
Curriculum Vitae

Dr. Milan Shyamal, Ph.D.

Asst. Professor

Dept. of Chemistry (UG & PG)

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Date of Joining: 18th Aug 2020



BELDA COLLEGE

Belda, West Bengal, INDIA

Research Interest:

- ❖ Synthesis of Low Dimensional Functional Material with Tunable Optical Properties
- ❖ Development of AIEgen-Based Fluorescent Chemosensor for Toxic Metal Ions and Explosive Materials
- ❖ Exploration of NIR AIEgen-Based Fluorescent Organic Nanoparticles for Biological Applications

Education & Qualification

Post-Doctoral Fellow (D.S. Kothari Post-Doc) (Sep 2019-Aug 2020)

Burdwan University, West Bengal, India. (Mentor: Prof. Pabitra Chattopadhyay).

Project Title: Exploration of Biocompatible Specific Light-Up Probes Based on Aggregation-induced FR/NIR Emission for Biosensing and Imaging Applications

Post-Doctoral Fellow (Jan 2019-Apr 2019)

IIT Kharagpur, West Bengal, India. (Mentor: Prof. N. D. Pradeep Singh).

Ph.D. 2012-2018

Vidyasagar University, West Bengal, India. (Supervisor: Prof. Ajay Kr. Misra).

Thesis Title: "Designed Synthesis of Fluorophore Containing Schiff Bases and Their Potential Use as Sensor".

SRF: Vidyasagar University (2015-2018)

JRF: Jadavpur University (2012-2014)

B. Sc. (Chemistry Hons.) 2006-2009 & M.Sc. (Spl. Organic) 2009-2011

Vidyasagar University, West Bengal, India.

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Work Experience:

Synthetic Skills: Experience in design and synthesis of various AIE active fluorescent chemosensors (organic probes) through different organic reaction mechanism. After synthesis they are characterized through different physico-chemical methods such as –

Diffraction: Single Crystal X-ray Diffraction, X-ray Powder Diffraction.

Spectroscopy: NMR, IR, Mass, UV-Visible and Fluorescence Spectroscopy.

These probes are utilized to detect metal ions, some hazardous anions and nitro-explosive materials present in the environment through spectrofluorometric method upto attomolar concentration range. Besides these systems are utilized for biological applications like cell imaging etc.

Professional Recognition/Award/Prize/Fellowship Received

Sl.	Name of Award	Awarding Agency	Year
1.	National Eligibility Test (NET) (Chemical Sciences)	CSIR-UGC, India	2011
2.	National Fellowship	UGC, India	2013-2018
3.	Life Member	Chemical Research Society of India	From 2014-

Participated Seminars/Poster Presentations

Sl.	Title	Type	Year
9.	National Symposium on Frontiers in Chemical Sciences 2018 & Food Processing, Preservation and Packaging	National	27 th March, 2018
8.	International Conference on Emerging Materials (ICEM 2017)	International	20-21 th April, 2017
7.	National Symposium on Natural Resource Management-2017	National	15-16 th March, 2017
6.	Science Academies' Lecture Workshop on "Chemistry and Biology Interface	National	21-22 th April, 2016
5.	National Symposium on Food Processing, Preservation and Packaging	National	17-18 th March, 2015
4.	CRSI-16 th National Symposium in Chemistry (NSC- 16)	National	07-09 th February, 2014
3.	Workshop on Diversities and Frontiers in Chemistry	National	07-08 th August, 2013
2.	National Seminar on Social Function of Science- 2013 and the Celebration of 150 th Birth Anniversary of Swami Vivekananda	National	14 th June, 2013
1.	RSC-INDIA ROAD SHOW	International	05 th February, 2013

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Skills and Interests

Instrument Handled

- ❖ Single Crystal X-ray Diffractometer, FT-IR spectrophotometer, UV-VIS spectrophotometer, Spectrofluorometer, pH Meter, GC, HPLC instrument, NMR instrument, SEM instrument, DLS instrument, Optical Fluorescence Microscope

Software Proficiency

- ❖ APEX- II, WinGx, Mercury, Pov-Ray, Ortep, Diamond, PLATON, Origin, OS Platform: Windows 98, 2000, XP, 2007, Graphics Design Tools: Adobe Photoshop, Chem Draw, Gaussian 09 and Gauss view for simple optimization and spectral calculation for both absorption and emission spectra.

List of Publications

21. [M. Shyamal](#), D Das, PK Giri, S Maity, A Misra*, Aggregation-induced Emission-based Highly Selective 'turn-off' Fluorogenic Chemosensor for Robust Quantification of Explosive Picric Acid in Aqueous and Solid States, *Materials Today Chemistry*, 14, 100193, 2019.
20. [M. Shyamal](#), S. Maity, A. Maity, R. Maity, S. Roy, A. Misra*, Aggregation Induced Emission Based "Turn-off" Fluorescent Chemosensor for Selective and Swift Sensing of Mercury (II) Ions in Water, *Sensors and Actuators B: Chemical*, 263, 347-359, 2018.
19. [M. Shyamal](#), P. Mazumdar, S. Maity, S. Samanta, G. P. Sahoo, A. Misra*, Highly Selective Turn-On Fluorogenic Chemosensor for Robust Quantification of Zn(II) Based on Aggregation Induced Emission Enhancement Feature, *ACS Sensors*, 1, 739-747, 2016.
18. [M. Shyamal](#), P. Mazumdar, S. Maity, G. P. Sahoo, G. Salgado-Morán, A. Misra*, Pyrene Scaffold as Real-Time Fluorescent "Turn-on" Chemosensor for Selective Detection of Trace-Level Al(III) and Its Aggregation-Induced Emission Enhancement, *Journal of Physical Chemistry A*, 120, 210-220, 2016.
17. [M. Shyamal](#), S. Maity, P. Mazumdar, G. P. Sahoo, R. Maity, A. Misra*, Synthesis of An Efficient Pyrene Based AIE Active Functional Material for Selective Sensing of 2,4,6-Trinitrophenol, *Journal of Photochem. Photobiol. A: Chemistry*, 342, 1-14, 2017.
16. [M. Shyamal](#), T. K. Mandal, A. Panja, A. Saha*, Influence of Anionic co-Ligands on the Structural Diversity and Catecholase Activity of Copper(II) Complexes with 2-Methoxy-6-(8-iminoquinolinylmethyl)phenol, *RSC Advances*, 4, 53520-53530, 2014.
15. [M. Shyamal](#), A. Panja, A. Saha*, Five New Mononuclear Zinc(II) Complexes with a Tetradentate N-donor Schiff Base: Syntheses, Structures and Influence of Anionic Coligands

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on the Luminescence Behaviour and Supramolecular Interactions, *Polyhedron*, 69, 141-148, 2014.

14. S Maity, [M Shyamal](#), R Maity, N Mudi, P Hazra, PK Giri, SS Samanta, S. Pyne, A. Misra, An Antipyrine Based Fluorescent Probe for Distinct Detection of Al³⁺ and Zn²⁺ and Its AIEE Behaviour, *Photochem. Photobiol. Sci.*, 19, 681-694, 2020

13. A Maity, [M Shyamal](#), N Mudi, GP Kumar, SS Samanta, P Hazra, H Beg, A. Misra, An Efficient Fluorescent Aggregates for Selective Recognition of 4--Nitrophenol Based on 9,10-Dihydrobenzo[a]pyrene-7(8H)-one, *J. Photochem. Photobiol A: Chemistry*, 400, 112692, 2020

12. S. Maity, [M. Shyamal](#), D. Das, P. Mazumdar, G. P. Sahoo, A. Misra*, Aggregation Induced Emission Enhancement from Antipyrine Based Schiff Base and Its Selective Sensing towards Picric Acid, *Sensors and Actuators B: Chemical*, 248, 223-233, 2017.

11. S. Maity, [M. Shyamal](#), D. Das, A. Maity, S. Dey, A. Misra*, Proton Triggered Emission and Selective Sensing of 2,4,6-Trinitrophenol by Fluorescent Hydrosol of 2-henylquinoline, *New Journal of Chemistry*, 42, 1879-1891, 2018

10. S. Maity, [M. Shyamal](#), P. Mazumdar, G. P. Sahoo, R. Maity, G. Salgado-Morán, A. Misra*, Solvatochromism and "Turn-off" Fluorescence Sensing Property of N,N'-Bis(3-pentyl)perylene-3,4,9, 10-Bis(dicarboximide) towards Nitroaromatics and Photophysical Study of Its Microstructures, *Journal of Molecular Liquids*, 224, 255-264, 2016.

9. A. Panja*, [M. Shyamal](#), A. Saha, T. K. Mandal, Methylene Bridge Regulated Geometrical Preferences of Ligands in Cobalt(III) Coordination Chemistry and Phenoxazinone Synthase Mimicking Activity, *Dalton Transactions*, 43, 5443-5452, 2014.

8. S Dey, A Maity, [M Shyamal](#), D Das, S Maity, PK Giri, N Mudi, S Samanta, P. HJazra, A. Misra, Antipyrine Based Fluorescence "turn-on" Dual Sensor for Zn²⁺ and Al³⁺ and Its' Selective "turn-off" Fluorescence Sensing towards 2, 4, 6-Trinitrophenol (TNP) in Aggregated State, *Photochem. Photobiol. Sc.*, 18, 2717-2729, 2019

7. N Mudi, P Hazra, [M Shyamal](#), S Maity, PK Giri, SS Samanta, D Mandal, A. Misra, Designed Synthesis of Fluorescence 'Turn-on'Dual Sensor for Selective Detection of Al³⁺ and Zn²⁺ in Water, *Journal of Fluorescence*, 31, 315-325, 2021

6. P. Mazumdar, S. Maity, [M. Shyamal](#), G. P. Sahoo, G. Salgado-Morán, A. Misra*, Proton Triggered Emission and Selective Sensing of Picric Acid by the Fluorescent Aggregates of 6,7-Dimethyl-2,3-bis-(2-pyridyl)-quinoxaline, *Physical Chemistry Chemical Physics*, 18, 7055-7067, 2016.

5. D. Das, A. Maity, [M. Shyamal](#), S. Maity, N. Mudi, A. Misra*, Aggregation Induced Emission of 9-Anthraldehyde Microstructures and Its Selective Sensing Behaviour Towards Picric Acid, *Journal of Molecular Liquids*, 261, 446-455, 2018.

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4. S. Maity, P. Mazumdar, [M. Shyamal](#), G. P. Sahoo, A. Misra*, Crystal Induced Phosphorescence from Benz(a)anthracene Microcrystals at Room Temperature, [Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy](#), 157, 61–68, 2016.

3. S Roy, A Maity, N Mudi, [M Shyamal](#), A Misra, Rhodamine Scaffold as Real Time Chemosensor for Selective Detection of Bisulfite in Aqueous Medium, [Photochem. Photobiol. Sci.](#), 18, 1342-1349, 2019

2. A. Maity, P. Mazumdar, S. Samanta, D. Das, [M. Shyamal](#), A. Misra*, Morphology Directing Synthesis of 1-Aminopyrene Microstructures and Its Super Quenching Effect Towards Nitro Aromatics, [Journal of Molecular Liquids](#), 221, 358–367, 2016.

1. P. Mazumdar, S. Maity, D. Das, S. Samanta, [M. Shyamal](#), A. Misra*, Proton Induced Green Emission from AIEE Active 2,2'-Biquinoline Hydrosol and Its Selective Fluorescence "Turn-on" Sensing Property towards Zn²⁺ Ion in Water, [Sensors and Actuators B: Chemical](#), 238, 1266–1276, 2017.

Personal Information

Father: Chandan Kr. Shyamal

Mother: Purnima Shyamal

Date of Birth: 06.02.1989

Gender: Male

Nationality: INDIAN

Declaration

I hereby declare that the above written particulars are true to the best of my knowledge and belief.



(Signature)