Curriculum vitae

Pazhamalai Anbarasan

Department of Chemistry
Indian Institute of Technology Madras
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Personal:

Date of Birth	:	3rd June 1982
Sex	:	Male
Nationality	:	Indian

Professional Experience:

July 2021-Present ***Professor***
Department of Chemistry
Indian Institute of Technology Madras
Chennai, India

July 2016-July 2021 ***Associate Professor***
Department of Chemistry
Indian Institute of Technology Madras
Chennai, India

Dec 2011-July 2016 ***Assistant Professor***
Department of Chemistry
Indian Institute of Technology Madras
Chennai, India

Dec 2010-Nov 2011 ***Postdoctoral Fellow*** with Prof. F. Dean Toste
Department of Chemistry
University of California, Berkeley
Berkeley, USA

July 2008-Nov 2010 ***Postdoctoral Fellow*** with Prof. Dr. Matthias Beller
(*Alexander-von-Humboldt fellow)*
Leibniz-Institut für Katalyse e. V.
Rostock, Germany

Aug 2007-June 2008 ***Research Associate*** with Prof. K. R. Prasad
Indian Institute of Science, Bangalore, India

Academic profile:

2004- 2007	***Doctor of Philosophy*** with Prof. K. R. Prasad Department of Organic Chemistry Indian Institute of Science, Bangalore, India Thesis title: *Enantioselective synthesis of bio-active bicyclic acetals, cyclic ethers and lactones*
2002-2004	***Master of Science (Chemistry)*** Madurai Kamaraj University School of Chemistry, Madurai, India
1999-2002	***Bachelor of Science (Chemistry)*** Periyar Arts College (University of Madras) Cuddalore, India

Awards & Fellowships:

- *2020 AVRA Young Scientist Award – 2021*, AVRA Research Foundation, IICT.
- *SwarnaJayanti Fellowship – 2019-20*, Department of Science and Technology, India
- *Young Scientist Award of the Academy of Sciences, Chennai – 2020*, The Academy of Science, Chennai
- *CRSI-Bronze Medal – 2020,* Chemical Research Society of India
- *CRSI-Young Scientist Award – 2019*, Chemical Research Society of India
- *ISCB-Young Scientist Award – 2017*, Indian Society of Chemists and Biologists, India
- *NASI-Young Scientist Platinum Jubilee Award – 2016*, The National Academy of Sciences, India
- *Institute Research & Development Awards (IRDA) – 2015-2016*, Indian Institute of Technology Madras
- *Young Scientist Medal-2015*, Indian National Science Academy (*INSA*)
- *Young Associate-2015*, Indian Academy of Sciences (*IAS*)
- *Thieme Chemistry Journals Award* – 2013
- DAE-BRNS *Young Scientist Research Award*
- *Post-doctoral fellowship* from Energy Biosciences Institute, Berkeley (Dec 2010-Nov-2011)
- *Post-doctoral fellowship* from Leibniz Society, Germany (Sep 2010-Nov 2010)
- *Alexander-von-Humboldt fellowship*, Germany (July 2008-Aug 2010)
- Received *Guha research medal* for the best Ph. D. thesis of the year in the Department of Organic Chemistry (2007-2008)

- *Research Associate Fellowship* by Indian Institute of Science, Bangalore (Aug 2007-June 2008)
- *Senior Research Fellowship* by Council of Scientific and Industrial Research, India (Jan 2007-July 2007)
- Awarded *Junior Research Fellowship* by Council of Scientific and Industrial Research (CSIR), India (Jan 2005-Dec 2006), one among *the top 20% of the students qualified in CSIR-JRF*
- *Junior Research Fellowship* by Indian Institute of Science, Bangalore (Aug 2004- Dec 2005)
- Secured *all India 8th rank with 99.76 percentile score* in Graduate Aptitude Test in Engineering (*GATE-2004*)
- Received *Prof. C. Natarajan endowment gold medal* in inorganic chemistry at university level (Apr 2004)
- Awarded *Dr. T. P. Meenakshisundaram endowment prize* in Master of Science (Chemistry) at university level (Apr 2004)
- Awarded *Maveeran Sundaralingam endowment scholarship* in Master of Science (Chemistry, 2003-2004)
- Stood First in Bachelor of Science at College level

List of Publications:

***From IIT Madras*:**

74. Lewis Base Catalyzed Intramolecular Oxysulfenylation of Alkenes: Enantioselective Synthesis of Benzoxazines: A. Kesavan, P. Anbarasan; (manuscript under preparation).
73. Cobalt Catalyzed Multisubstituted Allylation of Chelation Assisted C-H bond of (Hetero)arenes with Cyclopropenes: K. Ramachandran, P. Anbarasan; (*Submitted for publications*).
72. Redox-Neutral Rhodium Catalyzed Coupling of *N*-Acetoxyacetanilide with Internal Alkyne: One-Pot Conversion of Nitroarenes to Substituted Indoles: J. Ghoari, K. Ramachandran, P. Anbarasan; (*Submitted for publications*).
71. (Cyclopentadienone)iron Complexes: Synthesis, Mechanism and Applications in Organic Synthesis: M. Akter, P. Anbarasan; *Chem. Asian J.* **2021**, accepted.
70. Palladium-Catalyzed Diastereoselective Synthesis of 2,2,3-Trisubstituted Dihydrobenzofurans *via* Intramolecular Trapping of *O*-Ylides with Activated Alkenes: P. M. Reddy, K. Ramachandran, P. Anbarasan; *J. Catal.* **2021**, *396*, 291.
69. Rhodium-Catalyzed Sommelet Hauser Type Rearrangement of *α*-Diazoimines: Synthesis of Functionalized Enamides: A. C. S. Reddy, K. Ramachandran, P. M. Reddy, P. Anbarasan; *Chem. Commun.* **2020**, *56*, 5649.
68. Diastereoselective Palladium Catalyzed Carbenylative Amination of *ortho*-Vinylanilines with 3-Diazoindolin-2-ones: A. C. S. Reddy, P. M. Reddy, P. Anbarasan; *Adv. Synth. Catal.* **2020**, *362*, 801.

67. Rhodium-Catalyzed Rearrangement of S/Se-Ylides for the Synthesis of Substituted Vinylogous Carbonates: A. C. S. Reddy, P. Anbarasan; *Org. Lett.* **2019**, *21*, 9965.

66. Rhodium Catalyzed Synthesis of C4-Chalcogenoalkylated Oxindoles *via* Sommelet-Hauser Type Rearrangement of 3-Diazoindolin-2-ones: A. C. S. Reddy, B. K. Nayak, P. Anbarasan; *J. Chem. Sci.* **2019**, 131:191.

65. A General Proline Catalyzed Synthesis of 4,5-Disubstituted *N*-Sulfonyl-1,2,3-Triazoles from 1,3-Dicarbonyl Compounds and Sulfonyl Azide: S. Rajasekar, P. Anbarasan; *Chem. Asian J.* **2019**, *14*, 4563.

64. One-pot Transannulation of *N*-Sulfonyl-1,2,3-triazoles to Dihydro *β*-carbolines and Dihydroisoquinolines *via* Rhodium Catalyzed C-H Insertion-*cum*-Base Mediated Aza-Michael Reaction: S. Rajasekar, P. Anbarasan; *J. Org. Chem.* **2019**, *84*, 7747.

63. Metal free directed diastereoselective C2,C3-cyclopropanation of substituted indoles with diazoesters: J. Ghorai, P. Anbarasan; *Org. Lett.* **2019**, *21*, 3431.

62. Trifluoromethylthiolative 1,2-Difunctionalization of Alkenes with Diselenides and $AgSCF_3$: P. Saravanan, P. Anbarasan; *Chem. Commun.* **2019**, *55*, 4639.

61. Cascade Rh(II) and Yb(III) Catalyzed Synthesis of Substituted Naphthofurans via Transannulation of *N*-Sulfonyl-1,2,3-triazoles with *β*-naphthols: S. Kaladevi, M. Kamalraj, M. Altia, S. Rajasekar, P. Anbarasan; *Chem. Commun.* **2019**, *55*, 4507.

60. Tandem Rh(II) and Chiral Squaramide Relay Catalysis: Enantioselective Synthesis of Dihydro-*β*-Carbolines via Insertion to C-H Bond and Aza-Michael Reaction: S. Rajasekar, P. Anbarasan; *Org. Lett.* **2019**, *21*, 3067.

59. Cp*Co(III)-Catalysed Selective Alkylation of C-H Bonds of Arenes and Heteroarenes with α-diazocarbonyl compounds: J. Ghorai, M. Chaitanya, P. Anbarasan; *Org. Biomol. Chem.* **2018**, *16*, 7346. (*Invited article: Web themed issue on Carbenes in Organic Synthesis*)

58. Recent Development and Application of Cyanamides in the Electrophilic Cyanation M. Chaitanya, P. Anbarasan; *Org. Biomol. Chem.* **2018**, *16*, 7084. (invited review)

57. Recent Development in the Cp*Co(III) Catalyzed C-H Bond Functionalizaitons: J. Ghorai, P. Anbarasan; *Asian J. Org. Chem.* **2019**, *8*, 430. (invited review)

56. Rhodium Catalyzed Synthesis of Benzopyrans via Transannulation of N-Sulfonyl-1,2,3-triazoles with 2-Hydroxybenzyl Alcohols: D. Yadagiri, M. Chaitanya, A. C. S. Reddy, P. Anbarasan; *Org. Lett.* **2018**, *20*, 3762.

55. An Electrophilic Trifluoromethylthiolation of Silylenol Ethers and β-Naphthols with Diethylaminosulfur Trifluoride and (Trifluoromethyl)trimethylsilane: P. Saravanan, P. Anbarasan; *Adv. Synth. Catal.* **2018***, 360*, 2894.

54. Lewis Acid/Brønsted Acid Controlled Pd(II)-Catalysed Chemodivergent Functionalization of C(sp^2)–H Bonds with *N*-(Arylthio)i(a)mides: M. Chaitanya, P. Anbarasan; *Org. Lett.* **2018**, *20*, 3362.

53. Palladium Catalyzed Trifluoromethylthiolation of Chelation Assisted C-H bonds: A. Kesevan, M. Chaitanya, P. Anbarasan; *Eur. J. Org. Chem.* **2018**, 3276.

52. Divergent Functionalization of N-Alkyl-2-alkenylanilines: Efficient Synthesis of Substituted Indoles and Quinolines: J. Ghorai, P. Anbarasan; *Chem. Asian J.* **2018**, *13*, 2499. (*Invited article: Homogeneous Catalysis from Young Investigators in Asia* and Highlighted in the "*cover page*").

51. Copper Catalyzed Oxidative Coupling of ortho-Vinylanilines with N-Tosylhydrazones: Efficient Synthesis of Polysubstituted Quinoline Derivatives: A. C. S. Reddy, P. Anbarasan; *J. Catal.* **2018**, *363*, 102.
50. Acid-Mediated Oxychalcogenation of o-Vinylanilides with N-(Arylthio/arylseleno)succinimides: M. Chaitanya, P. Anbarasan; *Org. Lett.* **2018**, *20*, 1183.
49. Ligand-based Modeling for the Prediction of Pharmacophore Features for Multi-targeted Inhibition of the Arachidonic Acid Cascade: N. Saroj Devi, S. Rajasekar, J. Ghorai, M. Ramanan, P. Anbarasan, M. Doble; *Mol. Inf.* **2018**, *37*, 1700073.
48. One-Pot Trifluoromethylative Functionalization of Amides: Synthesis of Trifluoromethylated Bis(indolyl)arylmethanes and Triarylmethanes: V. K. Pandey, P. Anbarasan; *J. Org. Chem.* **2017**, *82*, 12328.
47. Stereoselective Palladium-Catalyzed Synthesis of Indolines via Intramolecular Trapping of N-Ylides with Alkenes: A. C. S. Reddy, V. S. K. Choutipalli, J. Ghorai, V. Subramanian, P. Anbarasan; *ACS Catal.* **2017**, *7*, 6283.
46. Cobalt(III)-Catalyzed Allylation of Arene C–H Bonds: K. Ramachandran, P. Anbarasan; *Eur. J. Org. Chem.* **2017**, 3965.
45. Cobalt(III) Catalyzed Intramolecular Cross-Dehydrogenative C-H/X-H Coupling: Efficient Synthesis of Indoles and Benzofurans: J. Ghorai, A. C. S. Reddy, P. Anbarasan; *Chem. Eur. J.* **2016**, *22*, 16042.
44. Rhodium Catalyzed Diastereoselective Synthesis of 2,2,3,3-Tetrasubstituted Indolines from *N*-Sulfonyl-1,2,3-Triazoles and *ortho*-Vinylanilines: D. Yadagiri, A. C. S. Reddy, P. Anbarasan; *Chem. Sci.* **2016**, *7*, 5934.
43. Palladium Catalyzed Aerobic Oxidative Cyclization of *ortho*-Vinylanilines with Isocyanides: A. C. S. Reddy, P. Anbarasan; *Proc. Indian Nat. Sci. Acad.* **2016**, Accepted for publication. (Invited Article)
42. Copper-catalysed synthesis of trifluoromethyl(hetero)arenes from di(hetero)aryl- λ^3-iodanes: V. K. Pandey, P. Anbarasan; *RSC Adv.* **2016**, *6*, 18525.
41. One-Pot Aminoethylation of Indoles/Pyrroles with Alkynes and Sulfonyl Azides: S. Rajasekar, D. Yadagiri, P. Anbarasan; *Chem. Eur. J.* **2015**, *21*, 17079.
40. Copper Catalyzed Trifluoromethylthiolation of Di(hetero)aryl-λ^3-iodanes: Mechanistic Insight and Application to Synthesis of (Hetero)Aryl Trifluoromethyl Sulfides; P. Saravanan, P. Anbarasan; *Adv. Synth. Catal.* ***2015****, 357*, 3435.
39. Iodine(III) Mediated Oxidative Rearrangement of Enamines: Efficient Synthesis of α-Amino Ketones: D. Yadagiri, P. Anbarasan; *Chem. Commun.* **2015**, *51*, 14203.
38. Rhodium Catalyzed Cyanation of C(sp^2)-H Bond of Alkenes: M. Chaitanya, P. Anbarasan; *Org. Lett.* **2015**, *17*, 3766.
37. Tandem 1,2-Sulfur Migration and (Aza)-Diels-Alder Reaction of *β*-Thio-*α*-Diazoimines: Rhodium Catalyzed Synthesis of (Fused)-Polyhydropyridines, and Cyclohexenes: D. Yadagiri, P. Anbarasan; *Chem. Sci.* **2015**, *6*, 5847.
36. Rhodium Catalyzed C2-Selective Cyanation of Indoles and Pyrroles: M. Chaitanya, P. Anbarasan; *J. Org. Chem.* **2015**, *80*, 3695.

35. Rhodium Catalysed Direct Arylation of Diazo Compounds with Aryl Boronic Acids: Synthesis of Diarylmethine Derivatives: J. Ghorai, **P. Anbarasan**; *J. Org. Chem.* **2015**, *80*, 3455.
34. Production of an acetone-butanol-ethanol mixture from *Clostridium acetobutylicum* and its conversion to high-value biofuels: S. Sreekumar, Z. C. Baer, **A. Pazhamalai**, G. Gunbas, A. Grippo, H. W. Blanch, D. S. Clark, F. D. Toste; *Nature Protocols* **2015**, *10*, 528.
33. Recent Advances in Transition Metal Catalyzed Denitrogenative Transformation of 1,2,3-Triazoles and Related Compounds: **P. Anbarasan**, D. Yadagiri, S. Rajasekar; *Synthesis* **2014**, *46*, 3004. (*invited review*)
32. Rhodium catalyzed transannulation of 1,2,3-triazoles to polysubstituted pyrroles: S. Rajasekar; **P. Anbarasan**; *J. Org. Chem.* **2014**, *79*, 8428.
31. Rhodium catalyzed direct arylation of α-diazoimines: D. Yadagiri, **P. Anbarasan**; *Org. Lett.* **2014**, *16*, 2510.
30. One-pot cascade trifluoromethylation/cyclization of imides: Synthesis of α-trifluoromethylated amine derivatives: V. K. Pandey, **P. Anbarasan**; *J. Org. Chem.* **2014**, *79*, 4154.
29. Palladium catalyzed aryl(alkyl)thiolation of unactivated arenes: P. Saravanan, **P. Anbarasan**; *Org. Lett*. **2014**, *16*, 848.
28. Rhodium catalyzed cyanation of chelation assisted C-H bonds: M. Chaitanya, D. Yadagiri, **P. Anbarasan**; *Org. Lett.* **2013**, *15*, 4960.
27. Rhodium-catalyzed denitrogenative [2,3]-sigmatropic rearrangement: An efficient entry to sulfur containing quaternary center: D. Yadagiri, **P. Anbarasan**; *Chem. Eur. J.* **2013**, *45*, 15115.

***From Ph.D and Postdoc*:**

26. A well-defined iron catalyst for improved hydrogenation of carbon dioxide and bicarbonate: C. Ziebart, C. Federsel, **P. Anbarasan**, R. Jackstell, W. Baumann, A. Spannenberg, M. Beller; *J. Am. Chem. Soc.* **2012**, *134*, 20701.
25. Integration of chemical catalysis with extractive fermentation to produce fungible fuels: **P. Anbarasan**, Z. C. Baer, S. Sreekumar, E. Gross, J. B. Binder, H. W. Blanch, D. S. Clark, F. D. Toste; *Nature* **2012**, *491*, 235.
24. Recent development and perspectives in the palladium-catalyzed cyanation of Aryl-X derivatives: synthesis of benzonitriles: **P. Anbarasan**, T. Schareina, M. Beller; *Chem. Soc. Rev.* **2011**, *40*, 5049 (invited review).
23. A general cyclocarbonylation of aryl bromides and triflates with acetylenes: palladium-catalyzed synthesis of 3-alkylidenefuran-2-ones: X.-F. Wu, B. Sundararaju, **P. Anbarasan**, H. Neumann, P. H. Dixneuf, M. Beller; *Chem. Eur. J.* **2011**, *17*, 8014.
22. A novel and convenient synthesis of benzonitriles: electrophilic cyanation of aryl and heteroaryl bromides: **P. Anbarasan**, H. Neumann, M. Beller; *Chem. Eur. J.* **2011**, *17*, 4217. (Selected as *VIP* and Highlighted in the "*cover page*").
21. Novel C–H functionalization of arenes: palladium-catalyzed synthesis of diaryl sulfides: **P. Anbarasan**, H. Neumann, M. Beller; *Chem. Commun.* **2011**, *47*, 3233.

20. A general rhodium-catalyzed cyanation of aryl and alkenylboronic Acids: **P. Anbarasan**, H. Neumann, M. Beller; *Angew. Chem. Int. Ed.* **2011**, *50*, 519.
19. From noble metal to nobel prize: palladium-catalyzed coupling reactions as key technologies in organic synthesis: X.-F. Wu, **P. Anbarasan**, H. Neumann, M. Beller; *Angew. Chem. Int. Ed.* **2010**, *49*, 9047.
18. Palladium-catalyzed carbonylative C-H activation of heteroarenes: X.-F. Wu, **P. Anbarasan**, H. Neumann, M. Beller; *Angew. Chem. Int. Ed.* **2010**, *49*, 7316 ("*Hot Paper*").
17. A general and efficient catalyst for palladium-catalyzed C−O coupling reactions of aryl halides with primary alcohols: S. Gowrisankar, A. G. Sergeev, **P. Anbarasan**, A. Spannenberg, H. Neumann, M. Beller; *J. Am. Chem. Soc.* **2010**, *132*, 11592.
16. A new and practical Grignard-coupling-fluorination sequence: synthesis of 2-aryl-fluoroarenes: **P. Anbarasan**, H. Neumann, M. Beller; *Chem. Asian J.* **2010**, *5*, 1775.
15. A convenient synthesis of benzonitriles *via* electrophilic cyanation with *N*-cyanobenzimidazole: **P. Anbarasan**, H. Neumann, M. Beller; *Chem. Eur. J.* **2010**, *16*, 4725.
14. Efficient synthesis of aryl fluorides: **P. Anbarasan**, H. Neumann, M. Beller; *Angew. Chem. Int. Ed.* **2010**, *49*, 2219 ("*Hot Paper*"; highlighted in "*Synfacts*"; one of the *most accessed articles* in 8/2009–7/2010).
13. Stereoselective synthesis of (−)-6-acetoxyhexadecanolide: a mosquito oviposition attractant pheromone: K. R. Prasad, **P. Anbarasan**; *Tetrahedron: Asymmetry* **2007**, *18*, 2479.
12. Enantioselective synthesis of α-benzyloxy-ω-alkenals: application to the synthesis of (+)-*exo*-brevicomin, (+)-iso-*exo*-brevicomin, and (−)-isolaurepan: K. R. Prasad, **P. Anbarasan**; *Tetrahedron: Asymmetry* **2007**, *18*, 1419.
11. Enantiodivergent synthesis of both enantiomers of gypsy moth pheromone disparlure: K. R. Prasad, **P. Anbarasan**; *J. Org. Chem.* **2007**, *72*, 3155.
10. Stereoselective synthesis of (–)-microcarpalide: K. R. Prasad, K. Penchalaiah, A. Choudhary, **P. Anbarasan**; *Tetrahedron Lett.* **2007**, *48*, 309.
9. Stereoselective formal synthesis of (–)-centrolobine: K. R. Prasad, **P. Anbarasan**; *Tetrahedron* **2007**, *63*, 1089.
8. Enantiospecific synthesis of (–)-muricatacin from L-(+)-tartaric acid: K. R. Prasad, **P. Anbarasan**; *Tetrahedron: Asymmetry* **2006**, *17*, 2465.
7. An expeditious enantiospecific synthesis of (+)-2-hydroxy-*exo*-brevicomin: K. R. Prasad, **P. Anbarasan**; *Synlett* **2006**, 2087.
6. Enantiodivergent synthesis of both antipodes of hydroxy-*exo*-brevicomin from L-(+)-tartaric acid: K. R. Prasad, **P. Anbarasan**; *Tetrahedron* **2006**, *62*, 8303.
5. Asymmetric synthesis of both enantiomers of α-methyl-α-methoxyphenylacetic acid from L-(+)-tartaric acid: formal enantioselective synthesis of insect pheromone (–)-frontalin: K. R. Prasad, A. Chandrakumar, **P. Anbarasan**; *Tetrahedron: Asymmetry* **2006**, *17*, 1979.
4. Stereoselective synthesis of (+)-boronolide and (–)-5-*epi*-boronolide: K. R. Prasad, **P. Anbarasan**; *Tetrahedron: Asymmetry* **2006**, *17*, 1146.

3. Enantiospecific synthesis of (–)-2-hydroxy-*exo*-brevicomin: K. R. Prasad, **P. Anbarasan**; *Tetrahedron: Asymmetry* **2006**, *17*, 850.
2. An enantiospecific synthesis of (+)-hydroxy-*exo*-brevicomin: K. R. Prasad, **P. Anbarasan**; *Tetrahedron Lett.* **2006**, *47*, 1433.
1. Asymmetric synthesis of unsaturated α-benzyloxyaldehydes: an enantioselective synthesis of (+)-*exo*-brevicomin: K. R. Prasad, **P. Anbarasan**; *Tetrahedron: Asymmetry* **2005**, *16*, 3951.

Book Chapters:

- R. Ramkumar, P. Anbarasan, *Copper Catalyzed Click Reactions* in Copper Catalysis in Organic Synthesis, S. Saranya, G. Anilkumar, Eds.; Wiley VCH, 2020, p. 177. ISBN: 9783527347377.
- M. Chaitanya, P. Anbarasan, *1,2,4,5-Tetrazines in Section 9: Six-membered Rings with Three or more Heteroatoms, and their Fused Carbocyclic Derivatives*, S. J. Gharpure, Ed. In Comprehensive Heterocyclic Chemistry IV, D. Balck, C. Stevens and J. Cossy, Eds.; Elsevier Science, 2021, (in press).
- M. Dhanalakshmi, P. Anbarasan, *Transition Metal Catalyzed C-CN Cross Coupling* in C1 Chemistry, Z. Liu, H. Buxing, K. Ding, X.-F. Wu, Eds.; Wiley VCH, 2021, (in press).

Patents:

- Method for producing fuels, gasoline additives and lubricants: E. Sacia, **A. Pazhamalai**, B. Madhesan, S. Sreekumar, F. D. Toste, A. A. Gokhale, E. M. Carrera, T. A. Bell, G. Gunbas; *PCT Int. Appl.* (**2014**), WO2014US40760 20140603.
- Method to convert fermentation mixture into fuels: F. D. Toste, **P. Anbarasan**, J. B. Binder, P. Willams, D. S. Clark, Z. C. Baer, S. Sreekumar, H. W. Blanch; *PCT Int. Appl.* (**2012**), WO 2012166267 A2 20121206.

Invited Talks (selected):

- *New Approaches to Arylthiolation and Trifluoromethylthiolation;* **Recent Trends in Catalysis 2020 (RTC-2020)***, 26-29th Feb 2020, NIT Calicut.*
- *Selective Functionalization of Ylides Derived from Metallocarbenes;* **Syngenta Agroscience Symposium: Sustainable Chemistry and Technology**, 4th Nov 2019, Syngenta, Goa.
- *Selective Functionalization of Ylides Derived from Metallocarbenes;* **1st Chemical Science Young Investigator Symposium**, 18-20th Oct 2019, IISER Kolkata.
- *Transition Metal Catalyzed Selective Functionalization of Metallocarbenes to N-Heterocycles*; **School of Chemistry, NISER Bhubaneswar**, 15th March 2019.
- *New Approaches to Arylthiolation and Trifluoromethylthiolation*; **International Conference on Chemical Science and Nanomaterials (ICCSN-2019)**, 7-9th March 2019, Vellore.

- *Transition Metal Catalyzed Selective Functionalization of Metallocarbenes to N-Heterocycles*; **International Conference on Organometallics and Catalysis 2018**, 13-16th December 2018, Goa.
- *Transition Metal Catalyzed Selective Functionalization of Metallocarbenes to N-Heterocycles*; **School of Chemistry, IISER Thiruvananthapuram**, 11th October 2018.
- *Transition Metal Catalyzed Selective Functionalization of Metallocarbenes to N-Heterocycles*; **29th Mid-Year Meeting 2018, Indian Academy of Science**, 29-30 June 2018, Mysore.
- *Transition Metal Catalyzed Selective Functionalization of Metallocarbenes to N-Heterocycles*; **Advances in Catalysis**, 12th January 2018, Kanpur.
- *Selective Functionalization of Metallocarbenes to N-Heterocycles*; **Contemporary Facets in Organic Synthesis 2017 (CFOS-2017)**, 22-24th December 2017, Roorkee.
- *Rhodium Catalyzed Transannulation of N-Sulfonyl-1,2,3-Triazoles*; **23rd ISCB International Conference**, 8-10th February 2017, Chennai.
- *New Avenues in Functionalization of Metallocarbenes derived from α-Diazocarbonyl Derivatives*; **53rd Annual Convention of Chemists 2016**, 27-29th December 2016, Visakhapatnam.
- *Rhodium Catalyzed Transannulation of N-Sulfonyl-1,2,3-Triazoles*; **21st International Conference on Organic Synthesis**, 11-16th December 2016, Mumbai.
- *New Avenues in Functionalization of Metallocarbenes derived from α-Diazocarbonyl Derivatives*; **Frontiers in Chemical Sciences 2016**, 8-10th December 2016, Guwahati.
- *Metal catalyzed Trifluoromethyl(thiol)ations using CF_3TMS*; **7th Chemical Frontiers 2016**, 25-28 August 2016, Goa.
- *New Avenues in Functionalization of Metallocarbenes derived from α-Diazocarbonyl Derivatives*; **1st Symposium on Frontiers in Organic Chemistry**, 10th August 2016, BBRC, Bangalore
- *New Avenues in Metal Catalyzed Functionalization of Diazo Compounds*; **XVII NOST-Organic Chemistry Conference (NOST-OCC)**, 27-30 Oct 2015, Jaipur.
- *New Avenues in Metal Catalyzed Functionalization of Diazo Compounds*; **10th Mid-Year Chemical Research Society of India (CRSI) Symposium**, 25th July 2015, NIT-Trichy.
- *Transition Metal Catalysis: A Key Technology for the Synthesis of Fine Chemicals*; **Workshop on Catalysis**, 16th July 2015, University of Manchester, UK.
- *The New Age of α-Diazoimines: Rhodium-Catalyzed Denitrogenative Functionalization of N-Sulfonyl-1,2,3-Triazoles*; **Catalysis and Catalyzed Reactions**, 28th March 2014, Madurai Kamaraj University, Madurai.
- *Lignocellulosic Biomass: Feedstock for Renewable Fuels*; 19th March 2013, Mother Teresa Women's University, Kodaikanal.
- *Renewable Fuels: Lignocellulosic Biomass as Feedstock*; **Frontiers in Chemistry (FIC-2013)**, 1st Feb 2013, St. Xavier's College (Autonomous), Palayamkottai.

- *Electrophilic Coupling Reactions: A New Powerful Tool for the Synthesis of Building Blocks for Pharmaceuticals and Agrochemicals*; 27th July 2012, Orchid Chemicals & Pharmaceuticals Ltd., Chennai.
- "*Electrophilic coupling reactions: a new powerful tool for the synthesis of functionalized (hetero)arenes*"; 13th Sept 2010, Department of Organic Chemistry, Indian Institute of Science, Bangalore.

Conference presentations:

- **RSC-NOST Symposium on Organic & Biomolecular Chemistry** in Leeds, 3-6th October 2017 and presented a poster entitled "Stereoselective Synthesis of Substituted Indolines and β-Carbolines via Functionalization of Metallocarbenes".
- **17th International Symposium on Homogeneous Catalysis (ISHC-17)** in Poznan, on 4-9th July 2010 and presented a poster entitled "*Functionalization of aryl bromides via Grignard reagent: fluorination and cyanation*".
- **16th European Symposium on Organic Chemsitry** in Prague, on 12-16th July-2009 and presented a poster entitled "*Synthesis of P, N-bidentate ligands via direct cycloaddition of disubstituted ethynylphosphine and aryl azide*".
- Attended the **Eighth Tetrahedron Symposium – "Challenges in Organic Chemistry"** at Berlin, on 26-29th Jun-2007 and presented a poster on "*General approach to the enantioselective synthesis of α-benzyloxyaldehydes: application to the total synthesis of Disparlure and Solamin*".
- **In-house symposium** on Chemical Science Division Day (20th Jan 2007), Indian Institute of Science, delivered a talk on "*Enantioselective synthesis of α-hydroxy aldehydes: Total synthesis of bio-active lactones and cyclic ethers*".
- Second Junior-National Symposium organized by **National Organic Symposium Trust (NOST)** in Jaipur, on 11-14th Oct-2006 and delivered a talk on "*Enantiodivergent synthesis of insect pheromones from L-(+)-tartaric acid*".

Research highlights:

- Rhodium-Catalyzed Sommelet Hauser Type Rearrangement of α-Diazoimines: Synthesis of Functionalized Enamides (*Chem. Commun.* **2020**, *56*, 5649) was highlighted in *Synfacts*: "Synthesis of Functionalized Enamides via Rhodium-Catalyzed Cleavage of Triazoles" *Synfacts* **2020**, *16*, 0819.
- Divergent Functionalization of N-Alkyl-2-alkenylanilines: Efficient Synthesis of Substituted Indoles and Quinolines (*Chem. Asian J.* **2018**, *13*, 2499) was highlighted in "*cover page*".
- Rhodium Catalyzed Diastereoselective Synthesis of 2,2,3,3-Tetrasubstituted Indolines from *N*-Sulfonyl-1,2,3-Triazoles and *ortho*-Vinylanilines (*Chem. Sci.* **2016**, *7*, 5934) was highlighted in Synfacts: "Synthesis of Indolines from 1,2,3-Triazoles by a Rhodium-Catalyst" *Synfacts* **2016**, 823.
- Rhodium Catalyzed C2-Selective Cyanation of Indoles and Pyrroles (*J. Org. Chem.* **2015**, *80*, 3695) was one of the most read articles of the month April 2015.
- Renewable Fuels: Catalytic Upgrade – *Nature News*.

- Sweet Diesel: Discovery Resurrects Process to Convert Sugar Directly to Diesel – *Science Daily*.
- On the Road to more Energetic Biofuels – *RSC Chemistry World*.
- Green Energy: Diesel to be made from Sugar – *The Times of India*.
- Berkeley Fermentation Process Converts Sugar Directly to Diesel – *Biodiesel Magazine*.
- More Bang for the Biofuel Buck – *LBNL and US DOE*.
- Synthesis of benzonitriles through electrophilic cyanation of aryl and heteroaryl bromides was selected as VIP article and highlighted in the "*cover page*".
- Efficient synthesis of aryl fluorides (*Angew. Chem. Int. Ed.* **2010**, *49*, 2219) was selected as 'Hot paper' by editors of Angew Chem. This work was also highlighted in Synfacts: "Two Expedient Protocols for the Electrophilic Fluorination of Grignard Reagents" *Synfacts* **2010**, *(6)*, 696.

Research interest:

- Design and development of new synthetic methodologies
- Asymmetric organometallic- and organocatalysis
- Trifluoromethylation and trifluoromethylthiolation
- Synthesis of therapeutically important natural products
- Carbon monoxide/dioxide fixation.