Gourav Dhar Bhowmick

Assistant Professor

Indian Institute of Technology Kharagpur

2BR108, Kharagpur – 721302, West Bengal, India

E-mail ID: gourav.db@gmail.com/gourav@agfe.iitkgp.ac.in

Google Scholar:

https://scholar.google.co.in/citations?user=HlWA628AAAAJ&hl=en

Citations: 1146, **h-index:** 22, **i10-index:** 29 (as on 10/03/2023)

Education

August 2016 – June 2020

Doctorate (Ph.D.), *Development of Bio-Electrochemical System Assisted Advanced Hybrid Treatment Systems for Aquacultural Wastewater*,

Indian Institute of Technology, Kharagpur, West Bengal, India

Aug 2014 – July 2016

M.Tech, *Agricultural and Food Engineering*

Indian Institute of Technology, Kharagpur, West Bengal, India

Aug 2010 – May 2014

B.Tech, *Agricultural Engineering*,

Uttar Banga Krishi Vishwavidyalaya, Cooch Bihar, West Bengal, India

Professional Experience

September 2021 – Present (1 year and 7 months)

Assistant Professor

Agricultural and Food Engineering Department

Indian Institute of Technology, Kharagpur, India

July 2020 – September 2021 (1 year and 3 months)

Post-Doc Researcher, *Development and Testing of Hollow Fiber Anion Exchange Membranes for Wastewater Treatment and Membrane-based Isotope Separation Techniques*,

Zuckerberg Institute for Water Research,

Ben-Gurion University of the Negev, Sde Boker campus, Be'er Sheva, Israel

15th September 2018 – 14th October 2018 (1 month)

Exchange Research Scholar, *Integrated MFC-MBR system using low-cost, multifunctional ceramic membrane for efficient wastewater treatment and electricity recovery*,

University of Bremen, Germany

1st October 2017 – 24th November 2017 (1 month and 24 days)

Exchange Research Scholar, *Integrated MFC-MBR system using low-cost, multifunctional ceramic membrane for efficient wastewater treatment and electricity recovery*

University of Bremen, Germany

Subjects Taught

- Water quality management practices (AG61693)
- Advanced Aquaculture Technology (AG60108)
- Planning and Design of Aquacultural Farms (AG60056)
- Open channel hydraulics and Coastal Engineering (AG60051)

- ❖ Design of Aquacultural Facilities and Equipment (AG60054)
- ❖ Engineering Laboratory (UG) (EN19003)

New Course

- ❖ Microcredit course on 'Fundamentals of Project Management (AG66001)' offered since December 2021.

NPTEL /SWAYAM courses developed

- ❖ NPTEL online certification course on 'Advanced Aquaculture Technology' (An AICTE-approved FDP course) offered since July 2022 (No. of Participants: 1772).

Workshop/Symposium organized

- ❖ Online International Training Programme on 'EMERGING TRENDS IN AGRICULTURAL TECHNOLOGIES' jointly organized by AFRICAN-ASIAN RURAL DEVELOPMENT ORGANIZATION (AARDO) and IIT Kharagpur on 27th March – 4th April 2023 attended by 203 delegates from 29 countries.

Research Guidance

Ph.D. - Completed: 0; Ongoing: 3

No.	Name	Title	Year, University/Institution	Supervisor/s
1	Ahmed Faisal	Development of Advanced Aquaponics System	Ongoing, IIT Kharagpur	Prof. D. K. Swain and Prof. G. D. Bhowmick
2	Antara Chatterjee	Environmental impacts of seaweed cultivation and by-product recovery	Ongoing, IIT Kharagpur	Prof. G. D. Bhowmick
3	Rajasekar V	Advanced bioreactor assisted smart aquaponics systems for urban farming	Ongoing, IIT Kharagpur	Prof. G. D. Bhowmick

MS by Research - Completed: 0; Ongoing: 2

No.	Name	Title	Year, University/Institution	Supervisor/s
1	Kendi Josyline (Kenya)	Design of advanced cage culture system	On-going, IIT Kharagpur	Prof. G. D. Bhowmick
2	Geophry Wasonga Anyango (Kenya)	Agricultural water treatment and policy making	On-going, IIT Kharagpur	Prof. G. D. Bhowmick and Prof. Niharika Sahoo Bhattacharya

M. Tech - Completed: 1; Ongoing: 10

No.	Name	Title	Year, University/Institution	Supervisor/s
1	Ahmed Faisal	Development and comparative analysis of aquaponics and hydroponics system	Awarded on May, 2022, IIT Kharagpur	Prof. D. K. Swain and Prof. G. D. Bhowmick
2	Kiran KJ	Integrated Multi-Tropic Aquaculture (IMTA)	On-going, IIT Kharagpur	Prof. G. D. Bhowmick
3	Avrodeep Paul	Application of remote sensing in aquaculture	On-going, IIT Kharagpur	Prof. G. D. Bhowmick
4	Kishor Jadav	Application of machine learning in classification and disease detection of fish	On-going, IIT Kharagpur	Prof. G. D. Bhowmick

5	Harshvardhan Singh Thakur	Design of aeroponics system	On-going, IIT Kharagpur	Prof. G. D. Bhowmick
6	Prashant Kumar	Development of sludge microbial fuel cell	On-going, IIT Kharagpur	Prof. G. D. Bhowmick
7	D. Prathik	Application of agro-photovoltaics	On-going, IIT Kharagpur	Prof. G. D. Bhowmick
8	G. Shiva Kumar	Brahmi based fortified rice preparation	On-going, IIT Kharagpur	Prof. G. D. Bhowmick
9	Prashant Veddula	Computer vision in aquaculture	On-going, IIT Kharagpur	Prof. G. D. Bhowmick
10	Raj Ranjan Shrivastava	Effect of environmental parameters on seaweed	On-going, IIT Kharagpur	Prof. G. D. Bhowmick
11	Alok Bharti	Water quality analysis for efficient freshwater pearl culture in IMTA system	On-going, IIT Kharagpur	Prof. G. D. Bhowmick

B. Tech Project - Completed: 1; Ongoing: 2

No.	Name	Title	Year, University/Institution	Supervisor/s
1	Alok Bharti	Techno-economic analysis of efficient freshwater pearl culture in the Indian context	Awarded on May, 2022, IIT Kharagpur	Prof. G. D. Bhowmick
2	Milind Kaushik	Integrated Multi-Tropic Aquaculture (IMTA)	On-going, IIT Kharagpur	Prof. G. D. Bhowmick
3	Utkarsh Kumar	Efficient designer freshwater pearl culture in the Indian context	On-going, IIT Kharagpur	Prof. G. D. Bhowmick

Internship - Completed: 9; On-going: 4

Research Experience

Current Research/ Professional Interests

- Smart 3D soil-less agriculture techniques (Aquaponics, Aeroponics, Vermiponics, Hydroponics, etc).
- Design and fabrication of different bio-electrochemical systems; including, but not limited to, microbial fuel cell, microbial carbon-capture cell, etc.
- Field-scale bio-electrochemical systems for wastewater treatment with bioenergy recovery.
- Aquacultural systems and management.
- Ion exchange membrane preparation and its applications in bioreactor technology.
- Fractionation of water isotopes in hyperfiltration while using polyamide membranes.
- Hybrid treatment systems for sewage & industrial wastewater.
- Alternative energy solutions for households

Member of Scientific Societies

- International Society for Microbial Electrochemistry and Technology (ISMET)
- American Society of Agricultural and Biological Engineers (ASABE)
- International Water Association (IWA)
- American Society of Civil Engineers (ASCE)
- Aquacultural Engineering Society (AES)
- Indian Society of Agricultural Engineers (ISAE) (Life member- LM-12361)
- The Bio-electrochemical Society (BES)

Editorial Board Member

Green and Low-Carbon Economy, Singapore BON VIEW PUBLISHING PTE. LTD. (https://ojs.bonviewpress.com/index.php/GLCE/index) (Since 18th November 2022)

Research Projects

- Principal Investigator of the project '*Advanced bioreactor assisted smart aquaponics systems for urban farming*' Sponsored by Science and Engineering Research Board (SERB) of Department of Science and Technology (DST), Government of India (SRG/2022/002212), Dt. 07-11-2022 Rs. 29,85,400.00. Duration – 24 Months w.e.f. 07-11-2022.
- Principal Investigator of the project '*Advanced bioreactor assisted smart aquaponics systems for urban farming*' Sponsored by Sponsored Research & Industrial Consultancy, IIT Kharagpur (IIT/SRIC/AG/AAU/2022-2023/288), Dt. 16-03-2023 Rs. 25,00,000.00. Duration – 36 Months w.e.f. 03-04-2023.
- Co-Principal Investigator of the project *'Establishment of Innovation and Agri-Entrepreneurship Cell under RKVY-RAFTAAR.'* Sponsored by Ministry of Agriculture and Farmers Welfare, Department of Agriculture, Cooperation and Farmers Welfare, (RKVY Division), Govt. of India, Krishi Bhawan, New Delhi (3-70/2018-RKVY(Pt), Dt. 31-01-2019 Rs. 2,33,00,000.00. Duration 36.0 Months w.e.f. 29-03-2019 up to 31-03-2022.
- Associated with the '*Design, Installation and Operation of Treatment Plant for UASB Effluent to produce Potable Quality Treated Water with a capacity of 300 cubic-meters/day*' funded by Wheels India Niswarth Foundation (WIN), USA. Duration: 24.0 Months w.e.f. 04-02-2019.
- Associated with Aditya Choubey Centre for Re-Water Research for the '*Development of complete technologies for treating sewage into potable water and make it self-sufficient through the generation of value-added products*' funded by Mr. Aneesh Reddy and Mr. Anant Choubey, Capillary Technologies, Singapore. Rs. 2,00,00,000.00. Duration: 24.0 Months w.e.f. 01-07-2018.
- Associated as lead Research Scholar for '*Development of energy-efficient combined process of the microbial fuel cell (MFC) & membrane bioreactor (MBR) for high efficiency & reliable treatment of organic wastewater'* funded by Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI), Gujrat; BIRAC SRISTI PMU - 2016/014, Dt. 04-04-2016; Rs. 15,00,000.00. Duration: 24.0 Months w.e.f. 16-09-2016.
- Associated as lead Research Scholar for '*Integrated MFC-MBR system using low cost multifunctional ceramic membrane for efficient wastewater treatment and electricity recovery*' funded by DBT under Inno-Indigo project - BT/IN/INNO-INDIGO/28/MMG/2015-16, Rs. 96,11,000.00. March 2016-March 2019.

Consultancy Projects

- Assisted in *Monitoring Gross Polluting Industries for CPCB*. Central Pollution Control Board, Ministry of Environment, Forest and Climate Change, Govt of India, Parivesh Bhawan, East Arjun Nagar, Delhi. Duration: May 2019 to July 2019.

- Assisted in *Monitoring Gross Polluting Industries for CPCB*. Central Pollution Control Board, Ministry of Environment, Forest and Climate Change, Govt of India, Parivesh Bhawan, East Arjun Nagar, Delhi. Duration: April 2018 to November 2018.
- Assisted in *Adequacy of Effluent Treatment Plant. IVL Dhunseri Petrochem Industries Private Limited*, Dhunseri House, Kolkata. Duration: February – April 2018.
- Assisted in *Study on Wastewater Treatment Plant, MCPI Private Limited*, Vill. and P.O. Bhuniaraichak, Haldia. Duration: 28-12-2017 to 30-04-2018.
- Assisted in *Inspection of GPIs for compliance verification of effluent discharged standards. Central Pollution Control Board*, Ministry of Environment, Forest and Climate Change, Govt. of India, Parivesh Bhawan, East Arjun Nagar, Delhi - 110 032. Duration: 31-03-2017 to 30-04-2017.

Publication Highlights

Journal Publications (35)

1. **Bhowmick, G. D.,** Dhar, D., Nath, D., Ghangrekar, M. M., Banerjee, R., Das, S., Chatterjee, J. (2020). Coronavirus disease 2019 (COVID-19) outbreak: Some serious consequences with urban and rural water cycle. *npj Clean Water (Nature Pub.),* 3, 32 https://doi.org/10.1038/s41545-020-0079-1 (IF - 9.378) (**Citation: 93**)
2. **Bhowmick, G. D.,** Ghangrekar, M. M., Zekker, I., Kibena-Põldsepp, E., Tammeveski, K., Wilhelm, M., Banerjee, R. (2022). Ultrafiltration membrane bio-fuel cell as an energy-efficient advanced wastewater treatment system. *International Journal of Energy Research* 1 - 12. doi:10.1002/er.8300 (IF – 5.2) **(Citation: 0)**
3. **Bhowmick, G. D.,** Noori, M. T., Das, I., Neethu, B., Ghangrekar, M. M., Mitra, A. (2018). Bismuth doped TiO_2 as an excellent photocathode catalyst to enhance the performance of microbial fuel cell. *International Journal of Hydrogen Energy,* 43(15), pp.7501-7510. *https://doi.org/10.1016/j.ijhydene.2018.02.188* (IF - 5.816) (**Citation: 67**)
4. **Bhowmick, G. D.**, Kibena-Põldsepp, E., Matisen, L., Merisalu, M., Kook, M., Käärik, M., Leis, J., Sammelselg, V., Ghangrekar, M. M., Tammeveski, K. (2019). Multi-walled carbon nanotube and carbide-derived carbon supported metal phthalocyanines as cathode catalysts for microbial fuel cell application. *Sustainable Energy & Fuels (Royal Society of Chemistry).* 3, 3525-3537 https://doi.org/10.1039/C9SE00574A (IF- 6.367) (**Citation: 28**)
5. **Bhowmick, G. D**., Das, S., Adhikary, K., Ghangrekar, M. M., Mitra, A. (2019). Using Rhodium as a cathode catalyst for enhancing performance of microbial fuel cell. *International Journal of Hydrogen Energy*, 44, pp. 22218–22222. https://doi.org/10.1016/j.ijhydene.2019.06.063 (IF – 5.816) (**Citation: 31**)
6. **Bhowmick, G. D.,** Chakraborty, I., Ghangrekar, M. M., Mitra, A. (2019). TiO_2/Activated carbon photo cathode catalyst exposed to ultraviolet radiation to enhance the efficacy of integrated microbial fuel cell-membrane bioreactor. *Bioresource Technology Reports*. 7, pp.100330. https://doi.org/10.1016/j.biteb.2019.100303 (**Citation: 20**)
7. **Bhowmick, G. D.,** Das, S., Verma, H. K., Neethu, B., Ghangrekar, M.M. (2019). Improved performance of microbial fuel cell by using conductive ink printed cathode containing Co_3O_4 or Fe_3O_4. *Electrochimica Acta*, 310, pp.173-183. https://doi.org/10.1016/j.electacta.2019.04.127 (IF – 6.901) (**Citation: 44**)

8. **Bhowmick, G. D.,** Neethu, B., Ghangrekar, M. M., and Banerjee, R. (2020). Improved performance of microbial fuel cell by in-situ methanogenesis suppression while treating fish market wastewater. *Applied Biochemistry and Biotechnology*. pp. 1-16. https://doi.org/10.1007/s12010-020-03366-y (IF – 2.926) (**Citation: 8**)
9. **Bhowmick, G. D.,** Das, S., Adhikary, K., Ghangrekar, M. M., Mitra, A. (2021). Bismuth impregnated Ruthenium/Activated carbon as photo-cathode catalyst to proliferate the efficacy of microbial fuel cell. *Journal of Hazardous, Toxic, and Radioactive Waste*. 25(1) https://doi.org/10.1061/(ASCE)HZ.2153-5515.0000565 (**Citation: 2**)
10. Zekker, I.*, **Bhowmick, G. D.*,** Priks, H., Nath, D., Rikmann, E., Jaagura, M., Tenno, T., Tämm, K., Ghangrekar, M. M. (2020). ANAMMOX-denitrification biomass in microbial fuel cell to enhance electricity generation and nitrogen removal efficiency. *Biodegradation*. https://doi.org/10.1007/s10532-020-09907-w (IF – 3.909) (* Joint First Author) (**Citation: 29**)
11. **Bhowmick, G. D.,** Dhar, Dhruba, Ghangrekar, M. M., Banerjee, R. (2020). TiO_2-Si or $SrTiO_3$-Si impregnated PVA based low-cost proton exchange membranes for application in microbial fuel cell. *Ionics.* https://doi.org/10.1007/s11581-020-03779-z (IF – 2.63) **(Citation – 2)**
12. e Silva, T. C. D. A., **Bhowmick, G. D**., Ghangrekar, M. M., Wilhelm, M., Rezwan, K. (2019). SiOC-based polymer derived-ceramic porous anodes for microbial fuel cells. *Biochemical Engineering Journal*, 148, pp. 29-36. https://doi.org/10.1016/j.bej.2019.04.004 (IF - 3.978) (**Citation: 25**)
13. Neethu, B., **Bhowmick, G. D.**, Ghangrekar, M. M. (2019). A novel proton exchange membrane developed from clay and activated carbon derived from coconut shell for application in microbial fuel cell. *Biochemical Engineering Journal*, 148, 170-177. https://doi.org/10.1016/j.bej.2019.05.011 (IF - 3.978) (**Citation: 42**)
14. Noori, M. T., **Bhowmick, G. D.,** Tiwari, B. R., Ghangrekar, M. M., Mukhrejee, C.K. (2018). Application of Low-Cost Cu–Sn Bimetal Alloy as Oxygen Reduction Reaction Catalyst for Improving Performance of the Microbial Fuel Cell. *MRS Advances*, 3(13), pp.663-668. https://doi.org/10.1557/adv.2018.163 (**Citation: 22**)
15. Neethu, B., **Bhowmick, G. D.,** Ghangrekar, M. M. (2018). Enhancement of bioelectricity generation and algal productivity in microbial carbon-capture cell using low cost coconut shell as membrane separator. *Biochemical Engineering Journal*, 133, pp.205-213. https://doi.org/10.1016/j.bej.2018.02.014 (IF - 3.978) (**Citation: 30**)
16. Noori, Md. T., **Bhowmick, G. D.,** Tiwari, B. R., Ghangrekar, O. M., Ghangrekar, M. M., Mukherjee, C. K. (2018). Carbon supported Cu-Sn bimetallic alloy as an excellent low-cost cathode catalyst for enhancing oxygen reduction reaction in microbial fuel cell. *Journal of the Electrochemical Society*. 165 (9), pp. F621-F628. http://doi: 10.1149/2.0271809jes (IF- 4.316) (**Citation: 34**)
17. Das, I., Noori, Md. T, **Bhowmick, G. D.,** Ghangrekar, M. M. (2018). Synthesis of bimetallic iron ferrite $Co_{0.5}Zn_{0.5}Fe_2O_4$ as a superior catalyst for oxygen reduction reaction to replace noble metal catalysts in microbial fuel cell. *International Journal of Hydrogen Energy*, 43(41), pp.19196-19205. https://doi.org/10.1016/j.ijhydene.2018.08.113 (IF – 5.816) (**Citation: 36**)
18. Noori, Md. T., **Bhowmick, G. D.**, Tiwari, B. R., Das, I., Ghangrekar, M. M., Mukherjee, C. K. (2018). Utilisation of waste medicine wrappers as an efficient low-cost electrode material for microbial fuel cell. *Environmental Technology*, pp.1-27. https://doi.org/10.1080/09593330.2018.1526216 (IF - 3.247) (**Citation: 18**)
19. Das, Indrasis, Noori, Md. T, **Bhowmick, G. D.,** Ghangrekar, M. M. (2018). Synthesis of Tungstate oxide/Bismuth Tungstate composite and application in microbial fuel cell as superior low-cost

cathode catalyst than platinum. *Journal of the Electrochemical Society.* 165(13), pp.G146-G153. https://doi.org/10.1149/2.0781813jes (IF – 4.316) (**Citation: 25**)

20. Türk, K. K., Kruusenberg I., Kibena-Põldsepp E., **Bhowmick, G. D.**, Kook, M., Tammeveski, K., Matisen, L., Merisalu, M., Sammelselg, V., Ghangrekar, M. M. Mitra, A., Banerjee, R. (2018). Novel multi walled carbon nanotube based nitrogen impregnated Co and Fe cathode catalysts for improved microbial fuel cell performance. *International Journal of Hydrogen Energy*. 43(51), pp. 23027-23035. https://doi.org/10.1016/j.ijhydene.2018.10.143 (IF – 5.816) (**Citation: 34**)

21. Das, Indrasis, Noori, Md. T., **Bhowmick, G. D.**, Ghangrekar, M. M. (2018). Application of low-cost transition metal based $Co_{0.5}Zn_{0.5}Fe_2O_4$ as oxygen reduction reaction catalyst for improving performance of microbial fuel cell. *MRS Advances*, pp.1-9. http://doi: 10.1557/adv.2018.450 (**Citation: 6**)

22. Ahilan, V., **Bhowmick, G. D.**, Ghangrekar, M. M., Wilhelm, M., Rezwan, K. (2019). Tailoring hydrophilic and porous nature of polysiloxane derived ceramer and ceramic membranes for enhanced bioelectricity generation in microbial fuel cell. *Ionics*, 25, pp. 5907–5918. https://doi.org/10.1007/s11581-019-03083-5 (IF – 2.63) (**Citation: 8**)

23. Ahilan, V., de Barros, C. C., **Bhowmick, G. D.**, Ghangrekar, M. M., Murshed. M., Wilhelm, M., Rezwan, K. (2019). Microbial fuel cell performance of graphitic carbon functionalized porous polysiloxane based ceramic membranes. *Bioelectrochemistry*, 129, pp.259-269. https://doi.org/10.1016/j.bioelechem.2019.06.002 (IF – 5.373) (**Citation: 14**)

24. Khuman, C. N., **Bhowmick, G. D.**, Ghangrekar, M. M. and Mitra, A. (2020). Effect of using ceramic separator on the performance of hydroponic constructed wetland-microbial fuel cell. *Journal of Hazardous, Toxic, and Radioactive Waste*. 24(3), pp. 04020005. 10.1061/(ASCE)HZ.2153-5515.0000499. (**Citation: 3**)

25. Neethu, B., **Bhowmick, G. D.,** Fathima, A., and Ghangrekar, M. M. (2020). Anodic inoculum pre-treatment by extracts of *Azadirachta indica* leaves and *Allium sativum* peels for improved bioelectricity recovery from microbial fuel cell. *International Journal of Hydrogen Energy. https://doi.org/10.1016/j.ijhydene.2020.06.086* (IF – 5.816) (**Citation: 4**)

26. Sathe, S. M., **Bhowmick, G. D.**, Dubey, B. K., and Ghangrekar, M. M. (2020). Surfactant removal from wastewater using photo-cathode microbial fuel cell and laterite-based hybrid treatment system. *Bioprocess and Biosystems Engineering.* https://doi.org/10.1007/s00449-020-02396-4 (IF – 3.210) (**Citation: 6**)

27. Neethu, B., **Bhowmick, G. D.,** Ghangrekar, M. M. (2020). Improving performance of microbial fuel cell by enhanced bacterial-anode interaction using sludge immobilized beads with activated carbon. *Process Safety and Environmental Protection*. 143, pp. 285-292. https://doi.org/10.1016/j.psep.2020.06.043 (IF – 6.158) (**Citation: 7**)

28. Chakraborty, I., **Bhowmick, G. D.,** Ghosh, D., Dubey, B. K., Pradhan, D., Ghangrekar, M. M. (2020). Novel low-cost activated algal biochar as a cathode catalyst for improving performance of microbial fuel cell. *Sustainable Energy Technologies and Assessments*. 42, pp. 100808. https://doi.org/10.1016/j.seta.2020.100808 (IF – 5.353) (**Citation: 15**)

29. Chakraborty, I., **Bhowmick, G. D.,** Nath, D., Khuman, C. N., Dubey, B. K., Ghangrekar, M. M. (2020). Removal of sodium dodecyl sulphate from wastewater and its effect on anodic biofilm and performance of microbial fuel cell. *International Biodeterioration & Biodegradation*. 156, pp. 105108. https://doi.org/10.1016/j.ibiod.2020.105108 (IF – 4.32) (**Citation: 4**)

30. **Bhowmick, G. D**., Das, S., Ghangrekar, M. M., Mitra, A., Banerjee, R. (2019). Improved wastewater treatment by combined system of microbial fuel cell with activated carbon/TiO_2 cathode catalyst and membrane bioreactor. *Journal of The Institution of Engineers (India): Series A*. 100, pp. 675–682. https://doi.org/10.1007/s40030-019-00406-7 (**Citation: 23**)

31. Tholia, V., Neethu, B., **Bhowmick, G. D.,** Ghangrekar, M. M. (2020). Enhancing the Performance of Microbial Fuel Cell by Using Chloroform Pre-treated Mixed Anaerobic Sludge to Control Methanogenesis in Anodic Chamber. *Applied Biochemistry and Biotechnology*. *https://doi.org/10.1007/s12010-020-03458-9* (IF – 2.926) (**Citation: 1**)

32. Zekker, I., Artemchuk, O., Rikmann, E., Ohimai, K., **Bhowmick, G. D.**, Ghangrekar, M. M., Burlakovs, J., Tenno, T. (2021). Start-Up of Anammox SBR from Non-Specific Inoculum and Process Acceleration Methods by Hydrazine. *Water*. 13(3), 350. https://doi.org/10.3390/w13030350 (IF – 3.103) (**Citation: 1**)

33. Umar, A., Khan, M. S., Alam, S., Zekker, I., Burlakovs, J., dC Rubin, S. S., **Bhowmick, G. D.**, Kallistova, A., Pimenov, N., Zahoor, M. (2021). Synthesis and Characterization of Pd-Ni Bimetallic Nanoparticles as Efficient Adsorbent for the Removal of Acid Orange 8 Present in Wastewater. *Water*, 13, 1095. https://doi.org/10.3390/w13081095 (IF – 3.103) (**Citation: 9**)

34. Alam, S., Khan, M. S., Umar, A., Khattak, R., Rahman, N., Zekker, I., Burlakovs, J., dC Rubin, S. S., Ghangrekar, M. M., **Bhowmick, G. D.,** Kallistova, A., Pimenov, N., Khan, A., Zahoor, M. (2021). Preparation of Pd–Ni Nanoparticles Supported on Activated Carbon for Efficient Removal of Basic Blue 3 from Water. *Water*, 13, 1211. https://doi.org/10.3390/w13091211 (IF – 3.103) (**Citation: 4**)

35. Alam, S., Khan, M. S., Bibi, W., Zekker, I., Burlakovs, Ghangrekar, M. M., **Bhowmick, G. D.,** Kallistova, A., Pimenov, N., Zahoor, M. (2021). Preparation of Activated Carbon from the Wood of Paulownia tomentosa as an Efficient Adsorbent for the Removal of Acid Red 4 and Methylene Blue Present in Wastewater. *Water*, 13, 1453. https://doi.org/10.3390/w13111453 (IF – 3.103) (**Citation: 9**)

Conference Proceedings (31) (***** - Presented by the applicant)

International Conferences (30)

1. **Bhowmick, G. D.,** Ghosh Ray, S., Mitra, A., Ghangrekar M. M. (2016, April). Performance evaluation of low-cost air-cathode microbial fuel cell modified with ceramic cathode assembly by titanium di-oxide nanoparticles. International Conference On Innovations in Sustainable Water and Wastewater Treatment Systems (ISWATS), Jointly Organized By India - EU Science & Technology Research Collaboration Projects, **Pune, India**.*****
2. Ghosh Ray, S., **Bhowmick, G. D.**, Mitra, A., Ghangrekar M. M. (2016, September). Energy efficient combined process of microbial fuel cell (MFC) and membrane bioreactor (MBR) for high efficiency treatment of organic wastewater. 13th IWA Specialized Conference on Small Water and Wastewater Systems & 5th IWA Specialized Conference on Resources-Oriented Sanitation, **Athens, Greece**. **(Citation: 3)**
3. **Bhowmick, G. D.,** Ghosh Ray, S., Mitra, A., Ghangrekar M. M. (2016, December). Energy efficient combined process of microbial fuel cell (MFC) and membrane bioreactor (MBR) for effective treatment of fish processing wastewater. International Conference on Emerging Technologies in Agricultural & Food Engineering (ETAE), Agricultural & Food Engineering Department, Indian Institute of Technology Kharagpur, **West Bengal, India**.*****
4. **Bhowmick, G. D.,** Ghangrekar M. M., Mitra, A. (2017, October). TiO_2/Activated carbon photo cathode catalyst exposed to ultraviolet radiation to enhance the efficacy of integrated microbial fuel cell-membrane bioreactor. General Meeting of the International Society for Microbial Electrochemistry and Technology, **Lisbon, Portugal**.*****

5. Das, S., Chatterjee, P., **Bhowmick, G. D.**, Ghangrekar, M. M. (2017, October). Tungsten oxide as anode and cathode catalyst for improved power generation and wastewater treatment in a microbial fuel cell. General Meeting of the International Society for Microbial Electrochemistry and Technology, **Lisbon, Portugal**.
6. Silva, T. C. A., **Bhowmick, G. D.**, Ghangrekar, M. M., Wilhelm, M., Rezwan, K. (2017, October). New polysiloxanes-based ceramic anode materials for microbial fuel cells. General Meeting of the International Society for Microbial Electrochemistry and Technology, **Lisbon, Portugal**.
7. Ahilan, V., **Bhowmick, G. D.**, Ghangrekar, M. M., Wilhelm, M., Rezwan, K. (2017, October). Functionalized polysiloxane derived ceramic membranes for microbial fuel cells. General Meeting of the International Society for Microbial Electrochemistry and Technology, **Lisbon, Portugal**.
8. Adhikary, K., **Bhowmick, G. D.**, Das, I., Ghangrekar M. M., Mitra, A. (2017, October). Bismuth doped Ruthenium/Activated carbon (Bi-Ru/AC) photocathode catalyst with polyvinyl alcohol binder to improve the efficacy of microbial fuel cell. International conference on emerging trends in biotechnology for waste conversion (ETBWC), CSIR-NEERI, **Nagpur, India**.
9. Noori, Md. T., **Bhowmick, G. D.**, Tiwari, B. R., Ghangrekar, M. M., Mukherjee, C. K. (2017, November-December) Application of CuSn bimetalic alloy as ORR catalyst for improving the performance of MFC. International Summit, MRS Fall Meeting and Exhibition, **Boston, USA**.
10. **Bhowmick, G. D.,** Nath, D., Ahilan, V., Silva, T. C. A., Kruusenberg, I., Ghangrekar, M. M., Wilhelm, M., Tammeveski, K. (2018, February). Integrated MFC-MBR system using low-cost, multifunctional ceramic membrane for efficient wastewater treatment and electricity recovery. Indo-EU workshop on The Recent Development in Microbial Fuel Cell and Membrane Bioreactor Technology, Indian Institute of Technology **Kharagpur, India**.*****
11. Silva, T. C. A., **Bhowmick, G. D.**, Ghangrekar, M. M., Wilhelm, M., Rezwan, K. (2018, February). Novel polysiloxanes-based anode materials for Microbial Fuel Cells (MFCs). Indo-EU workshop on The Recent Development in Microbial Fuel Cell and Membrane Bioreactor Technology, Indian Institute of Technology **Kharagpur, India**.
12. Ahilan, V., **Bhowmick, G. D.**, Ghangrekar, M. M., Wilhelm, M., Rezwan, K. (2018, February). Porous polymer derived ceramic composite membranes for Microbial Fuel Cell (MFC). Indo-EU workshop on The Recent Development in Microbial Fuel Cell and Membrane Bioreactor Technology, Indian Institute of Technology **Kharagpur, India**.
13. Adhikary, K., **Bhowmick**, **G. D.,** Ghangrekar, M. M., Mitra, A. (2018, February). Introducing novel hybrid ion exchange membrane and ANAMMOX to improve the efficiency of nitrogen removal from microbial fuel cell. Indo-EU workshop on The Recent Development in Microbial Fuel Cell and Membrane Bioreactor Technology, Indian Institute of Technology **Kharagpur, India**.
14. **Bhowmick, G. D.,** Ghosh Ray, S., Ghangrekar M. M., Mitra, A. (2018, February). Improved wastewater treatment by using integrated microbial fuel cell-membrane bioreactor system along with ruthenium/activated carbon cathode composite to enhance bio-energy recovery. International Conference on Sustainable Technologies for Intelligent Water Management, **IIT Roorkee, India**.*****
15. Khuman, C. N., **Bhowmick, G. D.,** Tiwari, B. R., Nath, D., Ghangrekar, M. M. and Mitra, A. (2018, February). Upflow hydroponic constructed wetland microbial fuel cell (UHCW-MFC) for wastewater treatment and recovery of bioelectricity. International Conference on Sustainable Technologies for Intelligent Water Management, **IIT Roorkee, India.***
16. Noori, Md. T., **Bhowmick, G. D.**, Ghangrekar, O. M., Dhamu, P., Fadanavis, S., Ghangrekar, M. M., Mukherjee, C. K. (2018, June). Phenol-activated persulphate ($S_2O_8^{2-}$) as efficient terminal

electron acceptor for enhancing the performance of microbial fuel cell. The 2nd International conference on Anaerobic Digestion Technology (ADTech-SAB-2018), **Chiang Mai, Thailand**.

17. Das, I., Noori, Md. T., **Bhowmick, G. D.**, Ghangrekar, M. M. (2018, April). One-Pot Synthesis of Low-Cost Cobalt Zinc Ferrate ($Co_{0.5}Zn_{0.5}Fe_2O_4$) for Application as Cathode Catalyst in Microbial Fuel Cell to Enhance Energy Recovery from Sanitary Wastewater. MRS Spring Meeting & Exibit, **Pheonix, USA**.
18. Das, I., Das, S., Chakraborty, I., **Bhowmick, G. D.,** Ghangrekar, M. M. (2018, September). Lab scale to field scale application of bioelectrochemical systems: a short review on current status and problems faced. Regional Meeting of the International Society for Microbial Electrochemistry and Technology-EU, New-castle University upon Tyne, **New-castle, UK**.
19. **Bhowmick, G. D.,** Neethu, B., Khuman, C. N., Ghangrekar M. M., Mitra, A. (2018, September) Enhanced power production from ceramic microbial fuel cell using graphitized coconut coir based anode. 4th Regional Meeting of the International Society for Microbial Electrochemistry and Technology-EU, New-castle University upon Tyne, **New-castle, UK**.*****
20. Ahilan, V., Cabral, C., **Bhowmick, G. D.**, Ghangrekar, M. M., Wilhelm, M., Rezwan, K. (2018, September) A novel polymer derived ceramic composite membrane for high performance Microbial Fuel Cell. 4th Regional Meeting of the International Society for Microbial Electrochemistry and Technology-EU, New-castle University upon Tyne, **New-castle, UK**.
21. Viswanath, A. K., **Bhowmick, G. D.,** Neethu, B., Ghangrekar, M. M., Mitra, A. (2018, November) Application of Selenium/Activated carbon as novel cathode catalyst to enhance the performance of microbial fuel cell. 4th Regional Meeting of the International Society for Microbial Electrochemistry and Technology-AP, Birla Institute of Technology and Science - Pilani, **Goa, India**.
22. Zekker, I., **Bhowmick, G. D**., Rikmann, E., Mandel, A., Tenno, T., Tenno, T., Priks, H., Ghangrekar, M. M., Mitra, A. (2018, November) Deammonification nitrogen removal, ORP aided operation benefits on MFC technology. Linnaeus ECO-TECH, **Kalmar, Sweden**.
23. Tholia, V., Neethu, B., **Bhowmick, G. D.**, Ghangrekar, M. M. (February 13-15, 2019). Enhancing the performance of microbial fuel cell by using sludge pretreated with chloroform as inoculum. International Conference on Clean and Green Energy –ICCGE, **Milan, Italy**.
24. Viswanath, A. K., **Bhowmick, G. D.**, Ghangrekar, M. M., Mitra, A. (February 13-15, 2019). Green synthesis of silver nanoparticles from *Carica papaya* leaves as cathode catalyst to enhance the performance of microbial fuel cell, International Conference on Clean and Green Energy-ICCGE, **Milan, Italy**.
25. e Silva, T. C. A., **Bhowmick, G. D**., Ghangrekar, M. M., Wilhelm, M., Rezwan, K. (May 1-3, 2019). Macroporous SiOC carbon based Composite as Anodes for Microbial Fuel Cell Technology, 5th International Conference on Chemical Materials and Process (ICCMP 2019), Chulalongkorn University, **Bangkok, Thailand.**
26. **Bhowmick, G. D.,** Ghangrekar M. M., Mitra, A. (2019, July). Microbial fuel cell and membrane bioreactor combination offering an effective treatment to fish processing wastewater for facilitating water reuse. ASABE Annual International Meeting, Boston, **Massachusetts, USA**.*****
27. Lade, I., **Bhowmick, G. D.,** Silva, T. C. A., Ghangrekar, M. M., Wilhelm, M. (2019, October). Polymer derived ceramic based Co/Ni-SiOC (N) electrocatalyst to improve the performance of Microbial Fuel Cell. Global Conference of International Society for Microbial Electrochemistry and Technology, ISMET 7, **Okinawa, Japan.**

28. **Bhowmick, G. D.**, Ghangrekar, M. M., Mitra, A. (2019, October). Pilot scale submerged ultrafiltration membrane bio-fuel cell with transverse vibration technique to mitigate membrane biofouling with enhanced power production. Global Conference of International Society for Microbial Electrochemistry and Technology, ISMET 7, **Okinawa, Japan**.*****
29. Chakraborty, I., Khuman, C. N., **Bhowmick, G. D.,** Ghangrekar, M. M. (2019, December). Upflow microbial fuel cell for removal of emerging contaminant from greywater with concomitant energy recovery. IWA Water and Development Congress & Exhibition, **Srilanka.**
30. Prakash S., Chatterjee, A., **Bhowmick, G D**, Sappati, P K, Nagarajan, V (2023, 24th February) Identification of Opportunistic Pathogens for Effective Policy-making in Offshore Seaweed Cultivation, Indo-US SPARC workshop organized by Bioprocess & Bioproduct Development Laboratory, **IIT Kharagpur, India**.

(***** - Presented by the applicant)

National Conference (1)

1. **Bhowmick, G. D.**, Adhikary, K., Ghangrekar, M. M., Mitra, A. (2019, 31st January-2nd February). Introducing novel hybrid ion exchange membrane and ANAMMOX to improve the efficiency of nitrogen removal from microbial fuel cell. National Environmental Conference: IIT Bombay diamond jubilee year conference (NEC - 2019), Centre for Environmental Science and Engineering (CESE), **IIT Bombay, India.***

(***** - Presented by the applicant)

Book Chapters (6)

1. Neethu, B., **Bhowmick, G. D.,** Ghangrekar, M. M. (2019). Yeast and Algae as Biocatalysts in Microbial Fuel Cell. in book title *Waste to Sustainable Energy: MFCs – Prospects through Prognosis*, Ed. Lakhveer Singh and Durga Madhab Mahapatra. CRC Press, Taylor & Francis. London, UK. PP 141-168. https://www.taylorfrancis.com/books/9780429828775 (**Citation: 3**)
2. Ghangrekar, M. M., **Bhowmick, G. D.**, Sathe, S. M. (2019). An overview of membrane bioreactor coupled bio-electrochemical systems. Chapter 16, in book title *Integrated Microbial Fuel Cells for Wastewater Treatment* Ed. Rouzbeh Abbassi, Asheesh K. Yadav, Vikram Garaniya, Faisal Khan. Elsevier. Cambridge, MA 02139, United States. PP. 249-272. https://www.elsevier.com/books/integrated-microbial-fuel-cells-for-wastewater-treatment/abbassi/978-0-12-817493-7 (**Citation: 2**)
3. **Bhowmick, G. D.,** Ghangrekar, M. M., Banerjee, R. (2021). Improved Wastewater Treatment by Using Integrated Microbial Fuel Cell-Membrane Bioreactor System Along with Ruthenium/activated Carbon Cathode Catalyst to Enhance Bio-energy Recovery. In: Pandey A., Mishra S., Kansal M., Singh R., Singh V. (eds) Climate Impacts on Water Resources in India. Water Science and Technology Library, vol 95. Springer, Cham. https://doi.org/10.1007/978-3-030-51427-3_15
4. Chaudhary, M., Jain, N., Barman, L., **Bhowmick, G. D.** (2022). Design and principles of adsorbent-based reactors for wastewater treatment. In: Modular Treatment Approach for Drinking Water and Wastewater. Ed. Satinder Kaur Brar, Pratik Kumar and Agnieszka Cuprys. Elsevier. https://www.elsevier.com/books/modular-treatment-approach-for-drinking-water-and-wastewater/kaur-brar/978-0-323-85421-4

5. **Bhowmick, G. D.,** Sathe, S. M., Ghangrekar, M. M. (2022). Chapter 16 -Tertiary Wastewater Treatment Systems. In: Wastewater to Water: Principles, Technologies and Engineering Design. Ed. Makarand M. Ghangrekar. Springer Nature. https://link.springer.com/book/10.1007/978-981-19-4048-4
6. Kiran K J, Vedant Vijay Pendse, **G D Bhowmick**, Indrasis Das, Ivar Zekker (2023). Advancements in the application of bio-electrochemical systems-based sensors. In: Advances in Environmental Electrochemistry. Ed. Dipak Jadhav, Manaswini Behera, Surajbhan Sevda and Maulin Shah. Elsevier. https://www.elsevier.com/books/advances-in-environmental-electrochemistry/jadhav/978-0-443-18820-6

Patents

Provisional Patent Application

Oren, Y., Berenstein, R., Siebner, H., Bhowmick, G. D., Membrane - based isotope separation (2021). (US Patent - Submitted)

Papers Reviewed for 30 International Journals: Total 71 manuscripts

1. ACS Applied Materials & Interfaces
2. Bioresource Technology Reports
3. International Journal of Hydrogen Energy
4. Applied Surface Science
5. ChemCatChem
6. Electrochimica Acta
7. Desalination and Water Treatment
8. Ionics
9. Biomass and Bioenergy
10. Environmental Progress & Sustainable Energy
11. Journal of Environmental Chemical Engineering
12. Coronaviruses (Bentham Science Pub.)
13. Process Biochemistry
14. Biodegradation
15. The Open Public Health Journal
16. RSC Advances
17. International Journal of Environmental Health Research
18. Environmental Research
19. Environmental Science and Pollution Research
20. Energies
21. Indian Journal of Medical Microbiology
22. Materials Today: Proceedings
23. Chemosphere
24. Membranes
25. Chemical Engineering Journal Advances
26. Journal of Materials Chemistry – A
27. Biotechnology Letters
28. Applied Water Science
29. Catalysts

30. Green and Low-Carbon Economy

Projects reviewed

1. Reviewed project submissions for considering for Gandhian Young Technological Innovation (GYTI) Award – 2020.

Awards

- Awarded among the top 15 innovators as **Young Indian Scientists** for the year 2016 and facilitated by **BIRAC-SRISTI Gandhian Young Technological Innovation (GYTI) Award** at Rastrapati bhavan, New Delhi by the **President of India** for the innovation of "Energy efficient combined process of microbial fuel cell (MFC) and membrane bioreactor (MBR) for high efficiency and reliable treatment of organic wastewater."
- **All India Rank (AIR)-57** at Graduate Aptitude Test in Engineering (GATE) organised by Ministry of Human Resource Development (MHRD).
- **Best presentation award** in Research Scholar day of PK Sinha Centre for Bioenergy and Renewables, IIT Kharagpur, 2020.
- **Best Presentation Award -** Thamires Canuto de Almeida e Silva, **Gourav Dhar Bhowmick**, Makarand Madhao Ghangrekar, Michaela Wilhelm and Kurosch Rezwan, Macroporous SiOC-Carbon-based Composite as Anodes for Microbial Fuel Cell Technology, 5 th International Conference on Chemical Materials and Process (ICCMP 2019), **Bangkok, Thailand**, May 1-3, 2019.
- Awarded with **prestigious Blaustein Center for Scientific Cooperation (BCSC) Postdoctoral Fellowship** for 2020-2021 to join as a **Postdoctoral Researcher** in Zuckerberg Institute for Water Research, Department of Desalination and Water Treatment, Jacob Blaustein Institutes for Desert Research, **Ben-Gurion University of the Negev, Israel**.

Invited Lectures/Talks

- Delivered an **invited talk** on 'Opportunities in Aquaculture sectors for the entrepreneurs from the coastal regions of India' to the **MO CHASHI BHAI**, an Initiative by Maruti Foods Training Centre (MFTC) and Maruti Foods, **Odisha**, **India** on 14th August 2021.
- Delivered an **invited talk** on 'Carbon capture and storage technologies and their impact on environmental ecology' on Environmental outreach programme webinar series at the **University of Calcutta, India** on 11th July 2021.
- Delivered a **short lecture** on the 'Recent activities on Bio-Electrochemistry research in India' at Advanced Ceramics Group, **University of Bremen, Germany** on 22nd November 2017.

Media Coverages

- How to shift into COVID-19 research: Scientists who aren't virologists or vaccinologists can still make crucial contributions to the global effort to battle SARS-CoV-2. Career Feature. Published online on 20th November 2020 by **Nature.** https://www.nature.com/articles/d41586-020-03298-x

- Danger of coronavirus spreading through untreated sewage water. Published online on 7th July 2020 by **NatureIndia**. doi:10.1038/nindia.2020.107

  Link: https://jwp-nindia.public.springernature.app/en/nindia/article/10.1038/nindia.2020.107

- Media coverage for GYTI award-2016:

  Techpedia - http://gyti.techpedia.in/news-detail/31
  The Statesman - https://www.thestatesman.com/bengal/iit-kharagpur-shines-in-innovation-contest-130045.html
  The Times of India - https://timesofindia.indiatimes.com/home/education/news/IIT-Kharagpur-wins-laurels-at-innovation-awards/articleshow/51409405.cms
  The Economic Times - https://economictimes.indiatimes.com/industry/services/education/iit-kharagpur-wins-maximum-number-of-laurels-at-innovation-awards/articleshow/51408291.cms?from=mdr
  The HANS India - https://www.thehansindia.com/posts/index/Education-and-Careers/2016-03-15/IIT-Kharagpur-shines-at-innovation-awards/213918
  Business Standard - https://www.business-standard.com/article/pti-stories/iit-kgp-wins-maximum-number-of-laurels-at-innovation-awards-116031500414_1.html
  Mathrubhumi - https://english.mathrubhumi.com/education/news/news-updates/iit-kgp-wins-max-number-of-laurels-at-gyti-english-news-1.930946
  Collegedekho - https://www.collegedekho.com/news/innovation-awards-see-iit-kharagpur-win-maximum-laurels-3629/
  Brainbuxa - https://www.brainbuxa.com/education-news/iit-kharagpur-outshines-every-institution-at-gyti-2016-4826
  NDTV India - https://khabar.ndtv.com/news/career/iit-kharagpur-wins-maximum-number-of-laurels-at-innovation-awards-1287553
  The New Indian Express - https://www.newindianexpress.com/nation/2016/mar/15/IIT-Kharagpur-Wins-Maximum-Number-of-Laurels-at-Innovation-Awards-911938.html
  Business Insider - https://www.businessinsider.in/iit-kharagpur-shows-how-to-innovate-bags-maximum-laurels-at-innovation-awards/articleshow/51409735.cms

Internships/Workshops/Symposium attended

1. **WORKSHOP AT GLOBAL CONFERENCE OF INTERNATIONAL SOCIETY OF MICROBIAL ELECTROCHEMISTRY, OIST, OKINAWA, JAPAN**
   Duration: 7th – 11th October, 2019
   Title: Microbial Electrochemistry
2. **GLOBAL INITIATIVE OF ACADEMIC NETWORKS (GIAN), IIT KHARAGPUR, INDIA**
   Duration: 20th – 29th June, 2016
   Title: Environmental Electrochemistry
3. **GLOBAL INITIATIVE OF ACADEMIC NETWORKS (GIAN), IIT KHARAGPUR, INDIA**
   Duration: 07th - 12th December, 2015
   Title: Probability Safety Assessment (PSA)
4. **INTERNATIONAL SUMMER AND WINTER TERM, IIT KHARAGPUR, INDIA**
   Duration: 01st – 12th June, 2015

Title: Modelling River Catchment Analysis.

5. **SOIL CONSERVATION TRAINING CENTRE, DAMODAR VALLEY CORPORATION (DVC), HAZARIBAG, JHARKHAND, INDIA**
   Duration: 01st – 30th June, 2013
   Project title: Practical Training on Soil and Water Conservation
6. **CENTRAL FARM MACHINERY TRAINING AND TESTING INSTITUTE MINISTRY OF AGRICULTURE (GOVERNMENT OF INDIA), BUDNI, INDIA**
   Duration: 7th May – 1st June, 2012
   Project title: Practical Training Course of Agriculture Engineering on Academic Level

Positions of Responsibility

Faculty advisor of Under-graduate batch – 2021-2025, Agricultural and Food Engineering Department, IIT Kharagpur, India.

Faculty advisor of Post-graduate batch – 2022-2024, Aquacultural Engineering Specialization, Agricultural and Food Engineering Department, IIT Kharagpur, India.

Election Officer of Hall Council Member (HCM) election 2022-23 at LBS Hall of residence, IIT Kharagpur.

Invited Guest plus jury member, National Children Science Congress – 2022 at Kendriya Vidyalaya - IIT Kharagpur.

Convener-Member, 68th Convocation Lunch and Pre-dinner at IIT Kharagpur**.**

Professor in-charge, Prakriti - Agri and Food Innovation Fest 2023 at Agricultural and Food Engineering Department, IIT Kharagpur, India.

Honorary member of Advisory committee of WINGS - Wildlife Information and Nature Guide Society, Durgapur, West Bengal, India.

Mentoring the start-ups for the **NABARD-funded Agri Business Incubation Foundation IIT Kharagpur** for the promotion of Agri-business in the eastern part of India.

Honorable judge for the **Krishi Manthan** event of **PRAKRITI-2022 (Agri-tech fest) at** IIT Kharagpur**.**

Assistant Warden – Lal Bahadur Shastri Hall of Residence, IIT Kharagpur – From 1st January 2022 to till date.

Organizing committee member - for TEQIP-AICTE short term course title "Recent Trends in Industrial Pollution Control and Regulation" 19 – 23 November 2018, IIT Kharagpur, India.

Organizing Head, **IUWMM-2018** - First INDO-EU joint workshop on "The Recent Developments in Microbial Fuel Cell and Membrane Bioreactor Technology" at Indian Institute of Technology Kharagpur, India. February 2 – 3, 2018.

Choreographer-Member, Technology Dance Society, IIT Kharagpur, Silver medal at Centrifuge dance competition, Spring Fest-2015, IIT Kharagpur, India.

Choreographer-Member, Technology Dance Society, IIT Kharagpur, Representing IIT Kharagpur in Antaragini-2014 at IIT Kanpur, India.

Coordinator, Event management team, Social-2013 held in Uttar Banga Krishi Viswavidyalaya, India.

School dramatics society, for State Youth Parliament Competition (School level)-2008 (representing Darjeeling district) held at Saltlake Stadium, Kolkata, India.

School quiz team, Gold Medal in Interaction-2008, Siliguri Utsav-2005, 2006, 2010 held at Siliguri, India.

Personal Details

Date of Birth:	31st August 1992
Place of birth:	Siliguri, West Bengal, India
Father's name:	Late Ajoy Dhar Bhowmick
Mother's name:	Shikha Dhar Bhowmick
Occupation:	Homemaker
Wife's name:	Anna Sherman
Occupation:	Business development manager
Younger sister's name:	Moumita Dhar Bhowmick
Occupation:	Masters Student (Interior Design)
Permanent address:	71/16, Balaidas Chatterjee Road, Hakimpara, Siliguri, District: Darjeeling, State: West Bengal, India, Pin – 734001