

Name: Dr. Amrit Krishna Mitra

Designation: Assistant Professor

Educational Qualification: M. Sc., Ph. D.

Teaching Experience: 2+ years.

Area of Specialization: Organic Chemistry

Field of Interest:

- (a) Research Interest: [Synthesis of Heterocyclic compounds, Photo-induced electron transfer, Solvatochromic studies and solvent sensitive interactions of newly synthesized compounds with small organic donors and acceptors, Interaction of newly synthesized compounds with Proteins, Micelles, Cyclodextrins and Nucleic Acids.]
- (b) Teaching Interest: [Synthetic Organic Chemistry, Chemistry of Biomolecules, Stereochemistry of Organic Compounds, Heterocyclic Chemistry, Chemistry of Reaction Mechanisms, Chemistry of Functional groups, Medicinal Chemistry, Spectroscopy].

Ten Best Publications in International Journals:

- Photophysical properties of an environment sensitive fluorophore 1-keto-6,7-dimethoxy-1,2,3,4-tetrahydrocarbazole and its excited state interaction with N,N-dimethylaniline: A spectroscopic investigation. **A. K. Mitra**, S. Ghosh, S. Chakraborty, M. K. Sarangi, C. Saha, S. Basu; **Journal of Photochemistry and Photobiology A: Chemistry** 240 (2012) 66 - 74.
- Synthesis and spectroscopic exploration of carboxylic acid derivatives of 6-hydroxy-1-keto-1,2,3,4-tetrahydrocarbazole: Hydrogen bond sensitive fluorescent probes. **A. K. Mitra**, S. Ghosh, S. Chakraborty, S. Basu, C. Saha; **Journal of Luminescence** 143 (2013) 693 - 703.
- Tuning the Solution Phase Photophysics of Two De Novo Designed Hydrogen Bond Sensitive 9-methyl-2,3,4,9-tetrahydro-1H-carbazol-1-one Derivatives. S. Ghosh, **A. K. Mitra**, C. Saha, S. Basu; **Journal of Fluorescence** 23 (2013) 1179 - 1195.
- Hydrogen Bond Sensitive Probe 5-Methoxy-1-keto-1,2,3,4-tetrahydro Carbazole in the Microheterogeneity of Binary Mixtures and Reverse Micelles. M. K. Sarangi, **A. K. Mitra**, C. Sengupta, S. Ghosh, S. Chakraborty, C. Saha, S. Basu; **The Journal of Physical Chemistry C** 117 (2013) 2166 - 2174.
- 5,6,7,9-Tetrahydro-[1,3]dioxolo[4,5-h]carbazol-8-one: A solvatochromic PET-acceptor fluorescent probe. S. Ghosh, **A. K. Mitra**, S. Basu, S. Chakraborty, C. Saha; **Journal of Luminescence** 153 (2014) 296 - 303.
- Photophysics of a solvent sensitive keto-tetrahydrocarbazole based fluorophore and its interaction with triethylamine: A spectroscopic inquest under surfactant and β -CD nanoconfinement. **A. K. Mitra**, S. Ghosh, M. K. Sarangi, S. Chakraborty, C. Saha, S. Basu; **Journal of Molecular Structure** 1074 (2014) 617 - 628.
- Influence of microheterogeneity on the solution phase photophysics of a newly synthesised, environment sensitive fluorophore 2-((7,8-dimethyl-1-oxo-2,3,4,9-tetrahydro-1H-carbazol-6-yl)oxy)acetic acid and its tagged derivative. **A. K. Mitra**, S. Ghosh, M. K. Sarangi, A. Sau, C. Saha, S. Basu; **Journal of Photochemistry and Photobiology A: Chemistry** 296 (2014) 66-79.
- Solution phase photophysics of 5,7-dimethoxy-2,3,4,9-tetrahydro-1H-carbazol-1-one: Analysing the lineaments of a new fluorosensor to probe different micro-environments. **A. K. Mitra**, S. Ghosh, A. Sau, C. Saha, S. Basu; **Journal of Luminescence** 167 (2015) 233-248.
- Monitoring the Competence of a New Keto-tetrahydrocarbazole Based Fluorosensor Under Homogeneous, Micro-Heterogeneous and Serum Albumin Environments. **A. K. Mitra**, A. Sau, S. C. Bera, S. Chakraborty, C. Saha, S. Basu; **Journal of Fluorescence** 25 (2015) 1931-1949.
- Evidence of two structurally related solvatochromic probes complexed with β -cyclodextrin by using spectroscopic methods. S. Ghosh, **A. K. Mitra**, C. Saha, S. Basu; **Journal of Molecular Structure** 1130 (2017) 810-817.
- Constrained photophysics of 5,7-dimethoxy-2,3,4,9-tetrahydro-1H-carbazol-1-one in the bioenvironment of serum albumins: A spectroscopic endeavour supported by molecular docking analysis. **A. K. Mitra**, A. Sau, U. Pal, C. Saha, S. Basu; **Journal of Fluorescence First Online:** [22 April 2017](#). DOI: [10.1007/s10895-017-2094-2](#).

Projects Completed: 1. Synthetic studies towards (-) CHRYSANTHONE-A. 2. Synthesis and Photophysical Studies of Heterocyclic Compounds.