Mangrove conservation, in commemoration of world mangroves day at Dr. Muhmmad Ajmal Khan Institute of Sustainable Halophyte Utilization, University of Karachi, Karachi, Pakistan, July 24, 2024 **(member organizing committee)**.
- **2024:** Winter internship program for research students at Dr. Muhmmad Ajmal Khan Institute of Sustainable Halophyte Utilization, University of Karachi, Karachi, Pakistan, January-February 2024 **(resource person and member organizing committee)**.
- **2023:** Summer internship program for research students at Dr. Muhmmad Ajmal Khan Institute of Sustainable Halophyte Utilization, University of Karachi, Karachi, Pakistan, July- August 2023 **(resource person and member organizing committee)**.
- **2023:** International Conference on Saline Resource Management in the Context of Global Climate Changes jointly organized by Dr. Muhmmad Ajmal Khan Institute of Sustainable Halophyte Utilization, University of Karachi in collaboration with Salim Habib University, Karachi, Nuclear Institute of Agriculture, Tandojam and Sindh Higher Education Commission, Pakistan, February 23-25, 2023 **(member organizing committee and first prize in poster competition).**
- **2023:** Fall internship program for research students at Dr. Muhmmad Ajmal Khan Institute of Sustainable Halophyte Utilization, University of Karachi, Karachi, Pakistan, January 09-27, 2023 **(member organizing committee)**.
- **2022:** Summer internship program for research students at Dr. Muhmmad Ajmal Khan Institute of Sustainable Halophyte Utilization, University of Karachi, Karachi, Pakistan, July 04-15, 2022 **(member organizing committee)**.
- **2022:** 7th International Conference on Climate Smart Agriculture Innovation and Adaptation" at University of Poonch Rawalakot, Azad Jammu Kashmir, Pakistan, June 15-17, 2022 **(poster presentation).**
- **2022:** Seminar on teacher's awareness on HEC E-Portal, HEC approved supervisor and postdoctoral research at Department of Botany, University of Karachi, Karachi, Pakistan. March 24, 2022.
- **2022:** 16th foundation day of Dr. Muhmmad Ajmal Khan Institute of Sustainable Halophyte Utilization, University of Karachi, Karachi, Pakistan. January 24, 2022 **(member organizing committee)**.
- **2021:** First China-Pakistan non-wood forest science and technology exchange activity at Gwadar Port, Balochistan, Pakistan. October 26-27, 2022.
- **2021:** International virtual conference on ecophysiology and sustainable use of cash crop halophytes at Dr. Muhmmad Ajmal Khan Institute of Sustainable halophyte Utilization, University of Karachi, Karachi, Pakistan. April 06-08, 2021 **(member organizing committee)**.

PUBLICATIONS IN INTERNATIONAL IMPFACT FACTOR JOURNALS

Total Impact Factor = ~100 (JCR, Thomson Reuters)

	Google Scholar	**ResearchGate**
Citations	1645	1617
h-index	22	23
i10-index	26	

1. Abbasi MW, Sidra, Tariq M., Azeem M, Raza M., Ahmed N, **Qasim M***, Mahmood A, Qari SH, Altihani FA, Hashem M. 2025. Catechol-Induced Modulation of Secondary Metabolites Enhances Resistance to Fusarium Rot in Mung Bean: Implications for Biostimulant-Based Sustainable Agriculture. BMC Plant Biology. (Accepted Manuscript).
2. Noor S, Tariq M, Abbasi MW, Alfagham AT, ALOtaibi WS, Zhang X, Azeem M, Ahmed N, Siddiqui MH, **Qasim M***. 2025. Coumarin Application Modulates Antioxidant Defense to Enhance Resistance against Fusarium in Mung Bean. Scientific Reports. Accepted Manuscript.
3. Chan MWH, Ibrahim M, **Qasim M**, Siddiqui MH, Alamri S, Siddiqui PJA, Gulzar S, Azeem M, Handlovic TT, Wahab MF, Alfagham AT, Rasheed M. 2025. Pollution Indices of Brackish Water and Sediments of Major Mangrove Sites Along Arabian Sea Coast of Pakistan. Scientific Reports. 15: 31026. doi.org/10.1038/s41598-025-01712-w.
4. Abbasi, MW., Hussain, N., Tariq, M., **Qasim, M.,** Wei, Q., Guo, J., Yang, S., Dong, R., Abideen, Z., El-Sheikh, M.A. 2024. Combination of biogas residues and Bacillus interactions stimulates crop production and salinity tolerance in *Sorghum bicolor*. Scientifica. 2024, 2123395. doi.org/10.1155/sci5/2123395.
5. Ajaib, M., Kamran, S.H., Siddiqui, M.F., **Qasim, M.,** Azeem, M., Abideen, Z., Elnaggar, A. and El-Keblawy, A., 2024. Exploring the phytochemical, antioxidant, antimicrobial and analgesic potentials of *Solanum erianthum* as an alternative biological feedstock for producing sustainable biochemicals. Biocatalysis and Agricultural Biotechnology, 58, 103183. doi.org/10.1016/j.bcab.2024.103183.
6. Mushtaq, S., Hanif, U., Shah, M.A., Mazhar, N., Chauhdary, Z., **Qasim, M.,** Muneeb, M., Chaudhary, M., Dar, M. 2023. Neuroprotective evaluation of *Marsilea quadrifolia* L. and *Salvinia molesta* D.S Mitchel in aluminium chloride induced Alzheimer disease. Notulae Botanicae Horti Agrobotanici Cluj-Napoca 51, 3, 13228. doi:10.15835/nbha51313228.
7. Azeem, M., Pirjan, K., **Qasim, M.,** Muhammad, H., Shah, M.A., Mahmood, A., Yang, S., Dong, R. 2023. Salinity stress improves antioxidant potential by modulating physio-biochemical responses in *Moringa oleifera* Lam. Scientific Reports, 13(1), 1-17
8. Azeem, M., Sultana, R., Mahmood, A., **Qasim, M.,** Siddiqui, Z.S., Mumtaz, S., Javaid, T., Umara, Adnan, M.Y., Sadeeqi, M.H. 2023. Ascorbic and Salicylic Acids Vitalized Growth, Biochemical Responses, Antioxidant Enzymes, Photosynthetic Efficiency, and Ionic Regulation to Alleviate Salinity Stress in *Sorghum bicolor*. Journal of Plant Growth Regulation. 42, 5266–5279. doi.org/10.1007/s00344-023-10907-2
9. Rahman, K. U., Shah, G. M., Shah, M. A., Fiaz, M., Ahmad, M., Sajid, M., **Qasim, M.,** Mariyam Shahid, Abbasi, S. 2022. Antimicrobial, cytotoxic and phytochemical analysis of *Otostegia limbate* leaves ethanolic extract against oral pathogens. Journal of Xi'an Shiyou University, Natural Science Edition. 18 (12), 76-94.
10. Sultana, R., Wang, X., Azeem, M., Hussain, T., Mahmood, A., Fiaz, S., **Qasim, M.** 2022. Coumarin-Mediated Growth Regulations, Antioxidant Enzyme Activities, and Photosynthetic Efficiency of Sorghum bicolor Under Saline Conditions. Frontiers in Plant Science doi: 10.3389/fpls.2022.799404
11. Zhu, F., Li, J., Azeem, M., Qu, W., **Qasim, M.** Yang, S. 2022. Biogas slurry application improves yield and quality of Chinese Cabbage by augmenting soil

fertility, nutrient status, and microbial activity. Applied Ecology and Environmental Research, 20(6):4985-4997

12. Bano, S., Zhmed, M.Z., **Qasim, M.,** Abideen, Z., Gul, B., Khan, M.A. 2022. Humic acid improves growth and physiological responses of *Urochondra setulosa* (Trin.) C.E. Hubbard under saline conditions using hydroponic culture. Acta Physiologiae Plantarum, 44:39 doi.org/10.1007/s11738-022-03374-x
13. Saleem, U., Bibi, S., Shah, M.A., Ahmad, B., Saleem, A., Chauhdary, Z., Anwar, F., Javaid, N., Hira, S., Akhtar, M.F., Shah, G.M., Khan, M.S., Muhammad, H., **Qasim, M.,** Alqarni, M., Algarni, M.A., Blundell, R., Vargas-De-La-Cruz1, C., Herrera-Calderon, O. (2021). Anti-Parkinson's evaluation of *Brassica juncea* leaf extract and underlying mechanism of its phytochemicals. Frontiers in Biosciences-Landmark. 26 (11) 1031-1051
14. Jamshed, H., Arslan, J., Sultan, F.A.T., Siddiqi, H.S., **Qasim, M.,** and Gilani, A.H. 2020. Almonds Protect Liver Functions in Coronary Artery Disease- A Randomized Controlled Clinical Trail. Journal of the Pakistan Medical Association, doi.org/10.47391/JPMA.198
15. Azeem, M., Shoujun, Y. **Qasim, M.,** Abbasi, M.W., Ahmed, N., Hanif, T., Adnan, M., Ahmed, R., Dong, R. 2020. Foliar enrichment of potassium and boron overcomes salinity barriers to improve growth and yield potential of cotton (*Gossypium hirsutum* L.). Journal of Plant Nutrition, 44(3), 438–454
16. Muhammad, H., **Qasim, M.,** Ikram, A., H., Versiani, M.A., Tahiri, I.A., Gul, B. 2020. Antioxidant and Antimicrobial Activities of *Ixora coccinea* Root and Quantification of Phenolic Compounds using HPLC. South African Journal of Botany, Volume 135, 71-79
17. Asrar, H., Hussain, T., **Qasim, M.,** Gul, B., Khan, M.A. 2020. Salt induced modulations in antioxidative defense system of *Desmostachya bipinnata*. Plant Physiology and Biochemistry, 147;113–124
18. Ahmed, M., Adil, M., Haq, I.U., Tipu, M.K., **Qasim, M.,** Gul, B. RP-HPLC based phytochemical analysis and diverse pharmacological evaluation of *Quercus dilatata* Lindl. ex Royle nuts extracts. 2019. Natural Product Research, doi: 10.1080/14786419.2019.1667347
19. Wang, P., Gao, X.Y., Yang, S. Sun, Z., Dian, L., **Qasim, M.,** Phyo, A.T., Liang, Z., Y Sun. 2019. Jatrorrhizine inhibits colorectal carcinoma proliferation and metastasis through Wnt/β-catenin signaling pathways and epithelial-mesenchymal transition (EMT). Drug Design, Development and Therapy, 2019: 13, 2235–2247
20. Jamshed, H., Arslan, J., Sultan, F.A.T., Siddiqi, H.S., **Qasim, M.** Gul, B., and Gilani, A.H. 2019. Studies on antioxidant, hepatoprotective, and vasculoprotective potential of *Viola odorata* and *Wrightia tinctoria*. Phytotherapy Research, 33(9):2310-2318.
21. Muhammad H., Tahiri I.A., **Qasim M.,** Versiani M.A., Hanif M., Gul B., Ali S.T., Ahmed S. 2019. Electrochemical determination of antioxidant activity and HPLC profiling of some dry fruits. Monatshefte für Chemie/Chemical Monthly, 150: 7, 1195–1203
22. **Qasim, M.,** Y. Fujii, M.Z. Ahmed, I. Aziz, K.N. Watanabe and M.A. Khan. 2019. Phytotoxic analysis of coastal medicinal plants and quantification of phenolic compounds using HPLC. Plant Biosystems, 153 (6) 767-774
23. Azeem, M., **Qasim, M.,** Tayyab, Ahmed N., Abbasi, MW and Ahmad R. 2019. Salicylic acid priming modulates biochemical parameters to improve seedling growth in Wheat (*Triticum aestivum* L.) under salt stress condition. Pakistan Journal of Botany, 51(2), 385-391

24. Abideen, Z., **Qasim, M.,** Hussain, T., Rasheed, A., Gul, B., Koyro, HW., Ansari, R., and Khan, M.A. 2018. Salinity improves photosynthesis and ligno-cellulosic biomass in *Phragmites karka*. Crop and Pasture Science. 69(9) 944-953
25. Toqeer, S., **Qasim, M.,** Abideen, Z., Gul, B., Rasheed, M., Khan, M.A. 2018. Chemical composition and antioxidant activity of seeds from various halophytic grasses, Journal of the American Oil Chemists' Society, 95, 1285-2195
26. Yasmeen, A., **Qasim, M.,** Ahmed, A., Uddin, N., Ahmed, Z., Ali, M.S. and Rasheed, M. 2018. GC-MS and antioxidant studies on botanicals from *Sargassum wightii*: Natural product study revealing environmental contaminants. Journal of the Chemical Society of Pakistan. 40(1): 201-212
27. Zahra, S.S., Ahmed, M., **Qasim, M.,** Gul, B., Zia, M., Mirza B. and Haq, I.U. 2017. Polarity based characterization of biologically active extracts of *Ajuga bracteosa* Wall. ex Benth. and RP-HPLC analysis. BMC Complementary and Alternative Medicine, 17:443
28. Ahmed, M., Fatima, H., **Qasim, M.,** Gul, B., and Haq, I.U. 2017. Polarity directed optimization of phytochemical and in vitro biological potential of an indigenous folklore: *Quercus dilatata* Lindl. ex Royle. BMC Complementary and Alternative Medicine, 17:386
29. **Qasim, M.,** Z. Abideen, M.Y. Adnan, S. Gulzar, B. Gul, M. Rasheed, and M.A. Khan. 2017. Antioxidant properties, phenolic composition, bioactive compounds and nutritive value of medicinal halophytes commonly used as herbal teas. South African Journal of Botany, 110: 240-250
30. Tayyab, **Qasim, M.,** Azeem, M., Ahmed N. and Ahmad R. 2016. Salt stress responses of Pigeon pea (*Cajanus cajan*) on growth, yield and some biochemical attributes Pakistan Journal of Botany, 48(4): 1353-1360
31. **Qasim, M.,** I. Aziz, B. Gul and M.A. Khan. 2016. Effect of extraction solvents on polyphenols and antioxidant activity of medicinal halophytes. Pakistan Journal of Botany 48 (2): 621-627
32. Ehsen, S., **M. Qasim,** Z. Abideen, R.F. Rizvi, B. Gul, R. Ansari and M.A. Khan. 2016. Secondary metabolites as anti-nutritional factors in locally used halophytic forage/fodder. Pakistan Journal of Botany 48 (2): 629-636
33. Tayyab, **M. Qasim**, M. Azeem and R. Ahmad. 2016. Effect of sea salt on plant growth, yield potential and some biochemical attributes of *Carissa carandas* L. Pakistan Journal of Botany 48(3): 853-859
34. Abideen, Z., **M. Qasim,** R.F. Rizvi, R. Ansari, B. Gul and M.A. Khan. 2015. Oilseed halophytes: a potential source of biodiesel using saline degraded lands. Biofuels 6 (5-6), 241-248
35. Abideen, Z., **M. Qasim,** A. Rasheed and M.A. Khan. 2015. Salinity effects on polyphenolic content and antioxidant activities in halophyte *Phragmites karka* (Retz.) Trin. ex Steud. Pakistan Journal of Botany 47(3): 813-818
36. **Qasim, M.,** S. Gulzar, Z.K. Shinwari and M.A. Khan. 2010. Traditional ethnobotanical uses of halophytes From Hub, Balochistan. Pakistan Journal of Botany, 42 (3): 1543-1551

PUBLICATIONS IN LOCAL JOURNALS/ BOOKS

37. Fatima, N., Abideen, Z., **Qasim, M.,** Gul, B., and Khan, M.A. 2019. Salinity resistance is linked with antioxidant activity, pigmentation pattern and anatomical adjustments in *Phragmites karka* (Retz.) Trin. ex Steud. International Journal of Biology and Biotechnology. 16 (3): 631-639.

38. Nazir, S., **Qasim, M.,** Gul, B., Khan, M.A. 2018- Antioxidant properties and phenolic composition of coastal halophytes commonly used as medicine. International Journal of Biology and Biotechnology, 15 (3): 473-482, 2018.
39. **Qasim, M.,** Z. Abideen, M.Y. Adnan, R. Ansari, B. Gul and M.A. Khan. 2014. Traditional ethno-botany uses of medicinal plants from coastal areas of Pakistan. Journal of Coastal Life Medicine, 2 (1) 22-30.
40. **Qasim, M.,** M.Z. Ahmed, Y. Fujii, K.N. Watanabe and M.A. Khan. 2012. Phyto-toxic studies of medicinal plants from coastal areas of Pakistan. Journal of Weed Science and Technology, 57 (Sup) 84.
41. **Qasim, M.,** S. Gulzar and M.A. Khan. 2011. Halophytes as medicinal plants. In Urbanisation, Land Use, Land Degradation and Environment. Eds. Ozturk, M., Mermut, A.R., Celik, A. Daya Publishing House, India, 330-342pp.

COLLABORATORS

Yunfang Sun (China), Xiaojing Liu (China), Zong-Suo Liang (China), Muddasir Hanif (China), Brent L. Nielson (USA), Humaira Jamsheed (USA), Yoshiharu Fujii (Japan), Kazu N. Watanabe (Japan), Hans-Werner Koyro (Germany), S. Abdullah Gilani (Oman), M. Ajmal Khan (Pakistan), Anwar ul Hassan Gilani (Pakistan), Zabta Khan Shinwari (Pakistan), Bilquees Gul (Pakistan), Munawwer Rasheed (Pakistan).

REFERENCES

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  Dr. Muhammad Ajmal Khan Institute of Sustainable Halophyte Utilization,
  University of Karachi, Karachi, Pakistan
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  Tokyo University of Agriculture and Technology (TAT)
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