Curriculum Vitae

Dr. Shubhankar Kumar Bose
Associate Professor,
Centre for Nano and Material Sciences
Jain University, Jain Global Campus
Bangalore, Karnataka (India)
Email: skbose80@gmail.com
b.shubhankar@jainuniversity.ac.in

Research Interests

- Borylation reactions catalyzed by homogenous and heterogeneous systems.
- Synthesis of metal boryl (mono and bimetallic) complexes and their reactivity.
- Organometallic chemistry: synthesis of compounds featuring metal-(main group element) multiple bonds.
- Utilization of CO and CO_2 to value added products via recyclable catalyst.

Work experience (*in chronological order*)

S.No.	Positions held	Name of the Institute	From	To
1.	Research Associate	Indian Institute of Technology Madras, Chennai	01.07.2011	21.01.2012
2.	Alexander von Humboldt (AvH) postdoctoral fellow	University of Würzburg Germany	01.04.2012	31.03.2014
3.	Postdoctoral fellow	University of Würzburg, Germany	01.04.2014	31.01.2017
4.	Assistant Professor	CNMS, Jain University, Bangalore	01.02.2017	31.04.2021
5.	Associate Professor	CNMS, Jain University, Bangalore	01.05.2021	Till date

Academic Qualification (Undergraduate Onwards)

S. No.	Degree	Year	Subject	University/Institution	% ofmarks
1.	B.Sc.	June, 2002	Chemistry	University of Rajasthan, Jaipur	72.63 %
2.	M.Sc.	May, 2004	Chemistry	Department of Chemistry, University of Rajasthan, Jaipur	73.00 %
3.	Ph.D.	July, 2011	Inorganic Chemistry	Indian Institute of Technology Madras, Chennai	*Best thesis award*

Ph.D. thesis title, Guide's Name, Institute/Organization/University, Year of Award.
Title of Thesis: *Chemistry of Metallaboranes of Group 5 Transition Metals*
Guide's Name: *Dr. Sundargopal Ghosh*
Institute: ***Indian Institute of Technology Madras***, Chennai
Year of Award: *July 2011*

Professional Recognition/Award/Prize/Certificate, Fellowship

S.No.	Name of Award	Awarding Agency	Year
1	Member of Chemical Research Society of India (CRSI)	Chemical Research Society, India	2023
2	Member of American Chemical Society (MACS)	American Chemical Society	2022
3	Member of Royal Society of Chemistry (MRSC)	Royal Society of Chemistry	2021
4	Life Membership of Catalysis Society Of India	Catalysis Society of India	2021
5	"Werner prize"- Best Ph.D. thesis in Inorganic and Analytical Chemistry	Indian Institute of Technology Madras	2012
6	Alexander von Humboldt postdoctoral fellowship	Alexander von Humboldt Foundation, Germany	2012
7	Senior research fellowship	CSIR UGC-India	2008
8	Junior research fellowship	CSIR UGC-India	2006
9	Qualified Graduate Aptitude Test in Engineering (GATE–2005)	IIT Bombay	2005

Details of Sponsored or Consultancy Projects Undertaken

Grant agency	Title of the project and reference number	Duration (from mm/yy to mm/yy)	Amount in lakh Rs.
SERB	Multiple Bonds between Transition Metals and Group 13 Elements: Synthesis and Reactivity Studies (EMR/2017/000844)	*03/2019 to 02//2022*	**54.84**
CSIR	Synthesis and Reactivity of Nucleophilic Diborane Compounds	*01/08/2021 to 31/07/2024*	**21.0**
SERB	N-Heterocyclic Carbene-Functionalized Metal–Organic Frameworks for Broad-Scope Catalytic Borylation Reactions	*26/12/2022 to 25/12/2025*	**30.0**

Details of PG and PhD Students Guidance (completed)

S. No.	**Name of Student**	**Thesis Title**	**PG or PhD level**	**Year**
1	Mahadev Laxman Shegavi	Metal Oxide Nanoparticles Catalyzed Organoboranes Syntheses and Reactivity Studies	PhD	**2017-2020 PhD defended: 7th Jan. 2021**
2	Mr. Suresh Saini	Earth-Abundant Metal Oxide Supported Nanoparticles/Base Catalyzed Carbon-Boron (C–B) and Carbon-Silicon (C–Si) Bond Formation Reactions	PhD	**2019-2023 PhD defended: 27th Nov. 2023**
3	Mr. Ramesh R. Bhawar	Heterogeneous Rare Earth Metal-Catalyzed	PhD	*2019-2024* ***PhD Thesis***

		Organoboranes Syntheses		*Submitted (2nd Jan. 2024)*
4	Ms. MEGHANA D V	Cu-Nanoparticles Catalyzed β-Boration of α,β-Unsaturated Carbonyl Compounds with Bis(pinacolato)diboron	PG	2017-2019
5	Mr. Poola Madhav	CeO_2 NPs catalyzed hydroboration of carbonyl compounds	PG	2019-*2021*
6	Ms. Anindita Bhattacharjee	Synthesis of bimetallic $CoFe_2O_4$ nanoparticles as a catalyst for the alkenes hydroboration	PG	10th March 2021 to 10th May 2021
7	Ms. Thungchibeni M. khuvung	*Utilization of Bimetallic $ZnFe_2O_4$ Nanoparticles as a catalyst for the Alkenes Hydroboration*	PG	10th March 2021 to 10th May 2021
8	Ms. Chomen Sena	Copper Nanoparticles-Catalysed Hydroboration of Alkenes	PG	27th January 2020 to 27th March 2020 (*external student*)
9	Ms. Prajitha Nair P	Reusable CeO2-Nanoparticles Catalyzed Efficient and Selective Hydroboration of Aldehydes	PG	27th January 2020 to 27th March 2020 (*external student*)
10	Ms. Kavitha Salian	Cu-Nanoparticles Catalyzed Borylation of Alkyl Halides with Bis(pinacolato)diboron Reagents	PG	3rd June, 2019 to 20th July, 2019 (*external student*)
11	Ms. Siri M	Hydrosilylation of alkenes using easily accessible NiO nanoparticles as catalyst	PG	2020-2022
12	Ms. Bhavya Jeebula	Ni-Metal Organic Frameworks Catalyzed C-X Borylation of Aryl Halides	PG	2021-2023
13	Dr. Ramesh K	Explore the ambidentate ability of OCP^- towards electropositive and electron-rich metal precursors for the syntheses of novel phosphorus-containing molecules	University Postdoctoral fellow	March 2023 to Oct. 2023

Details of PG and PhD Students Guidance (On-going)

S. No.	**Name of Student**	**Thesis Title**	**UG or PG or PhD or Postdoc level**	**Year**
1	Ms. Aishwarya P	MOF (Metal–Organic Framework) *Supported Metal Oxide Nanoparticles Catalyzed C-H Borylation Reactions*	PhD	2021-*ongoing*

2	Ms. Suma B	Low Valent Phosphorus Compounds: Synthesis and Reactivity Studies	PhD	2021-*ongoing*
3	Mr. Patil Kiran Sangram (CSIR-NET)	*Supported Metal/Metal Oxide Nanoparticles Catalyzed C-H and C-X Borylation Reactions*	PhD	*2020-ongoing*
4	Mr. Shivakumar R	Recyclable Metal–Organic Frameworks (MOFs)-Catalyzed C-E (E =B, Si, P) bond formation reactions	PhD	*2023-ongoing*
5	Mr. V. S. N. V. Teja	Utilization of Reduced graphene oxide supported iron nanoparticles for the alkyne hydroboration	PG	2022-*ongoing*
6	Ms. Navya Goud	Iron-Based Metal–Organic Frameworks (MOFs)-Catalyzed Hydroboration of Unsaturated Organic Substrates	PG	2023-*ongoing*

Memberships of Program Committees of Top Tier Conferences

- Chairperson of a Session in *the International Conference on "Energy and Environmental Technologies (V-ICSEET-2020),* on 2nd–4th November 2020, REVA University, Bangalore, India.
- Chairperson of a Session in the 2nd National Seminar on Aug 31st–4th Sep 2020, CNMS, Jain University, Bangalore, India.
- Chairperson of a Session in the *International Conference on Frontiers in materials from Basic Science to Real-time Applications"* at CNMS-Jain University, India during March 13-16, 2019.
- Chairperson of a Session in the *National Seminar on Frontiers of Materials and Chemical Sciences*, at CNMS during 30 - 31st August 2018, Jain University, Bangalore, India.
- Chairperson of a Session in the International Conference on Green Methods for Separation, Purification and Nanomaterial Synthesis (GMSP&NS-2018) on 24th-25th April 2018, at CNMS, Jain University, Bangalore, India.

Publications list

Publication Summary
Total number of published papers: 56
Cumulative impact factor (CIF): **414.067**
Citations: 2283
h-index: 26

CNMS Affiliation with Corresponding Author (*)

2024

56. Prakash, A; Basappa, S.; Jeebula, B.; Nagaraju, D. H.; Dhayal, R. S.; Bose, S. K.* A Simple Nickel Metal−Organic Framework-Catalyzed Borylation of Aryl Chlorides and Bromides. ***Org. Lett.*** **2024**, *26*, 2569–2573 (**I.F. = 5.2**).

55. Basappa, S.; Prakash, A; Talekar, S. S.; Mane, M. V.; Bose, S. K.* Facile Synthesis of Vinyl Boronate Esters via Dehydrogenative Borylation of Alkenes Enabled by Co-MOF Catalyst: An Additive Free Approach. ***ACS Cat.***, **2024**, 14, 3065–3073 (**I.F. = 12.9**).

2023

54. Saini, S.; Gupta, D. K.; Bhawar, R.; Siddiqui, S.; Mane, M. V.; Bose, S. K.* Transition-metal- and solvent-free regioselective hydrosilylation of alkenes and allenes enabled by catalytic sodium tert-butoxide. ***Green Chem.,*** **2023**, 25, 10072-10081 (**I. F. = 9.8**).

53. Bhawar, R.; Saini, S.; Patil, K. S.; Nagaraju, D. H.; Bose, S. K. Synthesis of and Aryl Boronate Esters via CeO2-Catalyzed Borylation of Alkyl and Aryl Electrophiles Including Alkyl Chlorides. ***J. Org. Chem.*** **2023**, 88, 16270−16279 (**I. F. = 3.6**).

52. Basappa, S.; Karupnaswamy, R.; Bose, S. K. Transforming carbon dioxide and carbon monoxide into value-added products: boracarboxylation and boracarbonylation. ***Catal. Sci. Technol.*** **2023**, 13, 6878-6902 (**I. F. = 5.0**)

51. Kumara, K. S. M.; Shivakumar, P.; Ganesh, V.; Budagumpi, S.; Bose, S. K.; Hareesh, K.; Nagaraju, D. H. Hydrogels of PANI Doped with Fe_3O_4 and GO for Highly Stable Sensor for Sensitive and Selective Determination of Heavy Metal Ions. ***Inorg. Chem. Commun.*** **2023**, *158*, 111553. (**I. F. = 3.8**)

50. Saini, S.; Bhawar, R.; Srivastava, A. K.; M, S.; Garg, K.; **Bose, S. K.*** Transition Metal- and Solvent-Free Anti-Markovnikov Selective Protoboration of Alkenes with *Bis*(pinacolato)diboron. ***Org. Biomol. Chem.***, 2023, 21, 5274–5280. (**I.F = 3.2**) Online only 2021: ISSN 1477-0539.

49. Meena, S.; Dastider, S. G.; Nishad, C. S.; Jangid, D. K.; Kumar, P.; Khirid, S.; **Bose, S. K.**; Mondal, K.; Banerjee, B.; Dhayal, R. S.; Ag−S Type Quantum Dots versus Superatom Nanocatalyst: A Single Sulfur Atom Modulated Decarboxylative Radical Cascade Reaction. ***Inorg. Chem.*** 2023, 62, 6092–6101. (**I.F. 4.6**). Online ISSN: 1520-510X.

48. Bhawar, R.; Saini, S.; Nagaraju, D. H.; **Bose, S. K.*** CeO_2-Nanorods Catalyzed Protoboration of Alkenes and Alkynes with Bis(Pinacolato)Diboron. ***Adv. Synth. Catal.*** 2023, 365, 584-593 (**I.F. 5.4**). Online ISSN: 1615-4169

47. Prakash, A.; Saini, S.; Basappa, S.; Gupta, D. K.; Mao, L.; **Bose, S. K.,*** Metal–Organic Frameworks for Catalytic Construction of C–B Bond and Related Reactions. ***ChemCatChem*** 2023, *15*, e202201156. DOI: 10.1002/cctc.202201156 (**I.F. 4.5**). Online ISSN:1867-3899

46. Saini, S.; Gavali, D. S.; Bhawar, R.; Thapa, R.; Dhayal, R. S.; **Bose, S. K.,*** Facile synthesis of alkyl- and arylboronate esters enabled by a carbon nanotube supported copper catalyst. ***Catal. Sci. Technol.*** **2023**, *13*, 147-156 **(IF. 5.0)**. **Online only 2021**: ISSN 2044-4761

2022

45. Manjunatha, K. K. S.; Nagaraju, D. H.; Yhobu, Z.; Nayan Kumar, H. N.; Budagumpi, S.; **Bose, S. K.**; Shivakumar, P.; Palakollu, V. N., Tuning the Surface Functionality of Fe3O4 for Sensitive and Selective Detection of Heavy Metal Ions. ***Sensors*** 2022, *22*, 8895 **(IF. 3.9)**.

44. Shivakumar P, Manjunatha K. K. S., Bose, S. K., Nagaraju D. H., Advances in Zinc and Magnesium Battery Polymer Cathode Materials. ***ACS Appl. Energy Mater.*** 2022, *5, 9,* 10331–10358 (**IF. 6.4**). Web Edition ISSN: 2574-0962

43. Basappa, S.; Bhawar, R.; Nagaraju, D. H.; **Bose, S. K.**,* Recent advances in the chemistry of the phosphaethynolate and arsaethynolate anions. ***Dalton Trans.*** 2022, 51, 3778–3806 (**I.F. 4.0)** Online only 2021: ISSN 1477-9234

2021

42. **Bose, S. K.;*** Mao, L.;* Kuehn, L.; Radius, U.;* Nekvinda, J.; Santos, W. L.;* Westcott, S. A.;* Steel, P. G.;* Marder, T. B.,* First-Row d-Block Element-Catalyzed Carbon-Boron Bond Formation and Related Processes. ***Chem. Rev.*** 2021, 121, 13238−13341 (**I.F. 62.1**) Print Edition ISSN: 0009-2665 Web Edition ISSN: 1520-6890

41. Bhawar, R.; Patil, S. K.; **Bose, S. K.,*** CeO_2-nanocubes as efficient and selective catalysts for the hydroboration of carbonyl groups. ***New J. Chem.*** 2021, **45**, 15028-15034 (**I.F. 3.3**). **Online only 2021:** ISSN 1369-9261
(*Invited article for the special themed issue: Boron & Beyond: Celebrating Todd B. Marder's Contributions to Chemistry*)

40. Shegavi, M. L.; Saini, S.; Vishwantha, M. D.; **Bose, S. K.,*** Efficient and recyclable copper nanoparticles-catalyzed hydroboration of alkenes and β-borylation of α,β-unsaturated carbonyl compounds with B_2pin_2. ***Adv. Synth. Catal.*** 2021, 363, 2408-2416 (**I.F. 5.4**). Online ISSN: 1615-4169
(Designated as ***Very Important Publication*** & featured in the **inside cover** of the ASC special issue on boron)

2020

39. Saini, S.; Agarwal, A.; **Bose, S. K.**,* *Transition Metal Chemistry of Heavier Group 14 Congener Triplebonded Complexes: Syntheses and Reactivity*. ***Dalton Trans.*** 2020, 49, 17055-17075 (**I.F. 4.0)** Online only 2021: ISSN 1477-9234

38. Agarwal, A.; **Bose, S. K.**,* *Bonding Relationship between Silicon and Germanium with Group 13 and Heavier Elements of Groups 14–16*. ***Chem Asian J.*** 2020, 15, 3784–3806 (**I.F. 4.1)** Online ISSN: 1861-471X

37. Mao, L.; **Bose, S. K.**,* *Hydroboration of Enynes and Mechanistic Insights*. ***Adv. Synth. Catal.*** 2020, 362, 4174-4188 (**I.F. 5.4)** Online ISSN:1615-4169

36. Shegavi, M. L.; Agarwal, A.; **Bose, S. K.,*** Efficient synthesis of alkylboronic esters via magnetically recoverable copper nanoparticlecatalyzed borylation of alkyl chlorides and bromides. ***Green Chem.*** 2020, 22, 2799–2803 (**I.F = 9.8**) **Online only 2021**: ISSN 1463-9270

2019

35. Shegavi, M. L.; **Bose, S. K.,*** Recent advances in the catalytic hydroboration of carbonyl compounds ***Catal. Sci. Technol.*** 2019, 9, 3307–3336. (**I.F = 5.0**) **Online only 2021**: ISSN 2044-4761

2018

34. Shegavi, M. L.; Baishya, A.; Geetharani, K.; **Bose, S. K.,*** Reusable Fe_2O_3 nanoparticle catalysed efficient and selective hydroboration of carbonyl compounds. ***Org. Chem. Front.*** 2018, 5, 3520-3525. (**I.F = 5.4**) **Online only 2021**: ISSN 2052-4129

33. Verma, P. K.; Shegavi, M. L.; **Bose, S. K.**;* Geetharani, K., A nano-catalytic approach for C–B bond formation reactions. ***Org. Biomol. Chem.*** 2018, *16*, 857-873. (**I.F = 3.2**) **Online only 2021**: ISSN 1477-0539

2017

32. Scharnagl, F. K.; **Bose, S. K.;*** Marder, T. B., Acylboranes: synthetic strategies and applications. ***Org. Biomol. Chem.*** 2017, *15*, 1738-1752. (**I.F = 3.2**) **Online only 2021**: ISSN 1477-0539

    (Selected as ***Inside Front Cover Page*** & designated as ***Hot Article*****)**

During Post-doctoral and PhD studies

2016

31. **Bose, S. K.**; Brand, S.; Oluwatola Omoregie, H.; Haehnel, M.; Maier, J.; Bringmann, G.; Marder, T. B., Highly efficient synthesis of alkylboronate Esters *via* Cu(II)-catalyzed borylation of unactivated alkyl bromides and chlorides in air. ***ACS Catal.*** 2016, *6*, 8332- 8335. (**I.F = 12.9**) Web Edition ISSN: 2155-5435

2015

30. **Bose, S. K.**; Marder, T. B., A leap ahead for activating C-H bonds, ***Science*** 2015, *349*, 473-474. (**I.F = 56.9**) print ISSN 0036-8075; online ISSN 1095-9203

29. **Bose, S. K.**; Deißenberger, A.; Eichhorn, A.; Steel, P. G.; Lin, Z.; Marder, T. B., Zinc-Catalyzed Dual C-X and C-H Borylation of Aryl Halides. ***Angew. Chem. Int. Ed.*** 2015, *54*, 11843. (**I.F = 16.6**) ISSN: 1433-7851 (print). 1521-3773 (online)

    (**Highlighted in:** *Synfacts* **2015**, *11(12)*, 1308; **Contributors**: P. Knochel, J. M. Hammann)

28. Ji, L.; Fucke, K.; **Bose, S. K.**; Marder, T. B., Iridium-Catalyzed C-H Borylation of

Pyrene: Irreversibility and the Influence of Ligand on Selectivity. ***J. Org. Chem.*** 2015, *80*, 661. (**I.F = 3.6**) Print Edition ISSN: 0022-3263 Web Edition ISSN: 1520-6904.

2014

27. **Bose, S. K.**; Marder, T. B., Efficient Synthesis of Aryl Boronates via Zinc-Catalyzed Cross-Coupling of Alkoxy Diboron Reagents with Aryl Halides at Room Temperature. ***Org. Lett.*** 2014, *16*, 4562. (**I.F = 5.2**) Print Edition ISSN: 1523-7060 Web Edition ISSN: 1523-7052

    (**Highlighted in:** *Synfacts***2014**, *10(11)*, 1193; **Contributors**: P. Knochel, J. M. Hammann)

26. **Bose, S. K.**; Fucke, K.; Liu, L.; Steel, P. G.; Marder, T. B., Zinc-Catalyzed Borylation of Primary, Secondary and Tertiary Alkyl Halides with Alkoxy Diboron Reagents at Room Temperature. ***Angew. Chem. Int. Ed.*** 2014, *53*, 1799. (designated as "***Hot Paper***"). (**I.F = 16.6**) ISSN: 1433-7851 (print). 1521-3773 (online)

    (**Highlighted in:** *Synfacts***2014**, *10(5)*, 0516; **Contributors**: P. Knochel, D. Hass)

2013

25. Roy, D. K.; **Bose, S. K.**; Anju, R. S.; Mondal, B.; Ramkumar, V.; Ghosh, S., Boron Beyond the Icosahedral Barrier: A 16-Vertex Metallaborane. ***Angew. Chem. Int. Ed.*** 2013, *52*, 3222. (**I.F = 16.6**) ISSN: 1433-7851 (print). 1521-3773 (online)

24. **Bose, S. K.**; Roy, D. K.; Shankhari, P.; Yuvaraj, K.; Mondal, B.; Sikder, A.; Ghosh, S., Syntheses and Characterization of New Vinyl-Borylene Complexes by the Hydroboration of Alkynes with $[(\mu_3\text{-BH})(Cp^*RuCO)_2(\mu\text{-CO})Fe(CO)_3]$. ***Chem. Eur. J.*** 2013, *19*, 2337. (**I.F = 4.3**) Online ISSN: 1521-3765

2012

23. Krishnamoorthy, B. S.; Thakur, A.; Chakrahari, K. K. V.; **Bose, S. K.**; Hamon, P.; Roisnel, T.; Kahlal, S.; Ghosh, S.; Halet, J-F., Theoretical and Experimental Investigations on HypoelectronicHeterodimetallaboranes of Group 6 Transition Metals. ***Inorg. Chem.*** 2012, *51*, 10375. (**I.F = 4.6**) Print Edition ISSN: 0020-1669 Web Edition ISSN: 1520-510X

22. Roy, D. K.; **Bose, S. K.**; Anju, R. S.; Ramkumar, V.; Ghosh,S., Synthesis and Structure of Dirhodium Analogue of Octaborane-12 and Decaborane-14. ***Inorg. Chem.*** 2012, *51*, 10715. (**I.F = 4.6**) Print Edition ISSN: 0020-1669 Web Edition ISSN: 1520-510X

21. Ponniah, S. J.; Bharathan, J. K.; **Bose, S. K.**; Ghosh, S., Synthesis and Characterization of Novel Eleven-Vertex Dimetallaheteroborane Clusters Containing Heavier Group 16 Elements. ***J. Organomet. Chem.*** 2012**,** *721-722*, 42. (**I.F = 2.3**) ISSN: 0022-328X

20. Roy, D. K.; **Bose, S. K.**; Geetharani, K.; Chakrahari, K. K. V.; Mobin, S. M.; Ghosh,S., Synthesis and Structural Characterization of Novel Divanada- and Diniobaboranes Containing Chalcogen Atoms. ***Chem. Eur. J.,*** 2012, *18*, 9983. (**I.F = 4.3**) Online ISSN: 1521-3765

19. Ponniah, J.; **Bose, S. K**.; Ghosh, S., An Eleven-Vertex Metallaborane with TetracappedPentagonal Bipyramidal Geometry. ***Dalton Trans.*** 2012, *41,* 3627. (**I.F = 4.0**) Online only 2021: ISSN 1477-9234

18. Geetharani, K.; **Bose**, **S. K.;** Ghosh, S., Heterometallic Cubane-Type Clusters Containing Group 13 and 16 Elements. ***Pure Appl. Chem.*** 2012, *84*, 2233. (**I.F = 1.8**) ISSN printed 0033-4545; ISSN electronic 1365-3075

2011

17. **Bose, S. K.**; Geetharani, K.; Ghosh, S., C–H activation of arenes and heteroarenes by early transition metallaborane, $[(Cp^*Ta)_2B_5H_{11}]$ ($Cp^* = \eta^5$-C_5Me_5). ***Chem. Commun.*** 2011, *47*, 11996. (**I.F = 4.9**) Online only 2021: ISSN 1364-548X

16. **Bose, S. K.;** Ghosh, S., Novel 11-vertex, 11-skeletal electron pair tantalaborane of unusual shape. ***Organometallics*** 2011, *30*, 4788. (**I.F = 2.8**) Print Edition ISSN: 0276-7333; Web Edition ISSN: 1520-6041

15. **Bose, S. K.**; Geetharani, K.; Sahoo, S.; Reddy, K. H. K.; Varghese, B.; Jemmis, E. D.; Ghosh, S., Syntheses, characterization and electronic structures of new type of heterometallic boride clusters. ***Inorg. Chem.*** 2011*, 50*, 9414. (**I.F = 4.6**) Print Edition ISSN: 0020-1669 Web Edition ISSN: 1520-510X

14. **Bose, S. K.;** Ghosh, S., Metallaheteroborane clusters of group 5 transition metals derived from dichalcogenide ligands. ***J. Organomet. Chem.*** 2011, *696*, 3121. (**I.F = 2.3**) ISSN: 0022-328X

13. **Bose, S. K.**; Geetharani, K.; Varghese, B.; Ghosh, S., Condensed tantalaborane clusters: synthesis and structures of $[(Cp^*Ta)_2B_5H_7\{Fe(CO)_3\}_2]$ and $[(Cp^*Ta)_2B_5H_9\{Fe(CO)_3\}_4]$. ***Inorg. Chem.*** 2011, *50*, 2445. (**I.F = 4.6**) Print Edition ISSN: 0020-1669 Web Edition ISSN: 1520-510X

12. Geetharani, K.; **Bose, S. K.**; Sahoo, S.; Varghese, B.; Mobin, S. M.; Ghosh, S., Cluster expansion reactions of group 6 and 8 metallaboranes using transition metal carbonyl compounds of groups 7-9. ***Inorg. Chem.*** 2011, *50*, 5824. (**I.F = 4.6**) Print Edition ISSN: 0020-1669 Web Edition ISSN: 1520-510X

11. Geetharani, K.; **Bose, S. K.**; Basak, D.; Suresh, V. M.; Ghosh, S., A new entry into ferraborane chemistry: synthesis and characterization of heteroferraborane complexes. ***Inorg. Chim. Acta*** 2011, *372*, 42. (**I.F = 2.8**) ISSN: 0020-1693

10. Geetharani, K.; **Bose, S. K.**; Sahoo, S.; Ghosh, S., A family of heterometallic cubane-type clusters with an *exo*-$Fe(CO)_3$ fragment anchored to the cubane. ***Angew. Chem. Int. Ed.*** 2011, *50*, 3908. (**I.F = 16.6**) ISSN: 1433-7851 (print). 1521-3773 (online)

9. Geetharani, K.; **Bose, S. K.;** Ghosh, S., Synthesis and structure of $[Cp^*Ru(CO)_2(\mu\text{-}H)\{RuFe_3(CO)_9\}]$: an unusual mixed-metal tetrahedral cluster with an exopolyhedral metal fragment. ***Organometallics*** 2011, *30*, 191. (**I.F = 2.8**) Print Edition ISSN: 0276-7333; Web Edition ISSN: 1520-6041

2010

8. Geetharani, K.; **Bose, S. K.**; Varghese, B.; Ghosh, S., From metallaborane to borylene complexes: syntheses and structures of triply bridged ruthenium and tantalum borylene complexes. ***Chem. Eur. J.*** 2010, *16*, 11357. (**I.F = 4.3**) Online ISSN:1521-3765

7. **Bose, S. K.**; Geetharani, K.; Ghosh, S., Ring expansion of a Cp moiety upon CO insertion: synthesis and characterization of $[(\eta^6\text{-}C_6H_5OCo)Co_3(CO)_9]$. ***J. Organomet. Chem.*** 2010**,** *695*, 2567. (**I.F = 2.3**) ISSN: 0022-328X

6. **Bose, S. K.**; Geetharani, K.; Varghese, B.; Ghosh, S., Unusual organic chemistry of a metallaborane substrate: formation of a tantalaborane complex with a bridging acyl group ($\mu\text{-}\eta^2$). ***Inorg. Chem.*** 2010*, 49*, 6375. (**I.F = 4.6**) Print Edition ISSN: 0020-1669 Web Edition ISSN: 1520-510X

5. **Bose, S. K.**; Geetharani, K.; Ramkumar, V.; Varghese, B.; Ghosh, S., Chemistry of vanadaboranes: synthesis, structures and characterization of organovanadium sulfide clusters with disulfido linkage. ***Inorg. Chem.*** 2010*, 49*, 2881. (**I.F = 4.6**) Print Edition ISSN: 0020-1669 Web Edition ISSN: 1520-510X

2009

4. Geetharani, K.; **Bose, S. K.**; Ramkumar, V.; Ghosh, S., An efficient route to group 6 and 8 metallaborane compounds. synthesis of *arachno*-$[Cp^*Fe(CO)B_3H_8]$ and *closo*-$[(Cp^*M)_2B_5H_9]$ (M = Mo, W). ***Eur. J. Inorg. Chem.*** 2009, 1483. (**I.F = 2.3**) Online ISSN:1099-0682

3. **Bose, S. K.**; Geetharani, K.; Ramkumar, V.; Mobin, S. M.; Ghosh, S., Fine-tuning of metallaborane geometries: chemistry of metallaboranes of early transition metals derived from metal halides and monoborane reagents. ***Chem. Eur. J.*** 2009, *15*, 13483. (**I.F = 4.3**) Online ISSN:1521-3765

2008

2. **Bose, S. K.**; Geetharani, K.; Mobin, S. M.; Ghosh, S., Metallaboranes of the early transition metals: direct synthesis and characterization of $(\eta^5\text{-}C_5Me_5Ta)_2B_nH_m$ (n = 4, m = 10; n = 5, m = 11), $(\eta^5\text{-}C_5Me_5Ta)_2B_5H_{10}(C_6H_4CH_3)$, and $(\eta^5\text{-}C_5Me_5TaCl)_2B_5H_{11}$. ***Chem. Eur. J.*** 2008**,** *14*, 9058. (**I.F = 4.3**) Online ISSN:1521-3765

2007

1. **Bose, S. K.**; Ghosh, S.; Noll, B. C.; Halet, J.-F.; Saillard, J.-Y.; Vega, A., Linked and fused tungstaborane clusters: synthesis, characterization, and electronic structures of *bis*-{(η^5-$C_5Me_5W)_2B_5H_8$}$_2$ and (η^5-$C_5Me_5W)_2${$Fe(CO)_3$}$_n B_{6-n}H_{10-n}$, n = 0, 1. ***Organometallics*** 2007, *26*, 5377. (**I.F = 2.8**) Print Edition ISSN: 0276-7333; Web Edition ISSN: 1520-6041

Book Chapter

S.No.	Title with page no.	Book Title	ISSN/ISBN No.	Whether peer reviewed
1	*Science of Synthesis: Advances in Organoboron Chemistry towards Organic Synthesis*, DOI: 10.1055/sos-SD-230-00188	Fernández, E., Ed.; Thieme: Stuttgart, (2019); p 335-354. Thieme Connect, the Thieme e-journals and e-books platform: https://www.thieme-connect.com/products/ebooks/lookinside/10.1055/sos-SD-230-00188	ISBN 9783131940919	yes

Patent

● Single-Method for Synthesis of Alkyl 1,2-Bis-Boronate Esters. Inventors: Shubhankar Kumar Bose, Kiran S. Patil, Ramesh Bhawar; Indian Patent; Application No-202341071149 (Published).

● Transition-Metal and Base-Free Regioselective Synthesis of Alkyl 1,1,2-tris(Boronate esters) from Terminal Alkynes in Water. Inventors: Shubhankar Kumar Bose, Kiran S. Patil, Shivakumar R; Indian Patent; Application No- 202441017524 (Published).

Invited Presentations/Keynote Lecture

● **Bose, S. K.** (2024): Transition Metal- and Solvent-Free Efficient and Selective Synthesis of Organosilanes and Organoboranes. 2nd International Conference on Recent Innovations in Engineering, Technology, Management and Research (2nd ICRIETMR-2024) on 27th-28th Feb. 2024 at Bal Krishna Institute Of Technology, Kota, Rajasthan, India (Keynote Lecture).

● **Bose, S. K.** (2023): Silane-Driven Regioselective Hydrosilylation of Alkenes and Allenes Enabled by Sodium tert-Butoxide Catalyst. International Conference on Modern Trends in Inorganic Chemistry-MTIC XX, IISC Bangalore, India-2023 on 14-17 December 2023 at the Indian Institute of Science, Bangalore, India.

● **Bose, S. K.** (2023): Boron in Catalysis. National Seminar on Recent Trends in Chemical-Sciences-2023 on 6th November 2023 at the PG Department of Chemistry of Government

Science College Chatrapur, Berhampur.

● **Bose, S. K.** (2023): Transition-metal- and solvent-free regioselective hydrosilylation of alkenes and allenes enabled by sodium *tert*-butoxide catalyst. National Conference on Emerging Frontiers in Chemical Sciences (NCeFCS 2023) during 5-6th Nov 2023, P. G. Department of Chemistry, Berhampur University

● **Bose, S. K.** (2023): "Transition Metal- and Solvent-Free Efficient and Selective Synthesis of Organoboranes and Organosilanes" Faculty Development Programme on Chemical Sciences: Current & Future Prospects July 24 - 29, 2023; Human Resource Development Centre (HRDC) in Association with PG Department of Chemistry**,** Berhampur University.

● **Bose, S. K.** (2023): "Steps Towards Quality Publications" Faculty Development Programme on Chemical Sciences: Current & Future Prospects July 24 - 29, 2023; Human Resource Development Centre (HRDC) in Association with PG Department of Chemistry**,** Berhampur University.

● **Bose, S. K.** (2023): "Efficient Synthesis of Alkyl and Aryl Boronate Esters Enabled by Reusable Nano Catalysts" International Conference on Recent Trends on Materials Science & Devices 2023 (ICRTMD-2023); 22 -23 July, 2023; G.A.V.Degree College, Patauda, Jhajjar, India & Research Plateau Publishers

● **Bose, S. K.** (2023): "Boron in Catalysis" Recent Advances in Chemistry held on National Science Day 28th February 2023 at Maharashtra Mahavidyalaya Nilanga, Dist. Latur (Maharashtra).

● **Bose, S. K.** (2023): "Facile Synthesis of Organoborane Derivatives Enabled by Reusable Nano Catalysts" 2nd International Conference on "Nano Materials and Sustainable Applications (NANO-SA-2023)" Organized by Institute of Chemical Technology, Mumbai-Marathwada Campus, Jalna-431213; 10th to 11th January, 2023; Aurangabad.

● **Bose, S. K. (2022):** "Steps to Quality Publications" CETT, ORGANIZED GURU DAKSHTA-FACULTY INDUCTION PROGRAMME (FIP), December 1st 2022. Jain Global Campus, JAIN (DEEMED-TO-BE UNIVERSITY).

● **Bose, S. K.** (2022): "Reusable Nano-catalyzed Efficient Synthesis of Organoboronate Esters" INTERNATIONAL CONFERENCE ON NANOTECHNOLOGY (ICON-2022) held during 11th-12th Nov. 2022 at SRINIVAS UNIVERSITY, Mangaluru, Karnataka.

● **Bose, S. K.** (Nov. 2021): "Reusable Nanocatalysis: An Efficient and Selective Synthesis of Organoboron Derivative" Frontier Research in Chemical Sciences (FRCS-2021) held during 11-13th November 2021 at Jyoti Nivas College, Bangalore.

● **Bose, S. K.** (2021): "Boron in Cluster Chemistry and Catalysis" National Webinar held during 30th June 2021 at K.L.E. SOCIETY'S, Raja Lakhamagouda Science Institute, Belagavi, Karnataka.

● **Bose, S. K.** (2021): "Reusable Nanocatalysis: An Efficient and Selective Synthesis of Organoboron Derivatives" National Webinar on Recent Advances in Chemical Sciences held during 24-25th March 2021 at P. G. Department of Chemistry, Berhampur University, Odisha.

● Shegavi, M. L.; **Bose, S. K.** (2018): "Efficient and Selective Hydroboration of Carbonyl Compounds via Reusable Nanoscale Fe_2O_3 Catalyst" International Conference on Organometallics and Catalysis (ICOC 2018), at Holiday Inn Resort, Goa during Dec. 13-16, 2018

● Shegavi, M. L.; **Bose, S. K.** (2018): "Reusable Nanoscale Fe_2O_3-catalysed Efficient and Selective Hydroboration of Carbonyl Compounds" 1st International Symposium on Main-group Molecules to Materials (MMM), organized by Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore, India. 28th-31st October, 2018.

● **Bose, S. K**. (2018): "Zinc(II)/Copper(II)-Catalyzed Synthesis of Alkyl and Aryl Boronates" One-day seminar on Bioinorganic Chemistry DST PURSE sponsored, organized by School of Chemistry, Madurai Kamaraj University, Madurai 625021, India. 22nd January, 2018

● **Bose, S. K**. (2017): New Perspectives and Thought-Provoking Boron Chemistry. "Recent Advances in Chemical Sciences" organized by Chemical Society, Department of Studies and Research in Chemistry, University College of Science, Tumkur University, Tumakuru, India. 24th Novermber, 2017

● **Bose, S. K**. and Marder, T. B. (2016): Zinc-Catalyzed Borylation of Alkyl and Aryl Halides with Alkoxy Diboron Reagents: An Efficient Synthetic Route to Alkyl and Aryl Boronates. 22ND ISCB INTERNATIONAL CONFERENCE (ISCBC-2016): Recent Trends in Affordable and Sustainable Drug Discovery and Developments 6th - 8th February, 2016, Surat, India (*Invited Lecture*)

Conferences Attended and Paper Presented

10 Bose, S. K. and Marder, T. B. (2015): Zinc-Catalyzed Borylation of Alkyl and Aryl Halides with Alkoxy Diboron Reagents: An Efficient Synthetic Route to Alkyl and Aryl Boronates."Advances in Organic and Inorganic Chemistry– Enhancing International Cooperation"16th November 2015, at the University of Wuerzburg, Germany. ***Poster presentation***

9 Bose, S. K. and Marder, T. B. (2015): Zinc-Catalyzed Borylation of Alkyl and Aryl Halides with Alkoxy Diboron Reagents: An Efficient Synthetic Route to Alkyl and Aryl Boronates. VIII Heidelberg Forum of Molecular Catalysis at Heidelberg, Germany, June 12th 2015. ***Poster presentation***

8 Bose, S. K., Fucke, K. and Marder, T. B. (2014): Zinc-Catalyzed Borylation of Alkyl and Aryl Halides with Alkoxy Diboron Reagents: An Efficient Synthetic Route to Alkyl and Aryl Boronates. XV IMEBORON, International Conference on Boron Chemistry at Prague, Czech Republic, 24-28 August 2014. ***Oral presentation***

7 Bose, S. K., Fucke, K. and Marder, T. B. (2013): Zinc-Catalyzed Borylation of Alkyl Halides, Including Tertiary Electrophiles, with Alkoxy Diboron Reagents. EuroBoron 6, EuropeanConferences on Boron Chemistry at Radziejowice, Poland, September 2013. ***Flash and Poster presentation.***

6 Bose, S. K. and Ghosh, S. (2009): Fine-Tuning of Metallaborane Geometries: Metallaboranes of the Early Transition Metals Derived from the Reaction of Cp^*TaCl_4 and Cp_nMCl_{4-x} with $LiBH_4$ or BH_3. (M = V: n, x = 2, 2; M = Nb: n, x = 1, 0; Cp = η^5-C_5H_5, Cp* = η^5-C_5Me_5). Inorganic Ring Systems-12 at Goa, India, August 2009. ***Oral***

presentation

5 Bose, S. K., Geetharani, K., Varghese, B., Mobin, S. M. and Ghosh, S. (2008): Metallaboranes of the Early Transition Metals. XIII IMEBORON, International Conference on Boron Chemistry at Platjad'Aro, Spain, September 2008. ***Flash and Poster presentation.***

4 Bose, S. K., Geetharani, K., Varghese, B., Mobin, S. M. and Ghosh, S. (2008): Exploration of Earlier Transition Metals. Synthesis and Spectroscopic Characterization of Tantalaboranes $(\eta^5\text{-}C_5Me_5Ta)_2B_5H_{10}(C_6H_4CH_3)$. 10th CRSI National Symposium in Chemistry at IISc Bangalore, India, February 2008. ***Poster presentation.***

3 Bose, S. K., Geetharani, K., Varghese, B., Mobin, S. M. and Ghosh, S. (2007): Exploration of Earlier Transition Metallaborane. Synthesis and Characterization of Tantalaboranes. Modern Trends in Inorganic Chemistry-XII at IIT Madras, India, December 2007. ***Poster presentation.***

2 Bose, S. K. and Kannan, S. (2006): Effect of Bivalent Metal Ion on Physicochemical and Selective Oxidation Behavior of CuM(II)Al Ternary Hydrotalcites Where M(II) = Mg, Co, Ni & Zn. National Workshop on Catalysis for Energy at BHU Varanasi, India, February 2006. ***Poster presentation.***

1 Bose, S. K. and Kannan, S. (2006): Synthesis, Characterization and Selective Oxidation Behavior of Mn-containing Ternary Hydrotalcites. 4th All Gujarat Research Scholars meet at Vadodara, India, January 2006. ***Poster presentation.***

Best Paper Awards

- **Aishwarya Prakash;** Shubhankar Kumar Bose* Best paper award (poster) at the 2nd International conference on Global Trends in Applied Sciences, Medical and Health Sciences (ICGTAMH-2022), Reva University, Bangalore, Karnataka, India on 28th-29th Oct. 2022.
- **Mahadev L. Shegavi**; Shubhankar Kumar Bose* Best paper award (*oral*) at the International virtual conference on Creative Tesrarch in Chemical Science & Allied Applications (CRCSA-2020), SDM College, Ujire, Karnataka, India on 18th-19th Aug. 2020.
- **Aishwarya Prakash**, Shubhankar Kumar Bose*, "Metal Organic Frameworks Derived Cu (0) for Catalytic Construction of C-B Bonds" in 2nd International conference on "Global Trends in Applied Sciences, Medical and Health Sciences" held on 28th October 2022 organized by Reva University, Bengaluru (Best poster presentation Award)
- **Aishwarya Prakash**, Shubhankar Kumar Bose*, "Metal Organic Frameworks Derived Cu (0) for Catalytic Construction of C-B Bonds" in 1st International conference on "Advances in materials, ceramics and engineering sciences" held on 12th march 2023 organized by Dayanand Sagar college of engineering, Bengaluru (Best oral presentation Award)
- **Suma Basappa**, Shubhankar Kumar Bose*, "H2 -Acceptorless Dehydrogenative Borylation of Vinylarenes Enabled by Cobalt Catalyst" in 1st International conference on "Advances in materials, ceramics and engineering sciences" held on 12th March organized by Dayanand Sagar college of engineering, Bengaluru. (Best poster presentation Award)
- **Kiran S. Patil**, Ramesh R. Bhawar, and Shubhankar Kumar Bose, 'Lanthanum BDC MOF as a Versatile Catalyst for C-X Borylation of Alkyl Bromides' at international conference 'Emerging Trends in Engineering and Interdisciplinary Sciences' Organized by Global Academy of Technology, Bengaluru, Karnataka during 6th-8th July 2023 (Best Oral Presentation Award)