

# CURRICULUM VITAE

## Dr. SUBRATA JANA

Assistant Professor,  
Department of Chemistry,  
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### Academic Records

Qualification	Institute	University / board	Year	Marks
Ph.D.(Science)	Jadavpur University	Jadavpur University	2015	
M.Sc. Chemistry	Indian Institute of Technology Guwahati, Assam	Indian Institute of Technology Guwahati	2010	9.53 (out of 10)
B.Sc. Chemistry (Hons.)	Ramakrishna Mission Vivekananda Centenary College, Rahara, W. B.	University of Calcutta	2008	66%
Higher Secondary	Joypur Phakirdas Institution, Howrah, W. B.	West Bengal Council of Higher Secondary Education	2005	81.6%
Secondary	Garh-Bhawanipur Ram Prasanna Institution, Howrah, W. B.	West Bengal Board of Secondary Education	2003	80.62%

### Academic Achievements

- ❖ Qualified in the entrance examination **IIT JOINT ADMISSION Test for M.Sc. (JAM)** in **2008 (All India Rank 206)**.
- ❖ Qualified in **CSIR-UGC NET** examination under **CSIR** scheme in **Dec-2009(All India Rank 146)**.
- ❖ Qualified in **GATE 2010 (All India Rank 165, Score 525)**.
- ❖ **Dr. D. S. Kothari Post-Doctoral Fellowship** awarded by **UGC INDIA**.

## Research Experience

### Post Doc.

**Dr. D. S. Kothari Postdoctoral Fellow** in the Department of Chemistry, University of Calcutta, (February, 2016 to February, 2019).

**Supervisor: Prof. Ashutosh Ghosh**

### Ph. D.

**Thesis Title:** Synthesis, characterization and structural aspects of some copper(I/II) and iron(III) complexes, (December, 2010 to July, 2015).

**Supervisor: Dr. Shouvik Chattopadhyay**

### M.Sc. Project

**Title:** Development of Fluorescence Chemosensors for Recognition of Biologically Important Anions, (December, 2009 to May, 2010).

**Supervisor: Prof. Gopal Das**

## Expertise

- Gathered experiences in the syntheses and growing of single crystal.
- Knowledge and experiences in working with different analytical and spectroscopic techniques such as Single Crystal X-ray Diffraction, Powder X-ray Diffraction, FTNMR, FT-IR, UV-Vis Spectroscopy, Fluorescence Spectroscopy, Mass Spectrometry, Cyclic Voltammetry.
- Proficiency in working various software such as Windows, MS Office, Chem Draw, APEX3, WINGX, PLATON, Mercury, ORTEP, Diamond, Adobe Photoshop, Adobe Illustrator, Adobe Acrobat, TOPOS, Phi, CrystalExplorer, Origin and other special software packages including Gaussian 09.

## Research Interest

Co-ordination chemistry, Supramolecular chemistry, Magneto chemistry, Synthesis of metal complexes for catalytic activities, synthesis and characterization of fluorescence probes, identification of hazardous compounds and ions in environmental samples using spectroscopic techniques, Sensing of nitro-explosives, Synthesis of molecular

catalyst for the electrocatalytic hydrogen evolution reaction and oxygen evolution reaction.

## List of Publications:

***h*-index: 12, Total citation: 340**, (source: www.scopus.com)

**ORCID ID: 0000-0002-4261-0531**

1. *Unique in situ reduction of copper(II) forming an interesting photoluminescent stair-polymer of copper(I) with a Cu<sub>2</sub>S<sub>2</sub> core.*

**Subrata Jana**, Prasanta Bhowmik, Shouvik Chattopadhyay, Dalton Trans. 41(2012)10145-10149.

2. *Synthesis and characterisation of two double EE azido and thiocyanato bridged dimericCu(II) complexes with tridentate Schiff bases as blocking ligands.*

**Subrata Jana**, Prasanta Bhowmik, Mithun Das, Partha Pratim Jana, Klaus Harms, Shouvik Chattopadhyay, Polyhedron 37 (2012) 21–26.

3. *Syntheses, characterization and X-ray crystal structures of hexa-coordinated monomeric and oxo-bridged dimericFe(III) compounds with salen-type Schiff bases.*

**Subrata Jana**, Sudipta Chatterjee, Shouvik Chattopadhyay, Polyhedron 48 (2012) 189–198.

4. *Anion directed templated synthesis of mono- and di-condensed Schiff base compounds of Cu(II).*

Prasanta Bhowmik, **Subrata Jana**, Shouvik Chattopadhyay, Polyhedron 44 (2012) 11–17.

5. *Synthesis and characterization of square planar and square pyramidal copper(II) compounds with tridentate Schiff bases: Formation of a molecular zipper via H-bonding interaction.*

Prasanta Kumar Bhaumik, **Subrata Jana**, Shouvik Chattopadhyay, Inorg. Chim. Acta 390 (2012) 167–177.

6. *Unique example of a  $T3(2)4(2)3(2)6(2)$  water tape containing acetate–water hybrid hexamer in a heterometallic Schiff base complex host.*

Prasanta Bhowmik, **Subrata Jana**, Partha Pratim Jana, Klaus Harms, Shouvik Chattopadhyay, *Inorg. Chem. Commun.* 18 (2012) 50–56.

7. *Anion mediated diversity in the H-bonded assembly of a series of heteronuclearcopper(II)/sodium(I) compounds*

Prasanta Bhowmik, **Subrata Jana**, Partha Pratim Jana, Klaus Harms, Shouvik Chattopadhyay, *Inorg. Chim. Acta* 390 (2012) 53–60.

8. *Efficient and novel method for nucleophilic thiocyanation of activated aromatic compounds using sodium thiocyanate at ambient condition.*

**Subrata Jana**, Shouvik Chattopadhyay, *Inorg. Chem. Commun.* 35 (2013) 160–163.

9. *Formation of a mixed valence copper(II)–copper(I) coordination polymer  $\{[Cu(1,2-pn)_2(\mu_3-I)Cu_2(\mu_2-I)_3(CH_3CN)] \cdot CH_3CN\}_n$ : in situ reduction of copper(II) at ambient condition.*

**Subrata Jana**, Shouvik Chattopadhyay, *J. Coord. Chem.* 66 (2013) 3906–3914.

10. *Syntheses and characterizations of square planar nickel(II) complexes with pendant ligands: Examples of bi-dentate bonding modes of potentially tri- and tetra-dentate Schiff bases.*

Subhendu Bag, Prasanta Kumar Bhaumik, **Subrata Jana**, Mithun Das, Prasanta Bhowmik, Shouvik Chattopadhyay, *Polyhedron* 65 (2013) 229–237.

11. *Synthesis, characterization and DFT study of nickel(II) complexes of a  $N_2O$  donor Schiff base with different pseudo-halides: Formation of supra-molecular architectures by  $C-H \cdots \pi$  interactions.*

**Subrata Jana\***, Prasanta Kumar Bhaumik, Klaus Harms, Shouvik Chattopadhyay, *Polyhedron* 78 (2014) 94–103.

12. *Design and construction of copper(I) coordination complexes based on flexible cyclic N<sub>2</sub>-donor Schiff bases via in situ reduction of copper(II) precursors.*

**Subrata Jana**, Shouvik Chattopadhyay, Polyhedron 81 (2014) 298–307.

13. *Variation in the DNA binding constants with the change in geometry of ternary copper(II) complexes with a N<sub>2</sub>O donor Schiff base and cyanate or dicyanamide.*

**Subrata Jana**, Ramesh Chandra Santra, Saurabh Das, Shouvik Chattopadhyay, J. Mol. Struct. 1074 (2014) 703-712.

14. *Field-induced ferromagnetism and multiferroic behaviour in end-on pseudo-halide bridged dinuclear copper(II) complexes with tridentate Schiff base blocking ligands.*

**Subrata Jana**, Bikash Kumar Shaw, Prasanta Bhowmik, Klaus Harms, Michael G.B. Drew, Shouvik Chattopadhyay, Shyamal Kumar Saha, Inorg. Chem. 53 (2014) 8723–8734.

15. *In situ assembly of host–guest linked, mixed valence copper(II)-copper(I) coordination polymer  $[Cu(1,2-en)_2(\mu_3-I)_2Cu_2(\mu_2-I)_2]_n$  via partial reduction of copper(II) at ambient conditions.*

**Subrata Jana**, Klaus Harms, Shouvik Chattopadhyay, J. Coord. Chem. 67 (2014) 2954–2966.

16. *Synthesis and characterization of a nickel(II) complex of 9-methoxy-2,3-dihydro-1,4-benzoxazepine derived from a Schiff base ligand and its ligand substitution reaction.*

Sudeshna Saha, Ravi K. Kottalanka, Prasanta Bhowmik, **Subrata Jana**, Klaus Harms, Tarun K. Panda, Shouvik Chattopadhyay, Hari Pada Nayek, J. Mol. Struct. 1061 (2014) 26–31.

17. *Synthesis, structures and DFT study of CuBr based coordination polymers via in situ reduction of copper(II).*

**Subrata Jana**, Klaus Harms, Antonio Bauzá, Antonio Frontera, Shouvik Chattopadhyay, Cryst. Growth Des. 15 (2015) 257-267.

18. *Variation in crystalline architectures through supramolecular interactions in copper(II) complexes with tridentate N<sub>2</sub>O donor Schiff bases.*

**Subrata Jana**, Partha Pratim Jana, Shouvik Chattopadhyay, *J. Coord. Chem.* 68 (2015) 2520-2538.

19. *Copper(II) pseudohalide complexes with isomeric N<sub>2</sub>O donor Schiff base ligands: Synthesis, characterization and molecular dynamics simulations of interactions with DNA.*

**Subrata Jana**, Ramesh Chandra Santra, Antonio Frontera, Michael G. B. Drew, Joaquín Ortega-Castro, David Fernández, Saurabh Das, Shouvik Chattopadhyay, *ChemistrySelect* 3 (2016) 448-455.

20. *Theoretical study on the degree of delocalization of unpaired spin in two mixed valence copper(II/I) complexes with isomeric chelating diamines and iodide.*

**Subrata Jana**, Saumitra Bhowmik, Klaus Harms, Antonio Bauzá, Antonio Frontera, Shouvik Chattopadhyay, *Inorg. Chim. Acta* 451 (2016) 16-22.

21. *Synthesis, characterization and magnetic study of two new octahedral iron(III) complexes with pendant zwitterionic Schiff bases.*

**Subrata Jana**, Anik Bhattacharyya, Biswa Nath Ghosh, Kari Rissanen, Santiago Herrero, Reyes Jiménez-Aparicio, Shouvik Chattopadhyay, *Inorg. Chim. Acta* 453 (2016) 715–723.

22. *A novel method for copper(II) mediated regioselective bromination of aromatic rings under mild conditions.*

Samim Khan, **Subrata Jana\***, Michael G. B. Drew, Antonio Bauzá, Antonio Frontera, Shouvik Chattopadhyay, *RSC Adv.*, 6 (2016) 61214-61220.

23. *Iodide-bridged dinuclear copper(I) complex with cyanopyrazine and its conversion into bis(tetrazolato)copper(II) complex via [3 + 2] cycloaddition: synthesis, structure and self-assembly.*

**Subrata Jana**, Klaus Harms, Shouvik Chattopadhyay, *J. Iran. Chem. Soc.* 13 (2016) 1713–1721.

24. *The crucial role of chelate-chelate stacking interactions in the crystal structure of a square planar copper(II) complex.*

**Subrata Jana**, Samim Khan, Antonio Bauzá, Antonio Frontera, Shouvik Chattopadhyay, *J. Mol. Struct.* 1127 (2017) 355-360.

25. *Synthesizing a Cu<sup>II</sup> complex of tinidazole to tune the generation of the nitro radical anion in order to strike a balance between efficacy and toxic side effects.*

Ramesh Chandra Santra, Durba Ganguly, **Subrata Jana**, Neha Banyal, Jyotsna Singh, Abhijit Saha, Shouvik Chattopadhyay, Kasturi Mukhopadhyay, Saurabh Das, *New J. Chem.* 41 (2017) 4879-4886.

26. *Role of steric crowding of ligands in the formation of hydroxido bridged di-and trinuclear copper(II) complexes: Structures and magnetic properties.*

Pallab Bhowmik, **Subrata Jana**, Prithwish Mahapatra, Sanjib Giri, Shouvik Chattopadhyay, Ashutosh Ghosh, *Polyhedron* 145 (2018) 43–52.

27. *Modulation of Nuclearity by Zn(II) and Cd(II) in Their Complexes with a Polytopic Mannich Base Ligand: A Turn-On Luminescence Sensor for Zn(II) and Detection of Nitroaromatic Explosives by Zn(II) Complexes.*

Avijit Das, **Subrata Jana**, Ashutosh Ghosh, *Cryst. Growth Des.* 18 (2018) 2335–2348.

28. *Joining of trinuclear (CuL)<sub>2</sub>M (M = Mn<sup>II</sup> and Cd<sup>II</sup>) nodes by 1,3- and 1,4-benzenedicarboxylate linkers: positional isomeric effect on co-crystallization.*

Sabarni Dutta, **Subrata Jana**, Prithwish Mahapatra, Antonio Bauzá, Antonio Frontera, Ashutosh Ghosh, *CrystEngComm*, 20 (2018) 6490-6501.

29. *Exploitation of the flexidentate character of a ligand to synthesize Zn<sup>II</sup> complexes of diverse nuclearity and their use in solid state naked eye detection and aqueous phase sensing of 2,4,6-trinitrophenol.*

Tanmoy Kumar Ghosh, **Subrata Jana**, Ashutosh Ghosh, *Inorg. Chem.* 57(2018)15216–15228.

30. *Variation of nuclearity in Ni<sup>II</sup> complexes of a Schiff base ligand: crystal structures and magnetic studies.*

Tanmoy Kumar Ghosh, Prithwish Mahapatra, **Subrata Jana**, Ashutosh Ghosh, CrystEngComm. 21 (2019) 4620–4631.

31. *Tetra- and poly-nuclear Cd(II) complexes of an N3O4 Schiff base ligand: Crystal structures, electrical conductivity and photoswitching property*

Tanmoy Kumar Ghosh, Sumanta Jana, **Subrata Jana**, Ashutosh Ghosh, New Journal of Chemistry. 2020, Accepted Manuscript, <https://doi.org/10.1039/D0NJ03325A>