

CURRICULUM VITAE

Dr. Wasim Akram Shaikh

Ph.D. Environmental Science and Technology

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Objective:

To put forward my best performance, with complete dedication, creativity, innovativeness and enthusiasm in order to prove my mettle by applying the skills acquired in the classroom and through real life experiences to contribute for the betterment of society through my profession.

Educational Profile:

Course	Discipline	Year	Board/University	Percentage
Ph.D.	Environmental Science and Technology	2015- 2021	Birla Institute of Technology Mesra, Ranchi, JH	8.0 (SGPA)
M.Sc.	Environmental Science	2012-2014	The University of Burdwan, Burdwan, W.B	80.83%
B.Sc.	Chemistry (Hons.)	2009-2012	Aligarh Muslim University, Aligarh, U.P	66.75%
Higher Secondary	Physics, Chemistry, Biology, Math, English, Bengali	2009	W.B.C.H.S.E. W.B	70.6%
Secondary	English, Bengali, Math, Life Science, Physical Science, Geography, History	2007	W.B.B.S.E. W.B	90.63%

Project Work:

Topic	Guide	Period
Experimental and Kinetic Modeling of As(III) and As(V) Adsorption on Treated Pond sediment using Synthetic Water Solution	Dr. N.K. Mondal, Professor, Department of Environmental Science, Burdwan University, Burdwan, W.B	July 2013 to August 2014
Arsenic Enrichment in Agricultural Soils with Potential Impacts on Crops and Food Security of Sahibganj, Jharkhand, India	Dr. Sukalyan Chakraborty, Associate Professor, Department of Civil & Environmental Engineering, BIT Mesra	November 2014 to March 2017

Research Topic:

Removal and Degradation of Toxic Industrial Dye using Biochar-based Nanocomposite

Date of Ph.D. Award: 17th February 2022

Awards and Honors:

- Awarded “**Maulana Azad National Fellowship**” (F1-17.1/2017-18/MANF-2017-18-WES-81391 /(SA-III/Website) of University Grants Commission, Ministry of Human Resource Development, Government of India
- Awarded **Junior Research Fellowship** under DST-SERB Project (DST-SERB Young Scientist Research Grant November 2014 – November 2016, “Arsenic enrichment in agricultural soils with potential impacts on crops and food security of Sahibganj, Jharkhand, India”).
- **University Rank Holder** [2nd in M.Sc. (Environmental Science)]
- Awarded ‘**Post metric Scholarship**’ in 2014
- Awarded ‘**Post metric Scholarship**’ in 2012
- Awarded ‘**State Government Stipend**’ in 2009
- Awarded ‘**State Government Stipend**’ in 2008

Credentials:

- Organized “**National Science Day Celebration,**” as **Research Scholar Coordinator** organized by Birla Institute of Technology, Mesra, Ranchi Funded by TEQIP-III on 28th February 2020
- Organized “**1st Research Scholar Colloquium 2019**”, as **Research Scholar Coordinator** organized by Birla Institute of Technology, Mesra, Ranchi Funded by TEQIP-III from 1st to 2nd September 2019
- Organized One Day workshop on “**Coal chemistry and Health Impacts due to Coal**”, as the coordinator 10th December 2019 at Birla Institute of Technology, Mesra.
- Organized One Day “**Industry-Academia Interaction on Coal Mining and Sustainability**” as the coordinator, 2019 at Birla Institute of Technology, Mesra.
- Assisted as Volunteer at National Seminar on “**Construction Management, Mechanization and Environmental Sustainability**” organized by Department of Civil and Environmental Engineering, Birla Institute of Technology, Mesra, Ranchi from 21th to 22th February 2017
- Organized National Seminar on “**Recent Advances on Civil and Environmental Engineering (RACEE-2016)**” organized by Department of Civil and Environmental Engineering, Birla Institute of Technology, Mesra, Ranchi from 25th to 26th February 2016

Research Experience:

- 6 years and 9 months

Reviewer:

- New J Chem (RSC)
- Colloids Surf. A: Physicochem. Eng. Asp. (Elsevier)
- SN Applied Sciences (Springer)

Areas of Interest:

- Environmental Biotechnology
- Water pollution
- Remediation and Adsorption Technique
- Environmental Nanotechnology
- Nanocomposite
- Wastewater Treatment

Other Skills:

- Knowledge of computer with proficiency in working on Microsoft Word, Excel and PowerPoint.
- Handling and operation of Origin Pro 9.0, ChemDraw, VOSviewer etc.
- Skilled in material (nano and nanocomposite) synthesis and characterization techniques like FESEM, EDX, BET, FTIR, XRD, XPS, TGA etc.
- Skilled in different adsorption isotherm and kinetics modelling.

Completed Certified short-term courses:

1. Five-day Online Short-term Certificate Programme on **“Nano Technology and its Applications”** organized by the Rajiv Gandhi National Institute of Youth Development (RGNIYD) as an Institution – Industry Partnership Programme in association with National Institute of Technology, Jalandhar, National Institute of Technology, Tiruchirappalli, Special Center for Nano Sciences - Jawaharlal Nehru University, New Delhi, Seagate Technology, Minnesota, USA and Boston Scientific, Minnesota, USA from 26th to 30th April 2021.
2. Five-day Online Short-term course on **“Material Characterization Techniques”** conducted by Dr B R Ambedkar National Institute of Technology, Jalandhar from 24th to 28th August 2020.

Publications:

1. Prathap A, **Shaikh WA**, Baudhh K, Chakraborty S (2022) Phyto-management potential of naturally thriving plants on the metal contaminated overburden dump of coal mines: a study from Jharkhand, India. **Bioremediation Journal**. <https://doi.org/10.1080/10889868.2022.2049682> (**SCI indexed, IF: 1.909**)
2. **Shaikh WA**, Chakraborty S, Islam RU, Ghfar AA, Naushad M, Bundschuh J, Maity JP, Mondal NK (2022) Fabrication of biochar-based hybrid Ag nanocomposite from algal biomass waste for toxic dye-laden wastewater treatment. **Chemosphere**. 289:133243. <https://doi.org/10.1016/j.chemosphere.2021.133243> (**SCI indexed, IF: 7.086**)
3. **Shaikh WA**, Kumar A, Chakraborty S, Islam RU, Bhattacharya T, Biswas JK (2022) Biochar-based nanocomposite from waste tea leaf for toxic dye removal: from facile fabrication to functional fitness. **Chemosphere**. 132788. <https://doi.org/10.1016/j.chemosphere.2021.132788> (**SCI indexed, IF: 7.086**)

4. **Shaikh WA**, Chakraborty S, Owens G, Islam RU, (2021) A review of the phytochemical mediated synthesis of AgNP (silver nanoparticle): The wonder particle of the last decade. **Applied Nanoscience**. 11:2625–2660 (SCI indexed, IF: 3.674)
5. Kumar A, Bhattacharya T, **Shaikh WA**, Roy A, Mukherjee S, Kumar M (2021) Performance evaluation of crop residue and kitchen waste-derived biochar for eco-efficient removal of arsenic from soils of the Indo-Gangetic plain: A step towards sustainable pollution management. **Environmental Research**. 200: 111758. <https://doi.org/10.1016/j.envres.2021.111758> (SCI indexed, IF: 6.498)
6. Lenka SP, **Shaikh WA**, Owens G, Padhye LP, Chakraborty S, Bhattacharya T (2021) Removal of Copper from Water and Wastewater using Dolochar. **Water, Air, and Soil Pollution**. 232: 167 (2021). <https://doi.org/10.1007/s11270-021-05135-x> (SCI indexed, IF: 2.520)
7. Mondal A, Chowdhury S, Mondal NK, **Shaikh WA**, Debnath P, Chakraborty S (2021) Insecticidal and fungicidal performance of bio-fabricated silver and gold nanoparticles. **International Journal of Environmental Science and Technology**. <https://doi.org/10.1007/s13762-021-03181-w> (SCI indexed, IF: 2.860)
8. **Shaikh WA**, Islam RU, Chakraborty S (2021) Stable silver nanoparticle doped mesoporous biochar-based nanocomposite for efficient removal of toxic dyes. **Journal of Environmental Chemical Engineering**. 9(1):104982. <https://doi.org/10.1016/j.jece.2020.104982> (SCI indexed, IF: 5.909)
9. **Shaikh WA**, Alam MA, Alam MO, Chakraborty S, Owens G, Bhattacharya T, Mondal NK (2020) Enhanced aqueous phase arsenic removal by a biochar based iron nanocomposite. **Environmental Technology & Innovation**. 19: 100936. <https://doi.org/10.1016/j.eti.2020.100936> (SCI indexed, IF: 5.263)
10. **Shaikh WA**, Chakraborty S, Islam RU (2020) Photocatalytic degradation of rhodamine B under UV irradiation using *Shorea robusta* leaf extract-mediated bio-synthesized silver nanoparticles. **International Journal of Environmental Science and Technology**. 17:2059-2072. (SCI indexed, IF: 2.860)
11. Mondal A, Hajra A, **Shaikh WA**, Chakraborty S, Mondal NK. (2019) Synthesis of silver nanoparticle with *Colocasia esculenta* (L.) stem and its larvicidal activity against *Culex quinquefasciatus* and *Chironomus* sp. **Asian Pacific Journal of Tropical Biomedicine**. 9(12):510-517. (SCI indexed, IF: 1.545)
12. **Shaikh WA**, Chakraborty S, Islam RU (2018) UV-assisted photo-catalytic degradation of anionic dye (Congo red) using bio-synthesized Silver nanoparticles: A green catalysis. **Desalination and Water Treatment**. 130:232-242. (SCI indexed, IF: 0.854)

13. Alam MA, **Shaikh WA**, Alam MO, Bhattacharya T, Chakraborty S, Show B, Saha I (2018) Adsorption of As (III) and As (V) from aqueous solution by modified *Cassia fistula* (golden shower) biochar. **Applied Water Science**. 8:198. (SCI indexed, IF: 3.874)
14. Mondal NK, Angela Samanta A, Chakraborty S, **Shaikh WA** (2018) Enhanced Chromium (VI) removal using banana peel dust: Isotherms, Kinetics and Thermodynamics study. **Sustainable Water Resources Management**. 4:489-497. (SCOPUS Indexed)
15. Alam MO, **Shaikh WA**, Chakraborty S, Avishek K, Bhattacharya T (2016) Groundwater arsenic contamination and potential health risk assessment of Gangetic plains of Jharkhand, India. **Exposure and Health**. 8, 125-142. (SCI, Impact Factor 11.422)

Book Chapter:

1. Majumdar R, **Shaikh WA**, Chakraborty S, Chowdhury S (2022) "A review on microbial potential of toxic azo dyes bioremediation in aquatic system" in Microbial Biodegradation and Bioremediation (Second Edition) (Page:241-261) Publisher: Elsevier; <https://doi.org/10.1016/B978-0-323-85455-9.00018-7>
2. Balogun AH, Dhar U, Finkelman RB, Chakraborty S, Olanipekun O, **Shaikh WA**, Glenn B. Stracher GB (2019) "Evidence of Human Health Impacts from Uncontrolled Coal Fires in Jharia, India" in Coal and Peat Fires: A Global Perspective in USA. Ed. Stracher GB Division of Science and Mathematics, East Georgia State College, University System of Georgia, 131 College Circle, Swainsboro, Georgia 30401 USA. ISBN: 978-0-12-849885-9 Publisher: Candice Janco (Elsevier)
3. Alam MO, **Shaikh WA**, Chakraborty S (2017) "Removal, Speciation and Metabolism of Arsenic in Microalgae" in Progress of Biotechnology in India. Ed: Santra SC and Mallick A. ENVIS Centre of Environmental Biotechnology. ISBN: 978-93-5267-783-2 (HB), ISSN: 978-93-5267-784-9 (PB).

Papers Presented and Conference Proceedings:

1. **Shaikh W A**, Chakraborty S, Islam RU, Kumar A, Bhattacharya T (2021) "Fabrication of thermostable mesoporous biochar-based nanocomposite from freshwater algal mats for toxic dye removal" (VPC-039) Paper presented and Published in the proceedings of Nature Conference on Waste Management and Valorization for Sustainable Future at LG Science Park Seoul, South Korea.
2. Kumar A, Bhattacharya T, **Shaikh W A**, Chakraborty S, (2021) "Walnut shell-derived biochar valorization for eco-efficient removal of arsenic from Indo-Gangetic sub-tropical silty loams: promoting sustainable management of arsenic pollution" (VPC-022) Paper presented and Published in the proceedings of Nature Conference on Waste Management and Valorization for Sustainable Future at LG Science Park Seoul, South Korea.
3. Finkelman R B, Chakraborty S, **Shaikh W A**, Kumar A, Thompson, L (2021) Emissions of exceptionally high fluorine from uncontrolled coal fires in Jharia, India. Abstract Book of the 37th 'The Society for Organic Petrology' (TSOP) Annual Meeting, p. 18.

4. Finkelman R B, Chakraborty S, **Shaikh W A**, Kumar A, Thompson, L (2020) Health Impacts of Uncontrolled Coal Fires: A Perspective from Jharia, India. GSA Abstract (doi: <https://doi.org/10.1130/abs/2020AM-350479>)
5. **Shaikh W A**, Chakraborty S, Islam RU (2019) “Biosorption of Rhodamine B from aqueous solution using silver nanoparticle functionalized nano bio-composite” Paper presented and Published in the proceedings of 2nd International Conference on Frontiers in Biological, Environmental and Medical sciences at Burdwan University, Burdwan, WB.
6. **Shaikh W A**, Chakraborty S, Islam RU (2018) “Biosorption of textile dye using silver nanoparticle functionalized algal nano bio-composite” Published in the proceedings of International Conference on Sustainable Solutions in Industrial Pollution, Water and Wastewater at AMU Aligarh, UP. (ISBN: 978-93-88237-19-2)
7. **Shaikh W A**, Chakraborty S, Islam RU (2018) “Photocatalytic degradation of *Rhodamine B* under UV irradiation using *Shorea robusta* leaf extract mediated bio-synthesized silver nanoparticles” Published in the proceedings of National Conference on Biogeochemical cycle (BCCC-2018) at IIT-ISM Dhanbad.
8. Alam OA, **Shaikh W A**, Chakraborty S (2018) “Arsenic in Ground water -soil-plant system in Sahibganj, Jharkhand: A potential threat to food Security and health” Published in the proceedings of National Conference on Biogeochemical cycle (BCCC-2018) at IIT-ISM Dhanbad. (ISBN: 978-93-5321-509-5)
9. Alam OA, **Shaikh W A**, Chakraborty S (2018) “Arsenic contamination and its associated health risks in groundwater” Published in the proceedings of National Conference on Biogeochemical cycle (BCCC-2018) at IIT-ISM Dhanbad. (ISBN: 978-93-5321-509-5)
10. **Shaikh WA**, Chakraborty S, Islam RU (2017) “Enhanced adsorption of Cationic Dye (Congo Red) from aqueous solution using Silver nano Bio-Composite” Presented at International Conference on Mother Earth: Environmental Crisis & Sustainable Strategies (ICME-III) organized by Department of Environmental Science, Burdwan University, Burdwan (ISBN:978-93-84106-96-96)
11. **Shaikh WA**, Chakraborty S (2017) “Novel Approach to Synthesis of *Azadirachta indica* Leaf Extract Assisted Colloidal Silver Nanoparticles (AgNPs) for Environmental Application” Presented at National Conference on Sustainable Advanced Technologies for Environmental Management (SATEM–2017) organized by Department of Civil Engineering Indian Institute of Engineering Science and Technology, Shibpur (ISBN: 978-93-86256-94-2)
12. Chakraborty S, **Shaikh WA**, Alam MO (2016) “Arsenic in Groundwater, Agricultural Soil and Crops of Sahibganj in the Middle Gangetic Plain: A Potential Threat to Food Security and Health.” Proceedings of the 6th **International Congress on Arsenic in the Environment, Stockholm, Sweden**, 19-23 June 2016, Arsenic Research and Global Sustainability, Taylor & Francis Group, London (ISBN: 978-1-138-02941-5, ISSN: 2154-6568)
13. Alam MA, **Shaikh WA**, Chakraborty S. “A Green Approach Towards Arsenic Removal Through Lab Based Batch Experimental Model Using Synthetic Water Solution” at National Seminar on Recent Advances on Civil and Environmental Engineering (RACEE-2016) organized by BIT Mesra

14. **Shaikh WA**, Alam MA, Chakraborty S, Bhattacharya T (2015) “Physico-remediation of arsenic from water/ waste water by *Chlorella sorokiniana*.” Presented at National Conference on Environmental Challenges and Solutions (NC-ECS 2015) organized by NML Jamshedpur.
15. Alam MA, **Shaikh WA**, Chakraborty S, Bhattacharya T (2015) “A study on arsenic contamination of groundwater in Gangetic plain of North-east Jharkhand.” at National Conference on Environmental Challenges and Solutions (NC-ECS 2015) organized by NML Jamshedpur.
16. **Shaikh WA**, Mondal NK (2014) “Experimental and Kinetic Modeling of As(III) and As(V) Adsorption on Treated Pond sediment using Synthetic Water Solution” Presented at International Conference on Mother Earth: Save it to Achieve a Sustainable Future for All (ICME II) organized by Department of Environmental Science, Burdwan University, Burdwan, W.B

Trainings, Seminars, Conferences and Workshops:

3. Participated in the One-day National Workshop on “**Coal Chemistry and Health Impacts of Coal**” conducted by the Department of Civil and Environmental Engineering, Birla Institute of Technology, Mesra, Ranchi from 10th December 2019.
4. Participated in the Two days National Workshop on “**Awareness of Fire Safety**” conducted by the Department of Chemical Engineering, Birla Institute of Technology, Mesra, Ranchi from 29th March 2019.
5. Participated in the One-day National Workshop on “**National Information System for Climate Change and Environmental Studies**” conducted by the Department of Remote Sensing, Birla Institute of Technology, Mesra, Ranchi from 21th January 2019.
6. Participated in the Two days National Workshop on “**Mine Slope Stability and Mine Environmental Safety**” conducted by the Department of Civil and Environmental Engineering, Birla Institute of Technology, Mesra, Ranchi from 21th to 22th March 2018.
7. Participated in the Two days National Conference on “**National Conference on Construction Management, Mechanization and Environmental Sustainability**” conducted by the Department of Civil and Environmental Engineering, Birla Institute of Technology, Mesra, Ranchi from 21th to 22th February 2017.
8. Participated in the Three days National Workshop on “**Interpretation of Instrumental Methods (WIIM-2017)**” sponsored by DST-SERB, Govt. of India, conducted by the Department of Chemistry, Sathyabama University, Chennai from 5th to 7th January 2017.
9. Participated in the National Workshop on “**Application of Remote Sensing, GIS & GPS in Watershed Management**” conducted by the Department of Remote Sensing, Birla Institute of Technology, Mesra, Ranchi from 3rd to 5th July 2015.
10. Participated in the National Workshop on “**Water Engineering**” conducted by the Department of Civil and Environmental Engineering, Birla Institute of Technology, Mesra, Ranchi from 11th to 12th February 2015.
11. Participated in **21st West Bengal State Science and Technology Congress** organized by Burdwan University, Burdwan, W.B from 20th to 21th February 2014.

12. Participated in the National Symposium “**Building Great Organization and Leadership**” conducted by General Education Centre, Aligarh Muslim University, Aligarh on 16th March 2011.
13. Participated in National Workshop on the “**Stereotyping and Manipulation of historical Facts**” Organized by University Literary Club, General Education Centre, Aligarh Muslim University, Aligarh from 25th to 26th February 2011.

Linguistic Proficiency:

To speak : English, Hindi and Bengali.

To read and write : English and Bengali.

Hobbies:

Playing Football and Travelling

Personal Details:

Father's Name : Ketab Ali Shaikh

Mother's Name : Jahanara Begam

Permanent Address : VILL: Khajuri, P.O.: Ghateswar, P.S.: Dhubulia, District: Nadia (WB)
Pin: 741154

Date of Birth : 12th September 1991

Address for Communication:

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References:

Dr. Sukalyan Chakraborty	Dr. N.K. Mondal	Prof. R.U Islam
Associate Professor, Department of Civil & Environmental Engineering, Birla Institute of Technology, Mesra, Ranchi Mob. No.- +91 8521761339 Email: sukalyanchakraborty@bitmesra.ac.in	Professor and Ex-HoD Department of Environmental Science, Burdwan University, Burdwan, Ph. No. +91-342-2659431 Mob. No.- +91 9434545694 Email: nkmondal@envsc.buruniv.ac.in	Professor, Department of Chemistry, Mahatma Gandhi Central University Motihari Bihar, India Mob. No.- +91 9006476761 Email: rafique@mgcub.ac.in

DECLARATION

I do hereby declare that the details furnished above are true to the best of my knowledge.

Date: 28th May May 2022
Place: Khajuri, Nadia, WB

Wasim Akram Shaikh
(Wasim Akram Shaikh)