



Dr. Nandini Mukherjee

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Department of Chemistry,  
School of Technology,  
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**Brief Bio:** Dr. Mukherjee has joined Pandit Deendayal Energy University in January 2020. She received her Ph.D. degree in Chemistry from the Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore in 2020. She completed her Bachelor's (B.Sc. Hons. in Chemistry) degree from Scottish Church College, University of Calcutta in 2012 and Master's degree in Chemistry from Banaras Hindu University in 2014. Prior to joining the School of Technology, PDPU she has also worked as a research associate in IISc Bangalore. Her research area is focused on the synthesis of organic compounds that have applications in the field of chemo-sensing of toxins and monitoring biological phenomena. Development of cost-effective nano-formulations for application in medicinal chemistry and renewable energy sector.

## Educational Qualifications

- Ph.D (Chemistry, Indian Institute of Science), 2020
- M.Sc. (Inorganic Chemistry, Banaras Hindu University), 2014
- B.Sc. (Chemistry, University of Calcutta), 2012

## Selected Publications

- N. Mukherjee, R. Gaur, S. Shahabuddin, P. Chandra, Recent progress in lysosometargetable fluorescent BODIPY probes for bioimaging applications, *Materials Today: Proceedings*, 2022, DOI:10.1016/j.matpr.2022.01.220.
- R. Gaur, N. Mukherjee, S. Shahabuddin, P. Chandra, Recent advances in nanostructured transition metal sulfide based sensors for environmental applications, *Materials Today: Proceedings*, 2022, DOI:10.1016/j.matpr.2021.12.330.
- R. Gaur, N. Mukherjee, S. Shahabuddin, P. Chandra, Advanced MoS<sub>2</sub> nanocomposite materials for the synthesis of valuable pharmaceuticals, *Materials Today: Proceedings*, 2022, DOI:10.1016/j.matpr.2021.12.372.
- S. Shahabuddin, R. Gaur, N. Mukherjee, P. Chandra, R. Khanam, Conducting polymers-based nanocomposites: Innovative materials for waste water treatment and energy storage, *Materials Today: Proceedings*, 2021, DOI:10.1016/j.matpr.2021.12.335.
- N. Mukherjee, A. Raghavan, S. Podder, S. Majumdar, A. Kumar, D. Nandi, A. R. Chakravarty, Photocytotoxic Activity of Copper(II) and Zinc(II) Complexes of Curcumin and (Acridinyl)dipyridophenazine, *ChemistrySelect*, 2019, 4, 9647- 9658.
- N. Mukherjee, S. Podder, K. Mitra, S. Majumdar, D. Nandi, A. R. Chakravarty, Targeted Photodynamic Therapy in Visible Light by BODIPY-appended Copper(II) Complexes of a Vitamin B<sub>6</sub> Schiff Base, *Dalton Transactions*, 2018, 47, 823-835.
- S. Sahoo, S. Podder, A. Garai, S. Majumdar, N. Mukherjee, U. Basu, D. Nandi and A. R. Chakravarty, Iron(III) Complexes of Vitamin B<sub>6</sub> Schiff Base with BoronDipyrromethene Pendants for Lysosome-Selective Photocytotoxicity, *European Journal of Inorganic Chemistry*, 2018, 1522-1532.
- N. Mukherjee, S. Podder, S. Banerjee, S. Majumdar, D. Nandi and A. R. Chakravarty, Targeted Photocytotoxicity by Copper(II) Complexes having Vitamin B<sub>6</sub> and Photoactive Acridine Moieties, *European Journal of Medicinal Chemistry*, 2016, 122, 497-509.

## Conference/Workshop/Expert Talks

- Delivered an oral presentation at the '1<sup>st</sup> International Conference on Advances in Water Treatment and Management (ICAWTM 2022)' organized by PDEU, Gandhinagar (25<sup>th</sup>-26<sup>th</sup> March, 2022).
- Conducted a Special Session on Career Fair (Career Opportunity for UG/PG/Ph.D. Students) at the '1<sup>st</sup> International Symposium on Materials of the Millennium: Emerging Trends and Future Prospects (MMETFP 2021)' (19<sup>th</sup>-20<sup>th</sup> November, 2021)
- Delivered an oral lecture at the 1<sup>st</sup> International Conference on 'Additive Manufacturing and Advanced Materials (AM2)', PDEU, Gandhinagar. (4<sup>th</sup>-6<sup>th</sup> October, 2021)
- Delivered an invited lecture on "Metal-based Theranostic Agents for Targeted Cancer Therapy" at 'Nanoscience and Nanotechnology' Webinar series (Module 2) on January 10, 2021
- Delivered an oral lecture in 'European Biological Inorganic Chemistry Conference (EuroBIC 14)' Birmingham, UK. (26<sup>th</sup> to 30<sup>th</sup> August, 2018)
- Presented a poster in '5<sup>th</sup> Symposium of Biological Inorganic Chemistry (SaBIC)', Kolkata, India. (7<sup>th</sup> to 11<sup>th</sup> January, 2017)
- Presented a poster in 'Modern Trends in Inorganic Chemistry (MTIC XVI)', Kolkata, India. (3<sup>rd</sup> to 5<sup>th</sup> December, 2015)
- Presented a poster in 'Recent Advances in Chemistry (RAC 2017)' arranged by IPC Department, IISc Bangalore. Presented a poster in 'Recent Advances in Theoretical Chemistry (RATC 2016)' arranged by IPC Department, IISc Bangalore.

## Courses Taught

### Undergraduate Level

Natural Products (B.Sc. 4<sup>th</sup> Year)

Reagents and Name Reactions (B.Sc. 4<sup>th</sup> Year)

Inorganic Chemistry Lab I (B.Sc. 3<sup>rd</sup> Year)

Engineering Chemistry (B.Tech 1<sup>st</sup> Year)

Chemistry Lab (B.Tech 1<sup>st</sup> Year)

### Postgraduate Level

Inorganic Chemistry I (M.Sc. 1<sup>st</sup> Year)

Inorganic Chemistry II (M.Sc. 1<sup>st</sup> Year)

Reagents and Organic Synthesis (M.Sc. 2<sup>nd</sup> Year)

Chemistry of Natural Products (M.Sc. 2<sup>nd</sup> Year)

Membership  
Courses Taught

## Research Interests

### Environmental and Medicinal Chemistry

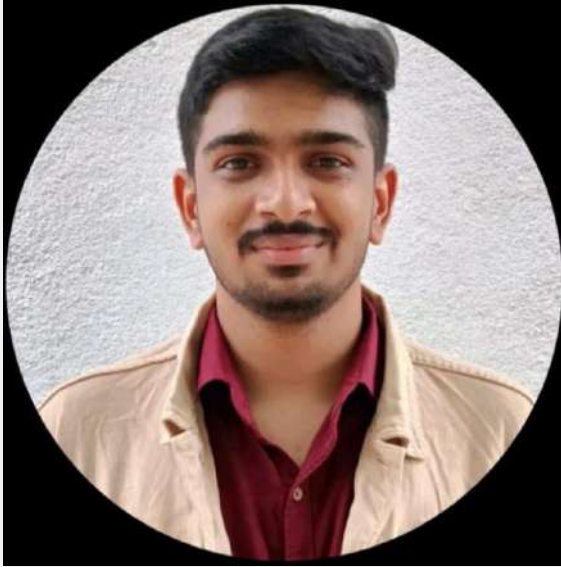
- Optical Sensors
- Electrochemical Sensors
- Drug Design
- Drug Delivery
- Synthetic Methodology
- Renewable Energy (Bio-hydrogen generation)

## Membership

- Member of American Chemical Society (ACS)
- Life Member of Chemical Research Society of India (CRSI)
- Life Member of Materials Research Society of India (MRSI)

# The Team

## Current Members



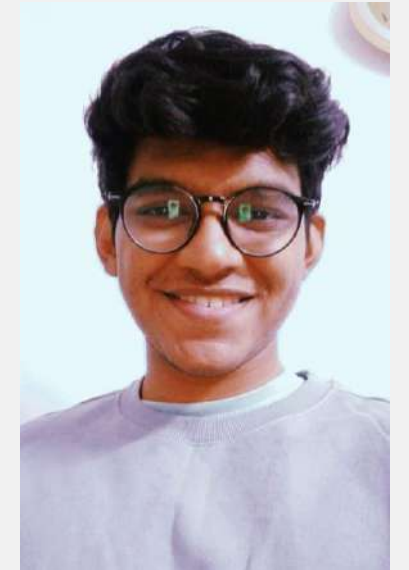
Mr. Nikunj Kumar Vagadiya,  
M.Sc. 3rd Sem,  
Master's Dissertation &  
Student Research Project,  
2021-2022



Mr. Mohil Odedara,  
M.Sc. 3rd Sem,  
Master's Dissertation &  
Student Research Project,  
2021-2022



Ms. Dhruti Patel,  
B.Sc. 7th Sem,  
B.Sc. Project Student  
2021-2022



Mr. Sudhanshu Sharma,  
B.Sc. 7th Sem,  
B.Sc. Project Student,  
2021-2022

# The Team

## Past Members

Mr. Rishabh Tripathi, B.Sc. Project Student, 2021

Dissertation Title: *Development of Anthracene-based Chemosensors for the Detection of Toxic Anions in Water: A Review*

Ms. Chahna Sakhiya, B.Sc. Project Student, 2021

Dissertation Title: *Optical Chemosensors for the Detection of Mercury Ions in Water: A Literature Review*

Mr. Abhishek Vaghasiya, B.Sc. Project Student, 2020

Dissertation Title: *Small Molecule Optical Chemosensors for Detection of Fluoride Ions in Water*

Project:

Research Project under Student Research Program (SRP) entitled '*Synthesis, Characterization and DFT studies of Anthracene-based Chemosensors for Amino Acid Sensing*', Office of Dean R&D, PDEU. Total budget- 1.3 Lakh for 1 year (2021-2022)

