



Centre/School/Special Centre: School of studies of Physical Science

Department: Department of Chemistry

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NIRAJ KUMARI

ASSISTANT PROFESSOR

Qualifications:

PhD Banaras Hindu University, Varanasi, India.

M.Sc. Inorganic Chemistry, Department of Chemistry, Banaras Hindu University, Varanasi, India (First Division)

B.Sc. Chemistry, MMV, Banaras Hindu University, Varanasi, India (First Division)

XII C.B.S.E Board, Jawahar Navodaya Vidyalaya, Bihiya, Bhojpur (First (Division)

X C.B.S.E Board, Jawahar Navodaya Vidyalaya, Bihiya, Bhojpur (First Division)

Area of Interest/Specialization: *Inorganic Chemistry*

Metal based Drugs, Supramolecular Chemistry, Metal Organic Framework.

Experience:

Oct. 24, 2019-Present Assistant Professor, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh

Aug. 16, 2017- Oct 23 Assistant Professor KIIT Deemed to be university, Bhubaneswar, Odisha

Awards and Honors

1. CSIR-UGC Junior Research Fellowship
2. Research associate in CSIR Funded Project
3. Women Scientist in WOS-B Scheme

Research Projects: UGC Start Up Grant 2022 entitled “*Study on spontaneous helical folding of metallo-supramolecular complexes and their applications*”.

International Collaboration/Consultancy

Best Peer Reviewed Publication (up-to 10)

1. Niraj Kumari, Rishikesh Prajapati, Lallan Mishra, Reactivity of $M(en)Cl_2$ ($M = Pd^{II}/Pt^{II}$, $en = 1,2$ -diaminoethane) with *N,N*-bis(salicylidene)-*p*-phenylenediamine: Binding with Hexafluorobenzene, *Polyhedron* 27, 2008, 241-248.
2. Niraj kumari, Rishikesh prajapati, Osamu Hayashida and Lallan Mishra, Synthesis and characterization of coordination polymers of a carboxylato cyclophane with metal [Cu(II), Zn(II), and Cd(II)]-2,2 bipyridines, *polyhedron*, 2010, (29) 2755-2761.
3. Niraj Kumari, Brajesh Kumar Maurya, Raj Kumar Koiri, Surendra Kumar Trigun, Lallan Mishra, DNA - binding, photocleavage and cytotoxic studies of a Pt^{II} -Cyclophane bearing *N,N*-bis(salicylidene)-*p*-phenylenediamine, *Med chem comm.* 2011, 2, 1208-1216
4. Niraj kumari, Benzamin D. Ward, Sanjib Kar and Lallan Mishra, Reactivity of nitrilotriacetic acid with polypyridyl protected as well as naked copper(II) nitrate, *Polyhedron*, 2012, 33, 425-434.
5. Pramod Kumar yadav, Niraj Kumari, Pradip Pachfule, Rahul Banerjee and Lallan Mishra, Metal (Zn^{II}, Cd^{II}) 1, 10-phenanthrolines containing coordination polymers constructed on the skeleton of polycarboxylates: synthesis, characterization, micro structural and gas adsorption studies, *Crystal Growth and Design* 2012, 12, 5311-5319.
6. Niraj Kumari, Md. Amin Hasan and Lallan Mishra, Reactivity of tetrabutyl ammonium iodide with a heteronuclear 6 Copper(II)-4Na(I) Complex: Selective recognition of Iodide ion, *I & EC*, 2013, 52, 15007–15014
7. Kamini Tripathi, Abhishek Rai, Amarish Kumar Yadav Saripella Srikrishna, Niraj Kumari and Lallan Mishra, Fluorescein hydrazone-based supramolecular architectures, molecular recognition, sequential logic operation and cell imaging, *RSC Advances.*, 7, 2017, 2264
8. Alok Kumar Singh, Promod Kumar Yadav, Niraj Kumari, Rajamani Nagarajana and Lallan Mishra, A light/pH/multiple ion-driven smart switchable module for computing sequential logic operations via a resettable dual-optical readout, *J. Mater. Chem. C*, 2015, 3, 12123.

9. Abhishek Rai, Niraj Kumari, Rohini Nair, Kiran Singh and Lallan Mishra, A new rhodamine derivative as a single optical probe for the recognition of Cu²⁺ and Zn²⁺ ion, *RSC Adv.*, 2015, **5**, 14382-14388.
10. Priti Sinha, Niraj Kumari, Kanhaiya Singh, Kiran Singh, Lallan Mishra, Homoleptic bisterpyridyl complexes: Synthesis, characterization, DNA binding, DNA cleavage and topoisomerase II inhibition activity, *Inorganic chimica acta* 432 (2015) 71–80.

Recent Books/Book Chapters/Monographs etc.

1. T. Sahoo, J. R. Sahoo, J. Panda, N. Kumari, R. Sahoo, Application of two-dimensional monoelements based material in field effect transistor for sensing and bio sensing, Wiley-Scrivener Publisher, 2020
2. J. Panda, P. R. Babu, P. K. Sahu, B. B. Kumar, B. Mohanty, N. C Bera, N. Kumari, R. Sahoo, Design of a Nickel Based Probe for DNA Sensing, International Conference on Applied Electromagnetics, Signal Processing and Communication (AESPC)
3. Jnana Ranjan Saha, Tejaswini Sahoo, Rojalin Sahu, Niraj Kumari, Zn²⁺ and HPO⁴ selective arrest and bail to a trimethylbenzene -naphthalene anchored schiff base as molecular switch in International Conference on Emerging Smart Materials in Applied Chemistry (ESMAC-2020)

Research Supervision

Administrative Responsibilities:

- ❖ NSS Program officer, Physical science unit, GGV
- ❖ Member, Various Departmental Committees
- ❖ Polling Officer-2, the Students' Council Election 2019

Additional Information#