



Dr. Arti Bhadouria,

Assistant Professor, Chemistry

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Education

Ph.D : The Maharaja Sayajirao University of Baroda in collaboration with BARC, Trombay, Mumbai
Thesis titled “Solution Behavior of Surfactants: Synthesis and Clouding Behavior ”

MSc, Physical and Polymer Chemistry : The Maharaja Sayajirao University of Baroda

BSc, Chemistry : The Maharaja Sayajirao University of Baroda

Key Skills

Dr. Arti Bhadouria is capable of providing comprehensive solutions to industry and other government bodies in the following areas:

1. Environmental solutions particularly waste water treatment using solution behaviour of surfactants, solubilisation and extraction phenomenon.
2. Synthesis and applications of nano particles, liquid crystals, Polymers-drug- interactions for biomedical applications.
3. Content development and course designing for academic institutes.

Background

Joined GSFC University in February, 2022

Scholarship and Accomplishments

Dr. Arti Bhadouria is a proficient researcher, with hand on expertise in surface and material chemistry, with a special focus on waste water treatment and its analysis. Dr. Bhadouria developed a method for pre-concentration and extraction of drugs/metal ions present in waste water using specifically cloud point extraction methods by novel anionic surfactants, a part of her Doctoral research. She has many analytical instruments' experience like NMR (1H, 1H variable temperature (High and Cryo-), 2D (NOESY at RT, higher temperature and COSY) 13C, 31P, SANS, Dissolution studies, UV Spectroscopy, Conductometer, pH meter, Brookfield viscometer, Surface Tensiometer, Polarizing Optical Microscope, HPLC, GC. Her research interests' particularly in drug-polymer interactions, synthesis of nano particles using greener approaches, material chemistry and liquid crystals. Dr. Arti Bhadouria has publications being published in peer reviewed Journals with high impact factor and of international repute like Journal of Physical chemistry B, RSC Advances, Journal of Chemical Engineering data, Carbohydrate Research. She has also participated in poster/oral presentations in various national and international conferences, workshops and seminars.

She has been awarded an young scientist award in the 15th International Small Angle Scattering Conference, held at Sydney Convention & Exhibition Centre, Sydney, AUSTRALIA, during Nov 18-23, 2012. and a CSIR, Senior Research Fellowship, July 2013 during her Ph.D.

She has the teaching experience of almost 6 years of as a Faculty in the Faculty of Science, The Maharaja Sayajirao University of Baroda, Parul University and total 13 years of research experience. Along with the teaching experience, Dr. Arti Bhadouria is also holding the position of the Program Coordinator of M.Sc Chemistry Program where she is responsible for coordination for smooth functioning, maintaining and enhancing standard of the program. She teaches Physical Chemistry, Polymer Chemistry and spectroscopy to science students at M.Sc. and B.Sc. Program.

Dr. Bhadouria is a start-up coordinator who is mentoring a project under GSFC University Innovation Incubation Technology Applied Research Centre (GUIITAR) council on Synthesis of Nano Fertilizer Blend using Organic Waste for Prolific Plant Growth which has received Students Start-up and Innovation Policy (SSIP) grant.

Most Three Notable Publications

1. Self-Assembly in Aqueous Oppositely Charged Gemini Surfactants: A Correlation between Morphology and Solubilization Efficacy, *J. Phys Chem.B* 2017, 121, 8756-8766.
2. Mechanistic approach on heat induced growth of anionic surfactants: a clouding phenomenon, *RSC Adv.*, 2015, 5, 23778–23786.
3. Morphologies near Cloud Point in Aqueous Ionic Surfactant: Scattering and NMR Studies, *J. Phys Chem.B* 2012, 116, 3699-3703.