

Curriculum Vitae

Dr. Debarati Das

Dr. Debarati Das

Nationality: Indian

Marital Status: Married

Mob. No: +91-8370968503

E-mail: debarati.das136@gmail.com, ddas@hs.vjti.ac.in

Language Proficiency: English, Hindi, Bengali.

Permanent Address:


8, Kalibari Road, P.O.- Santoshpur, Kolkata, West Bengal, PIN-700075


Communication Address:

D-301, Shah Complex 3 Chs Ltd., Plot No.-02, Sector -13, Sanpada, Navi Mumbai, Maharashtra, PIN- 400705




Current Position and Experience

 **Tenure faculty (2022-till now)** : Veermata Jijabai Technological Institute, Mumbai


 **Post Doctorate (2019-2022):** D. S. Kothari fellowship Awardee, ICT Mumbai, India.
Title of the Project: “Inorganic Complexes for Carbonylation reactions”
(Mentor: Prof. B.M. Bhanage)

Academic Achievements




 **Doctorate (PhD) (2019):** Ph. D. program in Chemistry, Indian Institute of Technology, Kharagpur (IITKgp), India.

Title of the thesis: Crystal Engineering Studies on Coordination and Hydrogen Bonded Solids: Exploration of Magnetic, Luminescence and Sensing Properties

(Supervisor: Prof. Kumar Biradha)

 **M.Sc. :** Masters in Inorganic Chemistry from University of Calcutta.


Title of the Project: Synthesis, Characterisation & Spectral Studies of Mo(V) Complexes. (Supervisor: Prof. S. S. Mandal)

-  **B.Sc. :** Chemistry Honours, from Lady Braboune College, University of Calcutta, India. Pass Courses: Physics and Mathematics.
-  **Higher Secondary:** W.B.C.H.S.E Board
(10+2 Equivalent) Science stream.
-  **Madhyamik Examination:** W.B.B.S.E Board
(10 Equivalent)


Awards and Achievements


Fellowship/Awards	Year	Rank / Place
<i>“Excellence in Teaching”</i> in the course Chemistry	September, 2024	VJTI, Mumbai
<i>“Excellence in Teaching”</i> in the course Chemistry	September, 2023	VJTI, Mumbai
DSKPDF	November, 2019	Awarded
CSIR-UGC NET	June, 2012	UGC-77
CSIR-UGC NET	June, 2011	UGC-88
CSIR-UGC NET	December, 2010	LS-124

Specialized Skills



-  **Research skills** The choice of metal and linker has significant effects on the structure and properties of the functional materials. My expertise is proper understanding of designing synthetic strategies to prepare ligands and to tune their structures to develop interesting properties. Research and project management skills for 7+ years in synthesis of applied materials for studying magnetism, luminescence and sensing properties and 3+ years expertise in

homogeneous catalysis for the synthesis of CO insertion reactions.





-  **Technical skills**
- 1) Synthesis of ligands through multi-steps organic reactions.
 - 2) Plan, setup, monitor and workup chemical reactions independently. Isolate and purify compounds by different methods like crystallization column chromatography, Vacuum distillation, etc.
 - 3) Knowledge of instruments like single crystal XRD, PXRD, FTIR, GC, GC-MS, FESEM, TEM and ^1H NMR, ^{13}C -NMR. Writing scientific articles, book chapters, technical reports.
 - 4) Familiar with SciFinder, reaxys, Web of Science and other search engines.

-  **Teaching skills**
- F.Y. B.Tech Engineering chemistry courses and 2nd year Environmental Sciences at VJTI, Mumbai. Teaching assistant (TA) and laboratory mentor (both inorganic and organic) for B.Tech and M.Sc students during the Ph.D. program at IIT Kharagpur.






Students guided

-  Name: Mr. Dheer Anand Rambhia (M.Tech.)
Institute: Institute of Chemical Technology, Mumbai
Topic: Use of surrogate in Carbonylation reaction.
-  Name: Mr. Jitesh Choudhary (M.Sc.)
Institute: Institute of Chemical Technology, Mumbai
Topic: Use of surrogate in Carbonylation reaction.



Publication list

-  N. Patil, **D. Das** and B. M. Bhanage, Iridium-Catalyzed Electrooxidative Annulation of Naphthol with Acrylate via C-H Bond Activation for the Synthesis of Naphtho[1,8-bc]furan, *Eur. J. Org. Chem.*, **2024**, [e202400361](#).
-  **D. Das** and B. M. Bhanage, $\text{Co}_2(\text{CO})_8$ as a CO-source in cross-coupling reactions, *Current Organic Synthesis*, **2024** (in press).
-  **D. Das** and B. M. Bhanage, Double Carbonylation Reactions: Overview and Recent Advances, *Adv. Synth. Catal.*, **2020**, **362** (15), [3022-3058](#).
-  **D. Das** and Kumar Biradha, Cocrystals and Salts of 3,5-Bis(pyridinylmethylene)piperidin-4-one with Aromatic Poly-Carboxylates and

Resorcinols: Influence of Stacking Interactions on Solid-State Luminescence Properties, *Aust. J. Chem.*, **2019**, *72(10)* 742-750.

-  **D. Das**, S. Roy and K. Biradha, Crystal Engineering with Isosteric Triamine and Triether linked Aromatic Tri-carboxylic Acids: Iso-structurality and Synthons interplay in their Co-crystals and Salts with Bis(pyridyl) Derivatives, *New J. Chem.*, **2018**, *42*, 19953-19962.
-  **D. Das** and K. Biradha, Luminescent Coordination Polymers of Naphthalene Based Diamide with Rigid and Flexible Dicarboxylates: Sensing of Nitro Explosives, Fe(III) Ion, and Dyes. *Cryst. Growth Des.*, **2018**, *18 (6)*, 3683–3692.
-  **D. Das** and K. Biradha, Metal-Organic Gels of Silver Salts with an α,β -Unsaturated Ketone: Influence of Anions and Solvents on Gelation, *Inorg. Chem. Front.*, **2017**, *4*, 1365- 1373.
-  **D. Das**, G. Mahata, A. Adhikary, S. Konar, and K. Biradha, Structural Adaptation of Ni₄O₄ Units to Form Cubane, Open Dicubane, Dimeric Cubane, and One-dimensional Polymeric Cubanes: Magnetostructural Correlation of Ni₄ Clusters, *Cryst.Growth Des.*, **2015**, *15*, 4132-4141.
-  **D. Das**, K. Biradha, Supramolecular Metallogelator: The Pivotal Role of Aromatic Solvents and anions, *Acta Cryst.*, **2017**, *A73*, C528. (Conference paper).

Book Chapters.




-  **D. Das** and B. M. Bhanage, Chapter title: Nickel-catalyzed Carbonylations, Book title: The Chemical Transformations of C1 Compounds, Wiley-VCH, **2021**, *3*, 1397-1438 (eds. Bartolo Gabriele).
-  **D. Das**, N. Patil, and B. M. Bhanage, Chapter title: Organic Transformations with Nitromethane, Book title: Carbon Monoxide in Organic Synthesis: Carbonylation Chemistry, Wiley-VCH, **2022**, *51-81* (eds. Xiao-Feng Wu).

Conferences / Workshop attended

-
-  **13th - 14thOctober, 2012** Symposium on “Inorganic Chemistry at Interface (SICI)”, Department of Chemistry, IITKgp, Kharagpur, India.
 -  **5th December, 2013** Meeting on “ACS on campus”, Indian Institute of Technology, Kharagpur, India.
 -  **30th - 2ndDecember 2014** International Conference on “Structural Chemistry of Molecules and Materials (SCOMM-2014)”, Center for Research in Nanoscience and Nanotechnology (CRNN), University of Calcutta, India.
 -  **13th January, 2015** Conference on "Current Trends in Synthetic Organic Chemistry”, Department of Chemistry, IIT Kgp.

-  **5th - 8th December 2015** International Conference on “The 13th Conference of the Asian Crystallographic Association (**AsCA-2015**)”, Science City, Kolkata.
-  **17th - 18th February, 2017** Symposium on "Organic Molecules: Syntheses and Applications (**OMSA**)", IIT Kharagpur.
-  **21st -28th August 2017** 24th Congress & General Assembly of the International Union of Crystallography (**IUCr, 2017**), Hyderabad, India.
-  **19th – 20th June, 2020** Crystal Engineering: from molecules to crystals, (**CEFM - 2020**)
-  **3rd October, 2020** Conference on “Industrial Catalysts” Catalysis Society of India (CSI), Mumbai Local Chapter in association with ICT – Mumbai & ACS India International Chapter
-  **10th – 14th October, 2022** Insights on Emerging Research in Chemical Science (**IERCS-2022**)”, FDP by NIT, Andhra Pradesh
-  **10th May, 2024** FDP by Veermata Jijabai Technological Institute, Mumbai

Poster Presentations

-  **30th -2nd December 2014** International Conference on “Structural Chemistry of Molecules and Materials (**SCOMM-2014**)”, Center for Research in Nanoscience and Nanotechnology (CRNN), University of Calcutta, India.
-  **21st -28th August 2017** 24th Congress & General Assembly of the International Union of Crystallography (**IUCr, 2017**), Hyderabad, India.
-  **19th-20th June 2020** Crystal Engineering: From Molecules To Crystals (**CEFM-2020**)

Oral Presentation

- 5th - 8th December 2015** International Conference on “The 13th Conference of the Asian Crystallographic Association (**AsCA-2015**)”, Science City, Kolkata, India; Topic: “Structural Adaptation of Ni₄O₄ Units to Form Cubane, Open Dicubane, Dimeric Cubane, and One-Dimensional Polymeric Cubanes: Magnetostructural Correlation of Ni₄ Clusters”

Workshops and courses

9th January 2014

“SciFinder and it’s new features” organized by IIT Kgp.

22th June-28th June 2020

“An Introduction to Materials Characterizations Techniques” by Department of Physics, K. J. Somaiya College of Science and Commerce, Mumbai.

My objective is to work in a challenging and competitive environment where I would be able to explore my abilities and hence contribute to the best of myself.

I declare that the information are correct and complete to the best of my knowledge and belief.

