

Curriculum Vitae
Dr. Mohammad Mofizur Rahman Jahangir

**Current Position**

Professor
Department of Soil Science
Bangladesh Agricultural University
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Education

Postdoc : Carbon and Nitrogen Biogeochemistry - 2015; Trinity College Dublin.
Ph.D. : Denitrification in subsoils & groundwater- 2012; Trinity College Dublin.
M.Sc. : Physical Land Resources - 2008, Ghent University, Belgium
M.S. : Soil Science - 2003, Bangladesh Agricultural University.
B.Sc.Ag.: Agriculture - 1998, Bangladesh Agricultural University.

Journal Editorial Services

1. Editor-in-Chief, Journal of Soil and Nature;
2. Editorial Board member:
 - Frontiers in Soil Science
 - Agricultural Science (North America),
 - Advances in Plant and Agriculture Research (USA),
 - Hydro Science and Marine Engineering (Singapore),

Professional Positions

1. Professor; 19/01/2017 to date; Dept. Soil Sci., Bangladesh Agricultural University (BAU)
2. Associate Professor; 19/01/12 to 18/01/2017; Dept. Soil Sci., BAU
3. Postdoc Fellow; 01/03/2013 to 28/02/2015; Dept. Civil. Struc. & Environ. Eng., Trinity College Dublin, Ireland
4. PhD Fellow; 13/09/08 to 18/01/12; Dept. Civil, Struc. & Environ. Eng. Trinity College Dublin, Ireland
5. Visiting Fellow: 27/03/2008 to 13/08/2008; Rothamsted Research (North Wyke), UK
6. M.Sc. Fellow; 18/09/06 to 12/09/2008; Dept. Appl. Anal. & Physic. Chem., Ghent University, Belgium
7. Assistant Professor; 28/04/05 to 17/09/2006; Dept. of Soil Sci., BAU, Mymensingh
8. Lecturer; 18/01/03 to 27/04/2005; Dept. of Soil Sci., BAU, Mymensingh

Consultancy

Establishing National Land Use and Land Degradation Profile toward Mainstreaming SLM practices in sector policies (ENALULDEP/SLM) Project, during March 2019 to May 2019 Department of Environment, Ministry of Environment Forests and Climate Chang, Government of the people's Republic of Bangladesh.

Research Projects in Progress

1. PI: Nutrient Management for Diversified Cropping in Bangladesh (NUMAN); funded by KGF and Australian Center for International Agril. Res. Duration 2018-2022 (5 years)
2. PI: Development of a field scale nutrient balance calculator for crops of an intensively managed agricultural system, funded by Bangladesh Academy of Sciences (BAS); Duration 2020-2022.
3. PI: Estimating Nitrogen Management Indices: A Guide to Efficient Fertilizer Nitrogen Management for Better Crop Production and Climate Change Mitigation; funded by BAU/UGC. Duration 2022-2023 (Two years).

4. Counterpart of IAEA regional TC project: Balancing Climate and Food Security for Sustainable Rice Production in Bangladesh: Insights into isotope tracer techniques; duration 2022-2025.
5. Counterpart of IAEA CRP project: Developing Climate Smart Agricultural practices for carbon sequestration and mitigation of greenhouse gases; duration 2021-2024.

Research Project Completed

1. **National Project Coordinator of IAEA Technical Cooperation Project RAS5083**– Reducing Greenhouse Gas Emissions from Agriculture and Land Use Changes through Climate Smart Agricultural Practices, duration 2018-2021.
2. Improvement of crop productivity and soil health in acidic and char land soils of Bangladesh through organic amendments; funded by World Bank under NATP-2; duration 2018-2020 (3 Years). (PI)
3. Improving soil resilience to climate change for sustainable crop production through climate smart agricultural technologies; funded by BAURES, duration 2017-2019 (2 years). (PI)
4. Climate Smart Agriculture: A Solution for Sustainable Food and Environmental Security in Bangladesh during 2016-2017 (PI; funded by BAURES).
5. Gross Nitrogen Transformation in Subtropical Paddy Rice Soils: Insights into ¹⁵N Tracer Technique; funded by The World Academy of Sciences, duration 2017/2018 (1 year). (PI)
6. Identification of the best agricultural management practices with better greenhouse gas benefits in salinity affected areas of South Asia; funded by Asia Pacific Network for global change research; duration 2017-2018 (2 years). (Co-PI)
7. Direct application of rock phosphate in Bangladesh agriculture (2004-2006) funded by International Phosphate Institute (IMPOS) (Co-PI).
8. Sustainable crop production in salinity affected areas of southern Bangladesh through organic and inorganic amendments, financially supported by Ministry of Science and Technology, Bangladesh, during 2012-2013 (Co-PI).
9. Confronting the indigo giant: does the memory of Indigo cultivation still haunt Bangladesh? Funded by GCRF, UK; duration 2019-2020. (Co-PI)
10. A novel biogas-driven remediation system for remediate chromium contaminated water bodies in Bangladesh. Funded by GCRF, UK; duration 2018-2019. (Co-PI)

Research Interest

Agricultural technologies for climate change adaptation and mitigation; Soil-water-crop management towards improved ecosystem services of soil and sustenance of soil health; Production, transport and emissions of greenhouse gas in terrestrial and aquatic ecosystems; Nutrient mass fluxes; Isotope biogeochemistry of C, N and P; and Management of soils of unfavourable ecosystems.

List of Publications

Articles Published in Peer Reviewed Journals

1. Amin, M.G., Lima, L.A., Rahman, A., **Jahangir, M.M.R.** 2022. Dairy Manure Application Effects on Water Percolation, Nutrient Leaching and Rice Yield Under Alternate Wetting and Drying Irrigation. International Journal of Plant Production. <https://doi.org/10.1007/s42106-022-00221-4>.
2. Mumu, N.J., **Jahangir, M.M.R.** Mahjabin, F., Asif, M.A.A, Shahiduzzaman, M. Islam, M.R. 2022. Tannery industry impacts on hydrogeochemistry and heavy metal contents of two major rivers in Dhaka. International Journal of Natural and Social Sciences, 2022, 9(2):01-1. <https://doi.org/10.5281/zenodo.7088692>.
3. Rahman, M., Hassan, A., Hossain, I., **Jahangir, M.M.R.**, Chowdhury, E.H., Parvin, R. 2022. Current state of poultry waste management practices in Bangladesh, environmental concerns, and future recommendations. Journal of Advanced Veterinary and Animal Research, 9 (3): 490-500. <http://doi.org/10.5455/javar.2022.i618>.

4. **Jahangir, M.M.R.**, Rahman, S., Mumu, N.J., Biswas, C., Jahiruddin, M., Mueller, C. Zaman, M. 2022. Crop residue interactions with fertilizer rate enhances volatilization loss and reduces nitrogen use efficiency in irrigated maize and potato. Archives of Agronomy Soil Science. <https://doi.org/10.1080/03650340.2022.2117303>.
5. Kader, M.A., **Jahangir, M.M.R.**, Islam, M.R., Begum, R., Nasreen, S.S., Islam, Md.R., Mahmud, A.A., Haque, M.E., Bell, R.W., Jahiruddin, M. 2022. Long-term conservation agriculture increases nitrogen use efficiency by crops, land equivalent ratio and soil carbon stock in a subtropical rice-based cropping system. Field Crop Research, 287, 108636. <https://doi.org/10.1016/j.fcr.2022.108636>.
6. Kumar, U., Cheng, M., Islam, M.J., Maniruzzaman, M., Nasreen, S.S., Haque, M.E., Rahman, M.T., Jahiruddin, M., Bell, R.W., **Jahangir, M.M.R.** 2022. Long-term Conservation Agriculture increases sulfur pools in soils together with increased soil organic carbon compared to conventional practices. Soil and Tillage Research. 223, 105474. <https://doi.org/10.1016/j.still.2022.105474>.
7. Begum R., **Jahangir, M.M.R.**, Jahiruddin, M., Islam, R., Bokhtiar, S.M., Islam, K.R. 2022. Reduced tillage with residue retention improves labile carbon pools and management indices of soils in a seven-year trial with wheat-mung bean-rice rotation. Pedosphere. <https://doi.org/10.1016/j.pedsph.2022.06.016>.
8. **M.M.R. Jahangir**, R.W. Bell, S. Uddin, J. Ferdous, S.S. Nasreen, M.E. Haque, M.A. Satter, M. Zaman, W. Ding, M. Jahiruddin, C. Müller. 2022. Conservation agriculture with optimum fertilizer nitrogen rate reduces GWP for rice cultivation in floodplain soils. Frontiers in Environmental Science-Biogeochemical Dynamics. <https://doi.org/10.3389/fenvs.2022.853655>.
9. Rahman, M.M., Islam, M.R., Uddin, S., Rahman, M.M., Gaber, A., **Jahangir, M.M.R.** 2021. Biochar and Compost-Based Integrated Nutrient Management: Potential for Carbon and Microbial Enrichment in Degraded Acidic and Charland Soils. Frontiers in Environmental Sciences, Front. Environ. Sci. 9:798729. <https://doi.org/10.3389/fenvs.2021.798729>.
10. Rahman, M., **Jahangir, M.M.R.**, Kibria, M.G., Hossain, M., Hosenuzzaman, M., Solaiman, M., Abedin, M.A. 2022. Determination of Critical Limit of Zinc for Rice (*Oryza sativa* L.) and Potato (*Solanum tuberosum* L.) Cultivation in Floodplain Soils of Bangladesh. Sustainability, 14, 167. <https://doi.org/10.3390/su14010167>.
11. Rahman, M.M., Uddin, S., **Jahangir, M.M.R.**, Solaiman, Z.M., Alamri, S., Islam, M.R. 2021. Integrated nutrient management enhances crop productivity and nitrogen use efficiency of crops with subsequent improvement in physicochemical properties of acidic and charland soils. Plants, 10, 2547. <https://doi.org/10.3390/plants10112547>.
12. Uddin, S., Islam, M.R., **Jahangir, M.M.R.**, Rahman, M.M., Hassan, S., Hassan, M.M., Ali A., Abo-Shosha, Rahman, M.M. 2021. Biochar Based Integrated Nutrient Management Possesses Low Net Nitrogen Release under Contrasting Soil Types and Moisture Regimes: A Laboratory Incubation Study. Agronomy, 11, 2163. <https://doi.org/10.3390/agronomy11112163>.
13. **Jahangir, M.M.R.**, Islam, S., Nitu, T.T., Uddin, S.S., Kabir, A.K.M.A., Meah, B., Islam K.R. 2021. Bio-compost-Based Integrated Soil Fertility Management Improves Postharvest Soil Structural and Elemental Quality in a Two-Year Conservation Agriculture Practice. Agronomy. 11, 2101. <https://doi.org/10.3390/agronomy11112101>.
14. Begum, R., **Jahangir, M.M.R.**, Jahiruddin, M., Islam, M.R., Rahman, M.T., Rahman, M.L., Ali, M.Y., Hossain, M.B., Islam, K.R. 2021. Nitrogen Fertilization Impact on Soil Carbon Pools and their Stratification and Lability in Subtropical Wheat-Mungbean-Rice Agroecosystems. PLoS ONE 16(10): e0256397. <https://doi.org/10.1371/journal.pone.0256397>.
15. **Jahangir, M.M.R.**, T.T. Nitu, S. Uddin, A. Siddaka, P. Sarker, S. Khan, M. Jahiruddin, C. Müller. 2021. Carbon and nitrogen accumulation in soils under conservation agriculture practices decreases with nitrogen application rates. Applied Soil Ecology, 168, 104178. <https://doi.org/10.1016/j.apsoil.2021.104178>.
16. M.G. Mostofa Amin, Ajida Akter, **Jahangir, M.M.R.**, Tambir Ahmed. 2021. Leaching and runoff potential of nutrient and water losses in rice field as affected by alternate wetting and drying irrigation. Journal of Environmental Management. 297, 113402. <https://doi.org/10.1016/j.jenvman.2021.113402>.
17. Begum, R., **Jahangir, M.M.R.**, Jahiruddin, M., Islam, M.R., Bokhtiar, S.M., Islam, K.R. 2021. Reduced tillage with residue retention enhances labile carbon pools and management indices in soils in a 7-years trial with wheat-mung bean-rice pattern. Pedosphere, 32, 1-12.

18. Rashed, M., Hoque, T., **Jahangir, M.M.R.**, and Hashem, M. 2021. Manganese as a Micronutrient in Agriculture: Crop Requirement and Management. *J. Environ. Sci. Nat. Res.* 12(1-2), 225-242. <https://doi.org/10.3329/jesnr.v12i1-2.52040>.
19. **Jahangir, M.M.R.**, M. Jahiruddin, H. Akter, R. Pervin, and K.R. Islam. 2021. Cropping diversity with rice influences soil aggregate formation and nutrient storage under different tillage systems. *J. Plant Nutr. Soil Sci.* 184, 150-162. <https://doi.org/10.1002/jpln.202000310>.
20. Uddin, U., T.T. Nitu, U.M. Milu, S.S. Nasreen, M. Hosenuzzaman, M.E. Haque, B. Hossain, M. Jahiruddin, R.W. Bell, C. Müller, **M.M.R. Jahangir**. 2021. Ammonia fluxes and emission factors under an intensively managed wetland rice ecosystem. *Environmental Science: Processes & Impacts*, 23, 132-143. <https://doi.org/10.1039/D0EM00374C>.
21. **Jahangir, M.M.R.**, R. Begum, M. Jahiruddin, K. Dawar, M. Zaman, R.W. Bell, K.G. Richards, C. Müller. 2021. Reduced Tillage with Residue Retention and Nitrogen Application Rate Increase N₂O Fluxes from Irrigated Wheat in a Subtropical Floodplain Soil. *Agril. Ecosyst. Environ.* 306, 107194. <https://doi.org/10.1016/j.agee.2020.107194>.
22. **Jahangir, M.M.R.**, O. Fenton, P. Johnston, K.G. Richards, C. Müller. 2020. Application of 15N tracing for estimating nitrogen cycle processes in soils of a constructed wetland. *Water Research* 183:116062. <https://doi.org/10.1016/j.watres.2020.116062>.
23. **Jahangir, M.M.R.**, Jahan, I., Mumu, N.J., 2019. Management of Soil Resources for Sustainable Development under a Changing Climate. *J. Environ. Sci. & Natural Resources*, 11(1&2):159-170, 2018. <https://doi.org/10.3329/jesnr.v11i1-2.43383>.
24. **Jahangir, M.M.R.**, Owen Fenton, Eoin McAleer, Paul Johnston, Rory Harrington, Karl G. Richards. 2019. Reactive carbon and nitrogen concentrations and dynamics in groundwater beneath an earthen-lined integrated constructed wetland. *Ecological Engineering*, 126, 55-63. (<https://doi.org/10.1016/j.ecoleng.2018.10.021>).
25. **Jahangir, M.M.R.**, O. Fenton, P. Carroll, R. Harrington, P. Johnston, K.G. Richards. 2017. *In situ* denitrification and DNRA rates in groundwater beneath a constructed wetland. *Water Res.*, 111, 254-264. <https://doi.org/10.1016/j.watres.2017.01.015>.
26. Owen Fenton, Per-Eric Mellander; Karen Daly; David Wall; **M.M.R. Jahangir**; Phil Jordan ; Deirdre Hennessey; Manuela Huebsch; Philipp Blum; Sara Vero; Karl G Richards. 2017. Integrated assessment of agricultural nutrient pressures and legacies in karst landscapes. *Agril. Ecosyst. Environ.*, 239, 246-256. <https://doi.org/10.1016/j.agee.2017.01.014>.
27. E.B. McAleer, C.E. Coxon, K.G. Richards, **M.M.R. Jahangir**, J. Grant, Per.E. Mellander. 2017. Groundwater nitrate reduction versus dissolved gas production: A tale of two catchments. *Sci. Total Environ.*, 586, 372-389
28. Forrestal, P., Krol, D., Lanigan, G., **Jahangir, M.M.R.**, Richards, K.G. 2017. An evaluation of urine patch simulation methods for nitrous oxide emission measurement. *J. Agril. Sci.* DOI: <https://doi.org/10.1017/S0021859616000939>.
29. B.P. Hyde, P.J. Forrestal, **M.M.R. Jahangir**, M. Ryan, A.F. Fanning, O.T. Carton, G.J. Lanigan, K.G. Richards. 2016. The interactive effects of fertiliser nitrogen with dung and urine on nitrous oxide emissions in grassland. *Irish J. Agril. Food Res.*, 55(1), 2016 AOP. <https://doi.org/10.1515/ijafr-2016-0001>.
30. **M.M.R. Jahangir**, Fenton, O., Gill, L., Müller, C., Johnston, P., Richards, K.G. 2016. Carbon and nitrogen dynamics and greenhouse gas emissions in constructed wetlands treating wastewater: a review. *Hydrol. Earth Syst. Sci.*, 20, 109-123. <https://doi.org/10.5194/hess-20-109-2016>.
31. Barrett, M., Khalil, M.I., **Jahangir, M.M.R.**, Richards, K.G. 2016. Carbon amendment and soil depth affect the distribution and abundance of denitrifiers in agricultural soils. *Environ. Sci. Pollut. Res.* 23(8), 7899-7910. <https://doi.org/10.1007/s11356-015-6030-1>.
32. E.P. Minet, **M.M.R. Jahangir**, D.J. Krol, N. Rochford, O. Fenton, D. Rooney, G. Lanigan, P.J. Forrestal, C. Breslin, K.G. Richards. 2016. Amendment of cattle slurry with the nitrification inhibitor dicyandiamide during storage: A new effective and practical N₂O mitigation measure for land spreading. *Agril. Ecosyst. Environ.*, 215, 68–75. <https://doi.org/10.1016/j.agee.2015.09.014>.
33. K.G. Richards, **M.M.R. Jahangir**, M. Drennan, J.J. Lenehan, J. Connolly, C. Brophy, O.T. Carton. 2015. Effect of an Agri-environmental Measure on Nitrate Leaching from a Beef Farming System in Ireland. *Agric. Ecosyst. Environ.* 202, 17-24. <https://doi.org/10.1016/j.agee.2014.12.020>.
34. **M.M.R. Jahangir**, Minet, E.P., Johnston, P., Premrov, A., Coxon, C., Hackett, R., Richards, K.G. 2014. Mustard catch crop enhances denitrification in shallow groundwater beneath a spring barley field. *Chemosphere*, 103, 234-239. <https://doi.org/10.1016/j.chemosphere.2013.11.072>.

35. Fenton, O., Healy, M.G., Brennan, F., **Jahangir, M.M.R.**, Lanigan, G.J., Richards, K.G., Thornton, S.F., Ibrahim, T.G. 2014. Permeable reactive interceptors – blocking diffuse nutrient and greenhouse gas losses in key areas of the farming landscape. *J. Agric. Sci.*, 152, 34-44. <https://doi.org/10.1017/s0021859613000944>.
36. **Jahangir, M.M.R.**, Johnston, P., Addy, K., Khalil, M.I., Groffman, P., Richards, K.G. 2013. Quantification of *in situ* denitrification rates in groundwater below an arable and a grassland system. *Water Air Soil Pollut.*, 224(9):1693 (1-14). <https://doi.org/10.1007/s11270-013-1693-z>.
37. **Jahangir, M.M.R.**, Johnston, P., Barrett, M., Khalil, M.I., Groffman, P., Boeckx, P., Fenton, O., Murphy, J. Richards, K.G. 2013. Denitrification and indirect N₂O emissions in groundwater: hydrologic and biogeochemical influences. *J. Contam. Hydrol.*, 152, 70-81. <https://doi.org/10.1016/j.jconhyd.2013.06.007>.
38. Barrett, M., **Jahangir, M.M.R.**, Lee, C., Smith, Cindy J., Bhreathnach, N., Collins, G., Richards, Karl G., O'Flaherty, V. 2013. Abundance of denitrification genes under different piezometer depths in four Irish agricultural groundwater sites. *Environ. Sci. Pollut. Res.*, 20, 6646-6657. <https://doi.org/10.1007/s11356-013-1729-3>.
39. **Jahangir, M.M.R.**, Johnston, P., Grant, J., Somers, C., Khalil, M.I., Richards, K.G. 2012. Evaluation of headspace equilibration methods for measuring greenhouse gases in groundwater. *J. Environ. Manage.*, 111, 208-212. <https://doi.org/10.1016/j.jenvman.2012.06.033>.
40. **Jahangir, M.M.R.**, Johnston, P., Khalil, M.I., Richards, K.G. 2012. Groundwater: A pathway for terrestrial C and N losses and indirect greenhouse gas emissions. *Agric. Ecosysts. Environ.*, 159, 40-48. <https://doi.org/10.1016/j.agee.2012.06.015>.
41. **Jahangir, M.M.R.**, Johnston, P., Khalil, M.I., Richards, K.G. 2012. Linking hydrogeochemistry to nitrate abundance in groundwater in agricultural settings in Ireland. *J. Hydrol.*, 248-249, 212-222. <https://doi.org/10.1016/j.jhydrol.2012.04.054>.
42. **Jahangir, M.M.R.**, Khalil, M.I., Johnston, P.M., Cardenas, L.M., Butler, M., Hatch, D., Barrett, M., O'Flaherty, V., Richards, K.G. 2012. Denitrification potential in subsoils: A mechanism to reduce nitrate leaching to groundwater. *Agric. Ecosysts. Environ.*, 147, 13-23. <https://doi.org/10.1016/j.agee.2011.04.015>.
43. **Jahangir, M.M.R.**, Roobroeck, D., Van Cleemput, O., Boeckx, P. 2011. Spatial variability and biophysicochemical controls on N₂O emissions from differently tilled arable soils. *Biol. Fert. Soils*, 47(7), 753-766. <https://doi.org/10.1007/s00374-011-0580-2>.
44. **Jahangir, M.M.R.**, Johnston, P., Khalil, M.I., Richards, K.G. 2010. Assessing groundwater denitrification under two contrasting land uses in South East Ireland. *Adv. Animal Biosci.*, 1(1): 87-87. <https://doi.org/10.1017/s204047001000230x>.
45. Rahman, S.M., Matin, M.A., **Jahangir, M.M.R.**, 2006. Effect of tillage intensity and organics on root growth and yield of BRRI dhan30. *Bangladesh J. Crop Sci.* 17(1), 47-52.
46. Rahman, S.M., **Jahangir, M.M.R.**, S. Sharmin. 2006. Effects of integrated application of organic and inorganic fertilizers with different tillage practices on soil properties. *Bangladesh J. Prog. Sci. Tech.* 4(2), 141-146.
47. Alam, N., **Jahangir, M.M.R.**, Haque, M.Q., Rahman, M.H., Alam, F., 2005. Extractable sulphur in some selected soils of Bangladesh and its critical limits for mustard. *Bangladesh J. Crop Sci.* 16(1), 87-94.
48. Haque, M.A., Farooque, M.A., Jahangir, M.M.R., Rahman, M.H., Matin, M.A., 2005. Extractable phosphorus in some selected soil types of Bangladesh and its critical limits for mustard. *J. Bangladesh Agril. Univ.* 3(1), 21-28.
49. Farzana, T., Rahman, M.M., Rahman, M.S., Jahangir, M.M.R., 2005. Effect of cowdung and urea on the yield and quality of summer tomato. *Bangladesh J. Crop Sci.* 16 (2), 333-338.
50. M.Z. Zaman, M.A. Abedin, M. Hossain, M.M.R. Jahangir, M.K. Samim. 2005. Response of inbred and hybrid rice to different fertilizers. *Bangladesh j. crop sci.* 16(2): 315-318.
51. Jahangir, M.M.R., Matin, M.A., 2004. Effects of depth of tillage and manuring on soil physical properties and root growth and yield of rice. *Progress. Agric.* 15 (1), 343-350.
52. Jahangir, M.M.R., Matin, M.A., 2004. Changes in soil chemical properties as influenced by tillage depth and manuring for aman rice cultivation. *Bangladesh J. Environ. Sci.* 10, 177-182.
53. Farooque, M.A., Jahangir, M.M.R., Haque, M.Q., 2004. Physical and chemical properties of soils of some selected agro-ecological zones of Bangladesh. *J. Bangladesh Soc. Agril. Sci. Tech.* 1(1&2), 143-147.

54. Alam, F., Matin, M.A., Jahangir, M.M.R., Rahman, M.Z., 2004. Seasonal variations in chemical properties and physical properties of some coastal saline soils of Bangladesh. *Bangladesh J. Environ. Sci.* 10, 290-294.

Articles Published in Proceedings of International Societies

1. M.M.R. Jahangir. 2019. Assessment of *Trichocompost* for elemental quality and heavy metal content and application in mustard-rice-rice pattern. Book of Presentations, 2019. International Workshop on Recycled Use of Food Waste held in Hotel Suyuan, Shanghai, China during 11-13 January 2019, pp. 112-118.
2. M.M.R. Jahangir, R. Pervin, M. Jahiruddin. 2018. Cropping systems and conservation tillage impacts on soil health and functionality in a rice ecosystem. Proceedings, 21st WCSS, Brazil.
3. Jahangir, M.M.R. 2018. Conservation agriculture in rice ecosystem: A holistic approach to enhance crop productivity and soil health. Proceedings of the Conference on Global Climate being held in Guilin, China during 23-25 march 2018, China, p. 16.
4. Jahangir, M.M.R., Pervin, R. 2018. Conservation Agriculture Reduces Agricultural Input While Sustaining Soil Quality Indicators And Crop Production. 1st International Conference on Challenges for Future Agriculture, being held at Bangladesh Agricultural University, Mymensingh during 27-28 January 2018.
5. Jahangir, M.M.R., Jahiruddin, M. 2017. Conservation agriculture in rice ecosystem: A holistic approach to enhance crop productivity and soil health. Proceedings of the South Asian Regional Conference on ICT and Knowledge Management. pp. 4-5.
6. Alam, Z., Bakr, A., Jahangir, M.M.R. 2017. Short-term effects of tillage and water management on soil aggregate size distribution and stability in subtropical rice cultivation. Proceedings of the 2nd conference on conservation agriculture for smallholders. pp. 148-150.
7. Eoin McAleer, Per-Erik Mellander, Catherine Coxon, Karl G Richards, M.M R. Jahangir. 2015. Groundwater denitrification in two agricultural river catchments: influence of hydro-geological setting and aquifer geochemistry. *Geophysical Research Abstracts*, Vol. 17, EGU2015-12889.
8. M.M.R. Jahangir, Owen Fenton, Eoin McAleer, Paul Carroll, Rory Harrington, Paul Johnston, Christoph Müller, Karl Richards. 2015. In situ denitrification and DNRA rates in soils and underlying groundwater of an integrated constructed wetland. *Geophysical Research Abstracts*, Vol. 17, EGU2015-15127.
9. Owen Fenton, Per-Erik Mellander, Karen Daly, David P. Wall, M.M.R. Jahangir, Phil Jordan, Deirdre Hennessey, Manuela Huebsch, Philipp Blum, Sara Vero, Karl G. Richards. 2017. Nutrient pressures and legacies in a small agricultural karst catchment. *Geophysical Research Abstracts*, Vol. 19, EGU2017-16802.
10. Jahangir, M.M.R., Minet, E.P., Johnston, P., Coxon, C., Richards, K.G. 2014. In situ denitrification rates in shallow groundwater beneath a spring barley - mustard cover crop system. *Geophysical Research Abstracts*, Vol. 16, EGU2014-3952-1.
11. Jahangir, M.M.R., Minet, E.P., Johnston, P., Coxon, C., Richards, K.G. 2014. Hydrogeochemical controls on the occurrence of nitrate in groundwater. IAH- Irish Group Annual Conference held during 15-16 April, 2014, Tullamore, Ireland, p. 3 (SPS).
12. Jahangir, M.M.R., Johnston, P., Richards, K.G. 2014. Indirect emissions of N₂O, CO₂ and CH₄ via groundwater in contrasting agricultural systems. Proceedings of the AGFORUM conference held during 10-11 March, 2014 in Offaly Ireland. p 42.
13. Jahangir, M.M.R., Richards, K.G., Fenton, O., Carroll, P., Harrington, R., Johnston, P. 2014. Carbon and nitrogen dynamics: Greenhouse gases in groundwater beneath a constructed wetland treating municipal wastewater. Proceedings of the ENVIRON conference held during 26-28 Feb, 2014 at TCD, Dublin. p 51.
14. Jahangir, M.M.R., Richards, K.G., Johnston, P. 2013. Groundwater derived greenhouse gas emissions from contrasting agricultural settings. Abstract 350-2, ASA, CSSA & SSSA Annual Meeting, 3-6 Nov. Tampa, USA.
15. Jahangir, M.M.R., Johnston, P., Richards, K.G. 2013. Hydrologic and geochemical influences on nitrate abundance in groundwater in agricultural settings. Abstract 145-4, ASA, CSSA & SSSA Annual Meeting, 3-6 Nov. Tampa, USA.
16. Jahangir, M.M.R., Johnston, P., Richards, K.G. 2012. Terrestrial carbon and nitrogen losses and indirect greenhouse gas emissions via groundwater. Proceedings of the 17th N Workshop, Wexford, Ireland, pp. 232-233.

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23. Jahangir, M.M.R. 2010. Short-term tillage effects on soil aggregate distribution and fungal abundance in an arable field. In: College on Soil Physics: Physical Properties and Processes Under Climate Change, 30 Aug- 10 Sep/2010, Book of Abstracts, , p. 51, The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy.
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27. Jahangir, M.M.R., Johnston, P., Khalil, M. I., Richards, K. G. 2010. Indirect emissions of N₂O from Irish groundwater. In: A Climate for Change: Opportunities for Carbon-Efficient Farming, Book of Abstracts, p. 65. Teagasc International Conference, Dublin, Ireland.
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31. Jahangir, M.M.R., Johnston P.M., Khalil, M.I., Richards, K.G. 2010. Comparison of two sampling methods for groundwater dissolved gas analysis. Proceedings, pp. 88-89, 20th Annual Irish Environmental Researcher's Colloquium, LIT, Ireland.
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2. Zaman M. et al. (2021) Greenhouse Gases from Agriculture. In: Zaman M., Heng L., Müller C. (eds) Measuring Emission of Agricultural Greenhouse Gases and Developing Mitigation Options using Nuclear and Related Techniques. Springer, Cham. https://doi.org/10.1007/978-3-030-55396-8_1.
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10. Jahangir, M.M.R. 2015. Sustainable management and protection of soil resources- foundation for sustainable development. In: Means and end for sustainable agriculture. Musa, M., Gurung, T.R., Jahan, F.N, Bokhtiar, S.M. (Eds.), SAARC Agriculture Centre, Dhaka. pp. 91-113.

Editorial/Bulletin

11. Jahangir, M.M.R. 2016. Soil: A weapon for food security and climate change adaptation and mitigation. J. Adv. plant Agric. Res., 3(3): 00095. doi: [10.15406/apar.2016.03.00095](https://doi.org/10.15406/apar.2016.03.00095).
12. Jahangir, M.M.R. 2017. Caring Soils for Sustainable Food and Environmental Security under the Changing Climate in Bangladesh. BAU Teachers Council 2016.

Articles Published in Technical Reports

1. Jahangir, M.M.R., Richards, K.G., Fenton, O., and Johnston, P. 2013. Nitrogen cycle processes and greenhouse gas balance in wetland in an urban landscape. In: O hUallahchain, D., Fenton, O., Foley, M. (Eds.), Ireland's Rural environment: Research Highlights from Johnstown Castle. pp. 43 - 44, Teagasc, Ireland.
2. Richards, K.G., Khalil, I., Fenton, O., Haria, A., Barrett, M., Jahangir, M.M.R., Johnston, P. 2009. Groundwater denitrification in Irish Agroecosystems. Groundwater Newsletter, 47, pp. 15-16, Geological Survey of Ireland.
3. Richards, K.G., Khalil, I., Fenton, O., Haria, A., Barrett, M., Jahangir, M.M.R., Johnston, P., and O'Flaherty, V. 2009. Discovering subsurface denitrification. T Research, 4 (3), 26-27.

4. Jahangir, M.M.R., Johnston, P., Khalil, M.I., Richards, K.G. 2009. Shallow groundwater N₂O and excess-N₂ concentrations under two contrasting hydrogeochemical settings in Ireland. Research Report 2009, pp. 70-71, Johnstown Castle Environment Research Centre, Ireland.
5. Jahangir, M.M.R., Khalil, M.I., Johnston, P., Richards, K.G., Murphy, J. B., and Brennan, D. 2009. Assessment of groundwater denitrification capacity by analysing dissolved gases using Membrane Inlet Mass Spectrometer. In: Lalor, S., Hoekstra, N. (Eds.), Ireland's Rural Environment: Research Highlights from Johnstown Castle Environment Research Centre, pp. 33-34, Teagasc, Ireland.

Academic Awards

1. BAUTA Best Publication Award 2021
2. Global Research Impact Recognition Award 2020
3. BAUTA Best Publication Award 2018
4. ACIAR Launch Funding 2018 (A\$ 6422.00) Travel Grant
5. TWAS Research Grant Award 2017- Administered by UNESCO.
6. SAARC Agriculture Centre Essay Competition Award 2015 on securing the 1st prize in university teachers and NARIs scientists category.
7. TTORCH Short Visit Grant under the European Science Foundation RNP for a two weeks research visit to the University of Helsinki, Finland.
8. IRC Postdoctoral Fellowship 2013.
9. Teagasc 'Paper Tiger Competition Award 2012', Johnstown Castle, Ireland
10. VLIR-UOS Scholarship for Short Research Stay (Dec, 2011 - Feb, 2012) at Ghent University, Belgium
11. The IAH- Irish Chapter Student Bursary 2010
12. Walsh Fellowship for Ph.D. research in Environ. Eng. at Trinity College Dublin, 2008.
13. ICTP Scholarship for training course 'College on Soil Physics: Soil Physical Properties and Processes under Climate Change', The Abdus Salam International Centre for Theoretical Physics in association with IAEA and UNESCO, 2-15 Sep, 2010, Trieste, Italy.
14. VLIR-UOS Scholarship for ICP (short intensive training course) on microscopy of soils and regoliths in tropical and subtropical regions, International Training Centre for Post Graduate Soil Scientists, 28 Aug-11 Sep, 2009, Belgium.
15. VLIR-UOS Scholarship for M. Sc. in Physical Land Resources, Ghent University, 2006, Belgium.
16. "Professor Karim Memorial Award-2002" Bangladesh Agricultural University.

Meeting/Conferences Presented/Attended

1. International Symposium on Managing Land and Water for Climate Smart Agriculture held during 25 July to 29 July, 2022 in Vienna, Austria
2. International Symposium on Microbial Ecology held in Pokhara, Nepal during February 11-15, 2020, Nepal.
3. International Workshop on 'Balancing Climate Change, Biodiversity and Food Security' held in Tamil Nadu Agricultural University, Coimbatore during 18-21 March 2019. India.
4. International Workshop on Recycled Use of Food Waste held in Hotel Suyuan, Shanghai, China during 11-13 January 2019, pp. 112-118. China.
5. International Workshop on 'advancing the science of gas exchange between fresh waters and the atmosphere' held in the University of Helsinki during 14-20 Sep, 2014, Finland.
6. Participated the EcoFINDERS Workshop on 'Selecting Indicators for Monitoring Soil Biodiversity and Ecosystem Services' held from April 7 - 11, 2014 at Teagasc, Johnstown Castle Environment Research Center, Wexford, Ireland.
7. Soils & Land Use Research Workshops organised by EPA, Ireland on 10th September 2013 held at the O'Callaghan Alexander Hotel, Dublin.
8. Workshop on reducing greenhouse gas emissions through climate smart agricultural technologies, held in Nanjing, China during 2-11 August 2018
9. International workshop on "Balancing Climate, Biodiversity and Food Security – Towards a Global Alliance" held between the 18th and 21st March 2019 at Coimbatore, Tamilnadu, India.
10. International Workshop on Recycled Use of Food Waste held in Hotel Suyuan, Shanghai, China during 11-13 January 2019, China.
11. 21st World Congress of Soil Science, Rio de Janeiro, 12-17 August 2018, Brazil.
12. Conference on Global Climate being held in Guilin, China during 23-25 march 2018, China.

13. 1st International Conference on Challenges for Future Agriculture, 2018 being held at BAU, Mymensingh, Bangladesh.
14. South Asian Regional Conference on ICT and knowledge management held during 3-4 December 2017 at Dhaka
15. International symposium on non-CO₂ greenhouse gas emissions held in Amsterdam during 5-7 Nov, 2014, The Netherlands
16. European Geosciences Union General Assembly held in Austria Center Vienna during 27 April - 02 May, 2014, Austria
17. The IAH - Irish Group Annual Conference 2014 held during 15-16 April, Tullamore Court Hotel, Ireland.
18. Agricultural Research Forum Conference 2014 held during 10-11 March, Tullamore Court Hotel, Ireland.
19. 24th Annual Irish Environmental Researchers' Colloquium, 26-28 February 2014, Environmental Science Association of Ireland, Trinity College Dublin, Ireland.
20. ASA, SSSA & CSSA Annual Meetings during 3-6 Nov. 2013 held in Tampa, USA.
21. The GGAA conference 2013, June 23-26th held at UCD, Ireland.
22. 17th International Nitrogen Workshop' 2012, June 26-29 held at Wexford, Ireland.
23. International Conference 'Catchment Science 2011' September 14-16, Dublin, Ireland.
24. Technical Discussion Meeting (TDM), The IAH- Irish Chapter, March 31, 2011, Dublin, Ireland.
25. Teagasc International Conference 2010 'A Climate for Change' June 24-25, 2010, Dublin, Ireland.
26. European Geosciences Union General Assembly 2010, 02- 07 May, 2010, Austria Centre Vienna, Austria.
27. British Animal Science Society and Agricultural Research Forum Conference, 12-14 April, 2010, Queen's University, Belfast, UK.
28. SAC/SEPA Biennial Conference 2010, 31 March – 01 April, 2010, University of Edinburgh, Scotland, UK.
29. 20th Annual Irish Environmental Researchers' Colloquium, 17-19 February 2010, Environmental Science Association of Ireland, Limerick Institute of Technology, Ireland.
30. 19th Annual Irish Environmental Researchers' Colloquium, 18-20 February 2009, Environmental Science Association of Ireland, Waterford Institute of Technology, Ireland.
31. 14th International Soil Conservation Organization Conference, 14-19 May 2006, International Soil Conservation Organization, Marrakech, Morocco.
32. 21st Annual Conference on "Microbes in the improvement of soil health and crop yield". Bangladesh Society of Microbiologists, July 01-02 2005, BINA, Mymensingh.

Membership of the Professional Organizations

1. ICES 2014 Technical Programme Committee, UAE
2. Soil Science Society of America
3. American Geophysical Union
4. European Geosciences Union
5. International Association of Hydrological Sciences
6. Environmental Sciences Association of Ireland
7. Life member of Krishibid (Agriculturists) Institution of Bangladesh
8. Life member of Bangladesh Agricultural Extension Societies
9. Charter member, Lions Club of Bangladesh

Training Attended

1. Regional Training Course on climate smart agricultural practices to enhance productivity of rice and other major crops with lower environmental footprints using nuclear techniques being held in BARC, Dhaka and at BAU, Mymensingh during 14 July to 21 July, 2022. Bangladesh.
2. Regional training course on greenhouse gas emissions using nuclear techniques organised by IAEA at Dhaka during 07-17 October 2019. Bangladesh.
3. Introduction course in meta-analysis, August 27 to September 2, 2018, World Agroforestry Centre in Bogor, Indonesia.
4. Attended the course module "Professional skills for the early-career Agri-Food Researcher" organized by UCD during September 18-20th 2013 at the Stillorgan Park Hotel, Dublin.
5. Pre-conference workshops organised by GGAA 2013 on 'Techniques for Measuring GHG from Soil and Manure', June 22, UCD, Ireland.

6. Nitrate Delivery from Terrestrial to Aquatic Ecosystems- A national workshop organized by EPA, Ireland held in the Urban Institute of UCD, Ireland, May 16, 2011.
7. Attended “College on Soil Physics” during August 30 to September 10, 2010 organized combinedly by the Abdus Salam International Centre for Theoretical Physics, IAEA and UNESCO, ICTP, Trieste, Italy.
8. A short course on “Stable isotope hydrology-with special focus on hydrogen and oxygen stable isotopes” organized by the European Geosciences Union subdivision on ‘Catchment Hydrology’ at Technical University Vienna on May 2, 2010, Vienna, Austria.
9. A short intensive training course on microscopy of soils and regoliths in tropical and subtropical regions, 30 August to 11 September 2009, Ghent University, Belgium.
10. Training on Statistics for Research Students, 11-15 May and 22-26 June 2009, Department of Statistics, School of Computer Science and Mathematics, Trinity College Dublin, Ireland.
11. A Practical Guide to Hydrogeology, 3 September, 2008, organized by the White Yellow Green (WYG), Dublin, Ireland.
12. Satisfactorily completed “Training-Workshop on Integrated Plant Nutrition System (IPNS)” organized by Bangladesh Agricultural Research Council (BARC), Dhaka during June, 22-24, 2004.
13. A methodology training on automated laboratory incubation systems on biogenic gas emission from soil and sediments during March to July 2008, Rothamsted Research, North Wyke, UK.

Mohammad Jahangir

Date: 09/11/2022