

## DR. DEBJIT DAS

Assistant Professor

M. Sc. (Chemistry), Ph. D.

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### » Overview:

Dr. Debjit Das earned his B.Sc. with Honors in chemistry from Calcutta University in 2006 and M.Sc. in chemistry in 2008 from Indian Institute of Technology Kharagpur, with a brilliant academic record. He then joined the research group of Prof. Sujit Roy to pursue doctoral studies in the area of organic and organometallic reactivity of palladium-tin heterobimetallic systems. After graduating with a Ph. D., he joined Central University of Jharkhand, Ranchi, as Assistant professor. In 2017, he moved to the Department of Chemistry, Triveni Devi Bhalotia College, Raniganj, India. His research interests include organometallics, green organic synthesis and catalysis.

### » Date of appointment to the present job:

06/06/2017

### » Other Academic/ Administrative post:

- Member of Board of Studies of Kazi Nazrul University, Asansol,
- Co-ordinator, Department of Statistics
- Convenor, Data Science Club,
- Sports In-charge,
- Member of Career Counseling Cell.

### » Academic background:

- 2008–2013: Doctor of Philosophy (in Organometallic Chemistry & Catalysis) in Department of Chemistry, Indian Institute of Technology, Kharagpur, India under the joint supervision of Prof. Sujit Roy & Prof. Dipakranjan Mal.
- 2006–2008: Master of Science in Chemistry (First Class, CGPA: 8.58) from Indian Institute of Technology, Kharagpur, India.
- 2003–2006: Bachelor of Science in Chemistry (Hon.) (First Class, 73.0% with Mathematics and Physics as subsidiary subjects) from Ramakrishna Mission Vidyamandira, University of Calcutta, India.
- 2001–2003: Higher Secondary (12+) (First Division, 83.4%) from Rajbalhat High School, WBCHSE, India.
- 2001: Secondary (10+) (First Division, 74.6%) from Rajbalhat High School, WBBSE, India.

### » Information about Ph. D.:

- **Date of Award:** 27 July 2013
- **Ph. D. Topic:** *Heterobimetallic Catalysis within Palladium–Tin Domain: Carbon-Carbon & Carbon-Heteroatom Bond Formation.*

### » Professional Qualification:

- Awarded Senior Research Fellowship (SRF) from Council of Scientific & Industrial Research (CSIR), Govt. of India in 2010.

- Awarded Junior Research Fellowship (JRF) through National Eligibility Test (NET) from Council of Scientific & Industrial Research (CSIR), Govt. of India in 2007 and 2008.
- Qualified All India Graduate Aptitude Test Examination (GATE) with All India Rank 49 (99.22 percentile) in 2008.

» **Publications in Journals:**

- 1) Kundu, M; Mondal, M.; Das, D.; Roy, U. K.\* Synthesis and reactivity of copper and copper containing magnetically separable catalysts. 2022. *Chemistry Select*, 6: e202104543. (Web link: <https://doi.org/10.1002/slct.202104543>).
- 2) Patra, S. R; Mallick, S.; Das, D\*.; Bhunia, S.\*; 2022. Effective utilization of water extract of red mud (WERM) as an alternative sustainable basic medium in Michael addition reaction. *Results in Chemistry*. 2022; 100335. (Web link: <https://doi.org/10.1016/j.rechem.2022.100335>).
- 3) Bhunia, S.\*; Das, D\*. Carbon-based nucleophiles as leaving groups in organic synthesis via cleavage of C–C sigma bonds. 2022. *Tetrahedron*, 132738. (Web link: <https://doi.org/10.1016/j.tet.2022.132738>).
- 4) Patra, S. R; Bhunia, S.\*; Das, D\*. 2022. Water extract of red mud: an efficient and renewable medium for environmentally benign synthesis of 2-amino-4H-chromenes. *Molecular Diversity* (Web link: <https://doi.org/10.1007/s11030-021-10369-2>).
- 5) Patra, S. R; Choudhary, M.; Mallick, S.; Bhunia, S.\*; Das, D\*. 2021. Incense sticks ash extract, an efficient and sustainable medium for Michael addition reaction. *ChemistrySelect*, 6: 14077 – 14081. (Web link: [10.1002/slct.201600414](https://doi.org/10.1002/slct.201600414)).
- 6) Das, D\*. 2021. Ascorbic acid: an efficient organocatalyst for environmentally benign synthesis of indole-substituted 4H-chromenes. *Monatshefte für Chemie - Chemical Monthly*, 152:987–991. (Web link: <https://doi.org/10.1007/s00706-021-02824-5>).
- 7) Prajapatia, J. P; Das, D.; Katlakuntac, S.; Maramuc, N.; Ranjand, V.; Mallicka, S. 2021. Synthesis and characterization of ultrasmall Cu<sub>2</sub>O nanoparticles on silica nanoparticles surface. *Inorganica Chimica Acta*. 515; 120069. (Web link: <https://doi.org/10.1016/j.ica.2020.120069>).
- 8) Majhi, S.; Das, D. 2021. Chemical derivatization of natural products: Semisynthesis and pharmacological aspects- A decade update. *Tetrahedron*, 78: 131801. (Web link: <https://doi.org/10.1016/j.tet.2020.131801>).
- 9) Das, D\*. 2020. Lemon juice mediated efficient and eco-friendly organic transformations. *Tetrahedron Lett.* 61: 152298. (Web link: <https://doi.org/10.1016/j.tetlet.2020.152298>).
- 10) Mallick, S.; Mukhi, P.; Kumari, P.; Mahato, K. R.; Verma, S. K.; Das, D\*. 2019. Synthesis, Characterization and Catalytic Application of Starch Supported Cuprous Iodide Nanoparticles. *Catalysis Letters*, 149: 3501–3507. (Web link: [10.1007/s10562-019-02909-1](https://doi.org/10.1007/s10562-019-02909-1)).
- 11) Suresh, M.; Kumari, A.; Das, D.; Singh, R. B. 2018. Total Synthesis of Onitin. *J. Nat. Prod.* 81: 2111–2114. (Web link: [10.1021/acs.jnatprod.8b00335](https://doi.org/10.1021/acs.jnatprod.8b00335)).
- 12) Das, D\*. 2016. Multicomponent Reactions in Organic Synthesis Using Copper-Based Nanocatalysts *Chemistry Select*, 1: 1959 – 1980. (Web link: [10.1002/slct.201600414](https://doi.org/10.1002/slct.201600414)).

- 13) Das, D.; Mohapatra, S. S., Roy, S. 2015. Recent Advances in Heterobimetallic Catalysis across “Transition Metal–Tin” Motif. *Chemical Society Review*, 44: 3666–3690. (Web link: [10.1039/c4cs00523f](https://doi.org/10.1039/c4cs00523f)).
- 14) Mohapatra, S. S.; Mukhi, P.; Mohanty, A.; Pal, S.; Sahoo, A. O.; Das, D.; Roy, S. 2015. Palladium (II) in electrophilic activation of aldehydes and enones: efficient C-3 functionalization of indoles. *Tetrahedron Lett.* 56: 5709–5713. (Web link: [10.1016/j.tetlet.2015.08.080](https://doi.org/10.1016/j.tetlet.2015.08.080)).
- 15) Das, D.; Roy, S. 2013. Palladium (II) Catalyzed Efficient C-3 Functionalization of Indoles with Benzylic and Allylic Alcohols under Co-Catalyst, Acid, Base, Additive and External Ligand-Free Conditions. *Adv. Synth. Catal.*, 355: 1308–1314. (Web link: [10.1002/adsc.201300048](https://doi.org/10.1002/adsc.201300048)).
- 16) Das, D.; Pratihar, S.; Roy, S. 2013. Heterobimetallic Pd-Sn Catalysis: Michael Addition Reaction with C-, N-, O-, S- Nucleophiles and In-situ Diagnostics. *J. Org. Chem.*, 78: 2430–2442. (Web link: [10.1021/jo302643v](https://doi.org/10.1021/jo302643v)).
- 17) Das, D.; Pratihar, S.; Roy, S. 2013. Heterobimetallic Pd-Sn Catalysis: A Selective Intermolecular Hydroarylation of  $\alpha$ -Methyl Substituted Aryl Alkenes. *Tetrahedron Lett.* 54: 335–338. (Web link: [10.1016/j.tetlet.2012.11.038](https://doi.org/10.1016/j.tetlet.2012.11.038)).
- 18) Das, D.; Pratihar, S.; Roy, S. 2012. Heterobimetallic Pd-Sn Catalysis: A Suzuki, Tandem Ring Closing Sequence Towards Indeno [2,1-b] thiophenes and Indeno [2,1-b] indoles. *Org. Lett.*, 14: 4870–4873. (Web link: [10.1021/ol3021995](https://doi.org/10.1021/ol3021995)).
- 19) Das, D.; Pratihar, S.; Roy, U. K.; Mal, D.; Roy, S. 2012. First example of a heterobimetallic ‘Pd–Sn’ catalyst for direct activation of alcohol: efficient allylation, benzylation and propargylation of arenes, heteroarenes, active methylenes and allyl-Si nucleophiles. *Org. Biomol. Chem.* 10: 4537–4542. (Web link: [10.1039/c2ob25275a](https://doi.org/10.1039/c2ob25275a)).

» **Books and Chapters:**

• **Book:**

Title of book chapter: Nanoparticles in multicomponent reactions toward green organic synthesis. Author: Debjit Das & Sasadhar Majhi Year of publication: 2022. Publisher: Elsevier Science. ISBN: 9780323959216.

• **Chapter:**

N. A.

» **Seminars, Conferences, Webinars and Workshops attended:**

- Seminars (National/ International): 03
- Webinars (National/ International): 04
- Workshop:01

» **Life Membership:**

N. A.

» **Awards/ Academic Achievements:**

- Awarded MCM Scholarship for degree of Master Study (2006–2008).
- Secured 50<sup>th</sup> Rank in Joint Admission Test for M. Sc. (JAM) in 2006, conducted Jointly by all IITs.
- Awarded Gold medal by R K Mission Vidyamandira, Belur Math.

» **Professional Courses:**

- **Orientation Programme/FDP/FIP:** 01
- **Refresher Course:** 02
- **Short Term Course:** 00

» **Others/Miscellaneous:**

- **Research Project:**

<b>Title of Project</b>	<b>Sponsoring Agency</b>	<b>Period Grant/ Amount</b>	<b>Grant/ Amount mobilized</b>
Synthesis, Characterization and Catalytic Activity Study of Copper Nanoparticles towards Carbon-Carbon and Carbon-Heteroatom Bond Formation [Ref No: YSS/2015/001425]	Science and Engineering Research Board	3 years (Date of commencement 18/03/2016)	The project was Initially sanctioned at Central University of Jharkhand and Then transferred to TDB college with a revised total grant of Rs. 16,16,046/- on 31 Aug, 2018.