



UNIVERSITY OF CALCUTTA

ACADEMIC DEPARTMENT

FACULTY ACADEMIC PROFILE

Full name of the faculty member: Dr. Amitava Bandyopadhyay

Designation: Professor

Specialization: Mass Transfer & Environmental Engineering



Contact information: Email: amitava.cuche@gmail.com

Academic qualifications:

College/ university from which the degree was obtained	Abbreviation of the degree
University of Calcutta	B.Sc.
University of Calcutta	B.Tech.
Indian Institute of Technology. Kharagpur	M.Tech.
Indian Institute of Technology. Kharagpur	Ph.D.

Positions held/ holding:

Professor: University of Calcutta

Associate Professor: AIT Bangkok [On Deputation from India (Foreign Assignment)]

Associate Professor: University of Calcutta.

Sr. Environmental Engineer. West Bengal Pollution Control Board.

Environmental Engineer. West Bengal Pollution Control Board.

Environmental Engineer. Development Consultants Limited.

Assistant Professor: Vellore Engineering College.

Research interests:

- (a) Air Pollution Control [Particulate and/or gas cleaning; CO₂ Capture]
- (b) Advanced Waste Water Treatment
- (c) Air and Water Quality Assessment
- (d) Waste Management [e-Waste, Hazardous Waste, MSW, BMW]
- (e) Environmental policy

Research guidance:

Number of researchers awarded M.Tech/ Ph.D degrees: 8/2

Number of researchers pursuing M.Tech/ Ph.D: 1/3

Projects:

Completed projects: 2 (collaborative)

Current projects: Consultancy Project: Preparation of “Water Audit Report” of your Haldia Plant (Unit # 1 and Unit # 2) located at HPL Link Road, PO. Khanjanckhak. PS. Durgachak. Dist. Purba Medinipur. 721 602

Selected list of publications:

a) *Journals:*

1. PPCPs Removal Mechanisms in Constructed Wetlands: How Important They Are? Hoang-Nhat-Phong Vo, Xuan-Thanh Bui, Thi-Minh-Hong Nguyen, Bao-Trong Dang, Thammarat Kottatep & **Amitava Bandyopadhyay**. *Current Pollution Reports*. doi.org/10.1007/s40726-018-0086-8. 2018
2. Hog Fuel Ash (industrial waste) for adsorptive Crystal Violet removal: Equilibrium kinetics studies with process optimization by Response Surface Modeling. **A.Bandyopadhyay** & C.Choudhury. *Clean Technologies and Environmental Policy*. 20(2), 291–308, 2018.
3. Assessing the Current Practice and Policy with Recommendations for Emission Control Strategy for Coal Fired Thermal Power Plants under Indian Regulatory Framework emphasizing the Roles of R&D. **A.Bandyopadhyay**. *Environmental Quality Management*. Fall 2017. 27(1), 49–55, 2017.
4. Rescuing Fe⁰ remediation research from its systemic flaws. Chicgoua Noubactep, Suzanne Makota & **Amitava Bandyopadhyay**. *Research and Review Insights*. 1(4), 1–8, 2017.
5. Air agitated tapered bubble column adsorber for hazardous dye (crystal violet) removal onto activated (ZnCl₂) carbon prepared from bamboo leaves. S.K.Ghosh, A.K.Hajra & **A.Bandyopadhyay**. *Journal of Molecular Liquids*. 240, 313–321, 2017.
6. Novel Air Agitated Tapered Adsorber for Crystal Violet removal on Biomass Combustion Residue with process optimization using Response Surface modeling. S.K.Ghosh & **A.Bandyopadhyay**. *Journal of Environmental Chemical Engineering*. 5(3), 2415–2430, 2017.
7. Performance of zeolite powder and tubular membrane having different Si/Al ratio for removing As(III) in aqueous phase. P.Roy, P.Pal, S.Sensharma, N.Das & **A.Bandyopadhyay**. *International Journal of Applied Ceramic Technology*. 14, 461–473, 2017.
8. Development of ZnO sensor for detecting NH₃ gas in the ambient air: A critical review. B. Chatterjee & **A. Bandyopadhyay**. *Environmental Quality Management*. Fall 2016. 89–105, 2016.
9. Neurological disorders from ambient (urban) air pollution emphasizing UFPM and PM_{2.5}. **A. Bandyopadhyay**. *Current Pollution Reports*. DOI: 10.1007/s40726-016-0039-z. 2016

b) *Books/ book chapters :*

1. Aqueous NH₃ in CO₂ Capture from Coal-Fired Thermal Power Plant Flue Gas: N-Fertilizer Production Potential and GHG Emission Mitigation. **A.Bandyopadhyay**. Chapter 19: M. Goel and M. Sudhakar (eds.), *Carbon Utilization Green Energy and Technology*, DOI 10.1007/978-981-10-3352-0_19. Springer Nature Singapore Pte Ltd. 2017. ISBN: 978-981-10-3351-3
2. e-Waste Recycling and Treatment: An Overview. **A.Bandyopadhyay**. Chapter V: Solid Waste Management in Detection and Management of Eco-toxicity in Environment A few Case Studies: Eds: Arabinda Ghosh and Badal Bhattacharya. pp.355–360. Published by Mudrakar. Kolkata. India. 2010. ISBN: 978–81–910222–1–6.

c) *Conference/ seminar volumes:*

1. Tapered bubble column for removing methylene blue using industrial solid waste. Soham Kundu, Sandip K.Ghosh, Modhurima Misra, **Amitava Bandyopadhyay**. pp 127–128. *Innovative Technologies in Industrial Waste Management*. Proceedings of peer-reviewed Extended Abstracts International Conference on Advanced Technologies for Industrial Pollution Control (ATIPC-2018) December 17–19, 2018 organized by Civil Engineering Department, Indian Institute of Engineering Science & Technology (IEST), Shibpur, West Bengal, India.
2. Reviewing recent developments of gas sensors using metal sulfides and their future prospects on ammonia gas sensing at room temperature. Bappaditya Chatterjee, **Amitava Bandyopadhyay**. pp 138–141. *Monitoring of Industrial Emission and Control*. Proceedings of peer-reviewed Extended Abstracts International Conference on Advanced Technologies for Industrial Pollution Control

- (ATIPC-2018) December 17–19, 2018 organized by Civil Engineering Department, Indian Institute of Engineering Science & Technology (IIEST), Shibpur, West Bengal, India.
3. Critical Environmental Analysis On Land Disposal Of Fly Ash Generated From Coal Fired Thermal Power Plants Towards Groundwater Contamination Followed By Policy Recommendations. **A. Bandyopadhyay**, pp 134–138. Waste Management and Resource Utilisation. Proceedings of the 6th International Conference on Solid Waste Management (6th IconSWM) 2016. Organized by the International Society of Waste Management, Air and Water (ISWMAW) held at Jadavpur University, Kolkata, India, November 24 - 26, 2016.
 4. Capturing CO₂ by NH₃ for Reducing GHG Emission: An Environmental Analysis. **A. Bandyopadhyay**. Proceedings of the ICEM 2010: 2nd International Conference on Environmental Management 2010, Vol. II, pp. 670–680. Hyderabad, October 25–28, 2010. ISBN: 978–81–7800–252–1.

Membership of Learned Societies:

Climate Change Research Institute. Member.
 Asian Council of Science Editors. Member. [91.2802]
 Indian Water Works Association (IWWA). Life Fellow. [LF # 1121]
 Indian Institution of Chemical Engineers (IChE). Life Member. [LM # 9556]
 The Institution of Engineers (India) (IEI). Life Member & Chartered Engineer. [LM # 1367301]
 Indian Association for Environmental Management (IAEM). Life Member. [LM # 1449]
 Institution of Public Health Engineers India. (IPHE). Life Member. [LM # 1393]
 Air Pollution Control Association of India. (APCAI). Life Member. [LM # 408]
 Indian Science News Association (ISNA). Life Member. [LM # 758]
 Coal Ash Institute of India. (CAII). Life Member. [LM # CAII/L/07/290]
 Indian Science Congress Association. (ISCA). Life Member. [LM # 11755]

Invited lectures delivered:

1. Delivered Prof. B. M. Das Memorial Lecture entitled “*Environmental issues related to Tanning Industry*” invited by Indian Leather Technologists' Association (ILTA) (A Member Society of IULTCS) on the occasion of our 69th Foundation Day Celebration of ILTA at Science City Auditorium, Kolkata. August 14, 2019.
2. Invited Lecture delivered on *Research Ethics in the context of Indian Academic Regulatory Regime* in the two-day workshop on “Professional Ethics of Publications” held during 24th and 25th June, 2019 at the Salt Lake Campus of the Asiatic Society (Rajendralala Mitra Bhavan, CL-24, Kolkata 700091) organized by the Asiatic Society. June 25, 2019.
3. Invited to deliver ‘Key Note Lecture’ on *Critical analysis on CO₂ capture options as a measure of GHG Emission Mitigation in Iron and Steel Industry* at 56th National Metallurgists’ Day (NMD) and 72nd Annual Technical Meeting (ATM) on November 16, 2018 Organized by IIM Jamshedpur, Kolkata, Kharagpur Chapter and Tata Steel at Kolkata, West Bengal, India during November 14–16, 2018.
4. Theme Lecture entitled “*Emission Control Strategy for Coal Fired Thermal Power Plants emphasizing the Roles of R&D: A Policy Analysis under Indian Regulatory Framework*” delivered on September 01, 2018 in the *Round Table – CCS in Power Sector, Pros & Cons and Issues in Environmental Norms* in the Workshop on Awareness and Capacity Building Carbon Capture and Utilization (ACBCCU) August 29-September 1, 2018, New Delhi organized by the Climate Change Research Institute, New Delhi, India.
5. Invited Lecture delivered on *Multipollutant capture technology for coal fired thermal power plants – an Indian regulatory assessment* at the 13th edition of Power Plant Summit organized by Confederation of Indian Industry - Sohrabji Godrej Green Business Centre, Near Hitec City, HICC, Hyderabad. August 30–31, 2017.
6. Invited Lecture delivered on *Assessment of Current Practice & Policy with the Policy Recommendations for Controlling Emissions from Indian Coal Fired Thermal Power Plants* in the International Workshop on “Development and Application of Low Emission Coal Technologies for the Indian Scenario” Organized by Commonwealth Scientific and Industrial Research Organization (CSIRO), Australia & Centre for Climate Change and Adaptation Research (CCCAR) Anna University, Chennai. April 11 & 12, 2017.
7. Invited Lecture delivered on *Co-benefits of CO₂ capture in Flue Gas Desulfurization* in the International Conference on Carbon Capture, Storage & Re-Use in India at Victor Menezes Convention Centre, IIT, Powai, Mumbai 400076, India. Organized jointly by the Department of Earth Sciences, IIT, Powai, Mumbai and Carbon Capture Journal, UK; Sponsored by M/s Jupiter Oxygen Corporation. September 30, 2016.
8. Plenary Lecture delivered on *Neurotoxicity of Ultrafine Particulate Matter and PM2.5 from Urban Air Pollution* in the joint event of the 17th World Clean Air Congress and the 9th Better Air Quality Conference at

the session Air Quality and Health (I) scheduled on 31.08.2016, organized jointly by IUAPPA and Clean Air Asia held at BEXCO, Busan, South Korea during Aug 29 to Sept 02, 2016.

9. Invited to deliver lecture on *Options to Control CO₂ emission as a measure of GHG Emission Mitigation in Steel Industry* at the Workshop on “Technological Innovations to Control the GHG Emissions in Steel Industry”, organized by R&D and Scientific Services Department, Tata Steel Limited, Jamshedpur. February 19, 2016.
10. Invited to deliver a lecture on *Aqueous NH₃ in CO₂ Capture from Coal Fired Thermal Power Plant Flue Gas: N-Fertilizer Production Potential & GHG Emission Mitigation* in the Conference on Awareness and Capacity Building on Carbon Capture, Storage and Utilization (CCSU): Towards A Low Carbon Growth Strategy (ACBCCS 2015), Theme – Carbon Dioxide Removal Processes in Energy Intensive Industry, New Delhi, July 27–31, 2015.
11. Invited to deliver a lecture on *Utilization & Safe Disposal of Fly Ash generated from Thermal Power Plants: A Critical Environmental Analysis* in the Conference on Utilization and Disposal of Ash Organized by Bokaro Power Supply Company Ltd. in association with Times of India, Bokaro, June 25, 2014.
12. Invited to deliver a lecture on *Research Ethics and Plagiarism in Scientific Publication* by the School of Management, Asian Institute of Technology, Pathumthani, Bangkok, for the post graduate students as well as research scholars, March 17, 2014.

Awards:

1. Recipient of Outstanding Paper Award 2012 for the paper entitled “Amine versus ammonia absorption of CO₂ as a measure of reducing GHG emission: a critical analysis” published in Clean Technologies and Environmental Policy, 13(2), 269-294, 2011.
2. Recipient of “The Institution Prize” for the paper entitled “Adsorptive Removal of Phenol Utilizing Flyash” [Journal of Institution Engineers (I), (Chemical Engineering Division), 89, 1–10, 2008] at 24th Indian Engineering Congress organized by The Institution of Engineers (India), Dec 11, 2009.
3. Recipient of “Prof. S.C.Singh Gold Medal” for the paper entitled “Modeling of API Oil-Water Separator” [Journal of Institution Engineers (I), (Environmental Engineering Division), 80, 21–24. 2000] at 15th Indian Engineering Congress organized by The Institution of Engineers (India), Dec 21, 2000.
4. Recipient of Best Reviewer Award 2016, Journal of Environmental Sciences. Elsevier.

Other notable activities:

1. AIT, Bangkok: Nominated by the Ministry of Human Resources & Development, Government of India, for faculty Secondment to Asian Institute of Technology for 16 weeks for January 2014 term.
2. Member. State Level Environment Impact Assessment Authority (3-Member). Jharkhand. Ministry of Environment, Forests & Climate Change. Government of India. Vide Gazette Notification (Extraordinary; Government of India) S.O.3010(E), December 27, 2012. [Dec 2012 – Dec 2015]
3. State representative for the World Bank funded EMCBT Project entitled “Environmental Management Strategies for Pollution Control and Implementation of Standards in Petrochemical Plants under Sub Component: Development of Standards”. 2004.