

Biodata

1. Name and full correspondence address:

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3. Institution: Department of Chemistry,
National Institute of Technology Karnataka NITK

4. Date of Birth: 31-05-1981

5. Gender: Male

6. Academic Qualification (Graduation Onwards)

Course	Subject(s)	University/Board	Year	Mark	Division
B.Sc.	Chemistry (Main) Mathematics and Physics (Subsidiary)	University of Calicut, Kerala	2001	962/1000	I st Class (University First Rank)
M.Sc.	Applied Chemistry	University of Calicut, Kerala, India	2003	1641/2000	I st Class (University First Rank)
Ph.D.	Chemistry	University of Kerala, Trivandrum, Kerala	2009		Awarded
GATE	Chemistry		2003		
CSIR- JRF	Chemistry		June 2003		

7. Ph. D. thesis title, Guide's Name, Institute/Organization/University, Year of Award.

Title: *Novel Strategy for Carbocyclic Construction Involving Homo-enolates
Generated by NHC Catalysis*

Guide: **Dr G Vijay Nair**

Institute: Organic Chemistry Section, **NIIST - CSIR**, Trivandrum – 695 019

University: **University of Kerala**, Trivandrum, Kerala

Awarded – 30th June 2009

8. Work experience (in chronological order)
- Post-doctoral Fellow:** 16th July 2009 – 30th July 2010 - Department of Chemistry, School of Science, **University of Tokyo, JAPAN.**
Mentor: **Prof. Eiichi Nakamura**
 - Post-doctoral Fellow:** 1st February 2011 – 31st January 2013 - Department of Organic Chemistry, Arrhenius Laboratory, **Stockholm University, SWEDEN.**
Mentor: **Prof. Jan-E Bäckvall**
 - DST-INSPIRE Faculty Fellow:** 24th October 2013 - 17th June 2014 - Department of Applied Chemistry, Cochin University of Science and Technology, Kochi
 - Assistant Professor:** 18/06/2014 to 31/03/2015 - Department of Chemistry, Sree Kerala Varma College, Thrissur, Kerala. (Affiliated to the University of Calicut, Kerala)
 - Assistant Professor, Grade I -** 01/04/2015 to Present - Department of Chemistry, National Institute of Technology Karnataka (NITK), Surathkal
9. Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant.
- DST – INSPIRE Faculty Award, 2013 -2019** (Total Budget – 35 Lakhs) - Completed
 - SERB – CORE Research Grant** November 2021-2024 (Total Budget – 34.9 Lakhs) - Ongoing

10. Publications (List of papers published in SCI Journals, in year wise descending order).

Sl No	Authors	Title	Journal	Year	Volume	Page number
1.	Bhaskaran, R. P., Nayak, K. H., Babu, B. P.	Synthesis of functionalized benzo[1,3]dioxin-4-ones from salicylic acid and acetylenic esters and their direct amidation	RSC Advances	2021	11	24570–24574
2.	Bhaskaran, R. P., Babu, B. P.	Progress in Electrochemical Trifluoromethylation Reactions	Advanced Synthesis and Catalysis	2020	362	5219-5237

3.	Bhaskaran, R. P., Janardhanan, J. C., Babu, B. P.	Metal-Free Synthesis of Pyrazoles and Chromenopyrazoles from Hydrazones and Acetylenic Esters	ChemistrySelect	2020	5	4822– 4825
4.	Janardhanan, J. C., Bhaskaran, R. P., Praveen, V. K., Manoj, N., Babu, B. P.	Transition-Metal- Catalyzed Syntheses of Indazoles	Asian Journal of Organic Chemistry	2020	9	1410- 1431
5.	Janardhanan, J. C., James, K., Puthuvakkal, A., Bhaskaran, R. P., Suresh, C. H., Praveen, V. K., Manoj, N., Babu, B. P.	Synthesis of hybrid polycycles containing fused hydroxy benzofuran and 1H- indazoles via a domino cyclization reaction	New Journal of Chemistry	2019	43	10166 – 10175
6.	Amrutha, U., Babu, B. P. , Prathapan, S.	Metal free synthesis of 1-azaspiro[4.4]- nonane-3-one system via reactions of nitrones with 1,1- disubstituted allenes.	Journal of Heterocyclic Chemistry	2019	56	3236- 3243
7.	Deepthi, A., Babu, B. P. , Balachandran, A. L.	Synthesis of Furans: Recent Advances	Organic Preparations and Procedures International	2019	51	409-442
8.	Janardhanan, J. C., Mishra, R. K., Das, G., Sini, S., Jayamurthy, P., Suresh, C. H., Praveen, V. K., Manoj, N., Babu, B. P. ,	Functionalizable 1H- Indazoles by Palladium Catalyzed Aza- Nenitzescu Reaction: Pharmacophores to Donor-Acceptor Type Multi-Luminescent Fluorophores.	Asian Journal of Organic Chemistry	2018	7	2094- 2104
9.	Babu, B. P. , Meng, X. and Bäckvall, J.-E.	Aerobic Oxidative Coupling of Arenes and Olefins <i>via</i> a Biomimetic Approach	Chemistry: A European Journal	2013	19	4140- 4145
10.	Babu, B. P. , Endo, Y. and Bäckvall, J.-E.	Biomimetic Aerobic Oxidation of Amino Alcohols to Lactams	Chemistry: A European Journal	2012	18	11524- 11527
11.	Rajan, R., Babu, B. P. , Kumar, A., Paul, R. R., Sinu, C. R., Suresh, E and Nair, V.	A Facile Multicomponent Reaction Involving Isoquinoline, Dimethyl Allenedicarboxylate and 2-Oxo-1H-indol-3- ylidenes	Synthesis	2012	44	417-422
12.	Nair, V., Vellalath, S., Babu, B. P. , Varghese, V., Paul, R. R and Suresh, E.	NHC-Catalyzed Annulation of Enals to Tethered Dienones:	Organic and Biomolecular Chemistry	2010	8	4861- 4866

		Efficient Synthesis of Bicyclic Dienes				
13.	Nair, V., Varghese, V., Babu, B. P. , Sinu, C. R. and Suresh, E.	A Novel Pseudo Four Component Reaction Involving Homoenate for the Synthesis of γ -Aminobutyric Acid Derivatives	Organic and Biomolecular Chemistry	2010	8	761-764
14.	Paul, R. R., Varghese, V., Beneesh, P. B. , Sinu, C. R., Suresh, E., Anabha, E. R.	Nitrone cycloaddition to quinones: A novel strategy for the synthesis of benzisoxazolidenes	Journal of Heterocyclic Chemistry	2010	47	396-399
15.	Nair, V., Babu, B. P. , Vellalath, S., Varghese, V., Raveendran, A. E. and Suresh, E.	Nucleophilic Heterocyclic Carbene Catalyzed Annulation of Enals to Chalcones in Methanol: A Stereoselective Synthesis of Highly Functionalized Cyclopentanes.	Organic Letters	2009	11	2507-2510
16.	Nair, V., Sinu, C. R., Babu, B. P. , Varghese, V., Jose, A. and Suresh, E.	Novel Nucleophilic Heterocyclic Carbene Mediated Stereoselective Conjugate Addition of Enals to Nitrostyrenes via Homoenate.	Organic Letters	2009	11	5570-5573
17.	Nair, V., Babu, B. P. , Varghese, V., Sinu, C. R., Paul, R. R., Anabha, E. R. and Suresh, E.	A Novel Multicomponent Reaction Involving Isoquinoline, Allenoate and Cyanoacrylates	Tetrahedron Letters	2009	50	3716-3718
18.	Nair, V., Babu, B. P. , Vellalath, S. and Suresh, E.	Stereoselective Synthesis of Spirocyclopentanones <i>via</i> N-Heterocyclic Carbene Catalyzed Reaction of Enals and Dienones.	Chemical Communications	2008		747-749
19.	Nair, V., Vellalath, S. and Babu, B. P.	Recent Advances in Carbon- Carbon Bond-Forming Reactions Involving Homoenolates Generated by NHC catalysis	Chemical Society Reviews	2008	37	2691-2698
20.	Nair, V., Biju, A. T., Mathew, S. C. and Babu, B. P.	Carbon-Nitrogen Bond-Forming Reactions Mediated by Dialkyl Azodicarboxylate: A	Chemistry an Asian Journal	2008	3	810-820

		Promising Synthetic Strategy				
21.	Nair, V., Deepthi, A., Poonoth, M., Santhamma, B., Vellalath, S., Babu, B. P. , R. Mohan and Suresh, E.	The Reaction of Dimethoxycarbene - DMAD Zwitterion with 1, 2-Diones and Anhydrides: A Novel Synthesis of Highly Substituted Dihydrofurans and Spirodihydrofurans.	Journal of Organic Chemistry	2006	71	2313-2319
22.	Nair, V., Deepthi, A. and Babu, B. P.	A Novel Three Component Reaction of Triphenylphosphine, DMAD and Electron Deficient Styrenes: Facile Synthesis of Stable Cyclopentenyl Phosphoranes	Synthesis	2006		1443-1446
23.	Nair, V., Pillai, A. N., Beneesh, P. B. and Suresh, E	Engaging the Pyridine-DMAD Zwitterion in a Novel Strategy for the Selective Synthesis of Highly Substituted Benzene and Cyclopentenedione Derivatives.	Organic Letters	2005	7	4625-4628
24.	Nair, V., Beneesh, P. B. , Sreekumar, V., Bindu, S., Menon, R. S. and Deepthi, A.	The Multicomponent Reaction of Dimethoxycarbene, Dimethyl Butynedioate and Electrophilic Styrenes: An Unprecedented Synthesis of Highly Substituted Cyclopentenone Acetals.	Tetrahedron Letters	2005	46	201-203
25.	Nair, V., Menon, R. S., Beneesh, P. B. , Sreekumar, V. and Bindu, S.	A Novel Multicomponent Reaction Involving Isocyanide, Dimethyl Acetylenedicarboxylate (DMAD) and Electrophilic Styrenes: Facile Synthesis of Highly Substituted Cyclopentadienes.	Organic Letters	2004	6	767-769

11. Detail of patents: Nil

12. Books/Reports/Chapters/General articles etc.: Book Chapter

Bhaskaran, R. P., and **Babu, B. P.** (2021). "*Green Chemistry of Recoverable Catalysts*", 299 - 322. Book chapter in the book "Green Organic Reactions" by Springer Nature, Singapore. ISBN: 978-981-336-897-2. DOI: 10.1007/978-981-33-6897-2.

13. PhD Guidance

- a) PhD Awarded – One
- b) PhD Ongoing - 4

14. Courses Handled at NITK

- a) CY 902 - Spectroscopy of Organic Compounds
- b) CY 901 - Advanced Organic Chemistry
- c) CY 877 - Modern Methods and Reagents in Organic Synthesis
- d) CY 804 - Spectroscopy Applications in Chemistry
- e) CY 754 – Spectroscopy
- f) CY706 - Organic Chemistry Practical I
- g) CY705 - Symmetry, Group Theory and Quantum Chemistry
- h) CY255 - Technical Analysis Lab
- i) CY111 - Chemistry Laboratory
- j) CY110 – Chemistry
