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Publications (IF = 74.802 till March 4, 2021)

1. Rizwan M.S., M. Imtiaz, J. Zhu, B. Yousaf, M. Hussain, L. Ali, **A. Ditta**, M.Z. Ihsan, G. Huang, M. Ashraf, H. Hu. 2021. Immobilization of Pb and Cu by organic and inorganic amendments in contaminated soil. Geoderma. 385, 114803. https://doi.org/10.1016/j.geoderma.2020.114803 (Impact factor 2019 = 4.848).
2. Irshad S., Z. Xie, S. Mehmood, A. Nawaz, **A. Ditta**, Q. Mahmood. 2021. Insights into conventional and recent technologies for arsenic bioremediation: A systematic review.

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Environmental Science and Pollution Research https://doi.org/10.1007/s11356-021-12487-8 (Impact factor 2019 = 3.056).

3. Murtaza G., Z. Ahmed, M. Usman, W. Tariq, Z. Ullah, M. Shareef, H. Iqbal, M. Waqas, A. Tariq, Y. Wu, Z. Zhang, **A. Ditta**. 2021. Biochar induced modifications in soil properties and its impacts on crop growth and production. Journal of Plant Nutrition https://doi.org/10.1080/01904167.2021.1871746 (Impact factor 2019 = 1.132)
4. Ahmad H.T., A. Hussain, A. Aimen, M.U. Jamshaid, **A. Ditta**, H.N. Asghar, Z.A. Zahir. 2021. Improving resilience against drought stress among crop plants through inoculation of plant growth-promoting rhizobacteria. In: Azamal Husen and Mohammad Jawaid (Eds.). Harsh Environment and Plant Resilience (ISBN 978-3-030-65912-7). Springer Science + Business Media, New York. https://doi.org/10.1007/978-3-030-65912-7_16
5. Murtaza G, Z Ahmed, M Usman, **A Ditta,** Z Ullah, RN Shabbir, D Khan, I Nazish, M Arif. 2021. Future research perspectives of biochar and electrical characteristics of charcoal. Proceedings of the International Academy of Ecology and Environmental Sciences, 11(1): 1-14. (ESCI)
6. Naveed M., S.S. Bukhari, A. Mustafa, **A. Ditta**, S. Alamri, M.A. El-Esawi, M. Rafique, S. Ashraf, M.H. Siddiqui. 2020. Mitigation of nickel toxicity and growth promotion in sesame through the application of a bacterial endophyte and zeolite in nickel contaminated soil. International Journal of Environmental Research and Public Health. 17, 8859. https://doi.org/10.3390/ijerph17238859 (Impact Factor 2019 = 2.849)
7. Ullah I., **A. Ditta**, M. Imtiaz, S. Mehmood, M. Rizwan, M.S. Rizwan, A.U. Jan, I. Ahmad. 2020. Assessment of health and ecological risks of heavy metal contamination: A case study of agricultural soils in Thall, Dir-Kohistan. Environmental Monitoring & Assessment https://doi.org/10.1007/s10661-020-08722-3 (Impact factor 2019 = 1.903)
8. Ijaz M., M.S. Rizwan, M. Sarfraz, S. Ul-Allah, A. Sher, A Sattar, L. Ali, **A. Ditta** and B. Yousaf. 2020. Biochar Reduced Cadmium uptake and Enhanced Wheat Productivity in

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Alkaline Contaminated Soil. International Journal of Agriculture and Biology 24:1633–1640. https://doi.org/10.17957/IJAB/15.1605 (Impact Factor 2019 = 0.822).

9. Islam I., W. Ahmed, M.U. Rashid, A.U. Orakzai, **A. Ditta**. 2020. Geophysical and geotechnical characterization of shallow subsurface soil: A case study of University of Peshawar and surrounding areas. Arabian Journal of Geosciences. 13: 949 https://doi.org/10.1007/s12517-020-05947-x (Impact Factor 2019 = 1.327).
10. Jadoon S., J. Wang, Q. Mahmood, X.-D. Li, B.S. Zeb, I. Naseem, T. Hayat, **A. Ditta.** 2020. Association of nephrolithiasis with drinking water quality and diet in Pakistan. Environmental Engineering and Management Journal 19(8): 1289-1297. (ESCI)
11. Usman M., G. Murtaza, **A. Ditta,** T. Bakht M. Asif, M. Nadir and S. Nawaz. 2020. Distribution pattern of weeds in wheat crop grown in district Khanewal, Punjab, Pakistan. Pakistan Journal of Weed Science Research 26(1): 47-59. https://doi.org/10.28941/26-1(2020)-4 (HEC recognized - Y Category)
12. Islam, B., S. Nazneen, I. Islam, **A. Ditta,** M. Khurshid and M. Asif. 2020. Factors determining the residents' preparedness against natural disasters: A case study of Pakistan Flood-2010. Journal of Environmental & Agricultural Sciences 22(1): 32-40.
13. Sabir A., M. Naveed, M.A. Bashir, A. Hussain, A. Mustafa, Z.A. Zahir, M. Kamran, **A. Ditta,** A. Núñez-Delgado, Q. Saeed, A. Qadeer. 2020. Cadmium mediated phytotoxic impacts in Brassica napus: managing growth, physiological and oxidative disturbances through combined use of biochar and Enterobacter sp. MN17. Journal of Environmental Management 265: 110522. (https://doi.org/10.1016/j.jenvman.2020.110522 Impact factor 2019 = 5.647).
14. Hussain A., Z. A. Zahir, **A. Ditta,** M. U. Tahir, M. Ahmad, M. Z. Mumtaz, K. Hayat, S. Hussain. 2020. Production and implication of bio-activated organic fertilizer enriched with zinc-solubilizing bacteria to boost up maize (Zea mays L.) production and biofortification under two cropping seasons. MDPI-Agronomy 10(39) (https://doi.org/10.3390/agronomy10010039 Impact factor 2019 = 2.603)

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15. Liu Y.Z., M. Imtiaz, **A. Ditta,** M.S. Rizwan, M. Ashraf, S. Mehmood, O. Aziz, F. Mubeen, M. Ali, N.N. Elahi, R. Ijaz, S, Lelel, C. Shuang, S. Tu. 2020. Response of growth, antioxidant enzymes and root exudates production towards As stress in Pteris vittata and Astragalus sinicus colonized by arbuscular mycorrhizal fungi. Environmental Sciences and Pollution Research 27: 2340–2352. (https://doi.org/10.1007/s11356-019-06785-5 Impact factor 2019 = 3.056)
16. Ullah N., **A. Ditta,** A. Khalid, S. Mehmood, M.S. Rizwan, F. Mubeen, M. Imtiaz. 2020. Integrated Effect of Algal Biochar and Plant Growth Promoting Rhizobacteria on Physiology and Growth of Maize Under Deficit Irrigations. Journal of Soil Science and Plant Nutrition 20: 346-356. (https://doi.org/10.1007/s42729-019-00112-0 impact factor 2019 = 2.156).
17. Muhammad J., S. Khan, J.Q. Su, A.E. Hesham, **A. Ditta,** J. Nawab. 2020. Antibiotics in poultry manure and their health issues: A systematic review. Journal of Soils and Sediments. 20: 486–497. https://doi.org/10.1007/s11368-019-02360-0 (Impact factor 2019 = 2.763)
18. Murtaza G., Z. Ahmed, M. Usman, A. Areeb, **A. Ditta,** Z. Ullah, F. Mahmood. 2020. Impacts on biochar aging mechanism by eco-environmental factors. Proceedings of the International Academy of Ecology and Environmental Sciences, 10(3): 97-104. (ESCI)
19. Ahmad I., M. Tahir, U. Daraz, **A. Ditta,** M.B. Hussain and Z.U.H. Khan. 2020. Responses and tolerance of cereal crops to metals and metalloids toxicity. In: Mirza Hassanuzzaman (Ed.). Agronomic Crops (ISBN 978-981-15-0025-1). Springer, Singapore. pp. 235-264. https://doi.org/10.1007/978-981-15-0025-1_14
20. **Ditta, A**., S. Mehmood, M. Imtiaz, M. S. Rizwan, I. Islam. 2020. Role of nanotechnology in soil fertility and nutrient management. In: Azamal Husen and Mohammad Jawaid (Eds.). Nanomaterials for Agriculture and Forestry (ISBN 978-0-12-817852-2), Woodhead Publishing Ltd. Elsevier UK (Invited Book Chapter). pp. 273-288. https://doi.org/10.1016/B978-0-12-817852-2.00011-1.

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https://research-repository.uwa.edu.au/en/persons/allah-ditta

21. **Ditta, A.** 2019. Role of Nanoclay Polymers in Agriculture: Applications and perspectives. *In*: Surender K. Sharma (Ed.). Nanohybrids in environmental and biomedical applications (ISBN 978-1-351-25684-1), Taylor and Francis (CRC Press), USA. pp. 323-334. https://www.taylorfrancis.com/books/9781351256841/chapters/10.1201/9781351256841-14.
22. Niamat B., M. Naveed, Z. Ahmad, M. Yaseen, **A. Ditta**, A. Mustafa, M. Rafique, R. Bibi and X. Minggang. 2019. Calcium-Enriched Animal Manure Alleviates the Adverse Effects of Salt Stress on Growth, Physiology and Nutrients Homeostasis of Zea Mays L. MDPI-Plants 8(11), 480; https://doi.org/10.3390/plants8110480 (Impact factor 2018 = 2.632)
23. Shahzad H., S. Ullah, M. Iqbal, H. M. Bilal, G. M. Shah, S. Ahmad, A Zakir, **A. Ditta**, M. A. Farooqi, I. Ahmad. 2019. Salinity Types and Level-Based Effects on the Growth, Physiology and Nutrient Contents of Maize (*Zea mays*). Italian Journal of Agronomy. (https://doi.org/10.4081/ija.2019.1326 impact factor 2018 = 0.965).
24. Mazhar S., **A. Ditta**, L. Bulgariu, I. Ahmad, M. Ahmed, A.A. Nadiri. 2019. Sequential Treatment of Paper and Pulp Industrial Wastewater: Prediction of Water Quality Parameters by Mamdani Fuzzy Logic Model and Phytotoxicity Assessment. Chemosphere. 227: 256-268 (https://doi.org/10.1016/j.chemosphere.2019.04.022, impact factor 2018 = 5.108).
25. Mehmood S., M. Imtiaz, S. Bashir, M. Rizwan, S. Irshad, G. Yuvaraja, M. Ikram, O. Aziz, **A. Ditta**, S.U. Rehman, Q. Shakeel, M.A. Mumtaz, W. Ahmed, S. Mahmood, D. Chen, S. Tu. 2019. Leaching behaviour of Pb and Cd and transformation of their speciation in co-contaminated soil receiving different passivators. Environmental Engineering Science. (https://doi.org/10.1089/ees.2018.0503 impact factor 2018 = 1.575).
26. Sarfraz R., A. Hussain, A. Sabir, I.B. Fekih, **A. Ditta**, S. Xing. 2019. Role of Biochar and plant growth-promoting rhizobacteria to enhance soil carbon sequestration– a review. Environmental Monitoring and Assessment. 191: 251 https://doi.org/10.1007/s10661-019-7400-9 (impact factor 2018 = 1.959).

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27. **Ditta A**., M. Imtiaz, S. Mehmood, M.S. Rizwan, F. Mubeen, O. Aziz, Z. Qian R. Ijaz and S. Tu. 2018. Rock Phosphate Enriched Organic Fertilizer with Phosphate Solubilizing Microorganisms Improves Nodulation, Growth and Yield of Legumes. Communication in Soil Science and Plant Analysis. 49(21): 2715-2725. (https://doi.org/10.1080/00103624.2018.1538374 impact factor 2018 = 0.687).
28. Mehmood S., D.A. Saeed, M. Rizwan, M.N. Khan, O. Aziz, S. Bashir, M. Ibrahim, **A. Ditta,** M. Akmal, M.A. Mumtaz, W. Ahmed, S. Irshad, M. Imtiaz, S. Tu, A. Shaheen. 2018. Impact of different amendments on biochemical responses of sesame (Sesamum Indicum L.) plants grown in lead-cadmium contaminated soil. Plant Physiology and Biochemistry. 132: 345-355. (https://doi.org/10.1016/j.plaphy.2018.09.019 impact factor 2018 = 3.404).
29. Zeb H., A. Hussain, M. Naveed, **A. Ditta**, S. Ahmad, M.U. Jamshaid, H.T. Ahmad, B. Hussain, R. Aziz, M.S. Haider. 2018. Compost enriched with ZnO and Zn-solubilizing bacteria improves yield and Zn-fortification in flooded rice. Italian Journal of Agronomy. 13(4): 310-316. (http://dx.doi.org/10.4081/ija.2018.1295 impact factor 2018 = 0.965).
30. Imtiaz, M., M. Ashraf, M.S. Rizwan, M.A. Nawaz, M. Rizwan, S. Mehmood, B. Yousaf, Y. Yuan, M.A. Mumtaz, **A. Ditta**, M. Ali, S. Mahmood, S. Tu. 2018. Vanadium toxicity in chickpea (Cicer arietinum L.) grown in red soil: effects on cell death, ROS and antioxidative systems. Ecotoxicology and Environmental Safety. 158: 139-144. (https://doi.org/10.1016/j.ecoenv.2018.04.022 impact factor 2018 = 4.527).
31. Mehmood S., M. Rizwan, S. Bashir, **A. Ditta,** O. Aziz, L.Z. Yong, Z. Dai, M. Akmal, W. Ahmed, M. Adeel, M. Imtiaz, S. Tu. 2018. Comparative Effects of Biochar, Slag and Ferrous–Mn Ore on Lead and Cadmium Immobilization in Soil. Bulletin of Environmental Contamination and Toxicology. 100 (2): 286-292. (https://doi.org/10.1007/s00128-017-2222-3 Impact Factor 2018 = 1.650).
32. Farooq N., S. Kanwal, **A. Ditta,** A. Hussain, M. Naveed, M. U. Jamshaid, M. Iqbal. 2018. Comparative efficacy of KCl blended composts vs. sole application of KCl or K2SO4 in

improving K nutrition, photosynthetic capacity and growth of maize. Soil and Environment. 37(1): 68-74. (https://doi.org/10.25252/SE/17/51273 Scopus indexing).

33. **Ditta, A.** 2018. Physiological and phenological responses of crop plants under heat stress. *In*: Akula Ramakrishna, Sarvajeet Singh Gill (Eds.). Metabolic adaptations in plants during abiotic stress (ISBN 978-1-138-05638-1), Taylor and Francis, Boca Raton: CRC Press USA. pp. 55-63.
34. **Ditta, A.**, J. Muhammad, M. Imtiaz, S. Mehmood, Z. Qian, S. Tu. 2018. Application of rock phosphate enriched composts increases nodulation, growth and yield of chickpea. International Journal of Recycling of Organic Waste in Agriculture. 7(1): 33-40. (https://doi.org/10.1007/s40093-017-0187-1 Scopus indexing).
35. Ali A., Bilal, K. Ahmad, **A. Ditta**. 2018. How to Sustain Agricultural Land for Safe Food Production? Acta Scientific Agriculture 2(10): 131-133
36. Bibi R., Z. Ahmad, M. Imran, S. Hussain, **A. Ditta**, S. Mahmood, A. Khalid. 2017. Algal Bioethanol Production Technology: A Trend towards Sustainable Development. Renewable and Sustainable Energy Reviews. 71: 976-985. http://dx.doi.org/10.1016/j.rser.2016.12.126 (Impact Factor 2018 = 10.556)
37. Wahid A., J. Muhammad, **A. Ditta**, A. Khan, Ali Murtaza. 2017. Conservation status of black bear (*Ursus thibetanus*) in the Kumrat valley, Pakistan. Bioscience Research 14(4): 1230-1237 (Scopus indexing).
38. **Ditta, A.**, M. Arshad. 2016. Applications and perspectives of using nanomaterials for sustainable plant nutrition. Nanotechnology Reviews. 2(5): 209-229. DOI: https://doi.org/10.1515/ntrev-2015-0060 (Impact Factor 218 = 2.759).
39. Mustafa A., A. Hussain, M. Naveed, **A. Ditta,** Z. Nazli and A. Sattar. 2016. Response of okra (*Abelmoschus esculentus* L.) to soil and foliar applied L-tryptophan. Soil and Environment. 35(1): 76-84. (Scopus indexing)
40. Ahmed, F., M. Arshad, **A. Ditta**, A. Hussain, M. Naveed, M. Hasnain and Q. Nazir. 2016. Combining textile effluent wastewater with organic fertilizer for improved growth and

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productivity of wheat and soil health. Journal of Environmental and Agricultural Sciences. 8: 14-20.

41. Bibi R., **A. Ditta**, A. Hussain, S. Noureen, A. Khalid, I. Aziz. 2016. Production of algal biomass using different dilutions of textile effluent wastewater. Science Letters 4(1): 71-77.
42. **Ditta, A.**, A. Khalid. 2016. Bio-organo-phos: A sustainable approach for managing phosphorus deficiency in agricultural soils. *In*: M. Larramendy, and S. Soloneski (Eds.). Organic Fertilizers - From Basic Concepts to Applied Outcomes (ISBN 978-953-51-4701-5). InTech, Croatia. pp. 109-136. http://dx.doi.org/10.5772/62473. (Invited Book Chapter).
43. **Ditta, A.,** M. Arshad, Z.A. Zahir and A. Jamil. 2015. Comparative efficacy of rock phosphate enriched organic fertilizer vs. mineral phosphatic fertilizer for nodulation, growth and yield of lentil. International Journal of Agriculture and Biology. 17: 589–595. (Impact Factor 2018 = 0.802).
44. **Ditta, A.**, M. Arshad and M. Ibrahim. 2015. Nanoparticles in Sustainable Agricultural Crop Production: Applications and Perspectives. pp. 55-75. *In*: M.H. Siddiqui, M.H. Al-Whaibi, F. Mohammad (Eds.), Nanotechnology and Plant Sciences - Nanoparticles and Their Impact on Plants (ISBN 978-3-319-14502-0). Springer, Switzerland. https://dx.doi.org/10.1007/978-3-319-14502-0_4. (Invited Book Chapter).
45. **Ditta, A.** 2013. Salt Tolerance in Cereals: Molecular Mechanisms and Applications. pp. 133-154. *In*: G.R. Rout and A.B. Das (eds.), Molecular Stress Physiology of Plants (ISBN 978-81-322-0807-5). Springer, India. https://dx.doi.org/10.1007/978-81-322-0807-5_5. (Invited Book Chapter).
46. **Ditta, A.** 2012. How nanotechnology is helpful in agriculture? Advances in Natural Science: Nano science and Nanotechnology. 3 (2012) 033002 (Scopus indexing).