



Dr. Bishal Bhuyan

Assistant Professor, Dept. of Chemistry, Majuli College.

Date of Joining: 24/09/2022

Nationality: Indian

Date and Place of birth: 01-10-1990, North Lakhimpur (Assam)

Father's Name: Late. Kumud Bhuyan

Mother's Name: Mrs. Gitanjali Bhuyan

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Assam

ACADEMIC DETAILS

Ph.D in Chemistry, 2019 from NIT Silchar, Assam

M.Sc. in Chemistry, 2014 from NIT Silchar, Assam.

B.Sc. in Chemistry, 2012 from North Lakhimpur College, North Lakhimpur, Assam (Dibrugarh University).

H.S. in Science, 2009 from North Lakhimpur College, North Lakhimpur, Assam, Board- AHSEC.

HSLC, 2007 from Saint Mary's High School, North Lakhimpur, Assam, Board- SEBA

RESEARCH INTEREST

Exploring the opportunities in the area of Green and sustainable catalysts towards important organic transformations.

Studies on Ionic liquids immobilized heterogeneous catalytic systems

RESEARCH EXPERIENCES

Ph.D Scholar (July 2014- October 2019)

Department of Chemistry, National Institute of Technology, Silchar (NITS)

Thesis title: “**Studies on a Few Chosen Nanostructured Metals, Metal Oxides and Composites and Their Catalytic and Biological Applications**”

M.Sc. project (Jan 2014-May 2014)

Department of Chemistry, National Institute of Technology, Silchar (NITS)

Thesis title: “**Characterization of Fly Ash from Cachar paper mill for Potential Utilization**”

PUBLICATIONS

1. **B. Bhuyan**, M. Devi, A. Borah, B. Paul, S.S. Dhar and S. Vadivel, Fabrication of a novel ZnO/NiMoO₄ nanocomposite and evaluation of its visible light driven photocatalytic performance, *IEEE Transactions on Nanotechnology*, **2018** (accepted manuscript), DOI **10.1109/TNANO.2018.2820811**.
2. **B. Bhuyan**, D.J. Koiri, M. Devi and S.S. Dhar, A novel MnFe₂O₄/Graphitic carbon nitride (g-C₃N₄) nanocomposites as efficient magnetically retrievable catalyst in crossed aldol condensation, *Materials Letters*, **2018**, 218, 99-102.
3. **B. Bhuyan**, A. Paul, M. Devi and S.S. Dhar, Silver NPs dispersed water extract of fly ash as green and efficient medium for oxidant-free dehydrogenation of benzyl alcohols, *RSC Advances*, **2018**, 8, 1313-1319.
4. **B. Bhuyan**, A. Paul, B. Paul, S.S. Dhar and P. Dutta, *Paederia foetida* Linn. promoted biogenic gold and silver nanoparticles: synthesis, characterization, photocatalytic and in vitro efficacy against clinically isolated pathogens, *Journal of Photochemistry and Photobiology B*, **2017**, 173, 210-215.
5. **B. Bhuyan**, B. Paul, S. Vadivel and S.S. Dhar, Preparation and characterization of WO₃ bonded imidazolium sulfonic acid chloride as novel and green ionic liquid catalyst for the synthesis of adipic acid, *RSC Advances*, **2016**, 6, 99044-99052.
6. **B. Bhuyan**, B. Paul, A. Paul, S.S. Dhar, *Paederia foetida* Linn. promoted synthesis of CoFe₂O₄ and NiFe₂O₄ nanostructures and their photocatalytic efficiency, *IET Nanobiotechnology*, **2018**, 12, 235-240.
7. **B. Bhuyan**, B. Paul, S.S. Dhar, S. Vadivel, Facile hydrothermal synthesis of ultrasmall W₁₈O₄₉ nanoparticles and studies of their photocatalytic activity towards degradation of methylene blue, *Materials Chemistry and Physics*, **2017**, 188, 1-7.

8. **B. Bhuyan**, B. Paul and S.S. Dhar, CTAB promoted size-tuning synthesis of rod-like V_2O_5 nanoparticles and their catalytic studies in oxidative esterification of aldehydes, *Nanoscience and Nanotechnology Letters*, **2016**, 8, 173-180.
9. **B. Bhuyan**, B. Paul, D.D. Purkayastha and S.S. Dhar, Facile synthesis and characterization of zinc oxide nanoparticles and studies of their catalytic activity towards ultrasound-assisted degradation of metronidazole, *Materials Letters*, **2016**, 168, 158-162.
10. B. Paul, **B. Bhuyan**, D.D. Purkayastha and S.S. Dhar, Photocatalytic and antibacterial activities of gold and silver nanoparticles synthesized using biomass of *Parkia roxburghii* leaf, *Journal of Photochemistry and Photobiology B: Biology*, **2016**, 154, 1-7.
11. B. Paul, **B. Bhuyan**, D.D. Purkayastha and S.S. Dhar, Green synthesis of silver nanoparticles using dried biomass of *Diplazium esculentum* (retz.) sw. and studies of their photocatalytic and anticoagulative activities, *Journal of Molecular Liquids*, **2015**, 212, 813-817.
12. B. Paul, **B. Bhuyan**, D.D. Purkayastha and S.S. Dhar, Facile synthesis of α - Fe_2O_3 nanoparticles and their catalytic activity in oxidation of benzyl alcohols with periodic acid, *Catalysis Communications*, **2015**, 69, 48-54.
13. B. Paul, **B. Bhuyan**, D.D. Purkayastha, S. Vadivel and S.S. Dhar, One-pot green synthesis of gold nanoparticles and studies of their anticoagulative and photocatalytic activities, *Materials Letters*, **2016**, 185, 143-147.
14. B. Paul, **B. Bhuyan**, D.D. Purkayastha, S. Vadivel, S.S. Dhar and B.K. Patel, Hexamethonium bis(tribromide) (HMBTB) a recyclable and high bromine containing reagent, *Tetrahedron Letters*, **2015**, 56, 5646-5650.
15. B. Paul, **B. Bhuyan**, D.D. Purkayastha, S.S. Dhar and S. Behera, Facile synthesis of spinel $CuCr_2O_4$ nanoparticles and studies of their photocatalytic activity in degradation of some selected organic dyes, *Journal of Alloys and Compounds*, **2015**, 648, 629-635.
16. B. Paul, **B. Bhuyan**, D.D. Purkayastha, Madhudeepa Dey and S.S. Dhar, Green synthesis of gold nanoparticles using *Pogostemon benghalensis* (B) O. Ktz. leaf extract and studies of their photocatalytic activity in degradation of methylene blue, *Materials Letters*, **2015**, 148, 37-40.

PARTICIPATIONS

1. Poster presented at **4th International Conference on Advanced Nanomaterials and Nanotechnology**, December, 2015, held at **IIT Guwahati**, Assam, India.
2. Oral presentation presented at **North East Zonal Meeting, Indian Phytopathological Society and National Seminar on Facilitating a shift from chemo-centric to organic mode of plant health management in the North East**, November, 2016, held at **AAU Jorhat**, Assam, India.
3. Poster presented at **International Conference on Nano and Functional Materials- Interface between Science and Engineering (NFM-2017)**, November, 2017, held at **BITS Pilani**, Rajasthan, India.

4. Participated in 3 days workshop on *Nano Science and Technology (Under TEQIP-II)*, at NIT Silchar, held during 2nd-4th March, 2017.
5. Participated in self-financed short time course on *Application of Analytical Methods in Science and Engineering*, at NIT Silchar, held during 26th –30th March, 2016.
6. Participated in self-financed short time course on *Recent Advances in Chemical Science and Technology*, at NIT Silchar, held during 23th –27th March, 2016.
7. Participated in 3 days lecture workshop on *Recent Trends in Synthesis of Chemical Compounds and their application in Science and Technology*, at NIT Silchar, held during 5th -7th May, 2014.

SKILLS AND EXPOSURE

- Expertise in data analysis of sophisticated instruments viz. Scanning Electron Microscope (SEM), Transmission Electron Microscope (TEM), X-Ray Photoelectron Spectroscopy (XPS), X-Ray Diffractometer (XRD).
- Acquainted with handling sophisticated instruments viz. Fourier Transform Infra-Red Spectrometer (FT-IR), UV-Visible Spectrophotometer (UV-Vis), Spectrofluorimeter, Sonicator, Centrifuge, Autoclave, etc.
- Possess a hands-on experience in operating cultured softwares like Chem Draw, Origin, Cassa, Image J, JCPDS, to name a few.

RECOMMENDATIONS

- **Dr. Pranab Dutta**
Scientist, Department of Plant Pathology
Assam Agricultural University, Jorhat
Contact No.: 9678906650
Email: pranabdutta74@gmail.com
- **Dr. Siddhartha Sankar Dhar**
Associate Professor, Department of Chemistry
National Institute of Technology, Silchar
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