



Dr. Sumita Paul Purkayastha
Assistant Professor(Sr.)



Area of Research Interest:

- Synthesis of transition metal complexes,
- catalysis
- Environmental Chemistry

Completed Projects:

1. UGC minor research Project on *An Extensive investigation of Arsenic and Iron in Ground water of Karimganj District, Assam.*
2. UGC minor research Project on *Synthesis and characterization of some complexes of Vanadium (IV/V) and Molybdenum(VI) with some biogenic ligand in aqueous medium.*

Collaborative work:

1. Antimicrobial study of New Mixed Ligand Vanadium(V) complexes of Nitro and Vanillin in collaboration with BIOTECH HUB, Karimganj College, Karimganj.
2. Structure establishment of polymeric sodium complex of vanillin by single crystal X-ray analysis in collaboration with IIT, Guwahati.
3. Assessment of heavy metals in surface water collected from the vicinity of Karimganj municipality dumping site.
Assessment of heavy metals in the ground water and soil collected from in and around the Silchar Municipality open dumping site at Meherpur, Silchar, Cachar
In collaboration with Dept. of CHEMISTRY, G.U. and NGO, Voice of Environment.
4. Identification and characterization of fungi in the soil samples collected from in and around the Silchar Municipality open dumping site at Meherpur, Silchar, Cachar in collaboration with Dept. BOTANY and BIOTECHNOLOGY, Karimganj College.
5. Photoluminescence, electrochemical property of sodium vanillin polymer in Collaboration with Dept. of CHEMISTRY, G.U.

List of Publications:

1. Arsenic contamination in ground water is a serious threat in the North Karimganj block of Karimganj district, Southern part of Assam, India, Sumita Paul Purkayastha, Moharana Choudhury, Dibakar Deb and Chinmoy Paul, *J. Chem. Pharm. Res.*, 7(8), 371-378, 2015.
2. Preliminary Physico-Chemical Study of the water of river Kushiara at Karimganj, Assam, India Sumita Paul Purkayastha, Arnab Das Choudhury and Dibakar Deb, *J. Sci. forum*, 4(1), 37-43, 2015.
3. Hydrogenperoxide in the Oxidation of Benzophenone: Use of Peroxo Complex of Molybdenum and Kinetic Study, Mohona Chakrabarty and Sumita Paul Purkayastha, *J. Sci. forum*, 4(1), 37-43, 2015.

4. Preliminary Physico-chemical study on the pollution potential of river longai at Karimganj, Assam (India), Dibakar Deb, Arnab Das Choudhury and Sumita Paul Purkayastha, *J.App.Fund. Sci.*, 1(1), 20-26, 2015.
5. Study of solvatochromatic, photoluminescence, electrochemical and antibacterial property of a sodium vanillin polymeric complex, Sumita Paul Purkayastha , Diganta Kumar Das , Dibakar Deb and Krishna Gopal Bhattacharyya, *J. App. Fund. Sci.*, 1(1), 124-29, 2015.
6. A new polymeric sodium complex of vanillin: Synthesis, characterisation and antibacterial activity, Sumita Paul Purkayastha, Babulal Das, Krishna Gopal Bhattacharyya, Biswajit Deb, *J.Ind. Chem. Soc.*, 91, 1-6, 2014.
7. Biodiversity Conservation in North-East India, Chapter 16, Study of the total hardness of water near the municipal dumping site of Karimganj Town, Assam, during rainy season, Dibakar Deb and Sumita Paul Purkayastha, Tazuddin Khan and Sashin Kumar Barthakur(EdS.) *Lap Lambert academic Publishing , Germany*, 85-91, 2013.
8. New Mixed Ligand Vanadium(V) complexes of Nitro and Vanillin: Synthesis, Characterization and Antimicrobial study, Sumita Paul Purkayastha, Aniruddha Sen, *J. Sci. forum*, 3(1),124-131, 2012.
9. Assessment of heavy metals and physico chemical parameters of water samples of the vicinity of the municipality dumping sites of Karimganj District, Assam, India, Deb Dibakar , Paul Purkayastha Sumita, Bhattacharyya Krishna Gopal, *Int. J. Env. Sci*, 2(3), 1408-1416, 2012.
10. Oxidative destruction of phenol in water over peroxo Mo(VI) complex as homogeneous catalyst, Sumita Paul Purkayastha, Krishna Gopal Bhattacharyya, *J.Sci. forum*, 2(1) 119-122, 2011.
11. Contributions of Chemistry and Challenges in the twenty first Century, Sumita Paul Purkayastha and Dibakar Deb, *Educhem*, 5,8-10, 2011.
12. Synthesis and characterization of newer mixed ligand dioxomolybdenum(VI)- vanillin complexes incorporating peroxo and nitro group as coligand, Sumita Paul Purkayastha, Paritosh kanti choudhry and Chira R Bhattacharjee, *Assam Uni. J. Sci. Tech.:* *Phys. Sci Tech.*, 5(2), 196-203, 2010.
13. Interdisciplinary research with Chemistry as Backbone, Sumita Paul Purkayastha and Dibakar Deb, *J.Sci. forum*, 1(1), 38-45,2010.