Curriculum vitae

Dr. Abhineet Verma

30/03/1992

DEPARTMENT OF CHEMISRTY.
MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY (MNIT), JAIPUR

ORCID ID: 0000-0002-1440-9590

OBJECTIVE

Highly motivated in research, my primary objective is to be a positive force and assist others.

SKILLS

Possess strong computing skills, including proficiency in MS Office and programming languages such as HTML, Java, C++, and FORTRAN, as well as computational chemistry techniques like DFT and TD-DFT.

Assistant Professor: MNIT Jaipur **18/12/2023** to till date

Project Assistant • **DST** • **28 Nov 2017 to 15 Nov 2018**
DST sponsored project (ref. No. SS/DST-YSS/16-18/STAFF/02) entitled as "Exploring Schiff Base/Non-Schiff Base Transition and/or Inner Transition Metal Complexes as ***Molecular Nano Magnets*** (P-07/607)" under ***Dr. Sailaja S. Sunkari***, MMV, Banaras Hindu University, Varanasi.

Skill development Program • **BHU** • **2012 to 2014**
Academique, Employability Skill Development Program, An Interdisciplinary Discussion Group.

PH.D.

Ph.D. in Chemistry (2022) • **Thesis Title: "*Towards Modulation of NIR Emission: Design, Synthesis, Structural and Photophysical Studies of Lanthanide Complexes.*"**

PROJECTS & AWARDS

Faculty Seed Grant (2025): DRC-14/2025-26/63/01-31/21

IoE-Teach for BHU: 2022.

Editorial board member: American Journal of Applied Chemistry
(From April 2023 to till date)

CSIR – JRF and SRF (2018)

Academic Profile

From	To	Position	Institution, City	Country	Degrees / Remarks
12.2023	Till date	Assistant Professor	MNIT Jaipur	India	Research and Teaching to UG & PG students
07.2023	12.2023	Assistant Professor	NIMS University, Jaipur	India	Research and Teaching to UG and PG students
07.2022	06.2023	Teacher	Banaras Hindu University, Varanasi	India	Teaching
01.2019	08.2022	PhD scholar	Banaras Hindu University, Varanasi	India	PhD research work
11.2017	11.2018	Research Assistant	Banaras Hindu University, Varanasi	India	RA research work
10.2016	10.2017	Project Assistant	Banaras Hindu University, Varanasi	India	Research Work

Publications:

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Publication

2025

1. Exploring ESIPT Dynamics and Sensing Applications in Novel Naphthalene-Based Aroylhydrazones Luminophores Functionalized with Electron Donating and Withdrawing Groups. A. Rajput, K. Banyopadhyay, S. Goyal, S. Kumar, H. Mehar, R. Walia and **Abhineet Verma**, ***J. Phys. Chem. B,*** **2025**. https://doi.org/10.1021/acs.jpcb.5c06377.
2. Unveiling Aggregation Concentration in Surfactants and Ionic Liquids using Confocal Raman and Hyper Raman Spectroscopy. K. Bandyopadhyay, **Abhineet Verma**, N. S. Rawat, S. Maity, H. Hiramatsu, S. Saha, ***J. Mol. Liq.,*** 437, **2025**, 128622.
3. Influence of Positional Isomerism on Modulating Crystal Packing and Physicochemical Properties of New Picolylamine-Based Fully Organic Ionic Salts. S. Verma, A. Mahapatra, **Abhineet Verma**, Monika, S. Saha,. ***ChemistrySelect*** ,10, **2025**, 02795.
4. Recent advances in NIR-II emitting nanomaterials: design and biomedical applications of lanthanide complexes and functionalized mesoporous silica nanoparticles (MSNs). K. Bandyopadhyay, S. Singh, V. K. Chaturvadi, A. K. Singh and **Abhineet Verma**, ***Journal of Material Chemistry B*** :44, **2025**.
5. Dual-Antenna Trimetallic Lanthanide Complexes for Enhanced Near-Infrared Luminescence. K. Bandyopadhyay, **Abhineet Verma**, S. Saha, ***Chemistry: An Asian Journal,*** 20, **2025**, 1-12.
6. Good fat vs bad fat in Milk: A molecular level Understanding of Indian cow milk using confocal Raman microscopy. K. Bandyopadhyay, **Abhineet Verma**, S. Saha,. ***Spectrochim. Acta A***, 12, **2025**, 5705.
7. First report of aggregation induced emission (AIE) in NIR-II region of a Pr(III) polymer chain with pyridine-2,6-dicarboxylic acid. K. Raghuwanshi, **Abhineet Verma**, S. Sunkari, ***Journal of Luminescence***, 283, **2025**, 121284.
8. Designing symmetrically folded scaffolds of pyridazinone and triazinone derivatives linked Via N, N-diethyl-4-nitro-benzenesulfonamide: to explore luminescent materials. V. Kumar, K. bandyopadhyay, M. Nidhar, V. P. Sharma, P. Yadav, S. Gill, P. Sonker, **Abhineet Verma**, S. Saha, A. K. Tewari, ***J. Mater. Chem. C,*** 23, **2025**, 16432.
9. M. Jangir, RuPhos Pd G4: A catalyst for Suzuki-Miyaura coupling reactions involving 1,2,4-oxadiazoles. D. Kumar, S. Singh, G. J. Shinde, S. Dalai, **Abhineet Verma**, G. C. Sharma, ***Results in Chemistry*** , 13, **2025**, 101990.

2024

10. The crucial role of stability of intercalating agent for DNA binding studies in DMSO/water system. K. Bandyopadhyay, **Abhineet Verma**, A. Pandey, R. Walia, S. Saha. ***Spectrochim. Acta A,,*** 315, **2024**, 124265.

2023

11. Slow Magnetic Relaxation in a Ferromagnetic CuII Chain Complex, Induced by Phonon Bottleneck Effect. S. S Sunkari, **Abhineet Verma,** O. Pandey, S. Gupta, M. Wakizaka, S, Takaishi, H. Kawasoko, T. Fukumura, M. Yamashita. ***Dalton Trans***. 52, **2023**, 12604-12607.
12. Counterion Influenced Metal-Organic Frameworks of Cyclam with CuII. **Abhineet Verma,** N. Bhuvanesh, J. Reibenspies, S. S. Sunkari. ***ChemistrySelect***, 8(29), **2023**, e202301810.
13. Unusual Effect of Minor Change in Ligand Substitution in Modulation of NIR Emission: A Case Study with [L-ZnII-LnIII] Complexes. **Abhineet Verma**, Daichi Enomoto, Koichi Iwata, Satyen Saha. ***J. Phys. Chem. B*** 127, **2023,** 4154−4164**.**
14. Giant dielectric constant, magnetocaloric effect and spin-phonon coupling in EuTbCoMnO6 semiconductor. M. Alam, L. Ghosh, S. Dixit, M. Jena, S. Kumari, S. V. Kumar, D. Kumar, **Abhineet Verma**, A.K. Ghosh, S. Saha, R.J. Choudhary, S. Chatterjee**.** ***Phys. B: Cond. Matt.,*** 665, **2023**, 415043.
15. Multiple Magnetic Phases and Anomalous Hall Effect in Sb1.9Fe0.1Te2.85S0.15 Topological Insulators. D. Pal, **Abhineet Verma,** M. Alam, S. Dan, A. Kumar, S. M. Yusuf, S. Banik, S. Chakravarty, S. Saha, S. Patil, S. Chatterjee**.** ***J. Phys. Chem. C,*** 127(5), **2023**, 2508-2517.
16. One-Pot Access to Tetrasubstituted 2-Aminothiophenes via Regio- and Chemoselective Domino Reactions of Dithioesters with Fumaronitrile at Room Temperature. A. K. Yadav, V. Kumar, P. Pali, S. Ray, **Abhineet Verma,** M. S. Singh, ***Adv. Synth. Catal.*** 365, **2023**, 1-7.

2022

17. From ACQ to AIE: The CN(π)-(π)Ar Interaction Driven Structural and Photophysical Properties of Aromatic Ring Conjugated Novel Diaminomaleonitrile Derivatives. **Abhineet Verma**, Monika, M. K Tiwar; Navin Subba; S. Saha. ***J. Photochem. Photobiol. A: Chem**, 433,* **2022**, 114130.

18. **(7)** Confocal Raman Microscopic Evidence for Cyclic Water Pentamer, at High Temperatures in a Supramolecular Host of [Cu(cyclam)(N3)2]·4H2O. **Abhineet Verma,** N. Bhuvanesh; J. Reibenspies; S. Saha; S. S. Sunkari, ***Spectrochim. Acta A**,* 274(8), **2022**, 121121.

19. Structurally Characterised New Twisted Conformer for Cyclen, Controlled by Metal ion Complexation as Seen in NiII and CuII Complexes with halides and pseudohalides. **Abhineet Verma,** N. Bhuvanesh; J. Reibenspies; S. B. Tayade; A. Kumbhar; K. Bretosh, J-P Sutter; S. S. Sunkari. ***CrysEngComm***. 24, **2022**, 119-131.

20. Water in Ionic Liquids: Raman Spectroscopic Studies. S. Saha, **Abhineet Verma**, K. Bandyopadhyay. ***J. Raman Spectrosc.***53*,* **2022***,* 1-9.

21. Development of robust folded scaffold as fluorescent materials using butylidine linked pyridazinone based systems via aromatic π···π Stacking Interactions. P. Yadav, **Abhineet Verma,** V. P. Sharma; R. Singh; T. Yadav; R. Kumar; S. Pal; H. Gupta; S. Saha, A. K. Tewari. ***New, J. Chem.**, 46,* **2022**. 5830-5838.

22. The enthralling effect of Packing on the light emission of pyridazinone based luminophore: Crystallographic, electronic absorption and computational studies. P. Yadav, **Abhineet Verma,** P. Sonker, V. P. Sharma, A. Kumar, T. Yadav, S. Pal, S. Saha, A. K. Tewari. ***J. Mol. Struct.*** 1267, **2022**, 133513.

23. Drastic influence of amide functionality and alkyl chain length dependent physical, therma**l** and structural properties of new pyridinium-amide cation based biodegradable room temperature ionic liquids. **Abhineet Verma,** S. Verma; Monika, M. Mondal; N. E. Prasad; J. Srivastava; S. Singh; J. P. Verma; S. Saha. ***J. Mol. Structure***, 1250, **2022**, 131679.

24. Achieving AIE from ACQ in positional Isomeric triarylmethanes. S. Singh, **Abhineet Verma**, S. Saha, ***New J. Chem.*** 46, **2022**, 7212-7222.

25. Detection of Non-permitted Food Color Metanil Yellow in Turmeric – A Threar to the Public Health abd Ayurvedic Drug Industry. **Abhineet Verma,** S. Bhatt, S. Saha. ***J. Ayurv.***, 6(2), **2022**, 134-139.

26. Asparagus racemosus root-derived carbon nanodots as a nano-probe for biomedical applications. G. G. Naik, T. Minocha, **Abhineet Verma,** S. K. Yadav, S. Saha, A. K. Agrawal, S. Singh, A. N. Sahu. ***J. Mater. Sci.*** 578, **2022**, 20380-20401.

27. Biocompatible thermoresponsive N-isopropyl- N-(3-(isopropylamino)-3-oxopropyl) acrylamide- based random copolymer: synthesis and studies of its composition dependent properties and anticancer drug delivery efficiency. S. Mondal, A. Kumari, K. Mitra, **Abhineet Verma**, S. Saha, B. Maiti, R. Singh, P. P. Manna, P. Maiti, H. Watanabe, M. Kamigaito, B. Ray. ***J. Mater. Chem. B.***10*,* **2022**, 8462-8477.

28. Anharmonic phonon interactions and Kondo effect in FeSe/Sb 2 Te 3 /FeSe hetero-structure: Proximity effect between ferromagnetic chalcogenide and di-chalcogenide. L. Ghosh, M. Alam, M. Singh, S. Dixit, S. V. Kumar, **Abhineet Verma**, P. Shahi, Y. Uwatoko, S. Saha, A. Tiwari, A. Tripathi, S. Chatterjee. ***Nanoscale**,*14*,* **2022**, 10889-10902.

29. Lattice Dynamics of Bi1.9Dy0.1Te3 Topological Insulator L. Ghosh; V. K. Gangwar; M. Singh; S. V. Kumar; S. Dixit; **Abhineet Verma**, D. K. Sharma; S. Kumar; S. Saha; A. K. Ghosh; S. Chatterjeea. ***Physica B: Phy. Conden. Matt.*** **2022**, 640, 414050.

30. Unraveling the obscure electronic transition and tuning of Fermi level in Cu substituted Bi2Te3 compound. S. Dan, S. Kumar, S. Dan, D. Pal, S. Patil, **Abhineet Verma,** S. Saha; K. Shimada; S. Chatterjee. ***Appl. Phys. Lett.*** 120, **2022**, 022105.

2021

31. Ligand Influence Versus Electronic Configuration of d-Metal Ion in Determining the Fate of NIR Emission from LnIII Ions: a Case Study With CuII, NiII and ZnII Complexes. **Abhineet Verma,** SK. Hossaoin; S. S. Sunkari; J. Reibenspies; S. Saha. ***New J. Chem.*,** 45, **2021**, 2696-2709.

32. Defect induced ferromagnetic ordering and room temperature negative magnetoresistance in MoTeP. D. Pal; S. Kumar; P. Shahi; S. Dan; **Abhineet Verma,** V.k. Gangwar; M. Singh; C. Sujoy; Y. Uwatoko; S. Saha; S. Patil; S. Chatterjee. ***Sci. rep.**,* 11(1), **2021**, 88669-88678.

2020

33. Important role of the position of a functional group in isomers for Photophysical and Antibacterial Properties: A case study with Naphthalenemaleonitrile Positional Isomers. M. Das; **Abhineet Verma,** S. Verma; N. Pandey; R. Tilak; S. Saha. ***New J. Chem.***, 44, **2020**, 14116-14128.

34. Synthesis, structural, thermal, photophysical and vibrational spectroscopic studies of potassium-polynitrile based 3D coordination polymer M. K. Tiwari; **Abhineet Verma**, Monika; A. Raj; S. Saha. ***Spectrochim. Acta A,*** 246, 5, **2020**, 118958.

35. Metal free highly efficient C-N bond formation through 1,6-addition: Synthesis and photophysical studies of diaryl methyl amino acid esters (DMAAEs). D. Roy, **Abhineet Verma**, A. Benerjee, S. Saha, and Gautam Panda. ***New J. Chem.,*** ,44, **2020**, 14859-14864.

36. Modulation of Weak Interactions in Structural Isomers: Positional Isomeric Effects on Crystal Packing and Physical Properties and Solid-State Thin-Film Fabrication. Monika; **Abhineet Verma**, M. K. Tiwari; B. Show; S. Saha. ***ACS Omega*** 5, 1, **2020**, 448–459.

2019

37. Probing the Heterogeneity of Ionic Liquids in Solution Through Phenol-Water Phase Behavior. **Abhineet Verma**, J. Srivastava; N. E. Prasad; S. Saha. ***ChemistrySelect***, 4, **2019**, 49-58.

38. Ionic Liquids as High-Performance Lubricant: A New Alterative to Oil. S. Saha; **Abhineet Verma**, S. K. Panja. ***Int. J. Petrochem. Res***. **2019** (Conference paper- Kuala Lumpur, Malaysia).

39. Template-Directed Synthesis of Half Condensed Schiff base Complexes of Cu(II) and Co(III): Structural and Magnetic Studies. P. Pandey; **Abhineet Verma**, K. Bretosh; J.-P. Sutter; S. S. Sunkari. ***Polyhedron***,164, **2019**, 80-89.

40. Conformationally Restricted Triarylmethanes: Synthesis, Photophysical Studies and Applications. S. Mondal; **Abhineet Verma**, S. Saha, ***Eur. J Org. Chem****., 5, **2019**, 2019, 864-894.*

2018

41. Molecular Packing Dependent Solid-State Fluorescence Response of Supramolecular Metal- Organic Frameworks: Phenoxo-bridged Trinuclear Zn (II) Centered Schiff Base Complexes With Halides and Pseudohalides. **Abhineet Verma**, S. Sunkari; N. Dwivedi; S. Saha. ***Cryst. Growth Des.*** 18(9), **2018**, 5628–5637.

2017

42. NIR Luminescent Heterodinuclear [ZnII LnIII] Complexes: Synthesis, Crystal Structures and Photophysical properties; N. Dwivedi; S. K. Panja; **Abhineet Verma**, T. Takayal; K. Iwata; S. S. Sunkari, S. Saha. ***J. Luminscence;*** 192, **2017**, 156-165.

Book Chapters:

1. Illuminating Advances: Photochemistry and Photophysics of N-Heterocyclic Carbenes (NHCs) and Its Structural Correlation. K. Bandyopadhyay, **Abhineet Verma**, T. Ghosh, R. K. Kanaparthi, S. Nadendla, S. Saha. **2024** ***IntechOpen***. (10.5772/intechopen.1004054).

2. Recent Development of Carbenes: Synthesis, Structure, Photophysical Properties and Applications. A. Manna, **Abhineet Verma**, S. K. Panja; S. Saha. **2022**. ***IntechOpen*** (10.5772/intechopen.101413).

3. Introductory Chapter: Magnesium - A Perspective", in Current Trends in Magnesium (Mg) Research. London, United Kingdom: IntechOpen, **Abhineet Verma**, S. S. Sunkari. ***IntechOpen***, **2022**, 1-9.