


# Curriculum vitae

## Vishram L. Terse, Ph.D.




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## Employment History

2021 – . . . .  **Bioinformatics Scientist I**, MedGenome Labs Ltd.

## Education


- 2013 – 2020  **Ph.D., NCBS, Bengaluru (India)** Biology (computational).  
Thesis title: *Understanding protein folding and domain swapping using structure based model MD simulations*. PI: Dr. Shachi Gosavi
- 2011 – 2013  **M.Sc. IIT Bombay, Mumbai (India)**. Biotechnology.  
Thesis title: *Functional annotation of putative glycosyltransferases from Mycobacterium tuberculosis (computational project)*. Guide: Prof. P. V. Balaji.
- 2008 – 2011  **B.Sc. KET's V. G. Vaze college, Mumbai (India)** Biotechnology.

## Skills

-  MD simulations (coarse grained and atomistic) using GROMACS and their analysis.
-  Analysis of simulation trajectories using contact maps to understand how proteins fold.
-  Identifying structural features and functional regions of proteins using a theoretical construct called folding motif.
-  Setting up bioinformatics pipeline for ligand screening using AutoDock.
-  Programming languages: perl, shell, C, python, MATLAB, R and SQL.
-  Familiar with pbs for cluster job submission.
-  Experienced in Unix based environments (Fedora/CenOS/Ubuntu).
-  Text editors : vim and VS Code, Version control : Git/GitHub.
-  Visualization softwares: vmd and pymol
-  Image editors : Adobe illustrator and GIMP

## Research Publications

### Journal Articles

- 1 Das, A., Yadav, A., Gupta, M., R, P., **Terse, V. L.**, Vishvakarma, V., ... Maiti, S. (2021). Rational design of protein-specific folding modifiers. *Journal of the American Chemical Society*, 143(44), 18766–18776. PMID: 34724378.  doi:10.1021/jacs.1c09611

- 2 **Terse, V. L., & Gosavi, S.** (2021). The molecular mechanism of domain swapping of the c-terminal domain of the sars-coronavirus main protease. *Biophysical Journal*, 120(3), 504–516. [doi:10.1016/j.bpj.2020.11.2277](https://doi.org/10.1016/j.bpj.2020.11.2277)
- 3 Mascarenhas, N. M., **Terse, V. L., & Gosavi, S.** (2018). Intrinsic disorder in a well-folded globular protein. *The Journal of Physical Chemistry B*, 122(6), 1876–1884. PMID: 29304275. [doi:10.1021/acs.jpcb.7b12546](https://doi.org/10.1021/acs.jpcb.7b12546)
- 4 **Terse, V. L., & Gosavi, S.** (2018). The sensitivity of computational protein folding to contact map perturbations: The case of ubiquitin folding and function. *The Journal of Physical Chemistry B*, 122(49), 11497–11507. [doi:10.1021/acs.jpcb.8b07409](https://doi.org/10.1021/acs.jpcb.8b07409)

## Projects

### Ph.D. projects

- Intrinsic disorder in well-folded globular proteins.
- The sensitivity of computational protein folding to contact map perturbations: The case of ubiquitin folding and function.
- Investigating the cause of domain swapping in the C-terminal domain of main protease (M<sup>pro</sup>C) from SARS-CoV.
- Understanding the domain swapping mechanism in mutant protein G and its application in designing a novel domain swapped dimer (unpublished).

### Summer internships

- 2009-2011 ■ 3 consecutive summer internships under POBE programme at JNCASR, Bangalore which include lectures, lab training and two cell biology related projects.

## Conferences

- 2019 ■ Attended and presented poster at EMBO protein-protein interaction workshop and EMBO IDP conference.
- 2014, 2016 ■ Attended and presented poster at International protein folding conference
- 2014 - 2019 ■ Member of Protein Journal club at NCBS. Its activities include presenting and discussing recent papers related to protein structure, function, folding and design.
- 2011 ■ Represented Mumbai University at Inter University Research Festival, Avishkar.
- 2011 ■ Attended Graduate Student's Meet organised by ACTREC.

## Organisational/Managerial skills

- 2019 ■ Volunteer at the EMBO protein protein interaction workshop.
- 2012 ■ **Generations 2011, BSBE, IIT Bombay.,** Contributed to the organization of National level Biotechnology Festival organized by Symbiotek, Bioschool Association, IIT Bombay.
- 2009-2010 ■ Was a member of centre for talent search to train students for national talent search exam.