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Personal

Date of Birth: 11-July-1975
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Professional and Career

- Professor (June 2017 - present): Department of Chemistry, BU
- Associate Professor (June 2014 - May 2017): Department of Chemistry, BU
- Assistant Professor (Dec 2005 - May 2014): Department of Chemistry, BU
- Lecturer (July 2001 - Nov 2005): Department of Chemistry, Hetampur Krishna Chandra College

Academic details

- Postdoctoral fellow (2009-10, University of British Columbia, Vancouver, Prof. C. Orvig)
- Ph.D. (2007, Visva Bharati, A Central Universaity, Founded by Asian first Nobel Laureates)
- M.Sc. (1998, Visva Bharati, A Central Universaity, Founded by Asian first Nobel Laureates)
- B.Sc. (1996, Visva Bharati, A Central Universaity, Founded by Asian first Nobel Laureates)

Awards and Recognitions

- BOYSCAST (2008-09) by DST, New Delhi, India
- Global Peer Review Awards 2019 by Publons
- Editor: Current Indian Science (BENTHAM SCIENCE); Bagdad Science Journal
- Associate Editor: Chemistry Africa (Springer)
- Editorial Board Member of the Journals:
  Research on Chemical Intermediates (Springer)
  Vietnam Journal of Chemistry (Wiley)
  Combinatorial Chemistry & High Throughput Screening (BENTHAM SCIENCE)
  Journal of Environmental Engineering and Science (ICE publishing)
- Reviewer of the reputed International Journals: ACS, RSC, Wiley, Elsevier, Springer, Taylor & Francis

Membership

- Indian Chemical Society

Research interest

- **The catalytic efficiency of aqueous surfactant-micelle in organic transformations:** The aggregated structural component of surfactant has been utilized as catalytic nanoreactor in several organic transformations. The aggregation of surfactant molecules has also been investigated using a number of techniques.
- **The bioremediation of hexavalent chromium using natural resources:** Natural resources have been used for the removal of chromium from wastewater. The surfactants are used to speed up the bioremediation process.

Contribution in research (**Scopus** *h* index: 30; **Google Scholar** *h* index: 31)

- Publications: 150
- Books (Edited) and Chapters: 5
- Ph.D. supervision: 22 (Awarded: 14, Ongoing: 8)
- PDF mentor: 2
- Research project: 2 (Funded by UGC and CSIR, India)

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https://publons.com/researcher/519600/bidyut-saha/
https://scholar.google.com/citations?user=lG27makAAAAJ&hl=en&oi=ao
https://www.researchgate.net/profile/Bidyut_Saha

50 Selected Publications

1. Anionic micelles and their ideal binary mixture: Worth media for sustainable oxidation of hydrophobic alcohol. S. Chowdhury, A. Rakshit, A. Acharjee, D. Kumar and **B. Saha**. *J. Mol. Liq.* **346** 117118 (2022) [IF **6.633**]
2. *Catalytic impacts of cationic twin headed and tailed gemini surfactants toward study of glycine and ninhydrin in sodium acetate-acetic acid buffer system.* A. Bhattarai, M. A. Rub, M. Posa, **B. Saha** and D. Kumar. *J. Mol. Liq*. **360** 119442 (2022) [IF **6.633**]

3. *A comprehensive review on the sources, essentiality and toxicological profile of nickel.* W. Begum, S. Rai, S. Banerjee, S. Bhattacharjee, M. H. Mondal, A. Bhattarai and **B. Saha**. *RSC Adv*. **12** 9139 (2022). [IF: **4.036**]
4. *A Review of Biopolymers' Utility as Emulsion Stabilizers*. N. Tamang, P. Shrestha, B. Khadka, M. H. Mondal,**B. Saha** and A. Bhattarai. *Polymer* **14** 127 (2022) [IF **4.967**]
5. Advancement of Cu(III) and Fe(III) directed oxidative transformations: Recent impact of aqueous micellar environment. B. Chowdhury, Pintu Sar, D. Kumar and **B. Saha**. *J. Mol. Liq.* **346** 117993 (2021) [IF **6.633**]
6. Scientific information about sugar-based emulsifiers: A comprehensive review. A. Pal, M. H Mondal, A. Adhikari, A. Bhattarai and **B. Saha**. *RSC Adv*. **11** 33004 (2021). [IF: **4.036**]
7. Biodegradability and biocompatibility: Advancements in synthetic surfactants. S. Chowdhury, A. Rakshit, A. Acharjee and **B. Saha**. *J. Mol. Liq.* **324** 115105 (2021). [IF: **6.633**]
8. Micelle catalysed conversion of 'on water' reactions into 'in water' one. A. Acharjee, A. Rakshit, S. Chowdhury and **B. Saha**. *J. Mol. Liq*. **321** 114897 (2021). [IF: **6.633**]
9. Spectroscopic and Conductometric Analyses of Ninhydrin and Threonine Reaction in Double-Headed Geminis. A. Bhattarai, M. A. Rub, Z. H. Jaffari, **B. Saha**, H. T. Thu, Y. G. Alghamdi, and D. Kumar. Ind. Eng. Chem. Res. **60** 14977 (2021) [IF **4.326**]
10. Analysis of interaction between glutamic acid and ninhydrin in the presence of acetate buffer solvent: impact of gemini (twin- headed) surfactants. A. Bhattarai, **B. Saha**, Z. H. Jaffari, M. A. Rub, Y. G. Alghamdi and D. Kumar. *Colloids Surf. A Physicochem*. **626** 127061 (2021) [IF **5.518**]
11. Potential application of Micellar nanoreactor for electron transfer reactions mediated by a variety of oxidants: A review. P. Sar and **B. Saha**. *Adv. Colloid Interface Sci.* **284** 102241 (2020). [IF: **15.19**]
12. Surface phenomenon in micellar media: An excellent controlling factor for oxidation of fatty aldehyde in aqueous medium. S. Chowdhury, A. Rakshit, A. Acharjee, K. Mahali and **B. Saha**. *J. Mol. Liq.* **310** 113224 (2020). [IF: **6.633**]
13. Mixed anionic-nonionic micelle catalysed oxidation of aliphatic alcohol in aqueous medium. A. Acharjee, A. Rakshit, S. Chowdhury, Md. A. Ali, B. Singh and **B. Saha**. *J. Mol. Liq*. **303** 112655 (2020). [IF: **6.633**]

14. Surfactant for better tomorrow: applied aspect of surfactant aggregates from laboratory to industry. P. Sar, A. Ghosh, A. Scarso and **B. Saha**. *Res. Chem. Intermed.* **45** 6021-6041 (2019). [IF: **3.134**]
15. Micellar catalysed oxidation of hydrophobic fatty alcohol in aqueous medium. A. Acharjee, A. Rakshit, S. Chowdhury, I. Datta, M. K. Barman, Md. A. Ali and **B. Saha**. *J. Mol. Liq.* **293** 111475 (2019). [IF: **6.633**]
16. Ru(III) catalysed oxidation of 2-propanol by Cr(VI) in micellar media. S. Chowdhury, A. Rakshit, A. Acharjee, A. Ghosh, K. Mahali and **B. Saha**. *J. Mol. Liq.* **290** 111247 (2019). [IF: **6.633**]
17. Micellar catalysed and heteroaromatic base promoted rate enhancement of oxidation of an alicyclic alcohol in aqueous medium. A. Acharjee, A. Rakshit, S. Chowdhury, S. Malik, M. K. Barman, Md. A. Ali and **B. Saha**. *J. Mol. Liq.* **277** 360-371 (2019). [IF: **6.633**]
18. A study on the synthesis of alkaline copper(III)-periodate (DPC) complex with an overview of its redox behavior in aqueous micellar media. B. Chowdhury, M. H. Mondal, M. K. Barman and **B. Saha**. *Res. Chem. Intermed.* **45** 789-800 (2019). [IF: **3.134**]
19. Synthesis of 2-(ethynyloxy)naphthaene-1-carbaldehyde using 2-hydroxy benzyl alcohol and propargyl bromide in aqueous micellar media. S. Mandal, S. Mandal, S. Biswas, S. Banerjee and **B. Saha**. *Res. Chem. Intermed.* **44** 2169-2177 (2018). [IF: **3.134**]
20. Microbial assisted (pseudomonas sp.) production of novel bio-surfactant rhamnolipids and its characterisation by different spectral studies. M. H. Mondal, A. Sarkar, T. K. Maiti and **B. Saha**. *J. Mol. Liq*. **242** 873-878 (2017). [IF: **6.633**]
21. Surfactant-promoted enhancement in bioremediation of hexavalent chromium to trivalent chromium by naturally occurring wall algae. R. Nandi, S. Laskar and **B. Saha**. *Res. Chem. Intermed*. **43** 1619-1634 (2017). [IF: **3.134**
22. Employment and resurrection of surfactants in bipyridine promoted oxidation of butanal using bivalent copper at NTP. M. H. Mondal, S. Malik, S. De, S. S. Bhattacharyya and **B. Saha**. *Res. Chem. Intermed*. **43** 1651-1670 (2017). [IF: **3.134**]
23. Micellar effect on hetero-aromatic nitrogen base promoted chromic acid oxidation of 1.3-propanediol in aqueous media at room temperature. S. Malik, D. Saha, M. H. Mondal, P. Sar, A. Ghosh, K. Mahali and **B. Saha**. *J. Mol. Liq*. **225** 207-216 (2017). [IF: **6.633**]

24. Selective heteroaromatic nitrogen base promoted chromium(VI) oxidation of isomeric pentanols in aqueous micellar media at room temperature. P. Sar, A. Ghosh, S. Malik, D. Ray, B. Das and **B. Saha**. *J. Ind. Eng. Chem.* **42** 53-62 (2016). [IF: **6.760**]
25. A Review on Advancement of Ether Synthesis from Organic Solvent to Water. S. Mandal, S. Mandal, S. K. Ghosh, P. Sar, A. Ghosh, R. Saha and **B. Saha**. *RSC Adv.* **6** 69605-69614 (2016). [IF: **4.036**]

26. Review on chemically bonded geminis with cationic heads: second-generation interfactants. M. H. Mondal, A. Roy, S. Malik, A. Ghosh and **B. Saha**. *Res. Chem. Intermed*. **42** 1913-1928 (2016). [IF: **3.134**]
27. Role of surfactants on metal mediated cerium(IV) oxidation of valeraldehyde at room temperature and pressure. A. Ghosh, P. Sar, S. Malik and **B. Saha**. *J. Mol. Liq*. **211** 48-62 (2015). [IF: **6.633**]
28. Micellar Catalysis on Quinquivalent Vanadium Oxidation of Methanol to Formaldehyde in aqueous medium. P. Sar, A. Ghosh, D. Ghosh and **B. Saha**. *Res. Chem. Intermed*. **41** 5565-5586 (2015). [IF: **3.134**]
29. Toxicity of Inorganic vanadium compounds. S. K. Ghosh, R. Saha and **B. Saha.** *Res. Chem. Intermed.* **41** 4873-4897 (2015). [IF: **3.134**]
30. Modernization of surfactant chemistry in the age of Gemini and bio- surfactants: A Review. M. H. Mondal, S. Malik, A. Roy, R. Saha and **B. Saha**. *RSC Adv*. **5** 92707-92718 (2015). [IF: **4.036**]
31. A review on natural surfactants. S. Dey, S.Malik, A. Ghosh, R. Saha and **B. Saha**. *RSC Adv*. **5** 65757-65767 (2015). [IF: **4.036**]
32. Effect of CPC micelle on *N*-hetero-aromatic base promoted room temperature permanganate oxidation of 2-butanol in aqueous medium. A. Ghosh, K. Sengupta, R. Saha and **B. Saha**. *J. Mol. Liq*. **198** 369-380 (2014). [IF: **6.633**]
33. Effect of CHAPS and CPC micelles on Ir(III) catalyzed Ce(IV) oxidation of aliphatic alcohols at room temperature and pressure. A. Ghosh, R. Saha and **B. Saha**. *J. Mol. Liq*. **196** 223-237 (2014). [IF: **6.633**]

34. Combination of best promoter and micellar catalyst for chromic acid oxidation of 1-butanol to 1-butanal in aqueous media at room temperature. R. Saha, A. Ghosh and **B. Saha.** *Spectrochim. Acta, Part A* **124** 130-137 (2014). [IF: **4.831**]
35. Best combination of promoter and micellar catalyst for the rapid conversion of sorbitol to glucose. K. Mukherjee, A. Ghosh, R. Saha, P. Sar, S. Malik, S. S. Bhattacharyya and **B. Saha**. *Spectrochim. Acta, Part A* **122** 204-208 (2014). [IF: **4.831**]
36. Rate enhancement via micelle encapsulation for room temperature metal catalyzed Ce(IV) oxidation of p-chlorobenzaldehyde to p-chlorobenzoic acid in aqueous medium at atmospheric pressure. A. Ghosh, R. Saha, K. Mukherjee, P. Sar, S. K. Ghosh, S. Malik, S. S. Bhattacharyya and **B. Saha**. *J. Mol. Liq*. **190** 81-93 (2014). [IF: **6.633**]
37. A review on sources, toxicity and remediation technologies for removing arsenic from drinking water. A. Basu, D. Saha, R. Saha, T. Ghosh and **B. Saha**. *Res. Chem. Intermed*. **40** 447-485 (2014). [IF: **3.134**]
38. Suitable combination of promoter and micellar catalyst for kilo fold rate acceleration on propanol to propionaldehyde conversion in aqueous media. A. Ghosh, R. Saha and **B. Saha**. *J. Ind. Eng. Chem.* **20** 345-355 (2014). [IF: **6.760**]
39. Combination of best promoter and micellar catalyst for more than kilo-fold rate acceleration in favor of chromic acid oxidation of D-galactose to D-galactonic acid in aqueous media at room temperature. R. Saha, A. Ghosh, P. Sar, I. Saha, S. K. Ghosh, K. Mukherjee and **B. Saha**. *Spectrochim. Acta, Part A* **116** 524-531 (2013). [IF: **4.831**]
40. A Review on Biphasic Hydroformylation for Long Chain Substrates. C. Dey, R. Saha, S. K. Ghosh, A. Ghosh, K. Mukherjee, S. S. Bhattacharyya and **B. Saha**. *Res. Chem. Intermed.* **39** 3463-3474 (2013). [IF: **3.134**]
41. Rate enhancement via micelle encapsulation for room temperature metal catalyzed Ce(IV) oxidation of formaldehyde to formic acid in aqueous medium at atmospheric pressure: A kinetic approach. A. Ghosh, R. Saha, P. Sar and **B. Saha**. *J. Mol. Liq*. **186** 122-130 (2013). [IF: **6.633**]
42. Sources and toxicity of fluoride in environment. A. Ghosh, K. Mukherjee, S. K. Ghosh and **B. Saha**. *Res. Chem. Intermed.* **39** 2881-2915 (2013). [IF: **3.134**]

43. Kinetics of micellar catalysis on oxidation of p-anisaldehyde to p-anisic acid in aqueous medium at room temperature. R. Saha, A. Ghosh and **B. Saha**. *Chem. Eng. Sci*. **99** 23-27 (2013). [IF: **4.889**]
44. Chromium removal technologies, K. Mukherjee, R. Saha, A. Ghosh and **B. Saha.** *Res. Chem. Intermed*. **39** 2267-2286 (2013). [IF: **3.134**]
45. Suitable combination of promoter and micellar catalyst for kilo fold rate acceleration on benzaldehyde to benzoic acid conversion in aqueous media at room temperature: a kinetic approach. A. Ghosh, R. Saha, K. Mukherjee, S. K. Ghosh and **B. Saha**. *Spectrochim. Acta, Part A.* **109** 55-67 (2013). [IF: **4.831**]
46. Combination of best promoter and catalyst for hypervalent chromium oxidation of L-sorbose to lactone of C_5 aldonic acid in aqueous media at room temperature. K. Mukherjee, R. Saha, A. Ghosh, S. K. Ghosh and **B. Saha**. *J. Mol. Liq*. **179** 1-6 (2013). [IF: **6.633**]
47. Efficient combination of promoter and catalyst for chromic acid oxidation of propan-2-ol to acetone in aqueous acid media at room temperature. K. Mukherjee, R. Saha, A. Ghosh, S. K. Ghosh and **B. Saha**. *Spectrochim. Acta, Part A.* **101** 294-305 (2013). [IF: **4.831**]
48. Biosorbents for hexavalent chromium elimination from industrial and municipal effluents. **B. Saha** and C. Orvig. *Coord. Chem. Rev*. **254** 2959-2972 (2010). [IF: **24.833**]
49. Kinetics and Mechanism of Picolinic Acid Promoted Chromic Acid Oxidation of Maleic Acid in Aqueous Micellar Media. M. Islam, **B. Saha** and A. K. Das. *J. Mol. Catal A*: *Chem.* **266** 21-30 (2007). [IF: **5.089]**
50. Kinetics and Mechanism of 2, 2'-Bipyridine and 1, 10-Phenanthroline Catalysed Chromium(VI) Oxidation of D-Fructose in Aqueous Micellar Media. M. Islam, **B. Saha** and A. K. Das. *J. Mol. Catal A*: *Chem.* **236** 260-266 (2005). [IF: **5.089**]