

# **CURRICULUM VITAE**



## ***Dr. Chandana Sen***

Assistant Professor

Department of Chemistry,

Behala College, Kolkata-700060

### **Educational Qualifications:**

M. Sc. : Jadavpur University, Jadavpur, 2008

Ph. D. : Jadavpur University (Awarded 2015) , Kolkata

Post-Doc.: One and half years (08/12/2015 to 30/06/2017) from Jadavpur University, Jadavpur

### **Academic Position Held:**

Assistant Professor in the Department of Chemistry, Behala College, Kolkata(3<sup>rd</sup> March 2021 – till to date).

Assistant Professor in the Department of Chemistry, Sripat Singh College, Jiaganj , Murshidabad (1<sup>st</sup> July 2017 – 2<sup>nd</sup> March 2021).

### **Permanent Address:**

P-4 building, Regent Estate, 176/14/4 Raipur Road, Kolkata- 700092, W. B., India

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### **Research Experience/ Major Fields of Work:**

- ❖ Transition-Metal and Main group elements Coordination Chemistry
- ❖ Photochromism of azo-ligands and transition metal complexes
- ❖ Photochromic sensor and their metal complexes

**Ph. D. Thesis/ Dissertation** Title: “*Synthesis, spectroscopic characterization, photophysical and related properties of metal complexes of functionalised azoimidazoles*”

Supervisor: **Prof. Chittaranjan Sinha,**

Dept. of Chemistry, Jadavpur University

Raja S. C. Mallick Road, Jadavpur, Kolkata-700 032, West Bengal, India.

**Post-Doctoral Research:** Title “*Photochromic Sensor and their Metal Complexes : Structural characterization, electrochemical studies, photophysical studies, sensor activities and theoretical correlation*”

U.G.C. Post-doctoral Research Fellow

Supervisor: **Prof. Chittaranjan Sinha,**

Dept. of Chemistry, Jadavpur University, Jadavpur.

**Participated in Workshop/Seminar/ Symposium:**

(1) National Seminar on Inorganic Chemistry-2011 July 8-9 , 2011 (Jadavpur University), Kolkata.

(2) National Seminar , Indian Chemical Society, August 2-3, 2012, Kolkata

(3) State Seminar, 28<sup>th</sup> February – 2<sup>nd</sup> March, 2013, Bengal Engineering College, Shibpur

(4) National Seminar , Indian Chemical Society, August 2-3, 2014, Kolkata

(5) International Chemistry of Molecules and Materials, 30<sup>th</sup> November - 2<sup>nd</sup> December 2014, Kolkata.

(6) National Science Conference, 28<sup>th</sup> February – 1<sup>st</sup> March, 2015, Kolkata

(7) Modern Trends in Inorganic Chemistry-XVI(MTIC-XVI) , December 3-5, 2015 (Jadavpur University) , Kolkata .

(8) Environmental Sustainability: Issues and Challenges , 18-19 November 2022 , sripat Singh College , Murshidabad , West Bengal.

**Merits & Awards:**

- ❖ Graduate Aptitude Test in Engineering (**GATE**) in **2008**
- ❖ National Eligibility Test (**NET**) December, **2009**, Qualified University Grant Commission (**UGC**)
- ❖ National Eligibility Test (**NET**) June, **2010**, Qualified University Grant Commission (**UGC**)
- ❖ University Grant commission Post Doctoral Fellowship, 2015
- ❖ National Post Doctoral Fellowship (N-PDF), 2015

## Details of all peer-reviewed international publications (Total = 28)

1. Debashis Mallick , Mukul Bikash Maity , **Chandana Sen** , Basudeb Dutta , Suman Kundu and Chittaranjan Sinha; Structure and photochromism of halo-bridged dimeric mercury(II) complexes of 1-alkyl-2-(p-nitro-phenylazo)imidazoles , *Journal of Indian Chemical Society*, 2020, 97, 1478-1486 (I.F.-0.233).
2. **Chandana Sen** , Sunanda Dey , Chiranjit Patra , Debashis Mallick , Chittaranjan Sinha ; Use of fluorogenic Al<sup>3+</sup>-Quinolinyl-azo-naphtholato complex for the determination of F<sup>-</sup> in aqueous medium by visible light excitation and application on ground water fluoride analysis, *Analytical Methods* , 2019, 11, 4440 – 4449 (I.F.- 2.596 ).
3. Sunanda Dey, **Chandana Sen** , Chittaranjan Sinha ; Chromogenic hydrazide Schiff base reagent: Spectrophotometric determination of CN<sup>-</sup> ion, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* , 2019, 225, 117471-117476 (I.F.- 3.232).
4. Washim Hossain , **Chandana Sen** , Chittaranjan Sinha , Uttam K Sarkar ; Surface Enhanced Raman Scattering Study of 1-H-2-(tolyl) Imidazole (TaiH) Induced by Uncoupled Plasmon of silver Nano Particles, *Journal of Nanoscience and Nanotechnology*, 2019, 19, 3583-3590 (I.F.- 1.354).
5. **Chandana Sen**, Chiranjit Patra, Sudipa Mondol, Amitabha Datta, Debashis Mallick. Tapan Kumar Mondal. Tulin Askun. Pinar Celikboyun. Zerrin Cantürk. Chittaranjan Sinha; Platinum(II)-azoimidazole drugs against TB and cancer : structural studies, cytotoxicity and anti-mycobacterial activity , *Polyhedron*, 2018, 152, 1-10 (I.F.-2.88).
6. Debashis Mallick, Bharati Chowdhury, **Chandana Sen**, Kamal Krishna Sarkar, Srikanta Jana, Sudipa Mondal , Chittaranjan Sinha ; Arylazoimidazole complexes of lead(II)-halide and their photochromism , *Indian Journal. of Chemistry*, 2018, 57A, 418-426 (I.F.-0.489).
7. Bharati Chowdhury, Kaushik Naskar, Debashis Mallick, **Chandana Sen**, Kamal Krishna Sarkar and Chittaranjan Sinha ; Synthesis, characterization, photochromism and theoretical interpretation of bis-(triphenylphosphine)-Cu(I) and Ag(I)-(1-alkyl-2-(arylazo)imidazole) complexes, *Journal of Indian Chemical Society*, 2018, 95, 405–416 (I.F.- 0.233).
8. Bharati Chowdhury, , Kaushik Naskar , Debashis Mallick, Kamal Krishna Sarkar, **Chandana Sen** , Chittaranjan Sinha; Photochromism of {bis(diphenylphosphino)methane}(1-alkyl-2-

(arylazo)imidazole)silver(I) hexafluorophosphate complexes, *Inorganica Chimica Acta*, 2018, 483, 87-92 (I.F.-2.304).

9. Paramita Dutta, Debashis Mallick, **Chandana Sen**, Suman Roy, Tapan Kumar Mondal and Chittaranjan Sinha; Quinolinyl-azo-pyridine coordinated complexes of some 3d block metal ions: Synthesis, spectroscopic characterization and X-ray study, *Journal of Indian Chemical Society*, 2018, 95, 987-995 (I.F.- 0.233).

10. Chiranjit Patra, **Chandana Sen**, Ananya Das Mahapatra, Debprasad Chattopadhyay, Ambikesh Mahapatra, Chittaranjan Sinha; Pyridylthioether-hydroxycoumarin Schiff base as selective Zn<sup>2+</sup> fluorescence sensor, application in life cell imaging and uses of resulting complex as secondary probe for ATP sensing, *Journal of Photochemistry and Photobiology A: Chemistry*, 2017, 341, 97-107 (I.F.-3.306).

11. Kuheli Das, Chiranjit Patra, **Chandana Sen**, Amitabha Datta, Chiara Massera, Eugenio Garribba, Mohamed Salah El Fallah, Belete B. Beyene, Chen-Hsiung Hung, Chittaranjan Sinha, Tulin Askun, Pinar Celikboyun, Daniel Escudero, Antonio Frontera, EPR interpretation, magnetism and biological study of a Cu(II) dinuclear complex assisted by a schiff base precursor, *Journal of Biological Inorganic Chemistry*, 2017, 22, 481-495 (I.F.-2.60).

12. Kaushik Naskar, Arka Dey, Basudeb Dutta, Faruk Ahmed, **Chandana Sen**, Mohammad Hedayetullah Mir, Partha Pratim Roy, Chittaranjan Sinha, "Intercatenated Coordination Polymers (ICPs) of Carboxylato Bridged Zn(II)-Isoniazid and Their Electrical Conductivity", *Crystal Growth Design*, 2017, 17, 3267-3276 (I.F.- 4.089).

13. Faruk Ahmed, Soumi Halder, Basudeb Dutta, Sakhiul Islam, **Chandana Sen**, Suman Kundu, Chittaranjan Sinha, Partha Pratim Ray, Mohammad Hedayetullah Mir; Synthesis and structural characterization of a Cu(II)-based 1D coordination polymer and its application in Schottky devices, *New Journal of Chemistry*, 2017, 41, 11317-11323 (I.F.-3.288).

14. Uttam Panda, Debashis Mallick, **Chandana Sen**, Abhijit Nandi, Tapan Kumar Mondal and Chittaranjan Sinha; Structure, photochromism and mesogenic property of mercury(II) complexes of 1-alkyl-2-(arylazo)imidazoles, *Journal of Indian Chemical Society*, 2016, 92, 1925-1938 (I.F.- 0.233).

15. Chiranjit Patra, Anup Kumar Bhanja, **Chandana Sen**, Durbadal Ojha, Debprasad Chattopadhyay, Ambikesh Mahapatra, Chittaranjan Sinha; Vanillinyl thioether Schiff base as a turn-on fluorescence sensor to Zn<sup>2+</sup> ion with living cell imaging, *Sensors and Actuators B*:

*Chemical*, 2016, 228, 287–294 (I.F.- 7.34).

16. Chiranjit Patra, Anup Kumar Bhanja, **Chandana Sen**, Durbadal Ojha, Debprasad Chattopadhyay, Ambikesh Mahapatraa , Chittaranjan Sinha ; Imine-functionalized thioether Zn(II) turn-on fluorescent sensor and its selective sequential logic operations with H<sub>2</sub>PO<sub>4</sub>, DFT computation and live cell imaging , *RSC Advances*, 2016, 6, 53378-53388 (I.F.- 3.24).

17. Debashis Mallick, Uttam Panda, Srikanta Jana, **Chandana Sen**, Tapan Kumar Mondal, Chittaranjan Sinha ; Lead(II) complexes of 1-alkyl-2-(arylo)imidazole: synthesis, structure, photochromism and metallomesogenic properties, *Polyhedron*, 2016, 117, 318–326 (I.F.- 2.88).

18. **Chandana Sen** , Suman Roy , Tapan Kumar Mondal , Rajib Ghosh , Jahur A. Mondal , Dipak K. Palit , Chittaranjan Sinha; Palladium(II)-iodo- { 1-alkyl-2-(arylo)imidazole } complexes: Synthesis, structure, dynamics of photochromism and DFT computation , *Polyhedron*, 2015, 85, 900–911 (I.F.- 2.88).

19. **Chandana Sen**, Avijit Nandi, Debashis Mallick , Sudipa Mondal, Kamal Krishna Sarker ,Chittaranjan Sinha; The spectroscopic characterization, photochromism of cadmium(II)-iodo complexes of 1-alkyl-2-(arylo)imidazoles and DFT computation of representative complexes , *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 2015, 137, 935–944 (I.F.- 3.232).

20. **Chandana Sen**, Debashis Mallick, Sudipa Mondal, Chittaranjan Sinha; Synthesis, spectroscopic characterization, photochromism of Zinc(II)-iodo complexes of long chain 1-alkyl-2-(arylo)imidazoles and the DFT correlative studies, *Journal of Indian Chemical Society*, 2015, 92 , 203-211 (I.F.-0.233).

21. Chiranjit Patra, Himanish Roy, **Chandana Sen**, Chittaranjan Sinha ; Surface embedded enhancement of fluorescence of coumarinyl-azo-imidazolium stabilised gold nanoparticles (GNPs) , *Indian Journal of Chemistry*, 2015, 54A, 316-323 (I.F.- 0.489 ).

22. Amitabha Datta , Kuheli Das , **Chandana Sen**, Nirmal Kumar Karan, Jui-Hsien Huang , Chia-Her Lin , Eugenio Garrriba , Chittaranjan Sinha , Tulin Askun , Pinar Celikboyun ,Sandeep B. Mane ; Doubly end-on azido bridged mixed-valence cobalt trinuclear complex:Spectral study, VTM, inhibitory effect and antimycobacterial activity on human carcinoma and tuberculosis cells, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 2015, 148, 427–434 (I.F.-3.232).

23. Chiranjit Patra, Himanish Roy, **Chandana Sen**, Chittaranjan sinha; Coumarinyl-azo-imidazolium protected and concentration dependent size control of gold nanoparticles (GNPs), *Journal of Indian Chemical Society*, 2015, 92, 1117-1125 (I.F.- 0.233).
24. Shefali Saha (Halder), **Chandana Sen**, Suman Roy, Debashis Mallick, Elena López-Torres, Chittaranjan Sinha ; Structure and photochromism of Zn(II) thiocyanato complexes of 1-alkyl-2-{(o-thioalkyl)phenylazo}imidazole, *Polyhedron*, 2015, 97, 240-247 (I.F.-2.88).
25. **Chandana Sen**, Bharati Chowdhuri, Chiranjit Patra, Debashis Mallick, Chittaranjan Sinha; The structure and photophysics of di-iodo-zinc(II) complexes of long alkyl chain substituted imidazolyl motif of arylazoimidazoles and the DFT computation, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 2015, 151, 443–452 (I.F.-3.232).
26. **Chandana Sen**, Debashis Mallick, Chiranjit Patra, Suman Roy, Randhir K. Sinha, Rajib Ghosh, Jahur A. Mondal, Dipak K. Palit, Chittaranjan Sinha ; Spectroscopic characterization, photochromism and mesomorphism of cadmium(II)-1-alkyl-2-(arylazo)imidazole complexes and DFT correlative studies, *Polyhedron*, 2016, 117, 463–477 (I.F.- 2.88).
27. Avijit Nandi, **Chandana Sen**, Suman Roy, Debasish Mallick, Randhir Sinha, Tapan Kumar Mondal, Chittaranjan Sinha ; Synthesis, structure, photochromism, mesogenic property and DFT computations of silver(I) complexes of long chain alkyl group containing 1-alkyl-2-(arylazo)imidazoles, *Polyhedron*, 2014, 79, 186–196 (I.F.- 2.88).
28. Avijit Nandi, **Chandana Sen**, Debashis Mallick, Randhir K. Sinha, Chittaranjan Sinha ; Structure, Photochromism and Liquid Crystal Properties of 1-Alkyl-2-(Arylazo)Imidazoles (Raai- $C_nH_{2n+1}$ , n (Even) = 10 - 22), *Advances in Materials Physics and Chemistry*, 2013, 3, 133-145 (I.F.- 1.15).
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