

# Curriculum Vitae

## *Dr. Tarun Ghosh*

Assistant Professor

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### Academic Details:

- *Ph. D. : University of Calcutta*
- *M. Sc. : University of Calcutta*
- *B. Sc. : University of Calcutta*

### Research Interests:

- Synthesis and Reactivity Study of Heterocyclic Compounds.
- Vanadium Chemistry: Synthesis, Structure and Solution Chemistry.
- Theoretical Chemistry.

### Refereed Scientific Publications:

1. Recent trends in the application of Chromones, T. Ghosh, JOI, 2022, 71, 178-190.
2. A prediction based on recent trends in strategies for sustainable development, T. Ghosh, JOI, 2022, 71, 96-104.
3. Study on the heat gain through a Twin Glass Window (TGW) using an Organic PCM, D. Sudha, A.K. Maddali, Sowmiya J. K., Kannadasan B, P. Narayane, T. Ghosh, Materials Today: Proceedings, 2022, 69, 927-933.
4. The Present COVID-19 Pandemic: Living on the Edge, T. Ghosh, VIIRJ, 2020, 3, 314-319.
5. The Dendrimers – Molecularly Engineered Spherical Nanomolecules : Novel Engineering Applications and Some Revised Thoughts on Such Molecules, S. Kole and T. Ghosh, Indian Science Cruiser, 2020, 34, 47-52.
6. Insights into Forces on Interfacial Chain Molecules, Adsorption Isotherms, and Emerging Nanomaterials and Nanotechnologies, S. Kole and T. Ghosh, Indian Science Cruiser, 2019, 3, 41-46.

7. Chemoselective reduction of some condensates derived from chromone-3-carbaldehyde using Sm and Zn, S. Saha, T. Ghosh and C. Bandyopadhyay, *Synthetic Commun.*, 2008, 38, 2429-2436.
8. Synthesis, structure and solution chemistry of a family of dinuclear hydrazonato-vanadium (V) complexes with [OV( $\mu$ -O)VOJ]<sup>4+</sup> core, B. Mondal, T. Ghosh. M. Sutradhar. G. N. Mukherjee. M. G. B. Drew and T. Ghosh, *Polvhedron*, 2008. 27, 2193-2201.
9. Formation of N,N'-bis[1-(2-hydroxyphenyl)ethylidene]ethylenediamine in the reaction of 1-(2 hydroxyphenyl)-3-(N,N-dimethylamino)propenone with ethylenediamine, P. Karmakar, S. Santra, T. Ghosh, and C. Bandyopadhyay, *J. Indian Chem. Soc.*, 2008, 85, 577-579.
10. Synthesis and reactivity of 3-(1-hydroxy-3-buten-1-yl) chromone, P. Karmakar, T. Ghosh, D.Chakraborty, S. Maity and C. Bandyopadhyay, *J. Chem. Res.*, 2008, 208-211.
11. Synthesis of dispiropyrrolidines from chromone-3-carbaldehyde using sarcosine and ninhydrine as the source of an azomethine ylide, S. K. Panja, P. Karmakar, J. Chakraborty, T. Ghosh and C. Bandyopadhyay, *Tetrahedron Lett.*, 2008, 49, 4397-4401.
12. Synthesis, structure, solution chemistry and the electronic effect of *para* substituents on the vanadium center in a family of mixed- ligand [V<sup>V</sup>O(ONO)(ON)] complexes, T. Ghosh, B. Mondal, T. Ghosh, M. Sutradhar, G. N. Mukherjee and M. G. B. Drew, *Inorg. Chimica Acta*, 2007, 360, 1753-1761.
13. Reaction of sarcosine with chromone-3-carbaldehyde and 6,6'-(polymethylenedioxy)di(chromone-3 carbaldehyde), T. Ghosh and C. Bandyopadhyay, *J. Chem. Res.*, 2007, 190-192.
14. Reactions of 2-amino-4*H*-1-benzopyran-4-one with 4-Oxo-4*H*-1-benzopyran-3-Carbaldehydes, T. Ghosh and C. Bandyopadhyay, *J. Heterocycl. Chem.*, 2006, 43, 1431-1434.
15. A facile transformation of 2-aminochromone to 4-chlorocoumarin and its reaction with ethylenediamine, T. Ghosh, K. R. Sur and C. Bandyopadhyay, *J. Chem. Res.*, 2006, 651-654.
16. Synthesis of 6,6'-[( $\alpha,\omega$ -alkanediol)bisoxy]bis[4-oxo-4*H*-1-benzopyran-3-carbaldehyde] and its reaction with methanol under different conditions, T. Ghosh, P. Debnath and C. Bandyopadhyay, *J. Indian Chem. Soc.*, 2006, 83, 822-825.
17. Al/Hg - Mediated reductive dimerisation of 3-methoxycarbonyl-4-oxo-4*H*-1-benzopyran, T. Ghosh, K. R. Sur and C. Bandyopadhyay, *J. Chem. Res.*, 2005, 366-368.
18. Synthesis of 2,2'-Diaminobischromones Using a Modified Procedure for the Rearrangement of 5-(2-hydroxyphenyl)isoxazole to 2-Aminochromone, T. Ghosh, S. Saha and C. Bandyopadhyay, *Synthesis*, 2005, 1845-1849.
19. Rearrangements of N-alkyl-/aryl-nitrones derived from 4-oxo-4*H*-1-benzopyran-3-carboxaldehyde—a solvent-dependent process, T. Ghosh and C. Bandyopadhyay, *Tetrahedron Lett.*, 2004, 45, 6169-6172.
20. Study of differences in the reactivity of alkyl and aryl nitrones derived from 4-oxo-4*H*-1-benzopyran-3-carboxaldehyde, T. Ghosh, R. Patra and C. Bandyopadhyay, *J. Chem. Res.*, 2004, 47-49.

## Books:

1. "Advanced Nano-Biotechnology" by Dr. T. Ghosh, Dr. Bai M. K., Dr. Chavan M., Mr. I. Chatterjee. ISBN: 978-93-5757-505-8, Scientific International Publishing House, 2023.
2. "Engineering Chemistry" by Dr. J. P. Dhal, Dr. G. B. Bagihalli, Dr. G. Vimala, Dr. T. Ghosh. ISBN: 978-93-5625-267-7, Scientific International Publishing House, 2022.

## Patents:

1. Green Chemistry Device for Solid-Phase Chromone Synthesis, T. Ghosh. Intellectual Property Office, UK, 6367022, 2024.
2. Machine Learning Based Approach to Compare And Contrast Pros and Cons Of Lithium-Ion Batteries Against Sodium Ion Batteries, T. Ghosh, H. M. Rajgor, D. Kumar, T. S. P. L. N. Prasad, N. Muley, S. Kapoor, N. Gupta, G. Ravidas, J.P. Dhal, M. Sowjanya, K. Chenchireddy, K. R. S. Jyothi. Indian Patent, 202231029666 A, 2022.
3. Machine Learning Based Technique to Analyze The Various Nano Chemical Compounds To be Used As Fertilizers, T. Ghosh, S. Kulkarni, D. Sharma, H. Anandaram, S. Yadav, C. P. Priya, M. Manini, P. K. Saini, S. P. Mote, P. N. Patil, P. Cherian, S. Ganesan, Indian Patent, 202231031045, 2022.

## Papers Presented in Conferences/Seminars:

1. Special Lecture on "Aliphatic Hydrocarbons: Preparations; Properties; Structures and Reactions", organized by Department of Chemistry, Hooghly Women's College, Hooghly, September 15, 2022.
2. International seminar on "Pollution and Biosafety: Issues and Concern", organized by Department of Chemistry, Raja Rammohun Roy Mahavidyalaya, Radhanagar, Hooghly, August 03, 2022.
3. International seminar on "Tools in Sciences", organized by A.K.P.C. Mahavidyalaya, Hooghly, June 25, 2022.
4. "99th Foundation Day Celebration of Indian Chemical Society & International Research Scholars' Meet", organized by the Indian Chemical Society and the Department of Chemistry, University of Calcutta, May 09, 2022.
5. International e-conference on "Revisiting Strategies for Sustainable Development", organized by Department of Chemistry, B. B. College, Asansol, December 21-22, 2021.
6. International e-Conference on "SRI-SAPTCHCT: 2020", organized by Nagarjuna Science and Environment Forum, Oct 02-03, 2020.
7. Virtual International Conference on "Emerging Research Trends in Chemical Sciences", organized by Department of Chemistry, Govt. Post Graduate College, Rajouri, University of Jammu, July 24-26, 2020.
8. National Webinar on "Current Trends in Chemical Research and their Correlation with UG Courses", organized by Department of Chemistry, Basirhat College, North 24-Pgs, June 23, 2020.

9. International e-conference on "Revisiting Strategies for Sustainable Development", organized by Department of Chemistry, B. B. College, Asansol, June 13-14, 2020.
10. International Webinar on "COVID-19, the Facts and Findings", organized by Department of Chemistry, SKBU, Purulia, June 08, 2020.
11. National Seminar on "Critical Thinking and Philosophizing", organized by A.K.P.C. Mahavidyalaya, Hooghly, Feb 26, 2020.
12. "International Chemistry Seminar on "Itinerary of Classical to Modern Era of Chemistry", organized by The Bhawanipur Education Society College, Kolkata, November 2019.
13. National Conference on "Trends and Advances in Mechanical Engineering", organized by Kalyani Govt. Engg. College, Kalyani, February 2019.
14. National Seminar on "Trends in Surface Science and Related Areas", organized by Department of Chemistry, Sarojini Naidu College for Women, Kolkata and ISSST, Kolkata, October 2018.
15. International Science Seminar on "Science: Past, Present & Future", organized by Department of Chemistry, Shyamsundar College, Burdwan and Indian Chemical Society, Kolkata, December 2017.
16. "International Science Seminar", organized by Department of Chemistry, Burdwan Raj College, Burdwan and Indian Chemical Society, Kolkata, October 2017.
17. "Modern Trends in Chemistry ", organized by Department of Chemistry, Ramakrishna Mission Vivekananda Centenary College, Rahara, Kolkata-700 118, March 2013.
18. "Interdisciplinary Approach In College Level Chemistry", organized by Department of Chemistry, Ramakrishna Mission Vivekananda Centenary College, Rahara, Kolkata-700 118, September, 2011.
19. "International Webiner ", organized by Department of Chemistry, VSM, Jhargram, July 2020.
20. "Fifth Chemical Research Society of India (Kolkata Chapter) Symposium", organized by Department of Chemistry, Jadavpur University Kolkata- 700 032, August 2, 2007.
21. "National Symposium on Current Trends in Chemistry", organized by Department of Chemistry, University of Kalyani, Kalyani-741235, January 30-31, 2007.
22. "International Symposium on Current Perspectives in Organic Chemistry", organized by Department of Chemistry, Indian Association for the Cultivation of Science, Jadavpur, Kolkata-700 032, December 7-9, 2006.
23. National Symposium on Organic Chemistry-III (NSOC-III): Recent Trends and Perspectives organized by Department of Chemistry, Jadavpur University, Kolkata-700 032, February 22-23, 2006.
24. "Nineteenth National Symposium on Organic Chemistry (NASOC-XIX)", organized by Department of Chemistry, University Of Calcutta, 92, A.P.C. Road, Kolkata-700 009, March 29, 2005.
25. "7th CRSI National Symposium in Chemistry", organized by Indian Association for the Cultivation of Science, Kolkata-700 032, February 4-6, 2005.
26. "Eighteenth National Symposium on Organic Chemistry (NASOC-XVIII)", organized by Department of Chemistry, University Of Calcutta, 92, A.P.C. Road, Kolkata-700 009. March 26, 2004.
27. "National Symposium on Organic Chemistry-II (NSOC-II): Current Trends and Prospects", organized by Department of Chemistry, Jadavpur University, Kolkata-700 032. December 17, 2003.

## Academic Achievements:

- UGC NET
- GATE
- First Position in the three-day International Conference on Emerging Research Trends in Chemical Sciences, organized by Govt. Post Graduate College Rajouri, University of Jammu, July 24-26, 2020.

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I certify that information furnished above is true to the best of my knowledge and belief.

*Tarun Ghosh*  
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