Dr. Muhammad Yahya Khan

Father's Name	Imam Bukhsh
Date of Birth	01-04-1988
CNIC No.	32303-0712261-9
Passport No.	YD4112622
Domicile	Muzaffargarh (Punjab)
Marital Status	Married
Nationality	Pakistani
Postal Address	University of Agriculture, Faisalabad, Sub-Campus Burewala-Vehari, 7 Kilometer Chichawatni Road, Burewala, Pakistan
Cell No.	+92-334-6932996
Email Address	yahya.1311@hotmail.com & yahya.khan@uaf.edu.pk

Academic Qualifications:

Time	University	Degree
2011-2016	University of Agriculture, Faisalabad, Pakistan	PhD (Soil Science)
2009-2011	University of Agriculture, Faisalabad, Pakistan	M. Sc. (Hons) Agri-Soil Science
2005-2009	University of Agriculture, Faisalabad, Pakistan	B.Sc. (Hons) Agriculture (Soil Science)

Theses

1. **PhD (Soil Microbiology & Biochemistry)**
   - Comparative efficacy of single and multi-strain bacterial inoculation for improving growth and yield of wheat under salinity stress
2. **M.Sc. (Hons.) Agriculture-Soil Science**
   - Effect of plant growth promoting rhizobacteria (PGPR) on growth and yield of wheat (*Triticum aestivum* L.) in chromium contaminated soil

Experience:

1. Working as an **Assistant Professor (Soil Science)** at the University of Agriculture, Faisalabad Sub-Campus Burewala/Vehari, Pakistan (**29-01-2022 to date**)
2. Worked as a Visiting Researcher at LEC, Lancaster University, UK from **28-11-2020 to 07-09-2021.**
3. Worked as a **Lecturer (Soil Science)** at the University of Agriculture, Faisalabad Sub-Campus Burewala/Vehari, Pakistan (**14-03-2016 to 28-01-2022**)
4. **Researcher** in **AVRDC** funded research project entitled "Seed inoculation with *Rhizobium* and Plant Growth Promoting Rhizobacteria (PGPR)" under the main project entitled "*Beans with Benefits*: Integrating improved mungbean as a catch crop into the dryland systems of South and Central Asia for increased smallholder farmer income and more sustainable production systems" at the University of Agriculture Faisalabad, Pakistan (**15-08-2015 to 31-02-2016)**
5. **Occupational Trainee** in the School of Agriculture and Food Sciences at the University of Queensland, Australia (**12-12-2014**-to-**5-06-2015**)
6. **Research Fellow** in a **HEC** funded research project entitled "Development and extensive evaluation of biofertilizers for sustainable production of cereals from salt-affected soils" at the University of Agriculture Faisalabad, Pakistan (**03/12/2012**-to-**10-12-2014**)
7. **Research Fellow** in a research project entitled "Evaluation of bioslurry as nutrient source for sustainable agriculture" at the University of Agriculture Faisalabad, Pakistan (**15/03/2012-**to-**30/09/2012**)
8. **Research Associate** in a HEC research project entitled "Phytoremediation of polycyclic aromatic hydrocarbons (PAHs) in association with microorganisms containing ACC-deaminase enzyme" at the University of Agriculture Faisalabad, Pakistan (**03/12/2010**-to-**30/08/2011**)

International Visits:

1. Nine months **(**28-11-2020 to 07-09-2021**)** Post-doctoral research at LEC, Lancaster University, **United Kingdom**.
2. One week (05-09 September 2016) research training at the International Agricultural Research and Training Center (IARTC), **Turkey.**
3. Six months (10 December 2014 to 5 June, 2015) research visit to the School of Agriculture and Food Sciences at the University of Queensland, **Australia.**

Publications:

1. Manzoor, N., L. Ali, T. Ahmad, **M.Y. Khan**, H.M. Ali, Y. Liu and G. Wang. **2024.** Biochar and nanoscale silicon synergistically alleviate arsenic toxicity and enhance productivity in chili peppers (*Capsicum annuum* L.). ***Chemosphere,*** 368: 143682, doi.org/10.1016/j.chemosphere.2024.143682
2. Khan, A., A. Farhan, F. Maqbool, N. Maqsood, W. Qayyum, A. Haider, **M.Y. Khan**, R. Maleki-baladi, A. Rahdar, A. M. Díez-Pascual. **2024**. Exploring the transporters and mechanisms of arsenic detoxification in plants and potential role of nanoparticles in alleviating arsenic stress. ***Plant Growth Regulation,*** 104:95–119, *doi.org/10.1007/s10725-024-01141-1*
3. Yaseen, U., **M.Y. Khan**, M.S. Zia, Z. Ahmad, B. Ahmad, Ubaidullah and M. Younas. **2024.** The Loss Canopies, Damaged Soil: Evaluating the Interconnected Effects of Deforestation and Agroforestry Decline on Soil Health. ***Journal of Agriculture and Biology***, 02(1):17-30, *doi.org/10.55627/agribiol.002.01.0840*
4. **Khan, M.Y.,** Z. Ahmad, M.R. Waqas, S.M. Nadeem, S.A. Hameed and M. Iqbal. **2023** Phosphate Solubilizing Bacterial Inoculation on Seeds and Fertilizers for Improved Wheat Yield in Semiarid Field Conditions. ***Soil & Environment***, 42(2):193-201, DOI:10.25252/SE/2023/243170
5. Afzal, Ali., **M.Y. Khan**, Z.A. Zahir, H.N. Asghar, A. Muhmood, M. Rashid, Z. Aslam, S.A. Javed, S.M. Nadeem. **2023**. Plant growth-promoting bacterial consortia improved the physiology and growth of maize by regulating osmolytes and antioxidants balance under salt-affected field conditions. ***Heliyon,*** 9(7): e17816, https://doi.org/10.1016/j.heliyon.2023.e17816
6. Raza, T., M. Abbas, Amna, S. Imran, **M.Y. Khan**, A. Rebi, N.S. Eash and Z. Rafie-Rad. 2023. Impact of silicon on plant nutrition and significance of silicon mobilizing bacteria in agronomic practices. ***Silicon.*** 15: 3797–3817 https://doi.org/10.1007/s12633-023-02302-z
7. Ahmad, Z., M.R. Waqas, **M.Y. Khan**, A. Hameed, T. Athar, S.M. Nadeem, M. Nadeem and M. Shafique. 2023. Value-added organic fertilizer with salicylic acid and naphthyl acetic acid improves the tomato quality and productivity in saline-sodic conditions. ***Soil & Environment***, 42(1): 56-64.
8. Rafique, H.M., **M.Y. Khan**, H.N. Asghar, Z.A. Zahir, S.M. Nadeem, M. Sohaib, F. Alotaibi and F.N.I. Al-Barakah. 2023. Converging alfalfa (Medicago sativa L.) and petroleum hydrocarbon acclimated ACC-deaminase containing bacteria for phytoremediation of petroleum hydrocarbon contaminated soil. ***International Journal of Phytoremediation***, DOI: 10.1080/15226514.2022.2104214
9. Nadeem, S.M., A. Hanif, **M.Y. Khan**, M.R. Waqas, Z. Ahmad, M.R. Ashraf and M. Naveed. 2023. Elemental sulphur with sulphur oxidizing bacteria enhances phosphorus availability and improves growth and yield of wheat in calcareous soil. ***Archives of Agronomy and Soil Science***, DOI: 10.1080/03650340.2022.2099541
10. **Khan, M.Y.,** S.M. Nadeem, M. Sohaib, M.R. Waqas, F. Alotaibi, L. Ali, Z.A. Zahir and F.N.I. Al-Barakah. 2022. Potential of plant growth promoting bacterial consortium for improving the growth and yield of wheat under saline conditions. ***Frontiers in Microbiology***. 13:958522. doi: 10.3389/fmicb.2022.958522
11. Waqas, M.R., S.M. Nadeem, **M.Y. Khan**, Z. Ahmad, L. Ali, H.N. Asghar and A. Khalid. 2022 Phycoremediation of textile effluents with enhanced efficacy of biodiesel production by algae and potential use of remediated effluent for improving growth of wheat. ***Environmental Science and Pollution Research,*** 29, 46118–46126. https://doi.org/10.1007/s11356-022-19140-y
12. Raza, T., **M.Y. Khan**, S.M. Nadeem, S. Imran, K.N. Qureshi, M.N. Mushtaq, M. Sohaib, A. Schmalenberger and N.S. Eash. 2021. Biological management of selected weeds of wheat through co-application of allelopathic rhizobacteria and sorghum extract***. Biological Control,*** 164, 104775. https://doi.org/10.1016/j.biocontrol.2021.104775
13. Sohaib, M., Z.A. Zahir, **M.Y. Khan**, M. Ans, H.N. Asghar, S. Yasin, F.N.I. Al-Barakah. 2020. Comparative evaluation of different carrier-based multi-strain bacterial formulations to mitigate the salt stress in wheat. ***Saudi Journal of Biological Sciences***, https://doi.org/10.1016/j.sjbs.2019.12.034
14. Nadeem, S.M., **M.Y. Khan**, M. Ahmad, M.N. Mushtaq, K.N. Qureshi and M. Naveed. 2020. Survival Efficacy and Potential of *Mesorhizobium Ciceri* for Enhancing the Growth and Yield of Imidacloprid-Treated Chickpea (*Cicer arietinum*). ***Soil & Environment,*** 39(1): 116 – 125. https://doi.org/10.25252/SE/2020/91830
15. Liu, H., **M.Y. Khan**, L.C. Cavalhais, M. DelgadoBaquerizo, L. Yan, M. Crawford, P.G. Dennis, B. Singh and P.M. Schenk. 2019. Soil amendments with ethylene precursor affect the soil microbiome and reverse negative impacts of salinity on soil microbial functions. ***Scientific Report,*** 9:6892**.** doi.org/10.1038/s41598-019-43305-4.
16. Irfan, M., Z.A. Zahir, H.N. Asghar, **M.Y. Khan**, H.T. Ahmad and Q. Ali, 2019. Effect of multi-strain bacterial inoculation with different carriers on growth and yield of maize under saline conditions. ***International Journal of Agriculture and Biology***. DOI: 10.17957/IJAB/15.1215.
17. Binyamin, R., S.M. Nadeem, S. Akhtar, **M.Y. Khan**, and R. Anjum. 2019. Beneficial and pathogenic plant-microbe interactions: A review. ***Soil & Environment,*** 38(2) DOI:10.25252/SE/19/71659
18. Perveen, S., M. Yousaf, M.N. Mushtaq, N. Sarwar, **M.Y. Khan** and S.M. Nadeem. 2019. Bioherbicidal potential of some allelopathic agroforestry and fruit plant species against *Lepidium sativum.* ***Soil & Environment,*** 38(1) DOI:10.25252/SE/18/71655.
19. Akhtar, M.J., S. Ullah, I. Ahmad, A. Rauf, S.M. Nadeem, **M.Y. Khan**, S. Hussain, L. Bulgariu. 2018. Nickel phytoextraction through bacterial inoculation in *Raphanus sativus*. ***Chemosphere***, 190: 234-242.
20. Asghar, H.N., H.M. Rafique, **M.Y. Khan** and Zahir A. Zahir. 2017. Phytoremediation of light crude oil by maize (*Zea mays*

L) bio-augmented with plant growth promoting bacteria. ***Soil and Sediment Contamination: An International Journal.*** 26(7-8):749-763

21. **Khan, M.Y.,** Z.A. Zahir, H.N. Asghar and E.A. Waraich. 2017. Preliminary investigations on selection of synergistic halotolerant plant growth promoting rhizobacteria for inducing salinity tolerance in wheat. ***Pakistan Journal of Botany,*** 49(4): 1541-1551.
22. Ullah, S., **M.Y. Khan,** H.N. Asghar, M.J. Akhter and Z.A. Zahir. 2017. Differential response of single and co-inoculation of *Rhizobium leguminosarum* and *Mesorhizobium ciceri* for inducing water deficit stress tolerance in wheat. ***Annals of Microbiology,*** DOI 10.1007/s13213-017-1302-2
23. Shahzad, S., **M.Y. Khan,** Z.A. Zahir, H.N. Asghar and U.K. Chaudhry. 2017. Comparative effectiveness of different carriers to improve the efficacy of bacterial consortium for enhancing wheat production under salt affected field conditions. ***Pakistan Journal of Botany,*** 49(4): 1523-1530.
24. Nadeem, S.M., M. Imran, M. Naveed, **M.Y. Khan,** M. Ahmad, Z.A. Zahir and D.E. Crowley. 2017. Synergistic use of biochar, compost and plant growth-promoting rhizobacteria for enhancing cucumber growth under water deficit conditions. ***Journal of the Science of Food and Agriculture,*** DOI10.1002/jsfa.8393.
25. Iqbal, S., **M.Y. Khan,** H.N. Asghar and M.J. Akhtar. 2016 Combined use of phosphate solubilizing bacteria and poultry manure to enhance the growth and yield of mung bean in calcareous soil. ***Soil & Environment,*** 35(2): 146-154.
26. Nadeem, S.M., M. Naveed, M. Ayyub, **M.Y. Khan**, M. Ahmad and Z.A. Zahir. 2016. Potential, limitations and future prospects of *Pseudomonas* spp. for sustainable agriculture and environment: A Review. ***Soil & Environment***, 35(2): 106-145
27. Ahmad, M.T., H.N. Asghar, M. Saleem, **M.Y. Khan** and Z.A. Zahir. 2015. Synergistic effect of rhizobia and biochar on growth and physiology of maize. ***Agronomy Journal,*** 107 (6): doi:10.2134/agronj15.0212
28. Niazi, M.T.H., S.U.R. Kashif, H.N. Asghar, M. Saleem, **M.Y. Khan** and Z.A. Zahir. 2015. Phosphate solubilizing bacteria in combination with pressmud improve growth and yield of mash bean. ***Journal of Animal and Plant Science,*** 25 (4).
29. Saleem, M., H.N. Asghar**, M.Y. Khan** and Z.A. Zahir. 2015. Gibberellic acid in combination with press mud enhances the growth of sunflower and stabilizes chromium contaminated soil. ***Environmental Science and Pollution Research,*** 22:10610–10617. DOI 10.1007/s11356-015-4275-3
30. Farooq, H., H.N. Asghar, **M.Y. Khan,** M. Saleem and Z.A. Zahir. 2015. Auxin mediated growth of rice in cadmium contaminated soil. ***Turkish Journal of Agriculture and Forestry,*** 39: 272-276.
31. Khan, W.D., M. Faheem, **M.Y. Khan**, S. Hussain, M. A. Maqsood and T. Aziz. 2015. Zinc requirement for optimum grain yield and zinc biofortification depends on phosphorus application to wheat cultivars. ***Romanian Agricultural Research,*** 32: DII 2067-5720 RAR 2015-124.
32. Ali, M.A., H.N. Asghar, **M.Y. Khan,** M. Saleem, M. Naveed and N.K. Niazi. 2015. Alleviation of nickel-induced stress in mungbean through application of gibberellic acid. ***International Journal of Agriculture and Biology,*** 17: 990-994.
33. **Khan, M.Y.,** H.N. Asghar, M.U. Jamshaid, M.J. Akhtar and Z.A. Zahir. 2013. Effect of microbial inoculation on wheat growth and phyto-stabilization of chromium contaminated soil. ***Pakistan Journal of Botany,*** 45(SI): 27-34.
34. Asghar, H.N., M.A. Zafar. **M.Y. Khan** and Z.A. Zahir. 2013. Inoculation with ACC-deaminase containing bacteria to improve plant growth in petroleum contaminated soil. ***Romanian Agriculture Research,*** 30: 281-289.
35. Sabir, S., H.N. Asghar, S.U.R. Kashif, **M.Y. Khan** and M.J. Akhtar. 2013. Synergistic effect of plant growth promoting rhizobacteria and kinetin on maize. ***Journal of Animal and Plant Science,*** 23 (6): 1750-1755.
36. Aamir, M., A. Aslam, **M.Y. Khan**, M.U. Jamshaid, M. Ahmad, H.N. Asghar and Z.A. Zahir. 2013. Co-inoculation with *Rhizobium* and plant growth promoting rhizobacteria (PGPR) for inducing salinity tolerance in mung bean under field condition of semi-arid climate. ***Asian Journal of Agriculture and Biology***, 1(1): 7-12.
37. Ali, T., S. Mahmood, **M.Y. Khan**, A. Aslam, M.B. Hussain, H.N. Asghar and M.J. Akhtar. 2013. Phytoremediation of cadmium contaminated soil by auxin assisted bacterial inoculation. ***Asian Journal of Agriculture and Biology,*** 1(2): 79-84.

Book Chapters:

1. Kanwal, N., Aqsa, **M.Y. Khan**, M. Iqbal, M.R. Waqas, S.M. Nadeem and M. Shaban. (2024) Green Technologies for Restoration of Degraded Soil. In: Jatav, H.S. and T. Raza (eds) Soil Health Management for Sustainable Development Goals. Soil, Plant and Environmental Nexus. Vol. 1. ebook ISBN: 978-93-58872-67-5
2. Nazli F., Najm-ul-Seher, **Khan M.Y.,** Jamil M., Nadeem S.M., Ahmad M. (2020) Soil Microbes and Plant Health. In: Ul Haq I., Ijaz S. (eds) Plant Disease Management Strategies for Sustainable Agriculture through Traditional and Modern Approaches. Sustainability in Plant and Crop Protection, vol 13. Springer, Cham.
3. Zahir Z.A., Nadeem S.M., **Khan M.Y**., Binyamin R., Waqas M.R. (2019) Role of Halotolerant Microbes in Plant Growth Promotion Under Salt Stress Conditions. In: Kumar M., Etesami H., Kumar V. (eds) Salin.e Soil-based Agriculture by Halotolerant Microorganisms. Springer, Singapore
4. Nadeem, S.M., **M.Y. Khan,** M.R. Waqas, R. Binyamin, S. Akhtar and Z.A. Zahir. 2017. Arbuscular Mycorrhizas: An Overview. ***In;*** Q.-S. Wu (ed.), *Arbuscular Mycorrhizas and Stress Tolerance of Plants*, (pp. 1-24), Springer Nature Singapore Pte Ltd. DOI 10.1007/978-981-10-4115-0_1.

5. Ullah, S., M.B. Hussain, **M.Y. Khan**, and H.N. Asghar. 2017. Ameliorating Salt Stress in Crops through Plant Growth-Promoting Bacteria. ***In;*** D.P. Singh et al. (eds.), *Plant-Microbe Interactions in Agro-Ecological Perspectives*, (pp. 549-575) Springer Nature Singapore Pte Ltd. DOI 10.1007/978-981-10-5813-4_28
6. Saleem, M. H.N. Asghar, W. Ahmad, M.A. Akram, M.U. Saleem, **M.Y. Khan,** M. Naveed and Z.A. Zahir. 2017. Prospects of Bacterial-Assisted Remediation of Metal-Contaminated Soils. ***In;*** J.S. Singh, G. Seneviratne (eds.), *Agro-Environmental Sustainability*, (pp. 41-58) Springer International Publishing AG. DOI 10.1007/978-3-319-49727-3_3.
7. Asghar, H.N., H.M., Rafique, Z.A., Zahir, **M.Y., Khan,** M.J., Akhtar, M., Naveed, and M. Saleem. 2016. Petroleum Hydrocarbons-Contaminated Soils: Remediation Approaches. ***In;*** *Soil Science: Agricultural and Environmental Prospectives*, (pp. 105-129). Springer International Publishing, Switzerland. DOI 10.1007/978-3-319-34451-5_5.

Paper in Proceeding:

1. Zahir, Z.A., **M.Y. Khan**, H.N. Asghar, M.J. Akhtar and M. Naveed. 2015. Development of biofertilizers: A step towards sustainable production of cereals from salt affected soils. Proceeding. *In:* International Conference on Soil Sustainability for Food Security. November 18-20, 2015, Faisalabad, Pakistan.

Project Reports:

1. Zahir, Z.A., H.N. Asghar, **M.Y. Khan**, H.T. Ahmad, T. Abbas and A. Afzal. 2016. Development and extensive evaluation of biofertilizers for sustainable production of cereals from salt affected soils. Final Technical Report of HEC funded project
2. Zahir, Z.A., H.N. Asghar, **M.Y. Khan**, T. Abbas and A. Afzal. 2014. Development and extensive evaluation of biofertilizers for sustainable production of cereals from salt affected soils. 2nd Annual Technical Report of HEC funded project
3. Zahir, Z.A., H.N. Asghar, **M.Y. Khan** and T. Abbas. 2013. Development and extensive evaluation of biofertilizers for sustainable production of cereals from salt affected soils. 1st Annual Technical Report of HEC funded project.
4. Akhtar, M.J. and **M.Y. Khan**. 2012. Evaluation of bioslurry as nutrient source for sustainable agriculture. Final technical report of RSPN funded project
5. Asghar, H.N., Z.A. Zahir, H.M. Rafique, **M.Y. Khan,** F. Bibi and M. Naveed. 2011. Phytoremediation of polycyclic aromatic hydrocarbons (PAHs) in association with microorganisms containing ACC-deaminase enzyme. Final technical report of HEC funded project

Training Courses Attended (National & International):

1. Attended "Orientation of Newly Inducted Faculty" organized by Directorate of Academics & Teachinf Resource Center, University of Agriculture, Faisalabad, Pakistan, 31st Julty-4th August, 2017.
2. Attended "4th International Course on Plant Nutrition and Soil Management" organized by International Agricultural Research and Training Center (IARTC), **Turkey**, 05-09 September, 2016.
3. Attended "11th National Training Course on Modern Techniques in Biotechnology" at National Institute for Biotechnology and Genetic Engineering, Faisalabad, **Pakistan**, 11-15 February, 2013.

Conferences Attended:

1. Attended 15th International Congress of Soil Science on "Soil Management in Changing Climate" at NARC, Islamabad, Pakistan, 18-20th March, 2014.
2. Attended International Conference on "Biotechnology: Prospects & Challenges in Agriculture, Industry, Health & Environment" at National Institute for Biotechnology and Genetic Engineering, Faisalabad, Pakistan, 22-26 April, 2013.
3. Attended "International Symposium on Use of Potassium in Pakistan" at Serena, Faisalabad Pakistan, 06-07 November, 2012.
4. Attended "12th National and 3rd International Conference of Botany" at Quaid-i-Azam University, Islamabad, Pakistan, 1st-3rd September, 2012.
5. Attended "14th Congress of Soil Science on Soil Science: Service to Mankind and Environment", 12-15th March, 2012, Expo Center, Lahore-Pakistan.
6. Attended "13th Congress of Soil Science on Efficient Resource Management for Sustainable Agriculture", (2010); held in Faisalabad-Pakistan.

Teaching Courses at university level:

Postgraduate

1. SES-702 (Instrumental Analysis and Analytical Techniques)
2. SES-704 (Soil Microbiology and Biotechnology)
3. SES-713 (Soil–Plant–Environment Relationship)

Undergraduate

1. SES-301 (Soil Science-I)
2. SES-401 (Soil Science-II)
3. SES-601 (Soil Microbiology and Biochemistry)
4. SES-607 (Saline Agriculture)
5. SES-510 (Soil-Water-Plant Relationships)

Abstracts/Conference Papers:

1. Taqi Raza, Mahjabeen, Anam Yasin, **Muhammad Yahya Khan,** Muhammad Rashid Waqas, Muhammad Naeem Mushtaq and Sajid Mehmood Nadeem. 2019. Synergistic use of sorghum allelopathic extract and consortium of bacteria for management of weeds in wheat under field conditions. In; ESCON, 2019: International Conference on "Environmental Toxicity and Health" 25-27th February 2019 at COMSATS Vehari, Pakistan
2. Sajid Mahmood Nadeem, Mahjabeen, **Muhammad Yahya Khan**, Muhammad Rashid Waqas and Muhammad Naeem Mushtaq. 2019. Impact of Biogypsum and Bioassimilable sulfur on the growth and yield of chickpea (Cicer arietinum L.) irrigated with brackish water. In; 2nd International Conference on "Climate Smart Agriculture: The Way towards Sustainability" 26-27th November 2019 at the Department of Agronomy, MNS-University of Agriculture, Multan, Pakistan
3. Taqi Raza, Iqra Kanwal, **Muhammad Yahya Khan,** Muhammad Rashid Waqas, Sajid Mehmood Nadeem, Shakeel Imran and Muhammad Naeem Mushtaq. 2019 Co-application of three different bacterial strains with sorghum water extract as nutrient source for the management of weeds in wheat (Triticum aestivum L.). In; 2nd International Conference on "Climate Smart Agriculture: The Way towards Sustainability" 26-27th November 2019 at the Department of Agronomy, MNS-University of Agriculture, Multan, Pakistan.
4. **Muhammad Yahya Khan,** Hongwei Liu, Lilia C. Cavalhais, Hafiz Naeem Asghar, Paul G. Dennis, Zahir A. Zahir and Peer M. Schenk. 2018. 1-aminocyclopropane-1-carboxylate (ACC) influences soil microbiome especially in a saline soil. In; 1st International Conference on "Soil and Crop Health in Changing Climate" 28-29th November,2018 at the Department of Soil and Environmental Science, MNS-University of Agriculture, Multan, Pakistan
5. Taqi Raza, **Muhammad Yahya Khan**, Sajid Mehmood Nadeem, Muhammad Rashid Waqas, Kashif Nazir Qureshi, Shakeel Imran and Muhammad Naeem Mushtaq. 2018. Effectiveness of bio-herbicides for management of weeds in wheat under field conditions. In; 1st International Conference on "Soil and Crop Health in Changing Climate" 28-29th November,2018 at the Department of Soil and Environmental Science, MNS-University of Agriculture, Multan, Pakistan
6. Sajid Mahmood Nadeem, **Muhammad Yahya Khan,** Muhammad Rashid Waqas and Muhammad Naeem Mushtaq. 2018. Improving salt tolerance in wheat through multi-strains bacterial consortium. In; 1st International Conference on "Soil and Crop Health in Changing Climate" 28-29th November,2018 at the Department of Soil and Environmental Science, MNS-University of Agriculture, Multan, Pakistan
7. Muhammad Naeem Mushtaq, Rashid Waqas*, Sajid Mahmood Nadeem and **Muhammad Yahya Khan.** 2018. Enhancing the wheat yield by foliar feeding of algal biosimulants under marginal soils. In; 1st International Conference on "Soil and Crop Health in Changing Climate" 28-29th November,2018 at the Department of Soil and Environmental Science, MNS-University of Agriculture, Multan, Pakistan
8. Rashid Waqas*, Akram Khan, Ambsat Marium, Rizwan Riaz, Sajid Mahmood Nadeem and **Muhammad Yahya Khan.** 2018. Algal Decolonization of Disperse Red Azo Dye under Optimal Conditions. In; 1st International Conference on "Soil and Crop Health in Changing Climate" 28-29th November,2018 at the Department of Soil and Environmental Science, MNS-University of Agriculture, Multan, Pakistan
9. **Muhammad Yahya Khan,** Sajid Mahmood Nadeem, Muhammad Naveed, Muhammad Rashid Waqas and Kashif Nazir Qureshi. 2018 Application of organic amendment with low pH improves the growth and yield of maize. In; 1st International Conference on "Soil and Crop Health in Changing Climate" 28-29th November,2018 at the Department of Soil and Environmental Science, MNS-University of Agriculture, Multan, Pakistan
10. Rashid Waqas, **Muhammad Yahya Khan,** Akram Khan, Ambsat Marium and Sajid Mahmood Nadeem. 2018Perspectives of Phycoremediation of Organic and Inorganic Contaminants. In; 1st International Conference on "Soil and Crop Health in Changing Climate" 28-29th November,2018 at the Department of Soil and Environmental Science, MNS-University of Agriculture, Multan, Pakistan
11. **Muhammad Yahya Khan**, Zahir Ahmad Zahir, Hafiz Naeem Asghar, Muhammad Javed Akhtar, Muhammad Usman Jamshaid, Sanaullah Yasin, Muhammad Mazhar Iqbal and Muhammad Naveed. 2016. Multi-strain inoculation of salt tolerant Bacillus sp. improves the growth and yield of wheat on salt affected fields. In: Abs. 16th International Congress of Soil Science, 15-17th March, 2016, Rawalpindi, Pakistan.
12. Sajid Mahmood Nadeem, Muhammad Rashid Waqas, **Muhammad Yahya Khan** and Muhammad Ammar Tufail. 2016. Evaluating the effectiveness of rhizobacteria containing ACC-deaminase and exopolysaccharides for enhancing maize drought tolerance. In: Abs. 16th International Congress of Soil Science, 15-17th March 2016, Rawalpindi, Pakistan.
13. Sajid Mahmood Nadeem, Muhaimen Ayyub, Muhammad Rashid Waqas and **Muhammad Yahya Khan.** 2016. Improving salt tolerance in wheat through multi-strain bacterial consortium. In: Abs. 16th International Congress of Soil Science, 15-17th March 2016, Rawalpindi, Pakistan.
14. Iftikhar Ahmad, Muhammad Javed Akhtar, Iram Khan Jadoon, Muhammad Imran, **Muhammad Yahya Khan,** Hafiz Naeem Asghar, and Zahir Ahmad Zahir. 2016. Temperature and pH induced biosorption of cadmium by fruits and vegetable derived compost. In: Abs. 16th International Congress of Soil Science, 15-17th March, 2016, Rawalpindi, Pakistan.
15. Israr Masood ul Hassan, Irshad Bibi, Nabeel Khan Niazi, Hafiz Naeem Asghar, Muhammad Bilal Shakoor,

Muhammad Aamer Hussain, Safdar Bashir, Zubair Aslam, Zulfiqar Ahmad Saqib and **Muhammad Yahya Khan.** 2016. Bioavailability of arsenic under the influence of bacterial induced arsenate-sulfate reduction to maize (*Zea mays* L.). In: Abs. 16th International Congress of Soil Science, 15-17th March, 2016, Rawalpindi, Pakistan.

16. Samina Hamid, Hina Javed, Rehman Gul, **Muhammad Yahya Khan**, Muhammad Javed Akhtar, Tayyaba Naz, Mansoor Hameed. 2016. Evaluating the effect of plant growth promoting rhizobacteria and biogas slurry on growth and yield of sunflower under saline conditions. In: Abs. 16th International Congress of Soil Science, 15-17th March, 2016, Rawalpindi, Pakistan.
17. Muhammad Irfan, Zahir Ahmad Zahir, **Muhammad Yahya Khan**, Muhammad Usman Jamshaid, Muhammad Javed Akhtar, and Hafiz Naeem Asghar. 2016. Effect of multi-strain bacterial inoculation along with different carriers on growth and yield of maize under saline conditions. In: Abs. 16th International Congress of Soil Science, 15-17th March, 2016, Rawalpindi, Pakistan.
18. Ali Afzal, Muhammad Arshad, **Muhammad Yahya Khan**, Muhiamen Ayyub, Muhammad Usman Jamshaid, Hafiz Naeem Asghar and Zahir Ahmad Zahir. 2016. Efficiency of Burkholderia phytofirmans (PsJN) in combination with Bacillus, Enterobacter and Pseudomonas spp. for inducing salinity tolerance in maize (Zea mays L.) under salt affected conditions. In: Abs. 16th International Congress of Soil Science, 15-17th March, 2016, Rawalpindi, Pakistan.
19. Muhammad Usman Jamshaid, Muhammad Naveed, Zahir Ahmad Zahir, Hafiz Naeem Asghar, **Muhammad Yahya Khan** and Ana Aslam. 2016. Potential of endophytic bacteria to promote rhizobia-chickpea symbiotic partnership for sustainable production of chickpea under water limited conditions. In: Abs. 16th International Congress of Soil Science, 15-17th March, 2016, Rawalpindi, Pakistan.
20. Muhammad Saleem, Hafiz Naeem Asghar, Waqar Ahmad, **Muhammad Yahya Khan,** Muhammad Usman Saleen and Zahir Ahmad Zahir. 2016. Effect of lead tolerant plant growth promoting rhizobacteria to improve plant growth and soil health of lead contaminated soils. In: Abs. 16th International Congress of Soil Science, 15-17th March, 2016, Rawalpindi, Pakistan.
21. Muhammad Ans, Zahir Ahmad Zahir, **Muhammad Yahya Khan**, Muhammad Sohaib, Muhammad Usman Jamshaid, Muhammad Javed Akhtar and Hafiz Naeem Asghar. 2016 Comparative efficacy of peat, pressmud, sawdust and biochar as carriers for enhancing performance of multi-strain bacterial to increase growth and yield of wheat under salinity stress. In: Abs. 16th International Congress of Soil Science, 15-17th March, 2016, Rawalpindi, Pakistan.
22. Muhaimen Ayyub, Zahir Ahmad Zahir, **Muhammad Yahya Khan**, Ali Afzal, Muhammad Naveed, Muhammad Usman Jamshaid and Hafiz Naeem Asghar. 2016. Impregnation of phosphatic fertilizers with Burkholderia phytofirmans PsJN by using biochar and zeolite as carriers to enhance the growth and yield of maize. Comparative efficacy of peat, pressmud, sawdust and biochar as carriers for enhancing performance of multi-strain bacterial to increase growth and yield of wheat under salinity stress. In: Abs. 16th International Congress of Soil Science, 15-17th March, 2016, Rawalpindi, Pakistan.
23. Salman Shahzad, **Muhammad Yahya Khan**, Muhammad Usman Jamshaid, Muhammad Javed Akhtar, Hafiz Naeem Asghar and Zahir Ahmad Zahir. 2016. Comparative effectiveness of different carriers to improve the efficacy of bacterial consortium for enhancing wheat production under salt affected field conditions. In: Abs. 16th International Congress of Soil Science, 15-17th March, 2016, Rawalpindi, Pakistan.
24. Muhammad Sohaib, **Muhammad Yahya Khan**, Muhammad Usman Jamshaid, Muhammad Ans, Muhammad Javed Akhtar, Hafiz Naeem Asghar and Zahir Ahmad Zahir. 2016. Efficiency of compost, biogas slurry, crushed corn cob and zeolite as carriers to improve the performance of multi-strain bacterial inoculation for mitigating the salinity stress in wheat under pot conditions. In: Abs. 16th International Congress of Soil Science, 15-17th March, 2016, Rawalpindi, Pakistan.
25. **Khan, M.Y.,** H.N. Asghar, Z.A. Zahir and E.A. Waraich. 2014. Effectiveness of three *Bacillus* strains for improving growth and yield of wheat from salt affected fields. *In: Abs*. International Congress of Plant Sciences, 22-24th September, 2014, GC University, Lahore-Pakistan.
26. Batool, S., A. Mustafa, S. Yasin, **M.Y. Khan,** H.N. Asghar and Z.A. Zahir. 2014. Role of plant growth promoting rhizobacteria in biofortification of chickpea. *In: Abs.* International Congress of Plant Sciences, 22-24th September, 2014, GC University, Lahore-Pakistan.
27. **Khan, M.Y.,** M.U. Jamshaid, T. Abbas, H.N. Asghar and Z.A. Zahir. 2014. Differential response of single-, co- and multi-strain inoculation of PGPR for improving growth, physiology and nutrient balance of maize under salinity stress. In: Abs. The 20th World Congress of Soil Science. June 8-13, 2014, Jeju, Korea.
28. Jamshaid, M.U., **M.Y. Khan,** A. Aslam, H.N. Asghar and Z.A. Zahir, 2014. Variation in drought tolerance capability of endophytic bacteria isolated from different tissues of chickpea. *In: Abs*. The 20th World Congress of Soil Science. June 8-13, 2014, Jeju, Korea.
29. Zahir, Z.A., M.U. Jamshaid, **M.Y. Khan,** M. Ahmad and H.N. Asghar. 2014. Efficiency of combined application of rhizobia and PGPR containing ACC-deaminase for promoting growth of legumes on marginal lands of Pakistan. *In: Abs*. The 20th World Congress of Soil Science. June 8-13, 2014, Jeju, Korea.
30. Ali, Q., Z.A. Zahir, H.N. Asghar, M.J. Akhtar, M. Kamran, **M.Y. Khan** and S. Yasin. 2014. Rhizobium inoculation

for mitigating the salinity stress in maize (*Zea mays*) under gnotobiotic conditions. *In: Abs*. The 20th World Congress of Soil Science. June 8-13, 2014, Jeju, Korea.

31. **Khan, M.Y.,** H.N. Asghar and Z.A. Zahir. 2014. Comparative efficacy of single-, co- and multi-strain inoculation for improving growth, physiology and nutrient balance of wheat under salinity stress. *In: Abs.* 15th International Congress of Soil Science, 18-20th March, 2014, NARC, Islamabad, Pakistan.
32. Abbas, T., **M.Y. Khan,** M.B. Hussain, M. Naveed, H.N. Asghar and Z.A. Zahir. 2014. Synergistic use of *Burkholderia phytofirmans* with *Pseudomonas* and *Rhizobium* spp. for improving growth and yield of rice under field conditions. *In: Abs.* 15th International Congress of Soil Science, 18-20th March, 2014, NARC, Islamabad-Pakistan.
33. Mahmood, S., **M.Y. Khan,** M.B. Hussain, A. Muscolo and Z.A. Zahir. 2014. Differential response of rhizobacterial strains for inducing salinity tolerance in different lentil varieties. *In: Abs.* 15th International Congress of Soil Science, 18-20th March, 2014, NARC, Islamabad, Pakistan.
34. Altaf, M.A. A. Aslam, **M.Y. Khan,** M.U. Jamshaid, H.N. Asghar and Z.A. Zahir. 2014. Screening of locally available carrier materials to improve the performance of multi-strain inoculation for promoting nodulation, growth and yield of mung bean. *In: Abs.* 15th International Congress of Soil Science, 18-20th March, 2014, NARC, Islamabad, Pakistan.
35. Imran, Z., H.N. Asghar, S. Yasin, Q. Ali, **M.Y. Khan,** M.A. Akram and Z.A. Zahir. 2014. Integrated use of compost and phosphate solubilizing bacteria for improving growth and yield of carrot. *In: Abs.* 15th International Congress of Soil Science, 18-20th March, 2014, NARC, Islamabad, Pakistan.
36. Ali, A., M.U. Jamshaid, S. Mahmood, **M.Y. Khan,** M.J. Akhtar and Z.A. Zahir. 2014. Potential of various carrier materials to improve the performance of multi-strain bacterial inoculation for improving growth, nodulation and yield of mungbean under field conditions. *In: Abs.* 15th International Congress of Soil Science, 18-20th March, 2014, NARC, Islamabad, Pakistan.
37. Ali, Q., Z.A. Zahir, H.N. Asghar, M.J. Akhtar, M. Kamran, **M.Y. Khan** and S. Yasin. 2014. Efficacy of different *Mesorhizobium ciceri* and *Rhizobium leguminosarum* strains for inducing salinity tolerance in maize (*Zea mays* L.) under gnotobiotic conditions. *In: Abs.* 15th International Congress of Soil Science, 18-20th March, 2014, NARC, Islamabad, Pakistan.
38. Saleem, M., H.N. Asghar, **M.Y. Khan** and Z.A. Zahir. 2014. Cumulative effect of gibberellic acid and press mud for improving growth and yield of sunflower in chromium contaminated soil. *In: Abs.* 15th International Congress of Soil Science, 18-20th March, 2014, NARC, Islamabad, Pakistan.
39. Gul, R., M.J. Akhtar, I. Ahmad, S. Iqbal, **M.Y. Khan**, W. Nouman and H. Javed. 2014. Toxic effect of copper on plant growth can be mitigated by the inoculation of copper resistant bacteria isolated from industrial effluent. *In: Abs.* 15th International Congress of Soil Science, 18-20th March, 2014, NARC, Islamabad, Pakistan.
40. **Khan, M.Y.,** Z.A. Zahir, H.N. Asghar, M.U. Jamshaid, M. Naveed, M.J. Akhtar and M. Arshad. 2014. Rhizogold^{Plus}: A multi-strain biofertilizer for sustainable production of cereals from salt affected soils. *In: Abs.* 15th International Congress of Soil Science, 18-20th March, 2014, NARC, Islamabad-Pakistan.
41. Asghar, H.N., H.M. Rafique, **M.Y. Khan,** M. Naveed and Z.A. Zahir. 2014. Bioremediation of petroleum contaminated soil to improve soil and plant health. *In: Abs.* 15th International Congress of Soil Science, 18-20th March, 2014, NARC, Islamabad-Pakistan.
42. Jamshaid, M.U., Z.A. Zahir, H.N. Asghar, **M.Y., Khan,** M. Naveed, M.J. Akhtar and M. Arshad. 2014. Development of a multi-strain biofertilizer "Rhizogold" for sustainable production of pulses on marginal lands of Pakistan. *In: Abs.* 15th International Congress of Soil Science, 18-20th March, 2014, NARC, Islamabad-Pakistan.
43. Batool, B., L. Ali, M.A. Akram, S. Yasin, **M.Y. Khan,** H.N. Asghar and Z.A. Zahir. 2014. Impact of gibberellic acid on growth and development of okra (Abelmoschus esculentus L.) in cadmium contaminated soil. *In: Abs.* 15th International Congress of Soil Science, 18-20th March, 2014, NARC, Islamabad-Pakistan.
44. Niazi, M.T.H., M.A. Akram, L. Ali, S. Yasin, **M.Y. Khan,** H.N. Asghar and Z.A. Zahir. 2014. Efficacy of phosphate solubilizing rhizobacteria in combination with press mud to enhance phosphorus availability in mash bean. *In: Abs.* 15th International Congress of Soil Science, 18-20th March, 2014, NARC, Islamabad-Pakistan.
45. Asghar, H.N., **M.Y. Khan,** Z.A. Zahir and H.M. Rafique. 2013. Plant-microbe interactions for remediation of petroleum hydrocarbons contaminated soil to combat global warming. *In: Abs.* International Conference on Plants, People and Climate, 5th-7th November, 2013. National University of Sciences and Technology (NUST), Islamabad, Pakistan.
46. **Khan, M.Y.,** H.N. Asghar, M.U. Jamshaid, M.J. Akhtar and Z.A. Zahir. 2012. Effect of microbial inoculation on wheat growth and phyto-stabilization of chromium contaminated soil. *In: Abs*. 12th National and 3rd International Conference of Botany, 1st-3rd September, 2012. Quaid-i-Azam University, Islamabad, Pakistan.
47. **Khan, M.Y.,** T. Ali, H.N. Asghar, M.J. Akhtar and M.U. Jamshaid. 2012. Synergistic use of bacteria and auxin to improve growth of spinach (*Spinacia oslercea* L.) in cadmium (Cd) contaminated soil. *In: Abs.* 14th Congress of Soil Science, 12-15th March, 2012, Expo Center, Lahore-Pakistan.
48. Asghar, H.N., **M.Y. Khan,** H.M. Rafique and Z.A. Zahir. 2012. Microbial assisted phytoremediation of petroleum hydrocarbons contaminated soils. *In: Abs.* 14th Congress of Soil Science, 12-15th March, 2012, Expo Center,

Lahore-Pakistan.

49. Aas, M.A., **M.Y. Khan,** H.N. Asghar and Z.A. Zahir. 2012. Effect of bacterial inoculation on growth and yield of canola (*Brassica campestris* L) in nickel contaminated soil. *In: Abs.* 14th Congress of Soil Science, 12-15th March, 2012, Expo Center, Lahore-Pakistan.

50. Aamir, M., M. Ahmad, Z.A. Zahir, M.U. Jamshaid, **M.Y. Khan,** and W. Khan. 2012. Potential of rhizobia to enhance the growth, nodulation and yield of mung bean under semi-arid environment. *In: Abs.* 14th Congress of Soil Science, 12-15th Marc.,h, 2012, Expo Center, Lahore-Pakistan.

51. Yasin, S., H.R. Ahmad, A. Ghafoor, M. Sabir and **M.Y. Khan.** 2011. Spatial variation of metal contamination in ground water of Lyallpur town Faisalabad using GIS. *In: Abs.* Prospects and Challenges to Sustainable Agriculture, July 14-16th, 2011. Faculty of Agriculture Rawalakot, the University of Azad Jammu and Kashmir.

Prizes/Awards:

Got 2nd best Poster Presentation award at 15th International Congress of Soil Science on "Soil Management in Changing Climate" at NARC, Islamabad, Pakistan, 18-20th March, 2014.

Distinction:

- University Merit Scholarship throughout B.Sc. (Hons.) Agriculture and M.Sc. (Hons) Agriculture-Soil Science

Membership of Societies:

1. Member of "Soil Science Society of Pakistan (Regd.)".
2. Member of "The Agrarian Society of Pakistan (Regd.)".
3. Member of "Pakistan Botanical Society (Regd.)".