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SPECIALIZATION AND AREAS OF INTEREST

- Sustainable agriculture and climate change mitigation
- Carbon sequestration, tillage and cover crops
- Soil health and water quality and agroecosystem services
- Marginal soil remediation and biomaterial production
- Monitoring air, water, soil and food pollution and develop mitigation technology
- Analytical Chemistry
- Development of Analytical techniques
- Atmospheric chemistry
- Environmental Chemistry
- Water and Soil chemistry
- Food Chemistry and public health (Anthocyanin, antioxidant, anti-cancer)

EDUCATION

- **Ph.D. in Analytical and Environmental Chemistry**, Mie University, Japan. 2006
- **M.S. in Chemistry**, Dhaka University, Bangladesh. 2000
- **B.S. in Chemistry**, Dhaka University, Bangladesh. 1998

PROFESSIONAL EXPERIENCE

2019– Present: **Research Scientist**, Soil, Water, and Bioenergy Resources, The Ohio State University South Centers.

2015-2019: **Research Associate**, Center for Air Resources Engineering and Sciences, Clarkson University, Potsdam, New York

Adjunct Assistant Professor, Department of Chemistry & Biomolecular Science, Department of Civil and Environmental Engineering, New York, Clarkson University

2007-2015: **Lecturer, Assistant Professor & Associate Professor**, Department of Chemistry, University of Dhaka, Bangladesh.

2006: **Lecturer, Department of Chemistry**, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

ACADEMIC AND TEACHING SERVICE

Course development and teaching

- **Undergraduate courses:** General Chemistry-I, General Chemistry-II and their associates laboratories. For School of Chemistry and Biomolecular Science, Clarkson, NY. 2016–2019.
- **Undergraduate and Graduate courses:** Environmental Chemistry, Hazardous Waste Management and Engineering. For School of Civil and Environmental Engineering, Clarkson University. NY, 2016–2019.
- **Undergraduate & Graduate:** Analytical Chemistry, Instrumental techniques for chemical analysis, Environmental chemistry, Water Chemistry, Environmental Monitoring, General Chemistry, Advanced quantitative analysis lab, Qualitative analysis lab, Department of Chemistry, Dhaka University. 2006–2007

TECHNICAL SKILL IN ANALYTICAL INSTRUMENTS

- UV-Visible Spectrophotometer
- Fluorescence Spectrophotometer
- Infra-red Spectrophotometer
- Gas Chromatography-Flame Ionization Detector (GC-FID)
- Gas Chromatography-Electron Captured Detector (GC-ECD)
- Gas Chromatography and Mass Spectrometer (GC-MS)
- High Performance Liquid Chromatography (HPLC)
- Liquid Chromatography-Mass Spectrometry (LC-MS)
- Ion Chromatography
- Mercury analyzer
- Atomic Absorption Spectrophotometer
- Inductively Coupled Plasma-AES (ICP-AES)
- Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)
- Total Organic Carbon (TOC) analyzer
- C, H, N, S, O-analyzer

FELLOWSHIP AND AWARD

- Japanese Government Scholarship (MONBUKAGAKUSHO)
- Young Scientist award by IFS (International Foundation for Science, Sweden)

TRAINING IN ANALYSIS

- Analytical Skills development Course (ASDC) for the analysis of warfare chemicals by GC-MS, VERIFIN, University of Helsinki, Finland through Organization for the Prohibition of Chemical Weapons (OPCW).

TRAINER IN CHEMICAL ANALYSIS

- Asian Network of Research on Food and Environmental Contaminants (ACFEC) Organized by Organization for the Prohibition of Chemical Weapons (OPCW) and International science Program (ISP), Uppsala University, Sweden.
- Network of Instrument Technical Personnel and user scientists of Bangladesh (NTUB)

RESEARCH GRANTS AWARDED IN USA

- Integrated no-till cropping diversity to control topsoil and nutrient loss (Paul C. and Edna H. Warner Endowment Fund for Sustainable Agriculture, USA)
- Bio On Sorbent Testing to remove hazardous chemicals from cigarette smoke (Bio-ON-SpA, Italy)
- Mechanistic Study of CO off-gassing from wood pellets (NYSERDA, USA)

INVENTION AND TECHNOLOGY TRANSFER

- Aerosol-generating articles suitable for use in aerosol-generating devices. Pub. No. **US 2021/0015170 A1** (Pub Date: Jan. 21, 2021).
- Aerosol-generating articles suitable for use in aerosol-generating devices. Pub. No. **WO 2021/009624A1** (Pub Date: Jan. 21, 2021).
- Filter Elements Suitable for use in Smoking articles and processes for producing the same. Pub. No. **US 2020/0375245A1** (Pub Date: Dec, 3, 2020).
- Filter Elements Suitable for use in Smoking articles and processes for producing the same. Pub. No. **WO 2020/240439A1** (Pub Date: Dec, 3, 2020).

PUBLICATIONS (72 PEER REVIEWED)

1. Khandakar R. Islam, Greg Roth, **Mohammad A. Rahman**, Nataliia O. Didenko & Randall C. Reeder, Cover Crop Complements Flue Gas Desulfurized Gypsum to Improve No-till Soil Quality, Communications in soil science and plant analysis, 2021, <https://doi.org/10.1080/00103624.2021.1872594>.
2. Emmanuel Amoakwah, Shamim Ahsan, **Mohammad Arifur Rahman**, Eric Asamoah, D. K. Asamoah, Mursheda Ali & Khandakar Rafiq Islam, Assessment of Heavy Metal Pollution of Soil-water-vegetative, Ecosystems Associated with Artisanal Gold Mining, Soil and Sediment Contamination: An International Journal, 29:788-803, 2020.
3. Alan Rossner, Pamela R.D. Williams, Elayna Mellas-Hulett and **Mohammad Arifur Rahman**, Analysis of Historical Worker Exposures to Respirable Dust from Talc Mining and Milling Operations in Vermont, Annals of Work Exposures and Health, 2020, 1-14.
4. **Mohammad Arifur Rahman**, Alan Rossner, Philip K. Hopke, Carbon Monoxide Off-Gassing from Bags of Wood Pellets, Ann Work Expo Health, 2017, 62(2), 248-252.

5. Mohammad Shohel, Magdalena Kistler, **Mohammad Arifur Rahman**, Anne Kasper- Giebl, Jeffrey S. Reid, Abdus Salam, Chemical Characterization of PM_{2.5} collected from a rural coastal island of the Bay of Bengal (Bhola, Bangladesh), *Environ Sci Pollut Res*, <https://doi.org/10.1007/s11356-017-0695-6>.
6. **Mohammad Arifur Rahman**, Stefania Squizzato, Richard Luscombe-Mills, Patrick Curran, Philip K. Hopke, A Continuous Ozonolysis Process to Make No Emission Wood Pellets, *Energy Fuels*, 2017, 31, 8228–8234.
7. **Mohammad Arifur Rahman**, Alan Rossner, Philip K. Hopke, Occupational Exposure of Aldehydes Resulting from the Storage of Wood Pellets, *Journal of Occupational and Environmental Hygiene*. 14(6), 417-426-2017.
8. **Mohammad Arifur Rahman**, Philip K. Hopke, Assessment of Methods for the Measurement of Wood, *Energy Fuels*, 2017, 31, 5215–5221.
9. **Mohammad Arifur Rahman**, Philip K. Hopke, Mechanistic Pathway of Carbon Monoxide Off-gassing from Wood Pellets, *Energy Fuels*, 2016, 30, 5809–5815.
10. Md. Faridul Islam, Syada Sanjida Majumder, Abdullah Al Mamun, Md. Badiuzzaman Khan, **Mohammad Arifur Rahman**, Abdus Salam, Trace Metals Concentrations at the Atmosphere Particulate Matters in the Southeast Asian Mega City (Dhaka, Bangladesh), *Open Journal of Air Pollution*, 4, 86-98, 2015.