



Samsul Alam, Ph.D., Specialist (Analytical)

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Academic background

Education:

- PhD (2010): B.C.K.V. (Bidhan Chandra Krishi Viswavidyalaya), Mohanpur, Nadia, West Bengal, India (Advisor: Prof. Ramen K Kole)
- MSc (2003): B.C.K.V. (Bidhan Chandra Krishi Viswavidyalaya), Mohanpur, Nadia, West Bengal, India
- BSc (2001): B.C.K.V. (Bidhan Chandra Krishi Viswavidyalaya), Mohanpur, Nadia, West Bengal, India

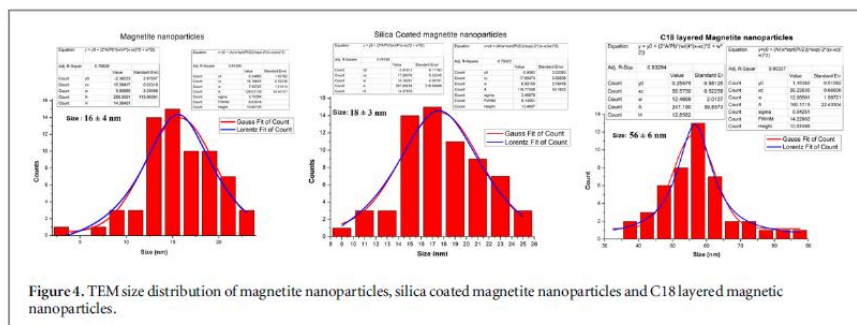
Professional:

- March 2011 to present: Specialist (Analytical), Institute of Pesticide Formulation Technology (IPFT), Gurugram, India.
- March 2007 to February 2011: Scientist (OPCW), Institute of Pesticide Formulation Technology (IPFT), Gurugram, India.
- June 2004 to March 2007: Junior Research Fellow, B.C.K.V. (Bidhan Chandra Krishi Viswavidyalaya), Nadia, West Bengal, India

Research Interests

- Analytical method development and validation for pesticides, botanicals and other related products
- Synthesis and application of nanoparticles for pesticides decontamination and analysis.
- Persistence, dissipation, chemical characterization and degradation behaviour of pesticides and other related chemicals
- Environmental Monitoring of contaminants
- Research to Regulatory Affairs
- Untargeted contaminants analysis
- Impurity profiling
- Certified Reference Materials

Some of the research highlights are as under –



Synthesis of magnetic core-shell nano particles.

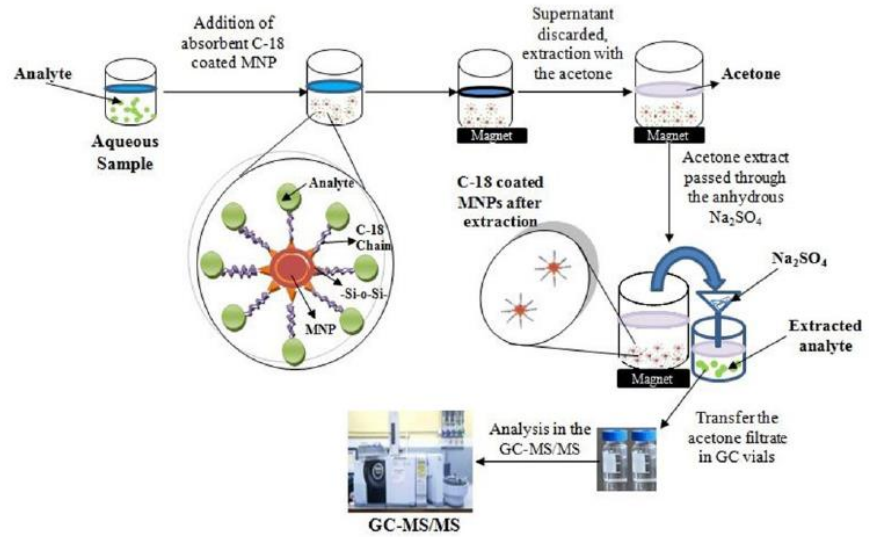
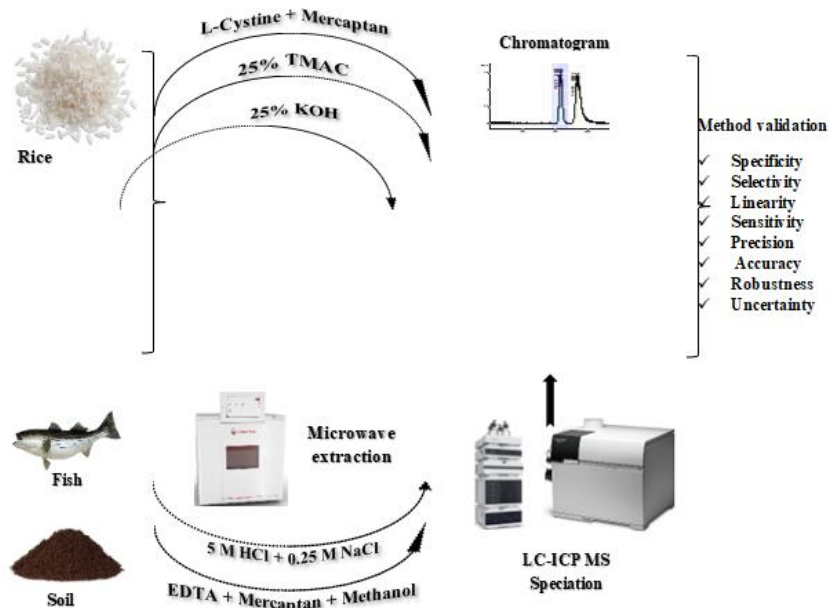
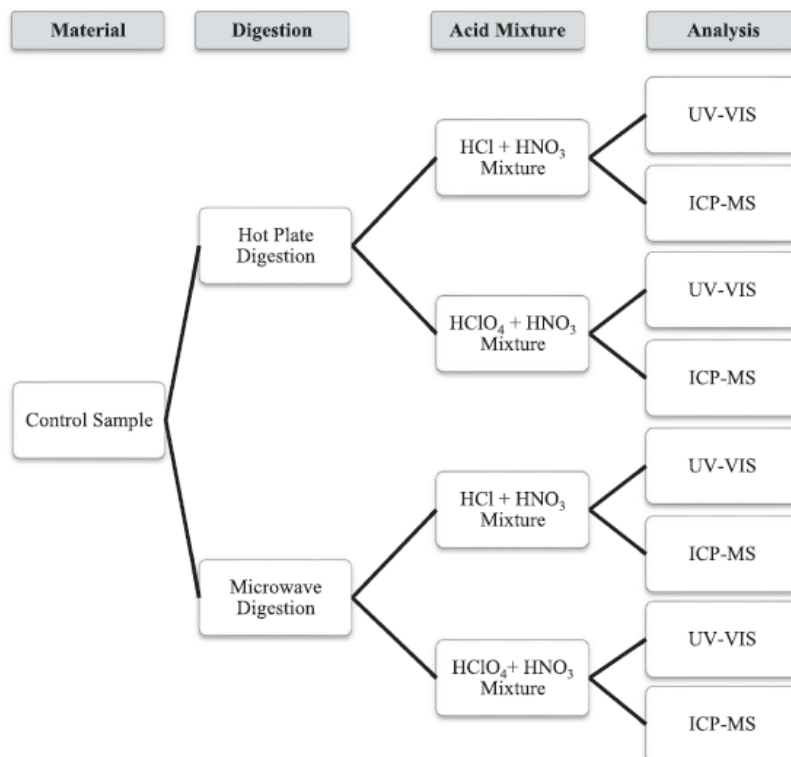


Figure 1. Schematic illustration of the sample preparation by MSPE (MSPE procedure).

Magnetic Solid Phase Extraction (MSPE) process for the analysis of pesticide residues.



Method development for the precise determination of methylmercury



Method optimization for the analysis of total phosphorous content in rock phosphates.

Selected publication

- Alam, S.,* Biswas, S., Anil, A.S., Thakur, L.K., & Kumar, J. (2024). Total Phosphorous and Mineral Content Determination in Rock Phosphates using ICP-MS. *Communications in Soil Science and Plant Analysis*. 2024, 55(7), 944-958. DOI:10.1080/00103624.2023.2285953.
- Anil, A.S., Alam, S.,* & Thakur, L.K. (2024). Optimized mercury speciation analysis using LC-ICP-MS and microwave assisted extraction for precise determination of methylmercury in fish, rice and soil. *Journal of Food Composition and Analysis*, 2024, 129 (106092), DOI:10.1016/j.jfca.2024.106092.
- Iqbal, N., Hazra, D.K., Jawale, C., Alam, S., Yadav, S., Agrawal, A., Anil, A.S., & Kumar, J. (2024). Biofabrication of Microbeads Infused with Acorus calamus Oil and Eucalyptus Extract for Sustainable Stored Grain Pest Management. *ACS Applied Polymer Materials*. 2024, 6 (3), 1599-1610. DOI: 10.1021/acsapm.3c01779
- Iqbal, N., Thirunavukkarasu, S., Krishna, R., Hazra, D.K., Jawale, C., Yadav, S., Alam, S., Ghosh, S., Agrawal, A. & Kumar, J. (2023). Environmentally Benign Design of Renewable Oleoresin Bioenergized Imidacloprid Nanohydrocolloids for Improved Activity, Lower Toxicity, and Agroecological Sustainability. *ACS Sustainable Chem. Eng.* 2023, 11, 42, 15480–15491.
- Yadav, S., Alam, S.,* Anil, A.S. & Kumar, J. (2023). Development and Single Laboratory Validation of Ultra-Fast Liquid Chromatography Method for Quantiication of

Bispyribac sodium and Difenthiuronin in Bispyribac sodium Suspension Concentrate (SC) and Difenthiuron Wetttable Powder (WP) Formulations. Agriculture Association of Textile Chemical and Critical Reviews Journal (2023) 351-000.

- Alam, S.,* Srivastava, N., Iqbal, N., Saini, M.K., & Kumar, J. (2021). Magnetic Solid Phase Extraction (MSPE) using magnetite-based core-shell nanoparticles with silica network (SiO₂) coupled with GC-MS/MS analysis for determination of multiclass pesticides in water. *Journal of AOAC International*. 104(3): 633-644. doi: 10.1093/jaoacint/qsaa156
 - Srivastava, N., Kumari, S., Nair, K., Alam, S.,* & Raza, S.K. (2017). Determination of organophosphorous pesticides in environmental water samples using surface engineered C-18 functionalized silica coated core-shell magnetic nanoparticles based extraction coupled with GC-MS/MS analysis. *J AOAC Int*. 2017 Jan 12. doi: 10.5740/jaoacint.16-0312.
 - Sanyal, N., Alam, S., Pradhan, S., Banerjee, K., Chowdhury, A., & Aktar, W. (2015). Metabolism and dissipation kinetics of a novel protoporphyrinogen IX oxidase herbicide [oxadiargyl] in various buffered aqueous system under laboratory-simulated condition. *Environ Monit Assess*. 2015 Jul;187(7):433.
 - Nair, K.K., Kaur, R., Iqbal, N., Hasan, A., Alam, S.,* Raza, S.K. (2015). High yield, facile aqueous synthesis and characterization of C18 functionalized iron oxide nanoparticles. *Material Research Express*. 2(2015) 045014.
 - Kaur, R., Hasan, A., Iqbal, N., Alam, S.,* Saini, M.K., Raza, S.K. (2014). Synthesis and surface engineering of magnetic nanoparticles for environmental cleanup and pesticide residue analysis- A Review. *J Sep Sci*. 37(14):1805-25.
 - Alam, S., Sengupta, D., Kole, R.K., & Bhattacharyya, A. (2013). Dissipation kinetics of tetraconazole in three types of soil and water under laboratory condition. *Environ Monit Assess* (2013)185: 9819-9824.
 - Alam, S., & Kole, R.K. (2013). Influence of pH on persistence and dissipation of clofentezine, a tetrazine acaricide in water. *J Environ Chem Ecotoxicol* (2013) 5(4): 74 – 80.
 - Alam, S., Kole, R.K., & Bhattacharyya, A. (2011). Residual Fate of the fungicide Tetraconazole (4% EW) in Mango. *Bull Environ Contam Toxicol* (2011) 87: 444 – 447.
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**Awards / Honours
/ Affiliations**

S. No.	Award Name	Awarding Organization	Awarded Work / Project
1.	Lead Assessor & Technical Assessor of NABL	National Accreditation Board for Testing and Calibration Laboratories (NABL)	Successfully completed the Assessor course as per ISO/IEC 17025 and empanelled with National Accreditation Board for Testing and Calibration Laboratories (NABL) as Lead Assessor (since 2020) & Technical Assessor. (since 2015).
2.	Invited Lecture	4 th IUPAC International Conference on Agrochemicals Protecting Crops, Health and Natural Environment – “Discovery and development of synthetic and natural products for health and pests management”, New Delhi, 7-10 January 2020.	Design and fabrication of magnetite-based core shell nanoparticles with silica network (SiO ₂): A novel material for technology development of effective extraction of multi-class pesticides, its analysis and detoxification of environmental water
3.	Academic Counsellor	Indira Gandhi National Open University (IGNOU)	Course Title: Post Graduate Diploma in Analytical Chemistry (PGDAC) during 2015 – 2019.
4.	Technical Consultant	Directorate of Horticulture, Govt. of Haryana	Establishment of Instrumentation labs in centre of excellence in Sirsa and Karnal during 2014 – 2016.

5.	Best Poster Presentation (3 rd prize)	International conference on frontiers of Mass spectrometry (6-9 September, 2013 at Mahatma Gandhi University, Kottayam, Kerala)	Determination of 25 pesticides by GC-ECD and MSD with measurement of uncertainty in tomato and banana using modified QuEChERS technique
6.	Director's Award	IPFT	Designation of IPFT by OPCW in 2011
7.	Certificate of Appreciation	ACS Publications, USA	Valuable contribution and dedicated service in the peer review of manuscripts submitted to ACS journals
8.	Escort officer	National Authority Chemical Weapons Convention, Cabinet Secretariat	OPCW Inspection (2010)
9.	OPCW Inspection Team member	National Authority Chemical Weapons Convention, Cabinet Secretariat	OPCW Sample & Analysis Inspection (2011)

Membership in various Internal Committees:

S.No.	Name of the Committee
1.	Project management and Business development Committee
2.	Academic Committee
3.	Website and IT related Committee
4.	Technical & Purchase Committee

Membership in various External Committees:

S.No.	Name of the Committee
1.	Working Group of the Standing Committee on Monitoring, under Ministry of Environment, Forests and Climate change, Ozone cell.
2.	MSD 20- Reference Materials Sectional Committee of Bureau of Indian Standards
3.	Pesticide Residues Analysis Sectional Committee, Fad 27 of Bureau of Indian Standards.