**CURRICULUM VITAE**

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**Current Position:** Assistant Professor (On Contractual) at Raiganj University

**Ph.D. Supervisor:** Prof. Anirban Misra Professor

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**Qualifying Degree:** Ph.D. in Chemistry

**Fellowships/ Awards:** 1. Qualified National Eligibility Test (NET) in December 2009.

2. Qualified Graduate Aptitude Test for Engineering (GATE) in February 2010.

3. Awarded CSIR-SRF in 2013.

4. Awarded Indo-US Postdoctoral Fellowship in 2017.

**Education:** *timeline*

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| Year | Course | University/Board | Remarks |
| 2010-2016 | Ph. D. | University of North Bengal, Darjeeling, India | Thesis Title:- “*Theoretical Investigation on Aromaticity, Magnetic Exchange Coupling and Magnetic Anisotropy in Metal Based Systems*” under the supervision of Dr. Anirban Misra, Associate Professor, University of North Bengal, Darjeeling, India. |
| 2007-2009 | M.S. in Chemistry | University of North Bengal, Darjeeling, India | Major/ Specialization:- Physical Chemistry (included the courses on Quantum Chemistry, Electrochemistry, Spectroscopy and Chemical Kinetics) |
| 2004-2007 | B.S. in Chemistry | Malda College, Malda, West Bengal, India | Studied subjects : - Chemistry(Hons.) Physics, Mathematics, English Language. |

**Professional Experience:** 1. Guest Lecturer for PG courses on Quantum Mechanics and Quantum Chemistry at Department of Chemistry, Midnapore College, West Midnapore, West Bengal, India during 2013-2014 session.

2. Guest Faculty in National Institute of Technology Sikkim, Ravangla, Sikkim during odd semester 2017. Taught PG courses on Quantum Mechanics and Quantum Chemistry, Thermodynamics and Chemical Kinetics.

 3. SERB Indo-US Postdoctoral Fellowship 2017 with Prof. Douglas J. Klein at Texas A&M University at Galveston, Texas, USA during 2018.

 4. Contractual Faculty at Raiganj University, Raiganj, Uttar Dinajpur 733134, West Bengal, India from January 2019 till date. Teaching UG and PG courses on Quantum Mechanics and Quantum Chemistry, Thermodynamics and Chemical Kinetics.

**Publications:**

1. S. Chakraborty, A. Karmakar, **T. Goswami**, P. Ghosh, A. Mandal, A combined spectroscopic and molecular dynamic analysis of the inclusion behaviour of L-serine and β-cyclodextrin, In Press (DOI: https://doi.org/10.1016/j.molliq.2020.114447) (2020)
2. D. J. Klein, **T. Goswami** and Y. P. Ortiz, Translationally symmetric graphene strips, *J. Math. Chem.*, **58**, 1014-1024 (2020).
3. **T. Goswami**, A. Panda and D. J. Klein, Spin-Density Localization in Graphene at Boundaries and at Vacancy Defects, *J. Phys. Chem. C*, **123**,9479-9485, (2019).
4. M. Majumder, **T. Goswami**, A. Misra, Multifunctional Magnetic Materials of Organic Origin for Biomedical Applications: A Theoretical Study, *Chem. Select.*, **3**, 933 (2018).
5. S. Mondal, **T. Goswami**, G. Jana, A. Misra, P. K. Chattaraj, A possible reason behind the initial formation of pentagonal dodecahedron cavities in sI-methane hydrate nucleation: A DFT study, *Chem. Phys. Lett.*, **691**, 415 (2018).
6. S. Sarkar, **T. Goswami**, D. Bhattacharya, A. Misra, On the performance of generalized valence bond theory in predicting magnetic exchange coupling constant in organic diradicals: A comparison with Hartree-Fock theory, *Comput. Theor. Chem.*, **1116**, 220 (2017).
7. A. K. Mondal, **T. Goswami**, A. Misra and S. Konar, Probing the Effects of Ligand Field and Coordination Geometry on Magnetic Anisotropy of Pentacoordinate Cobalt(II) Single-Ion Magnets, *Inorg. Chem.*, **56**, 6870 (2017).
8. **T. Goswami**, M. Homray, S. Paul, D. Bhattacharya and A. Misra, On exo-cyclic aromaticity, *Phys. Chem. Chem. Phys.*, **19**, 11744 (2017).
9. Bhaskar Bagchi, **Tamal Goswami**, Pranab Ghosh and Asim Kumar Bothra, Computational Study on Redox Reaction of Puupehenone in Aqueous Solution by Density Functional Theory, *Asian J. Chem.* **28**, 2199 (2016).
10. Satadal Paul, **Tamal Goswami** and Anirban Misra, Noncomparative scaling of aromaticity through electron itineracy, *AIP Advances* **5**, 107211 (2015).
11. **Tamal Goswami**, Satadal Paul, Subhajit Mandal, Anirban Misra, Anakuthil Anoop and Pratim K. Chattaraj, Unique Bonding Pattern and Resulting Bond Stretch Isomerism in Be32–, *Int. J. Quantum Chem.* **115**, 426-433 (2015).
12. **T. Goswami** and A. Misra, On the Control of Magnetic Anisotropy through External Electric Field, *Chem. Euro. J.* **20**, 13951-13956 (2014) (**Selected as Back Cover & Very Important Paper**).
13. R. Kar, **T. Goswami**, B. C. Paul and A. Misra, On magnon mediated Cooper pair formation in ferromagnetic superconductors, *AIP Adv.* **4**, 087126 (2014).
14. D. Bhattacharya, S. Shil, **T. Goswami**, A. Misra and D. J. Klein, A note on second-order nonlinear optical response of high-spin bis-TEMPO diradicals with possible application, *Comput. Theor. Chem.*  **1039**, 11-14 (2014).
15. **T. Goswami**, S. Paul and A. Misra, Effect of Charge Transfer and Periodicity on the Magnetism of [Cr(Cp\*)2][ETCE], *RSC Adv.* **4**, 14847-14857 (2014).
16. B. Sinha, **T. Goswami**, S. Paul and A. Misra, The impact of surface structure and band gap on the optoelectronic properties of Cu2O nanoclusters of varying size and symmetry, *RSC Adv.* **4**, 5092–5104 (2014).
17. D. Bhattacharya, S. Shil, **T. Goswami**, A. Misra, A. Panda and D.J. Klein, A Theoretical Study on Magnetic Properties of Bis-TEMPO Diradicals with Possible Application, *Comput. Theor. Chem.* **1024**, 15-23 (2013).
18. M. Majumder, **T. Goswami**, A. Misra, S. Bardhan and S. K. Saha, Intermolecular  Interaction in 2-Aminopyridine: A  Density Functional Study, *Commun. Comput. Chem.* **1**, 225-243 (2013).
19. S. Paul, **T. Goswami**, A. Misra and P. K. Chattaraj, Concurrent loss of aromaticity and onset of superexchange in Mg3Na2 with an increasing Na – Mg3 distance, *Theor. Chem. Acc.*  **132**, 1391-10 (2013).
20. **T. Goswami** and A. Misra, Ligand Effects toward the Modulation of Magnetic Anisotropy and Design of Magnetic Systems with Desired Anisotropy Characteristics, *J. Phys. Chem. A.* **116**, 5207-5215 (2012)**. (Highlighted in ACS Virtual Issues (i) “Quantum Molecular Magnets” and (ii) “Physical Chemistry in India”)**
21. D. Bhattacharya, A. Panda, S. Shil, **T. Goswami** and A. Misra, A Theoretical Study on Photomagnetic Fluorescent Protein Chromophore Coupled Diradicals and Their Possible Applications, *Phys. Chem. Chem. Phys.* **14**, 6509-6913 (2012).