

## Dr. Parimal Jolly Maliekal

### Personal Details

**Address** : Indraprastha Society, B Wing, Flat No. 19,  
Plot No.16, sector 4, Koparkhairane 400709

**Date of Birth** : 19<sup>th</sup> December, 1991

**Gender** : Female

**Nationality** : Indian

**Marital Status** : Married

**Children** : 1 year 8 months old daughter

**Contact no.** : 8425952633

**E-mail** : parimaljolly91@gmail.com



**Languages known** : Malayalam, Marathi, English & Hindi

### Career Objective

Enthusiastic Assistant Professor well-versed in teaching methods. Known for providing great support to both professors and students with approachable demeanor and excellent attention to detail. Dedicated to classroom and long-term student success.

### Academic Record

Exam Appeared	Board / University	Year of Passing	Percentage
S.S.C.	Maharashtra State Education Board	March 2007	82.61
H.S.C.	Maharashtra Secondary & Higher Education	March 2009	68.83
B.Sc.	University of Mumbai	March 2012	67.87
M.Sc.	University of Mumbai	April 2014	69.00
Ph.D.	Department of Chemistry, University of Mumbai	2023	

## Teaching Experience

Post	College/ Institute	Class	Year
Assistant Professor	B. N. Bandodkar College of Science, Thane.	F.Y., S.Y. and T.Y.B.Sc. M.Sc. practicals	2014-2018
Assistant Professor	Vasantdada Patil Pratishthan's College of Engineering and Visual Arts	F.Y.Engineering	2022-2023
Assistant Professor	K. J. Somaiya College of Science	BSc. and MSc.	2024-2025

## Achievements

- ❖ Awarded for best oral presentation at Research Scholars' Meet (RSM-2022), HSNC University, Mumbai Kishinchand Chellaram College in Association with Indian Chemical Society (Mumbai Branch) for the work entitled "A theoretical study of switching regioselectivity in the L-proline catalysed asymmetric Mannich reaction using DMSO and  $\text{CHCl}_3$ ."
- ❖ Awarded 1<sup>st</sup> prize in oral presentation at *New Dimensions Of Chemistry (NDC)*, Department of Chemistry, Wilson College, Mumbai, 2020 for paper entitled as "Modelling of the enantioselective reaction organocatalyzed by chiral benzimidazoles through theoretical calculations"
- ❖ Scopus h index:4
- ❖ Qualified in "Aptitude Test in Chemistry", organized by the Indian Chemical Society, BARC 91.27%, Rank: 39<sup>th</sup> out of 607.
- ❖ Awarded as the Best Student of the year in T.Y.B.Sc. at V. K. Krishna Menon College, 2012.
- ❖ Successfully qualified "Homi Bhabha competition" held by Greater Bombay Science Teachers' Association, in November 2005.

## Research Interest

- ❖ Exploring reaction mechanism by computational chemistry.
- ❖ Theoretical investigation on modeling of organic reactions involving asymmetric organocatalyst.

## Research Experience

### ❖ Summary of Ph. D. research work:

The computer modelling of asymmetric reactions employing organocatalyst is presented in my research work. The characteristics and interactions of reaction components such as the substrate, substituent, catalysts and solvents are described. It provides the results reached during the theoretical estimation regarding the reaction pathways found. Such findings may aid in better understanding the mechanistic perspectives of the organocatalyzed asymmetric process.

- ❖ Good operating skills on scientific software like Gaussian, Turbomole, Avogadro, Origin, Chemdraw, Multiwfn, Visual Molecular Dynamics.
- ❖ Hands-on experience in operating X-ray diffraction (XRD), Nuclear magnetic resonance (NMR), Ultraviolet (UV) and Infrared (IR).
- ❖ Ability to independently identify, approach and solve challenging scientific problems.
- ❖ Excellent writing and verbal skills to develop manuscripts and presentations.
- ❖ Substantial skill in preparing, presenting and publishing research results in peer reviewed journals.

## List of Publications

1. **Parimal J. Maliekal**, Nitin R. Gulvi, Anil V. Karnik and Purav M. Badani Origin and turnaround of enantioselectivity in a chiral organocatalysed Diels Alder reaction: A mechanistic study *J. Phys. Org. Chem.* 33 (2020) e4072.
2. **Parimal J. Maliekal**, Nitin R. Gulvi and Purav M. Badani Role of non-covalent interactions in deciding the fate of product formation in bifunctional thiourea assisted chiral organic reactions *Theor. Chem. Acc.* 2022, 141, 43.
3. **Parimal J. Maliekal**, Nitin R. Gulvi, Arati S. Gavali and Purav M. Badani Solvent controlled regio-, stereo- and enantioselectivity in L-proline catalyzed asymmetric Mannich reaction: A case study of H-acceptor and H-donor solvents *J. Chem. Sci.* (2024) 136:44.

4. Siddharth B. Kamble, **Parimal J. Maliekal**, Pankaj D. Dharpure, Purav M. Badani, and Anil V. Karnik Synthesis of Concave and Vaulted 2H-Pyran-fused BINOLs and Corresponding [5] & [7]-Oxa-helicenoids: Regioselective Cascade Concerted Route and DFT studies *J. Org. Chem.* 2020 85(12), 7739-7747.
5. Arati S. Gavali, **Parimal J. Maliekal**, Vaishnavi A. Naik and Purav M. Badani Decoding the impact of solvents in altering the conversion rates and stereoselectivity in proline-catalyzed asymmetric aldol reaction *Theor. Chem. Acc.* 2023, 143, 14.
6. Nitin R. Gulvi, Priyanka Patel, **Parimal J. Maliekal** and Purav M. Badani Effect of substitution on dissociation kinetics of  $C_2H_5X$ , (X = F, Cl, Br and I): A theoretical study. *Mol. Phys.* 2020.
7. Nitin R. Gulvi, **Parimal J. Maliekal**, Mitesh G. Mapari and P. M. Badani Theoretical kinetic analysis and molecular dynamic simulations for exploring the dissociation pathways of  $CF_3OH$  *Comput. Theor. Chem.* 2020.
8. Nitin R. Gulvi, **Parimal J. Maliekal**, Ramchandra Thorat and Purav M. Badani Effect of functional group on dissociation kinetics of ester and acid derivative of bromopropane *Comput. Theor. Chem.* 2021.
9. Valmik P. Jejurkar, Gauravi Yashwantrao, Pawan Kumar, Suditi Neekhra, **Parimal J. Maliekal**, Purav Badani, Rohit Srivastava and Satyajit Saha Design and Development of Axially Chiral Bis(naphthofuran) Luminogens as Fluorescent Probes for Cell Imaging *Chem. Eur. J.* 2021, 27, 5470–5482.
10. Valmik P. Jejurkar, K. T. Sourabh, Gauravi Yashwantrao, Nishigandha S. Mone, **Parimal J. Maliekal**, Purav Badani, Surekha Satpute, and Satyajit Saha Troger's Base Derived Butterfly Shaped Contorted AIEgens for Dead Bacterial Cell-Imaging *ChemistrySelect* 2021, 6, 3737–3744.
11. **Parimal J. Maliekal**, Priyanka Patel, Sudheer K. Lingayat and Purav M. Badani Understanding the kinetics and reduction of Methylene Blue using  $NaBH_4$  *Russ. J. Phys. Chem. B* 2022 16, 869-876.
12. Gauravi Yashwantrao, Prapti Shetty, **Parimal J. Maliekal**, Purav Badani and Satyajit Saha Dehydrative Substitution Reaction in Water for the Preparation of Unsymmetrically

Substituted Triarylmethanes: Synthesis, Aggregation-Enhanced Emission, and Mechanofluorochromism *ChemPlusChem* 2022, 87, e202200150

13. Sandeep S. Kahandal, **Parimal J. Maliekal**, Asma Abdullah Samani, Sumaiya Ansari, Sultana Mapkar, Sumit Singh, Vishwajeet Misale, Priyanka Varma and Moitreyee Saha Calcium Estimation of Fenugreek Leaves and Seeds by Various Estimation Methods *Proceedings of the International Conference on Emerging Technologies For Sustainable Agriculture 2017* ISBN: 978-81-923628-4-7
14. Priyanka Varma, **Parimal J. Maliekal**, Sumitha Nair, Khushboo Patil, Krutika Bhoir, Khushboo Gupta, Rupali Singh, Sandeep S. Kahandal and Moitreyee Saha Preliminary Phytochemical Screening of Fenugreek Leaves (Air, Oven And Microwave Dried) and Dry Seeds *Proceedings of the International Conference on Emerging Technologies For Sustainable Agriculture 2017* ISBN: 978-81-923628-4-7

#### Paper presented in International/National Conferences

1. **Parimal J. Maliekal** and Purav M. Badani “The enantioselective formation of Epipyrruloanthracene-dione derivative catalysed by chiral organocatalyst: A theoretical study” *FICS*, Department of Chemistry, Indian Institute of Technology Guwahati, 2018.
2. **Parimal J. Maliekal** and Purav M. Badani “Modelling of the enantioselective reaction Organocatalyzed by chiral benzimidazoles through theoretical calculations” *New Dimensions of Chemistry (NDC)*, Department of Chemistry, Wilson College, Mumbai, 2020. **Awarded 1<sup>st</sup> prize in oral presentation.**
3. **Parimal J. Maliekal** and Purav M. Badani “Origin of enantioselectivity in a chiral organocatalysed Diel-Alderreaction: A Mechanistic Study” *Covid 19: Perspective of Science and Challenges*, Siddharth College of Arts, Science and Commerce, Mumbai, 2020.
4. **Parimal J. Maliekal**, Nitin R. Gulvi and Purav M. Badani “Exploring the Effect of Substituents in Organocatalysed Asymmetric Reactions through Density Functional Theory” DAE Symposium on *Current Trends in Theoretical Chemistry (CTTC-2020)* Chemical Division, Bhabha Atomic Research Centre, Mumbai, 2021.
5. **Parimal J. Maliekal** and Purav M. Badani “A theoretical study of switching regioselectivity in the L-proline catalysed asymmetric Mannich reaction using DMSO and CHCl<sub>3</sub>” *Research*

*Scholars' Meet (RSM-2022)*, HSNC University, Mumbai Kishinchand Chellaram College in Association with Indian Chemical Society (Mumbai Branch). **Awarded as Best oral presentation**

6. **Parimal J. Maliekal** and Purav M. Badani "Solvent induced regioselectivity in an L-Proline catalysed asymmetric mannich reaction" *International Conference On Sustainability: Integrated And Scientific Approach*, University Of Mumbai.

### Extra-curricular Activities

1. Successfully completed **National Program on Technology Enhanced Learning (NPTEL)** on computational chemistry and classical molecular dynamics conducted by IIT Bombay.
2. Attended '**Mumbai Workshop on Quantum Chemistry (MWQC-2018)**' organized by IIT Bombay.
3. Worked as an expert for M. Sc. practical exam at the Department of Chemistry, University of Mumbai.
4. Trained nine post graduate students for project work.
5. Course on 'Research Methodology', conducted by Prof. Sudhakar Agarkar of BRIMS, Vidya Prasarak Mandal's Dr. V. N. Bedekar Institute of Management from March 2017 to August 2017

### References

❖ **Dr. A. V. Karnik**

Professor  
Department of Chemistry,  
University of Mumbai.  
e-mail: avkarnik@chem.mu.ac.in

❖ **Dr. P. M. Badani**

Assistant Professor,  
Department of Chemistry,  
University of Mumbai.  
e-mail: pmbadani@chem.mu.ac.in  
Mob. No. 9819506414

❖ **Mr. Ramu Aital**

Associate Professor,  
Department of Chemistry,  
Vasantdada Patil Pratishthan's College of  
Engineering and Visual Arts  
Mob. No. 9867086236

❖ **Dr. Anita Goswami-Giri**

Head, Department of Chemistry,  
B. N. Bandodkar College of Science,  
Thane (W)  
e-mail: anitagoswamigiri@gmail.com  
Mob. No. 9967899417

**Declaration**

I, solemnly declare that the information furnished above is true to the best of my knowledge and belief.

Dr. Parimal Jolly Maliekal