

## MUHAMMAD ADEEL

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### CAREER SUMMARY

Dr. M. Adeel obtained his PhD from China Agricultural University and is currently a faculty member at Beijing Normal University at Zhuhai where he started teaching a course on Nanotechnology: Fundamentals and Applications and leads young research team. Dr. M. Adeel has published more than 70 research articles in top journals and has an h-index of 28 with over 3000 citations. As a recognized expert in his field, Dr. M. Adeel also serves as a guest editor for leading scientific journals.

*Plant (nano)ecotoxicology / Environmental chemistry / Terrestrial organisms / Nano-biotechnology / Environmental pollution*

### QUALIFICATIONS

2017.09-2021.06, Ph.D., **Environmental Science & Engineering**, China Agricultural University, China.  
2014.09-2017.07, M.Sc., **Environmental Science & Engineering**, Shenyang University, China.  
2010.09-2014-06, B.Sc., **Soil Science**, Pir Mehar Ali Shah Arid Agriculture University, Pakistan.

### STATION CAREER

Working as Distinguished Associate Professor from September 2021 to continue at Beijing Normal University, Zhuhai

### COURSE TEACHING

Nanotechnology-Fundamentals and Applications (13593)

### AWARDS

- Selected as Distinguished Associate Professor under 1000 talent program of China.
- Outstanding Ph.D. thesis award, China Agricultural University, 06. 2021
- Best presentation award, China Agricultural University, 01. 2021
- Served as group leader in Beijing future Youth leader, 06. 2021
- Outstanding achievement award by Pakistan embassy, Beijing, China, 11. 2019
- Best international student award, China Agricultural University, 07. 2019
- China scholarship council selected the fully funded Ph.D. scholar, 2017-2021
- Outstanding master thesis award, Shenyang University, 06. 2017
- Shenyang university scholarship award 2014-2017
- Best international student award Shenyang University 09.2015

### EDITORIAL ACTIVITIES

Chief Guest Editor: [Plant physiology and biochemistry](#), 06.2022-02.2023

Guest Editor: [Frontier in plant science](#), 07.2022- 01-2023

Chief Guest Editor: [Environmental pollution](#), 12.2021-10.2022

Guest Editor: [Nano impact](#), 01.2022-06.2022

Guest Editor: [Plant stress](#), 01.2022-07.2022

Guest Editor: [Frontiers in Marine Science](#)

Review Editor: Toxicology, Pollution and the Environment

Review Editor: Plant Nutrition

### JOURNAL REVIEW ACTIVITIES

Reviewer for journals: Science of total environment, Chemosphere; Plant Physiology and Biochemistry; Environmental Research; Environmental Toxicology, Environmental International, Polish Journal of environmental sciences, etc.

## SERVERICES

### CO-SUPERVISION OF STUDENTS

- 2021.09- Master student, College of resource and environment, China Agricultural University, "Role of Iron based nanoparticles as nano fertilizer in agricultural plants".
- 2020.03- Master student, College of resource and environment, China Agricultural University, "Effects of nanoscale and bulk nickel on soybean: A full life cycle study".
- 2021.09- Doctoral student, College of resource and environment, China Agricultural University, "Lithium effects on agricultural plants and soil organism"
- 2020.09- Doctoral student, College of resource and environment, China Agricultural University, "Co exposure of manufacture nano object and micro plastic assessment in soil and earthworm system".

### VOLUNTEER SERVICES

- Served in Jinfeng primary school with theme of "popular science education"
- Served as volunteer to promote the safety awareness of people during earth quake
- Served as high talent guest in Zhuhai TV to promote the local government Advancement policies.
- Served as "Nature Education Seed Volunteer" at Qiao Dangan Island Provincial conservation area

### GUEST SPEAKER

- 2021.05. 22 [Talca University](#) "Nano-enabled strategies to enhance the crop growth and production"
- 2021.12. 28 [Rama University](#) "Nano-enabled strategies, to enhance the crop growth and environment protection"
- 2022.06.20 [Brno University of Technology](#) "Nano-enabled approaches for environmental protection and safety considerations"
- 2022.08.23 [The Islamia University Bahawalpur \(IUB\)](#) "Nano-enabled approaches for sustainable agriculture and global food security"
- 2022.10.17 [University of Education](#) "How Nanotechnology help to combat the future environmental challenges"

## PUBLICATONS

\* indicates corresponding author, † indicates co-first author. Total citations: > **3000**; H-index=**28**; i10 index = **50**. see update on Google Scholar <https://scholar.google.com/citations?user=DcBNfmoAAAAJ&hl=en&oi=sra>

### 2023

- Zhou, P., Jiang, Y., [Adeel, M.](#), Shakoor, N., Zhao, W., Liu, Y., ... & Zhang, P. (2023). Nickel Oxide Nanoparticles Improve Soybean Yield and Enhance Nitrogen Assimilation. *Environmental Science & Technology*.
- [Adeel, M\\*](#), Zain, M., Shakoor, N. et al. Global navigation of Lithium in water bodies and emerging human health crisis. *npj Clean Water* 6, 33 (2023).
- Qibin, W. A. N. G., ZHANG, P., Weichen, Z. H. A. O., NOMAN, S., Adeel, M., ., Guikai, Z. H. (2023). Effects and the fate of metal-based engineered nanomaterials on soil ecosystem: A review. *Pedosphere*.
- Shakoor, N., [Adeel, Mt\\*](#), Ahmad, M. A., Zain, M., Waheed, U., Javaid, R. A., ... & Rui, Y. (2023). Reimagining safe lithium applications in the living environment and its impacts on human, animal, and plant system. *Env Science and Ecotechnology*, 100252
- Hussain, M., Zahra, N., Lang, T., Zain, M., Raza, M., Shakoor, N., [Adeel, M\\*](#), Zhou, H. (2023). Integrating nanotechnology with plant microbiome for next-generation crop health. *Plant Physiology and Biochemistry*.
- Kareem, H. A., [Adeel, M.](#), Azeem, M., Ahmad, M. A., Shakoor, N., Hassan, (2023). Antagonistic impact on cadmium stress in alfalfa supplemented with nano-zinc oxide and biochar via upregulating metal detoxification. *Journal of Hazardous Materials*, 443, 130309.
- Hussain, M., Shakoor, N., [Adeel, M\\*](#), Ahmad, M. A., Zhou, H., Zhang, Z., ... & White, J. C. (2023). Nano-enabled plant microbiome engineering for disease resistance. *Nano Today*, 48, 101752.
- Jiang, Y., Zhou, P., Ma, T., [Adeel, M.](#), Shakoor, N., Li, Y., ... & Rui, Y. (2023). Effects of two Mn-based nanomaterials on soybean antioxidant system and mineral element homeostasis. *Env. Science and Pollution Research*, 30(7), 18880-18889.
- Zhou, P., Zhang, P., He, M., Cao, Y., [Adeel, M.](#), Shakoor, N., ... & Lynch, I. (2023). Iron-based nanomaterials reduce cadmium toxicity in rice (*Oryza sativa* L.) by modulating phytohormones, phytochelatin, cadmium transport genes and iron plaque formation. *Environmental Pollution*, 121063.
- Li, Y., Zhang, P., Li, M., Shakoor, N., [Adeel, M.](#), Zhou, P., ... & Rui, Y. (2023). Application and mechanisms of metal-based nanoparticles in the control of bacterial and fungal crop diseases. *Pest Management Science*, 79(1), 21-36.
- Wang, Y., Zhong, L., Song, X., [Adeel, M.](#), & Yang, Y. (2022). Natural colloids facilitated transport of steroidal estrogens in saturated porous media: Mechanism and processes. *Environmental Pollution*, 315, 120315.

- Shakoor, N., [Adeel, M†\\*](#), et al., (2023). Environment relevant concentrations of lithium influence soybean development via metabolic reprogramming. *J Hazard Mater*, 441, p.129898.
- Shakoor, N., [Adeel, M†\\*](#), et al., (2023). Interplay of higher plants with lithium pollution: Global trends, meta-analysis, and perspectives. *Chemosphere*, p.136663.

## 2022

- Wang, Y., Yang, Y., Song, X., ., [Adeel, M.](#), et al., (2022). Natural colloids facilitated transport of steroidal estrogens in saturated porous media: Mechanism and processes. *Environmental Pollution*, p.120315
- Li, Y., Zhang, P., Li, M., Shakoor, N., [Adeel, M.](#), et al., (2022). Application and mechanisms of metal-based nanoparticles in the control of bacterial and fungal crop diseases. *Pest management science*.
- Lou, B., Shakoor, N., [Adeel, M.\\*](#), et al., (2022). Catalytic oxidation of volatile organic compounds by non-noble metal catalyst: Current advancement and future prospective. *Journal of Cleaner Production*, 132523. (
- Guo, K., Fu, D., [Adeel, M.](#), et al., (2022) Toxicities of nanomaterials and metals to rice under low atmospheric pressure. *Acta Physiologiae Plantarum*, 44(6), pp.1-13.
- Azeem, I., [Adeel, M†\\*](#), et al., (2022). Micro and Nanoplastics Interactions with Plant Species: Trends, Meta-Analysis, and Perspectives. *Environmental Science & Technology Letters Article*
- Zhao, W., [Adeel, M†.](#), et al., 2022. A critical review on surface modified nano-catalysts application for photocatalytic degradation of volatile organic compounds. *Environmental Science: Nano*.
- Qianqian, M., Haider, F. U., Farooq, M., [Adeel, M.](#), et al. (2022). Selenium treated foliage and biochar treated soil for improved lettuce (*Lactuca sativa L.*) growth in Cd-polluted soil. *Journal of Cleaner Production*, 335, 130267.
- Shakoor, N., [Adeel, M†\\*](#), et al., (2022). Exposure of cherry radish (*Raphanus sativus L. var. Radculus Pers*) to iron-based nanoparticles enhances its nutritional quality by triggering the essential elements. *NanoImpact*, 100388.
- Zhou, P., [Adeel, M.](#), et al., (2022) Fabrication, characterization and remediation of cadmium and lead contaminated soil of biochar from two types of chestnut shell. *Crop and Pasture Science*

## 2021

- [Adeel, M.](#) et al. A critical review of the environmental impacts of manufactured nano-objects on earthworm species. *Env. Pollution* (2021): 118041.
- [Adeel, M.](#) et al. Bio-interaction of nano and bulk lanthanum and ytterbium oxides in soil system: Biochemical, genetic, and histopathological effects on *Eisenia fetida*. *J Hazard Mater* **415**, (2021).
- [Adeel, M.](#) et al. Bioavailability and toxicity of nanoscale/bulk rare earth oxides in soil: physiological and ultrastructural alterations in *Eisenia fetida*. *Env Sci: Nano* (2021).
- [Adeel, M.](#) et al. Carbon-based nanomaterials suppress tobacco mosaic virus (TMV) infection and induce resistance in *Nicotiana benthamiana*. *J Hazard Mater* **404**, 124167, (2021).
- [Adeel, M.](#) et al. COVID-19 and Nanoscience in the Developing World: Rapid Detection and Remediation in Wastewater. *Nanomaterials* **11**, 991 (2021).
- Farooq Tahirt, [Adeel. M†](#) et al. Nanotechnology and Plant Viruses: An Emerging Disease Management Approach for Resistant Pathogens. *ACS Nano* **15**, (2021).
- Azeem, Imrant, [Adeel, M†\\*](#) et al. Uptake and Accumulation of Nano/Microplastics in Plants: A Critical Review." *Nanomaterials* **11**, no. 11 (2021): 2935.
- Qianqian, M., Haider, F.U., Farooq, M., [Adeel, M.](#), Shakoor, N., Jun, W., Jiaying, X., Wang, X.W., Panjun, L. and Cai, L., 2021. Selenium treated foliage and biochar treated soil for improved lettuce (*Lactuca sativa L.*) growth in Cd-polluted soil. *Journal of Cleaner Production*, p.130267. (IF=11.07) (Cited=2)
- El-Sherif, D.M., Abouzid, M., Gaballah, M.S., Ahmed, A.A., [Adeel, M.](#) and Sheta, S.M., 2021. New approach in SARS-CoV-2 surveillance using biosensor technology: a review. *Environmental Science and Pollution Research*, pp.1-19.
- Ahmad, M.A., Deng, X., [Adeel, M.](#), Rizwan, M., Shakoor, N., Yang, Y. and Javed, R., 2021. Influence of calcium and magnesium elimination on plant biomass and secondary metabolites of *Stevia rebaudiana* Bertoni. *Biotechnology and Applied Biochemistry*.
- Pang, L.J., [Adeel, M.](#), Shakoor, N., Guo, K.R., Ma, D.F., Ahmad, M.A., Lu, G.Q., Zhao, M.H., Li, S.E. and Rui, Y.K., 2021. Engineered Nanomaterials Suppress the Soft Rot Disease (*Rhizopus stolonifer*) and Slow Down the Loss of Nutrient in Sweet Potato. *Nanomaterials*, 11(10), p.2572.
- Zhou, P., Zhang, P., Guo, M., Li, M., Wang, L., [Adeel, M.](#), Shakoor, N. & Rui, Y. 2021. Effects of age on mineral elements, amino acids and fatty acids in Chinese chestnut fruits. *Eur Food Res Technol* 247, 2079–2086.
- Guo, K. R., [Adeel, M.](#), Hu, F., Xiao, Z. Z., Wang, K. X., Hao, Y., Rui, Y. & Chang, X. L. 2021. Absorption of Carbon-13 Labelled Fullerene (C<sub>60</sub>) on Rice Seedlings and Effect of Phytohormones on Growth. *J. Nanosci Nanotech* 21(6):3197-3202.
- Hao, Y., Lv, R., Ma, C., [Adeel, M.](#), Zhao, Z., Rao, Y., Rui, Y. 2021 Graphitic carbon nitride (g-C<sub>3</sub>N<sub>4</sub>) alleviates cadmium-induced phytotoxicity to rice (*Oryza sativa L.*). *Environ Sci Pollut Res Int* 28(17):21276-21284.
- Zhou, P., [Adeel, M.](#), Shakoor, N., Guo, M., Hao, Y., Azeem, I., Li, M., Liu, M., Rui, Y. 2021. Application of Nanoparticles

Alleviates Heavy Metals Stress and Promotes Plant Growth: An Overview. *Nanomaterials* (Basel). 24;11(1):26.

- Li, M., P. Zhang, **Adeel M.**, Z. Guo, A. J. Chetwynd, C. Ma, T. Bai, Y. Hao, and Y. Rui. 2021. Physiological impacts of zero valent iron, Fe<sub>3</sub>O<sub>4</sub> and Fe<sub>2</sub>O<sub>3</sub> nanoparticles in rice plants and their potential as Fe fertilizers. *Env Pollution*:116134.
- Bai, T., Zhang, P., Guo, Z. **Adeel M.**, Y. Rui (2021). Different physiological responses of C3 and C4 plants to nanomaterials. *Env Sci Pollut Res*
- Zhou P, **Adeel M.**, Shakoore N, Guo M, Hao Y, Azeem I, Li M, Liu M, Rui Y. (2021). Application of Nanoparticles Alleviates Heavy Metals Stress and Promotes Plant Growth: An Overview. *Nanomaterials.*; 11(1):26.

## 2020

- **Adeel, M.** et al. Bioaccumulation of ytterbium oxide nanoparticles insinuate oxidative stress, inflammatory, and pathological lesions in ICR mice. *Env Sci Pollut Res* 27, 32944-32953, (2020).
- Ahmad, M. A., R. Javed, **Adeel M.**, M. Rizwan, and Y. Yang. 2020. PEG 6000-Stimulated Drought Stress Improves the Attributes of In Vitro Growth, Steviol Glycosides Production, and Antioxidant Activities in *Stevia rebaudiana* Bertoni. *Plants* 9(11):1552.
- Ahmad, M. A., Javed, R., **Adeel, M.**, Rizwan, M., Ao, Q. & Yang, Y. (2020). Engineered ZnO and CuO Nanoparticles Ameliorate Morphological and Biochemical Response in Tissue Culture Regenerants of Candyleaf (*Stevia rebaudiana*). *Molecules* 25(6): 1356.
- Hao, Y., Ma, C., White, J., **Adeel, M.**, Jiang, R., Zhao, Z., Rao, Y., Chen, G., Rui, Y. & Xing, B. (2020). Carbon-based nanomaterials alter the composition of the fungal endophyte community in rice (*Oryza sativa* L.). *Env Sci: Nano*. 7(7):2047-2060
- Huang, C., Wang, W., Yue, S., **Adeel, M.** & Qiao, Y. (2020). Role of biochar and *Eisenia fetida* on metal bioavailability and biochar effects on earthworm fitness. *Env Pollution*: 114586.
- Irshad, M. K., Chen, C., Noman, A., Ibrahim, M., **Adeel, M.** & Shang, J. (2020a). Goethite-modified biochar restricts the mobility and transfer of cadmium in soil-rice system. *Chemosphere* 242: 125152.
- Irshad, M. K., Noman, A., Alhaithloul, H. A., **Adeel, M.**, Rui, Y., Shah, T., Zhu, S. & Shang, J. (2020b). Goethite-modified biochar ameliorates the growth of rice (*Oryza sativa* L.) plants by suppressing Cd and As-induced oxidative stress in Cd and As co-contaminated paddy soil. *Science of The Total Env* 717: 137086.
- Tang, J., He, M., Luo, Q., **Adeel, M.** & Jiao, F. (2020). Heavy Metals in Agricultural Soils from a Typical Mining City in China: Spatial Distribution, Source Apportionment, and Health Risk Assessment. *Polish Journal of Environmental Studies* 29(2).
- Ullah, S., **Adeel, M.**, Zain, M., Rizwan, M., Irshad, M. K., Jilani, G., Hameed, A., Khan, A., Arshad, M. & Raza, A. (2020). Physiological and biochemical response of wheat (*Triticum aestivum*) to TiO<sub>2</sub> nanoparticles in phosphorous amended soil: A full life cycle study. *Journal of Environmental Management* 263: 110365.
- Wang, H., Zhao, Y., **Adeel, M.**, Liu, C., Wang, Y., Luo, Q., Wu, H. & Sun, L. (2020). Characteristics and Health Risk Assessment of Potentially Toxic Metals in Urban Topsoil in Shenyang City, Northeast China. *CLEAN-Soil, Air, Water* 48(1): 1900228.

## 2019

- **Adeel, M.** et al. (2019). Cryptic footprints of rare earth elements on natural resources and living organisms. *Env International* 127, 785-800,
- **Adeel, M.** et al. (2019). Exposure to nickel oxide nanoparticles insinuates physiological, ultrastructural and oxidative damage: A life cycle study on *Eisenia fetida*. *Env. Pollut.* 254, 113032,
- Ahmad, M. A., Yuesuo, Y., Ao, Q., **Adeel, M.**, Hui, Z. Y. & Javed, R. (2019). Appraisal of Comparative Therapeutic Potential of Undoped and Nitrogen-Doped Titanium Dioxide Nanoparticles. *Molecules* 24(21): 3916.
- Bashir, S., **Adeel, M.**, Gulshan, A. B., Iqbal, J., Khan, S., Rehman, M. & Azeem, M. 2019. Effects of organic and inorganic passivators on the immobilization of cadmium in contaminated soils: A review. *Environ Engin Science* 36(9): 986-998.
- Gao, X., Peng, Y., Zhou, Y., **Adeel, M.** & Chen, Q. (2019). Effects of magnesium ferrite biochar on the cadmium passivation in acidic soil and bioavailability for pakoi (*Brassica chinensis* L.). *Journal of environmental management* 251: 109610.
- Guo, K., Hu, A., Wang, K., Wang, L., Fu, D., Hao, Y., Wang, Y., Ali, A., **Adeel, M.** & Rui, Y. (2019). Effects of spraying nanomaterials on the absorption of metal (loid) s in cucumber. *IET nanobiotechnology* 13(7): 712-719.
- Hao, Y., Wang, Y., Ma, C., White, J. C., Zhao, Z., Duan, C., Zhang, Y., **Adeel, M.**, Rui, Y. & Li, G. (2019). Carbon nanomaterials induce residue degradation and increase methane production from livestock manure in an anaerobic digestion system. *Journal of Cleaner Production* 240: 118257.
- Rizwan, M., Mostofa, M. G., Ahmad, M. Z., Zhou, Y., **Adeel, M.**, Mehmood, S., Ahmad, M. A., Javed, R., Imtiaz, M. & Aziz, O. (2019). Hydrogen sulfide enhances rice tolerance to nickel through the prevention of chloroplast damage and the improvement of nitrogen metabolism under excessive nickel. *Plant Physiology and Biochemistry* 138: 100-111.
- Luo, Q., Wang, S., **Adeel, M.**, Shan, Y., Wang, H. & Sun, L.-n. (2019). Solvent demulsification-dispersive liquid-liquid microextraction based on solidification of floating organic drop coupled with ultra-high-performance liquid

chromatography-tandem mass spectrometry for simultaneous determination of 13 organophosphate esters in aqueous samples. *Scientific reports* 9(1): 1-11.

## 2018

- **Adeel, M.** et al. (2018). Natural and synthetic estrogens in leafy vegetable and their risk associated to human health. *Env. Sci. Pollut. Res* **25**, 36712-36723
- **Adeel, M.** et al. (2018). Uptake and transformation of steroid estrogens as emerging contaminants influence plant development. *Env. Pollution* **243**, 1487-1497
- Hao, Y., Yuan, W., Ma, C., White, J. C., Zhang, Z., **Adeel, M.**, Zhou, T., Rui, Y. & Xing, B. (2018). Engineered nanomaterials suppress Turnip mosaic virus infection in tobacco (*Nicotiana benthamiana*). *Env. Sci: Nano* 5(7): 1685-1693.
- Luo, Q., Shan, Y., **Adeel, M.**, Wang, S., Sun, L. & Wang, H. (2018). Levels, distribution, and sources of organophosphate flame retardants and plasticizers in urban soils of Shenyang, China. *Env Sci Pollut. Res* 25(31): 31752-31761.
- Mehmood, S., Rizwan, M., Bashir, S., Ditta, A., Aziz, O., Yong, L. Z., Dai, Z., Akmal, M., Ahmed, W. & **Adeel, M.** (2018). Comparative effects of biochar, slag and ferrous–Mn ore on lead and cadmium immobilization in soil. *Bulof env cont and toxi* 100(2): 286-292.
- Rizwan, M., Mostofa, M. G., Ahmad, M. Z., Imtiaz, M., Mehmood, S., **Adeel, M.**, Dai, Z., Li, Z., Aziz, O. & Zhang, Y. (2018). Nitric oxide induces rice tolerance to excessive nickel by regulating nickel uptake, reactive oxygen species detoxification and defense-related gene expression. *Chemosphere* 191: 23-35.
- Song, X., Wen, Y., Wang, Y., **Adeel, M.** & Yang, Y. (2018). Environmental risk assessment of the emerging EDCs contaminants from rural soil and aqueous sources: analytical and modelling approaches. *Chemosphere* 198: 546-555.
- Yang, J., Jiang, F., Ma, C., Rui, Y., Rui, M., **Adeel, M.**, Cao, W. & Xing, B. (2018). Alteration of crop yield and quality of wheat upon exposure to silver nanoparticles in a life cycle study. *Journal of agricultural and food chemistry* 66(11): 2589-2597.

## 2017

- **Adeel, M.** et al. Environmental impact of estrogens on human, animal and plant life: A critical review. *Env International* **99**, 107-119,(2017). (IF=13.35) (Cited=661) **Top Cited** (Covered by >100 media networks, including blogs and policy making Agencies)

## PATENT

- Rui Yukui, **Adeel M.**, Zhou Pingfan, Hou Fuxin, Yang Guoquan, Hao Yi, Li Mingshu, Zhang Yangang; Application of multi walled carbon nanotubes in inhibiting tobacco mosaic virus infection, 2021-07-26, China, ZL2020109774041

## BOOK CHAPTER

Zain, M., **Adeel, M\***, et al., .(2022). Organics phosphorous as an alternative to commercial phosphatic fertilizer. In: Phosphorus Use Efficiency for Sustainable Agriculture. Sustainable Agriculture Reviews. *Springer Nature*. DOI:10.1007/978-3-031-16155-1\_3

**Adeel, M\***, et al. (2023) Assessment of Manufactured Nano Objects on Earthworms Species. Nano-enabled Sustainable and Precision Agriculture. *Elsevier*. (Accepted)

Shakoor, N., **Adeel, M\***, et al., (2023). Exploring the Effects of Iron Nanoparticles on Plants: Growth, Phytotoxicity, and Defense Mechanisms. In Smart Nanomaterials Technology (pp. 978-981). *Springer Nature*. (Accepted)

## CONFERENCE PAPERS

1. **Muhammad Adeel**, Mingshu Li, Rui Yukui: Ecotoxicological effect of nickel oxide nanoparticles on earthworms (*E. fetida*): A life cycle study. The 3rd International Conference on Bioresources, Energy, Environment and Materials Technology 2019 (BEEM2019), Hong Kong; 06/2019
2. **Muhammad Adeel**: Bioavailability and toxicity of nanoscale/bulk rare earth oxides in soil: Physiological and ultrastructural alterations in *E. fetida* First Symposium on Recycling of Organic Resources and Graduate Student Forum in Environmental Field, China Agricultural University, 21.01.2021