

Curriculum Vitae

Dr. Sandhya Singh

06/01/92, Female, Indian

Ph.D., Department of Chemistry

Indian Institute of Technology Kanpur

Kanpur - 208016, India

E-mail: ssandhya005@gmail.com

Mobile: 6387236776



EDUCATION

2017 – 2023

Doctor of Philosophy in Chemistry, Indian Institute of Technology Kanpur, Department of Chemistry, Kanpur, India, **9/10 CGPA**.

Doctoral Thesis: “Interaction of Sulfur Dioxide with Metal Complexes”

Thesis Advisor: Dr. Raja Angamuthu

2013 – 2015

Master of Science in Chemistry, Specialization: Inorganic chemistry, organic chemistry, physical chemistry, environmental chemistry, C.S.J.M University, India.

2010 – 2013

Bachelor of Science in Chemistry, Physics, Mathematics, CSJM University, India.

2009 – 2010

10+2 with Physics, Chemistry, Mathematics, Central Board of Secondary Education.

2007 – 2008

10th Central Board of Secondary Education.

SCHOLASTIC ACHIEVEMENTS

1/2019 – 12/2022 Senior Research Fellowship (**SRF**), Council of Scientific and Industrial Research, Govt. of India

1/2017 – 12/2019 Junior Research Fellowship (**JRF**), Council of Scientific and Industrial Research, Govt. of India

18/12/2016 – Qualified Junior Research Fellowship (**JRF**), All India Rank **74**, Council of Scientific and Industrial Research, Govt. of India

PUBLICATIONS

1. “Direct observation of arene sulfur dioxide interaction: Role of metal ions in electronic modulation for binding and activation” S. Singh, S. Dinesh, A. Yadav, S. Raje, R. J. Butcher, M. Sundararajan* and R. Angamuthu*, *Chem. Commun.*, 2024, 60, 11104-11107. <https://doi.org/10.1039/D4CC02329C>
2. Sequestration of Sulfur Dioxide by Utilizing Benzothiazolines Based Schiff-Base Ni(II) Square Planar Complexes (*Manuscript to be communicated*)
3. Benzylideneamino anilines as Organic Hydride Donors in Activation of Sulfur Dioxide (*Manuscript to be communicated*)

RESEARCH EXPERIENCE/SKILLS

- Synthesis of organic compounds and transition metal complexes, ranging from milligrams to preparative scale, including handling of inert conditions and air sensitive reactions using **Schlenk line technique**, handling thiols, Acids, low temperature reactions and the purifications of metal complexes and organic molecules by Column Chromatography
- Handling of high pressure & temperature reactions using **High-Pressure tubes**
- Working knowledge in **Electrochemistry**
- Characterization of compounds using NMR, IR, UV-VIS, CHN-Analysis, ESI-MS
- Growing crystals and elucidation of structure by Single crystal X-ray diffraction (**SCXRD**) technique using OLEX, SHELXTL, WINGX, Mercury and Ortep
- Detection of redox potential values of redox active metal complexes using **Cyclic Voltammetry (CV)** technique
- Expertise in softwares and online applications like EndNote, Sci-Finder, Origin Pro, Mestro Nova NMR, Chem Draw, mMass, Microsoft Office etc
- Documentation of records and writing research articles for publications
- Acquainted with sequestration and activation of sulfur dioxide
- Knowledge of two languages: **Hindi** (Native), and **English** (Professional)

TEACHING AND SUPERVISION EXPERIENCE

2021 – 2022 Guided two postgraduate students for M.Sc dissertation, Department of Chemistry, IIT Kanpur, India

2019 – 2022 Teaching Associate (TA) in CHM 654A (BS-MS), CHM441A, CHM 101A, B.Tech Lab, Department of Chemistry, IIT Kanpur, India

CONFERENCES AND SYMPOSIUM

2019 – Attended ‘**Chemical Research Society of India**’ (CRSI) National conference Department of chemistry IIT Kanpur, India

2020 – Attended a seminar on “Bruker Single Crystal X-ray Diffraction and User Training”

2020 – Attended international symposium on “Organometallic Chemistry and Catalysis”
IITK/LCC-CNRS joint CEFIPRA/IFCPAR, Department of chemistry IITK, India

2022 – Presented a Poster in ‘**Chemical Research Society of India**’ (CRSI) **National**
conference Department of chemistry IISER Mohali, India.

2022 – Presented a Poster in ‘**Future Aspects of Micro Particles in Chemistry (FAMPC)**
National conference Department of chemistry Government SSP College Waraseoni (M.P)

2022 – Presented a Poster in ‘**Modern Trends in Inorganic Chemistry (MTIC XIX)**
International conference Department of chemistry BHU-Varanasi.

Membership

Organization	Membership Status	Membership ID	Year
Chemical Research Society of India (CRSI)	Life Membership	LM 3257	2022

EXTRACURRICULAR ACTIVITIES/Hobbies

2018 – 2019 Worked as a volunteer in **freshers (Y18, Y19 batches)** Department of chemistry
IIT Kanpur, India

2019 – 2020 Worked as a volunteer in ‘**Chemical Research Society of India**’ (CRSI)
National conference Department of chemistry IIT Kanpur, India

Athletic, Swimming, Basket ball (**regional sports meet**).

DECLARATION

I hereby declare that the above-furnished particulars are true to the best of my knowledge and belief.

Sandhya Singh