

CURRICULUM VITAE

Name: Dr. Kartick Chandra Bhowmick

DOB: 01.03.1976

Date of Joining VB: 04.04.2008

Highest Qualification: Ph.D. (from CSIR-National Chemical Laboratory, Pune in 2006)

Post-Doctoral Experience: Department of Chemistry, University of Texas at San Antonio, USA
from June 2016 to May 2017.

Area of expertise/interest: Asymmetric Organic Synthesis, Green Chemistry

Number of Research Scholars produced: 02 (Two)

Number of Research Scholars working: 03 (Three)

Previous Employments:

1. Assistant Professor in Taki Govt. College, 24 PGS(N), West Bengal from March 15, 2006 to April 03, 2008.
2. Research Associate-II in Lupin Pharmaceuticals Ltd., Pune, Maharashtra from June 17, 2005 to February 24, 2006.

Research Articles:

1. "Asymmetric Organocatalyzed Warfarin Synthesis in Aqueous and Non-aqueous Media: A Discussion in the Era of COVID-19 Pandemic" by A. Mondal, **K. C. Bhowmick*** *Current Organocatalysis* **2021**, 8, 109-125. [DOI: [10.2174/2213337207999200909115215](https://doi.org/10.2174/2213337207999200909115215)]
2. "Asymmetric Direct Aldol Reaction Catalyzed by (1*R*, 2*R*)-(+)-1,2-Diammonium Cyclohexane-L-tartrate in Water" by A. Mondal, **K. C. Bhowmick*** *Current Organocatalysis* **2019**, 6, 165-170. [DOI: [10.2174/2213337206666181227151140](https://doi.org/10.2174/2213337206666181227151140)]
3. "The carbamate esters as organocatalysts in asymmetric Michael addition reactions in aqueous media: when pyrrolidine backbone surpasses 1,2diaminocyclohexane" by A. Mondal, **K. C. Bhowmick*** *ARKIVOC* **2018**, 320-331. [DOI: [10.24820/ark.5550190.p010692](https://doi.org/10.24820/ark.5550190.p010692)]
4. "Organocatalyzed Asymmetric Diels-Alder Reactions in Aqueous or Semi-Aqueous Media" by **K. C. Bhowmick**, M. Bihani, J. C. -G. Zhao* *Mini Reviews in Organic Chemistry* **2018**, 15, 3-19. [DOI: [10.2174/1570193X14666170518121235](https://doi.org/10.2174/1570193X14666170518121235)]

5. "Highly selective acylation of polyamines and aminoglycosides by 5-acyl-5-phenyl-1,5-dihydro-4H-pyrazol-4-ones" by K. O. Marichev, E. C. Garcia, **K. C. Bhowmick**, D. J. Wherritt, H. Arman, M. P. Doyle* *Chem. Sci.* **2017**, 8, 7152-7159. [DOI: [10.1039/c7sc03184j](https://doi.org/10.1039/c7sc03184j)rsc.li/chemical-science]
6. "Prolinal dithioacetals: Highly efficient organocatalysts for the direct nitro-Michael additions in both organic and aqueous media" by T. Mandal, W. Kuo, M. Su, **K. C. Bhowmick**, J. C.-G. Zhao* *Tetrahedron* **2017**, 73, 6597-6603. [DOI: [10.1016/j.tet.2017.10.008](https://doi.org/10.1016/j.tet.2017.10.008)]
7. "Advances on asymmetric organocatalytic 1,4-conjugate addition reactions in aqueous and semi-aqueous media" by A. Mondal, S. Bhowmick, A. Ghosh, T. Chanda and **K. C. Bhowmick*** *Tetrahedron: Asymmetry* **2017**, 28, 849-875. [DOI: [10.1016/j.tetasy.2017.05.011](https://doi.org/10.1016/j.tetasy.2017.05.011)]
8. "Advances on asymmetric organocatalyzed Mannich reactions in aqueous and non-aqueous media" by A. Ghosh, S. Bhowmick, A. Mondal, H. Garai and **K. C. Bhowmick*** *Current Organocatalysis* **2016**, 3, 133-160. [DOI: [10.2174/2213337202666150604232523](https://doi.org/10.2174/2213337202666150604232523)]
9. "Water: the most versatile and nature's friendly media in asymmetric organocatalyzed direct aldol reactions" by S. Bhowmick, A. Mondal, A. Ghosh and **K. C. Bhowmick*** *Tetrahedron: Asymmetry* **2015**, 26, 1215-1244. [DOI: [10.1016/j.tetasy.2015.09.009](https://doi.org/10.1016/j.tetasy.2015.09.009)]
10. "A comprehensive study on the effect of acid additives in 1(R),2(R)-Bis[(S) prolinamido] cyclohexane catalyzed direct asymmetric aldol reactions in aqueous media" by S. Bhowmick, S. S. Kunte and **K. C. Bhowmick*** *Indian J Chem* **2015**, 54B, 84-87. [DOI: hdl.handle.net/123456789/30315]
11. "A new organocatalyst derived from abietic acid and 4-hydroxy- L-proline for direct asymmetric aldol reactions in aqueous media" by S. Bhowmick, S. S. Kunte and **K. C. Bhowmick*** *Tetrahedron: Asymmetry* **2014**, 25, 1292-1297. [DOI: [10.1016/j.tetasy.2014.07.012](https://doi.org/10.1016/j.tetasy.2014.07.012)]
12. "The smallest organocatalyst in highly enantioselective direct aldol reaction in wet solvent-free conditions" by S. Bhowmick, S. S. Kunte and **K. C. Bhowmick*** *RSC Advances* **2014**, 4, 24311-24315. [DOI: [10.1039/c4ra02690j](https://doi.org/10.1039/c4ra02690j)]
13. "Aldol-Tishchenko-Tishchenko reaction: sodium-*tert*-butoxide mediated one step formation of 1,3-glycol diester from benzaldehyde and isobutyrophenone" by S. Bhowmick and **K. C. Bhowmick*** *Mendeleev Communications* **2013**, 23, 96-97. [DOI: [10.1016/j.mencom.2013.03.015](https://doi.org/10.1016/j.mencom.2013.03.015)]

14. "Catalytic asymmetric carbon-carbon bond-forming reactions in aqueous media" by S. Bhowmick and **K. C. Bhowmick***. *Tetrahedron: Asymmetry* **2011**, 22, 1945-1979. [DOI: [10.1016/j.tetasy.2011.11.009](https://doi.org/10.1016/j.tetasy.2011.11.009)]
15. "A stereocontrolled route to the synthesis of (\pm)-3-amino-2,2-dimethyl-1,3-diphenylpropan-1-ol" by M. N. Patil, **K. C. Bhowmick**, and N. N. Joshi. *Tetrahedron Lett.* **2010**, 51, 5927-5929. [DOI: [10.1016/j.tetlet.2010.09.011](https://doi.org/10.1016/j.tetlet.2010.09.011)]
16. "Syntheses and applications of C_2 - symmetric chiral diols" by **K. C. Bhowmick** and N. N. Joshi*. *Tetrahedron: Asymmetry* **2006**, 17, 1901-1929. [DOI: [10.1016/j.tetasy.2006.06.023](https://doi.org/10.1016/j.tetasy.2006.06.023)]
17. "Synthesis and resolution of 2,2-dimethyl-1,3-diphenyl-1,3-propanediol, a new C_2 - symmetric and conformationally rigid acyclic diol" by **K. C. Bhowmick**, K. R. K. Prasad and N. N. Joshi*. *Tetrahedron: Asymmetry* **2002**, 13, 851-855. [DOI: [10.1016/tetasy.2006.06.023](https://doi.org/10.1016/tetasy.2006.06.023)]

Book Publication:

1. **Bhowmick, K. C.***; Chanda, T. Chapter 12: Asymmetric Organocatalysis in Aqueous Media. In *Green Techniques for Organic Synthesis and Medicinal Chemistry* (2nd Edn); Zhang, W.; Cue, B. W. Eds.; John Wiley & Sons Ltd.: New Jersey, USA, **2018**; pp 291-324. [ISBN: 9781119288176]

Symposium Proceedings:

1. "Asymmetric Catalysis In Aqueous Media: A Green Approach" by **K. C. Bhowmick** in the Proceedings of UGC-Sponsored two-days National seminar on some modern aspects of chemical research-Grooming of UG and PG students **2012**, 1, 45-47 published by Bidhannagar Government College [ISBN: 978-93-80673-69-1].

Patent:

1. "A Novel Enzymatic Resolution of Hydroxy Lactone Derivative of Atorvastatin" by M. N. Bhanu and **K. C. Bhowmick**. Pat. Appl. No. 01152/ KOL / 2005A Filed on 14th December, 2005 and Patent Publication Date- 20th July, 2007.

Research Project:

1. Project Title: "Asymmetric Catalysis in water/aqueous media: Design and Applications of Chiral Catalysts for C-C Bond-forming Reactions" Sponsored by Department of Science & Technology, Govt. Of India, New Delhi. No: SR/FT/CS-013/2009, Duration: 1-12-2009 to 30-11-2012, Sanctioned amount: 16.56 lac

Seminars/ Workshops/Conferences:

1. Presented poster entitled “*Asymmetric direct aldol reaction catalyzed by (1R,2R)-(+)-1,2-diammoniumcyclohexane-L-tartrate in water*” in the National Seminar on Recent trends in chemical science research and applications organized by Dept of chemistry, Visva-Bharati held on September 13, **2019**.
2. Chaired the poster session in the International Conference entitled “*International Conference on Advancement in Science & Technology (ICAST-2018)*” organized by the Indian JSPS Alumni Association in association with the Department of Physics, Visva-Bharati, Santiniketan during September 3-4, **2018**.
3. Organized UGC-SAP sponsored national symposium entitled “*Recent Advances in Chemistry Research*” as joint convener in Department of Chemistry, Visva-Bharati on March 11, **2018**.
4. Presented poster entitled “*A new organocatalyst derived from (S)-pyrrolidin-2-ylmethanamine and isobutyl chloroformate in highly enantioselective Michael addition reactions in aqueous media*” in National symposium on Recent Advances in Chemistry & Industry (2017) organized by Indian Chemical Society at IEST, Shibpur, Howrah, West Bengal, India during August 2-3, **2017**.
5. Delivered an oral talk entitled “*Small organic molecules as catalysts for asymmetric direct aldol reactions in aqueous media: A green chemistry approach for industrial applications*” in 2nd International Conference on Industrial chemistry and water treatment organized by Conference series at Las Vegas, USA during May 22-23, **2017**.
6. Delivered an oral talk entitled “*Asymmetric organocatalysis for direct aldol reactions in aqueous media: A journey towards sustainable chemistry*” in International Conference on Frontiers at The Chemistry-Allied Sciences Interface (FCASI-2106) organized by University of Rajasthan, Jaipur, India during April 25-26, **2016**.
7. Presented poster entitled “*Advances on asymmetric organocatalyzed mannich reactions in aqueous and non-aqueous media*” in National seminar on Chemistry of functional materials of current interest organized by Dept of chemistry, Jadavpur University, Kolkata on March 16, **2016**.
8. Organized UGC-SAP sponsored national symposium entitled “*Recent Advances in Chemistry Research*” as convener in Department of Chemistry, Visva-Bharati on March 04, **2016**.
9. Presented poster entitled “*Sustainable Asymmetric Organocatalysis in Direct Aldol Reaction*” in Three-Day National Level Seminar organized by Department of Chemistry, University of Burdwan, West Bengal, India on Design, Synthesis, Interactions, Chemical

and Biochemical Activities of Different Functional Molecules during February 04-06, **2016**.

10. Participated as Organizing member in Science Academies' Education programmes' Lecture Workshop on Trends in Chemistry with Reference to Teaching and Research organized by Department of Chemistry, Visva-Bharati, Santiniketan, West Bengal, India during March 13-14, **2015**.
11. Presented a poster entitled "*An environmentally friendly direct asymmetric aldol reaction*" in National Seminar on Multifunctional Polymer Materials (POLY-2014) held at Department of Chemistry, Visva-Bharati, Santiniketan, India between February 14-15, **2015**.
12. Presented a poster entitled "*An environmentally benign direct asymmetric aldol reaction*" in International Conference on Environmental Biology and Ecological Modeling (ICEBEM 2014) held at Visva-Bharati University, Santiniketan, India between February 24-26, **2014**.
13. Presented a poster entitled "*A truly catalytic and highly enantioselective direct aldol reaction in aqueous media: Application of a new catalyst derived from 4-hydroxy-L-Proline and Abietic acid*" in CRSI Mid-Year Symposium 2013 held at National Institute of Technology Surathkal, Mangalore, Karnataka, India between July 12-13, **2013**.
14. Presented a poster entitled "*A comprehensive study on the effect of acid additives in 1(R),2(R)-Bis[(S)-prolinamido]cyclohexane catalyzed direct asymmetric aldol reactions in aqueous media*" in 15th CRSI National Symposium in Chemistry held at Benaras Hindu University, Varanasi, U.P., India between 1-3rd February, **2013**.
15. Participated in one day workshop on "*National E-Governance Plan*" organized by Computer Centre, Visva-Bharati and sponsored by Department of electronics and Information Technology, Govt. of India held on 3rd December, **2012**.
16. Participated in Lecture Workshop on "*Recent Developments in Chemistry*" between 29th November – 1st December, **2012**, Sponsored by Royal Society of Chemistry, Eastern Chapter, India and organized by Department of Chemistry, Siksha-Bhavana, Visva-Bharati.
17. Organized as Joint Convener in UGC-Sponsored one day seminar on "*International year of chemistry: Impact of chemistry on our life*" organized by Department of Chemistry, Siksha-Bhavana, Visva-Bharati on 25th March, **2011**.
18. Presented a poster entitled "*Aldol-Tishchenko-Tishchenko reaction: sodium-tert-butoxide mediated one step formation of 1,3-glycol diester from benzaldehyde and isobutyrophenone*" in National Symposium on Organic Chemistry-IV organized by

Department of Chemistry, Jadavpur University and Sponsored by UGC, Govt. of India, during February 2-3, **2011**.

Awards/Fellowships:

1. Raman Fellowship 2015-16 for post-doctoral research in USA from UGC, Govt. of India.
2. Received Senior Research Fellowship from Council of scientific and Industrial Research (CSIR), New Delhi. January 2002 to January 2005.
3. Received Junior Research Fellowship from Council of Scientific and Industrial Research (CSIR), New Delhi. January 2000 to December 2001.
4. Received National Scholarship (NSS) from the Govt. of India. (March 1998 to August 1999).
5. Received National Scholarship (NSS) from the Govt. of India. (July 1994 to August 1997).

Membership in Societies:

1. Life Member, Chemical Research Society of India, IISc-Bangalore, India.
2. Life Member, Indian Physical Society, Jadavpur, Kolkata, India.