



Dr. Manisha Singla

Contact no: 8368072406; 9717361004

E-mail: manisha.singla@gargi.du.ac.in
manishasingla@gmail.com

INTERESTS

Bioinorganic chemistry, Material science, Coordination Chemistry, Nano chemistry, Synthetic Organic and Inorganic Chemistry, Organometallic Chemistry.

EDUCATION

- Ph.D. in **Inorganic Chemistry**, University of Delhi, 2008 (Under the Supervision of Prof. Pavan Mathur)

Title of Thesis: Transition Metal ion complexes of Polydentate ligands based on bis and pentakis Benzimidazole amides.

- M.Sc. in Chemistry, **Miranda House**, University of Delhi, 2004
- B.Sc. in Chemistry, **Miranda House**, University of Delhi, 2002

RESEARCH EXPERIENCE

- Worked as a **Research Associate** in the DST Project entitled “Development and Scale-up of Stable Environment – Friendly Water Based Micro emulsion Formulations of Neem Based Pesticides” in the Institute of Pesticide Formulation technology (IPFT) since December 2008- August 2010.
- Worked as an assistant JRF in the DRDO project entitled “Manganese coordination compounds as spectral and functional mimics of Manganese containing proteins and enzymes” from May 2007-December 2008.

TEACHING EXPERIENCE

- Ad-hoc assistant professor in **Gargi College, DU**, 20 July 2017 -30 April 2020 then 11 Oct 2021- till date.
- Guest faculty in Maitreyi and Miranda house, Jan 2017-May 2017.

- Guest faculty in Maitreyi and Sri Venkateswara, July 2016- Dec 2016.
- Ad-hoc assistant professor in Maitreyi College, Aug 2015-Jan 2016.
- Ad-hoc Assistant Professor in Keshav Mahavidhyalya, Delhi University from Jan 2014- May 2015.
- Guest lecturer in Keshav Mahavidhyalya & Lakshmibai college, Delhi University, July-Dec 2013
- Ad-hoc Assistant Professor in Hindu College, Delhi University, Jan-Mar 2013
- Ad-hoc Assistant Professor in Shivaji College, DU, Jul – Dec 2012.
- Guest assistant professor in Hansraj College, DU, Jan- Apr 2012.
- Guest lecturer in Kirori Mal College Sept- Nov 2011.
- Ad-hoc Assistant Professor in Miranda House, DU, Aug 2010 - Apr 2011 and then Jul- Sept 2011.
- Guest lecturer in Hansraj College, DU, Oct 2005- Mar 2006.

PRESENTATION/SEMINARS

- Participated in “National Conference on Scientific Innovation for Human Wellbeing”, Department of Chemistry, University of Delhi, 17th March 2023.
- Participated in Two-Day International conference on “Revisiting Wellbeing: Perspectives, challenges, and the road ahead”, Gargi College, University of Delhi, 1st -2nd Feb 2023.
- Co-Convener for a ‘Workshop for Laboratory Staff’ held at Gargi College, 13-15 July 2022.
- A resource person at the workshop on ‘Adulteration in food and Preparation of Herbal Cosmetics’ held at Gargi College, DU on 19 Jan 2019.
- A resource person in the summer workshop on “Chemistry in Day to Day Life”, Gargi College, 17-18 July 2018.
- Attended the 2nd task Force meet under Star College Scheme, held at Gargi College, 9th May 2018.
- Participated in a workshop on ‘Molecular Modelling’ ARSD College, DU, 23 Jan 2018.
- Participated in the NAAC sponsored National Seminar titled “Mentoring the teacher-mentors: capacity building program”, Gargi College, 19-20 Jan 2018.
- Participated in workshop on green chemistry, Department of Chemistry, University of Delhi, 4th October 2017.
- Attended and presented a poster in “2nd National Conference on Emerging Trends in Applied Sciences” (NCETAS 2017), 17-18 August 2017.
- A resource person for the two day workshop on Green Chemistry and Environment, Miranda House, 6-7 February 2017.
- Attended and presented a poster at the 12th Biennial symposium on Modern Trends in Inorganic Chemistry (MTIC-XII) held at Indian Institute of Technology Madras, Chennai from 6-8 December 2007.

- Attended CARBO-XXI on Recent Developments in Carbohydrate Chemistry Conference, sponsored by ACCTI, Organized by Department of Chemistry, and University of Delhi during November 26-29, 2006.
- Attended the Indo-US workshop on green chemistry from 7-9 January 2006 at Delhi, India.

POSTERS PRESENTED

- **“ Cu(I) and Cu(II) nano composites functionalized by a bis- benzimidazole diamide ligand”** at national conference on emerging trends in applied sciences at Galgotia University from 17-18th August 2017.
- **“Oxidation of electron deficient olefins using Copper (II) complexes based on a bis benzimidazole diamide ligand”** at MTIC-XII held at Chennai from 6-8 December 2006.

REFRESHER COURSES

- Cleared the “Online Refresher Course in Chemistry for Higher Education Faculty”, the Annual refresher programme in Teaching (arpt) - February 2020 with 87%.

FACULTY DEVELOPMENT PROGRAMS

- Six days Faculty Development Program on “Research Techniques in Science and technology” organised by K.R. Mangalam University, Gurugram in Collaboration with Gargi College, University of Delhi from 18th -23rd July, 2022.
- One Week Online Faculty Development Program On “Advanced Research Methodology Applicable in New Education Policy” during June 22 – 28, 2022. Organized by Digvijai Nath Post Graduate College, Gorakhpur, UP and Science Tech Institute, Lucknow, UP .
- Two Day Online Workshop on “National Education Policy (NEP) 2020: A Paradigm Shift in Education Sector” (June 6 – 7, 2022) organised by P.G.D.A.V. College (Evening), University of Delhi in collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi.
- One week Faculty Development Program on "EMERGING TRENDS IN APPLIED CHEMISTRY: A step towards Sustainable Development” organized by Department of Chemistry, SGT University, Gurugram, from 30th May - 4th June, 2022.
- One week Faculty Development Program on "ADVANCED PEDAGOGICAL TECHNIQUES" from October 29 - November 05, 2020 and obtained a grade A⁺ .

PROJECTS MENTORED AT UNDERGRADUATE LEVEL

- Worked as **Mentor in Pathfinder Project** on “Green synthesis of zinc oxide nano particles from various plant extract and their application in cosmetic products” in Academic Year 2019-20.
Students : Nandini, B.Sc. Life Science III Year.
- Worked as **Mentor in Pathfinder Project** on “Green synthesis of silver oxide and magnesium oxide nanoparticles from various plant extract and their application in photo reduction and cosmetic products in Academic Year 2022-2023.
Students: Arju and Sanskriti Singh, B.Sc. Chemistry (H), II Year.

PUBLISHED PAPERS

- “Oxidation of electron deficient olefins using a Copper (II) complex based on a bis benzimidazole diamide ligand” Manisha Singla , Pavan Mathur , Manisha Gupta, M.S. Hundal ; **Transition Metal Chemistry**, 2008, 33,175-182 0340- 4285 (impact factor- 2.31)
- “Oxidation of alcohols using a Manganese (II) complex based on a pentakis Benzimidazole penta amide ligand” Manisha Singla and Pavan Mathur; *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*,2009, 74(2), 536-543 [1386-1425;4.09]
- “Antimalaria evaluation of Copper(II) nanohybrid solids:Inhibition of Plasmepsin II, a hemoglobin-degrading aspartic protease from *Plasmodium falciparum* using nonpeptidyl copper (II) nanohybrid solids” S.C.Mohapatra, H.K.Tiwari, M. Singla, B. Rathi, A. Sharma, Kuldeep, M. Kumar, S. Sinha, S. S. Chauhan , **Journal of biological inorganic chemistry** 15(3) (2010)373-385. [0949-8257; 3.36]
- “Copper nano composites functionalized by bis-benzimidazole diamide ligand: Effect of Size, co-anion dependent conductivity and band gap studies” M. Singla, S.C. Mohapatra, S. Ahmad ; **Materials Chemistry and Physics** 137 (2012) 118-128 [0254-0584; 4.09]
- “Preparation and Stabilization of Neem Oil Based Microemulsion Formulations and Their Phase Behaviour” , M. Singla and P. K. Patanjali; **Industrial Crops and Products** 44 (2013) 421– 426. [0926-6690; 6.41]
- “Nitric oxide inhibition, antioxidant and antitumour activities of novel copper(II) bis-benzimidazole diamide nano coordination complexes” M. Singla, R. Ranjan, K. Mahiya, S.C. Mohapatra, S. Ahmad; **New J. Chem.**, 2015, 39, 4316—4327 [1146-0546; 3.59]

- **Synthetic polymer nano-film coating efficacy evaluation in prevention of chemicals induced corrosion of monuments”** H. Chauhan,* C. Mukherjee, M. Singla, D. Sachdeva, P. Giri, S. Lamba; **Journal of Materials Nanoscience** , **2023**, **10(1)**, **602**.

TECHNICAL SKILL

UV-Visible spectroscopy, NMR spectra, IR, CHNS Analysis, EPR, Cyclic Voltammetry, Conductometry, pH meter, TLC, GC-MS, TGA-DTA, XRD, TEM, dc and ac conductivity, Single Crystallography, Fluorescence.

COMPUTER SKILLS

Applications: Microsoft Office, Pagemaker, Origin, Chem Office, Chem Sketch.

LANGUAGE SKILLS

Native language: Hindi Fluent in writing and speech: English, Hindi, Punjabi