

Curriculum Vitae

TARUN KUMAR BHATT

Indian, Male, DOB-15th Nov 1982

Department of Biotechnology

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Area of Research:

- Parasitology
- *In-silico* and *In-vitro* drug screening.
- Vaccine Development
- Parasite Diagnostics

Academic Qualifications:

- **2011-Present:** Assistant Professor at Central University of Rajasthan, Kishangarh, India.
- **2010-2011:** Postdoc at The Scripps Research Institute, San Diego, California, USA.
- **2005-2010:** PhD- Structural and biochemical studies on malaria parasite proteins involved in protein synthesis machinery, International Centre for Genetic Engineering and Biotechnology, New Delhi, India.
- **2003-2005:** Master of Science (Biotechnology and Molecular Biology), Madurai kamaraj University, Madurai, Tamilnadu (India) **82.5 %** marks, First Class.
- **1999-2002:** Bachelor of Science (Chemistry, Zoology, Botany and English), Mohanlal Sukhadia University, Udaipur (india), **68.19%** marks, First Class.
- **1998-1999:** Senior Secondary (Chemistry, Physics, Biology and English), CBSE, Rajasthan, India, **66.0%** marks, First class.

Publications:

S.N.	Paper Published	Impact factor
1.	Sharma D,.....Bhatt TK. Synthesis and inhibition studies towards the discovery of benzodiazepines as potential antimalarial compounds. Exp. Parasitology, Dec 2022	
2.	Rana M, Cho H, Arya H, Bhatt TK, Bhar K, Bhatt S, Mirica L and Sharma AK. Azo-Stilbene and Pyridine-Amine Hybrid Multifunctional Molecules to Target Metal Mediated Neurotoxicity and Amyloid- β Aggregation in Alzheimer's disease. Inorg. Chem., 61 (27), 10294–10309, 2022.	5.4
3.	Rai P, Arya H, Saha S, kumar D and Bhatt TK. Drug repurposing based novel anti-leishmanial drug screening using <i>in-silico</i> and <i>in-vitro</i> approaches. J Biomol Struct Dyn., July 2021.	3.1
4.	Rana, M., Pareek, A., Bhardwaj, S., Arya, G., Nimesh, S., Arya, H., Bhatt, TK,	3.07

	Yaragorla, S. and Sharma, AK. Aryldiazoquinoline based multifunctional small molecules for modulating A β 42 aggregation and cholinesterase activity related to Alzheimer's disease. <i>RSC Advances</i> , 10(48) , pp.28827-28837, 2020.	
5.	Sharma D, Dada R, Tejavath KK, Rai P, Soni R, Yaragorla S, Bhatt TK . A paradigm towards the antimalarial quest: in silico identification and biological evaluation of novel inhibitors targeting 1-deoxy-D-xylulose-5-phosphate reductoisomerase. <i>J Biomol Struct Dyn.</i> , 38:295-301 , 2020.	3.1
6.	Pandey RK , Ali M, Ojha R, Bhatt TK , Prajapati VK. Developemt of multi-epitope driven subunit vaccine in secretory and membrane proteins of Plasmodium falciparum to convey protection against malaria infection. <i>Vaccine</i> , 36(30):4555 , 2018.	3.23
7.	Pandey RK , Sharma D, Ojha R, Bhatt TK , Prajapati VK. Chemical system biology based molecular interactions to identify inhibitors against Q151M mutant of HIV-1 reverse transcriptase. <i>Infect Genet Evol.</i> , 63:5-12 , 2018.	2.5
8.	Pandey RK, Bhatt TK , Prajapati VK. Novel Immunoinformatics Approaches to Design Multi-epitope Subunit Vaccine for Malaria by Investigating Anopheles Salivary Protein. <i>Sci. Rep.</i> , 8:1125 , 2018.	4.25
9.	Sharma D, Soni R, Rai P, Sharma B, Bhatt TK . Relict plastidic metabolic process as a potential therapeutic target. <i>Drug Discovery Today</i> , 23(1): 134-140 , 2017	6.36
10.	Sharma B & Bhatt TK . Genome-wide identification and expression analysis of E2 ubiquitin-conjugating enzymes in tomato. <i>Sci. Rep.</i> 7(1):8631 , 2017.	4.25
11.	Soni R, Sharma D, Rai P, Sharma B, Bhatt TK . Signaling Strategies of Malaria Parasite for Its Survival, Proliferation, and Infection during Erythrocytic Stage. <i>Front. Immunol.</i> , 8:349 , 2017 https://doi.org/10.3389/fimmu.2017.00349	6.24
12.	Rai P, Sharma D, Soni R, Khatton N, Sharma B, Bhatt TK . <i>Plasmodium falciparum</i> Apicoplast and Its Transcriptional Regulation Through Calcium Signalling. <i>Journal of Microbiology</i> , 55(4):231-236 , 2017.	1.924
13.	Kumar A, Sharma D, Aggrawal ML, Chacko KM, Bhatt TK . Cancer-testis antigens as molecular drug targets using network pharmacology. <i>Tumor Biology</i> . 1-9 , 2016.	2.926
14.	Sharma D, Soni R, Patel S, Joshi D, Bhatt TK . In-silico studies on DegP protein of Plasmodium falciparum in search of anti-malarials. <i>Journal of Molecular Modeling</i> , 22:201 , 2016 DOI: 10.1007/s00894-016-3064-3	1.3
15.	Pandey RK, Verma P, Sharma D, Sundar S, Bhatt TK , Prajapati VK. High-throughput virtual screening and quantum mechanics approach to develop imipramine analogues as leads against trypanothione reductase of Leishmania. <i>Biomedicine & Pharmacotherapy</i> , 83:141-152 , 2016.	2.3
16.	Sharma B, Joshi D, Yadav P, Gupta AK & Bhatt TK . Role of ubiquitin-mediated degradation system in plant biology. <i>Front. Plant Sci.</i> , 07:806 , 2016. http://dx.doi.org/10.3389/fpls.2016.00806	4.45
17.	Bhatt TK , Soni R and Sharma D. Recent updates on DTD (D-Tyr-tRNATyr Deacylase): An enzyme essential for fidelity and quality of protein synthesis. <i>Frontiers in Cell and Developmental Biology</i> , 26 April 2016 http://dx.doi.org/10.3389/fcell.2016.00032	6.6
18.	Soni R, Sharma D & Bhatt TK . Plasmodium falciparum secretome in erythrocyte and beyond, <i>Frontiers in Microbiology</i> , 7:194 , 2016.	4.1

19.	Soni R, Sharma D, Patel S, Sharma B & Bhatt TK . Structure based binding between protein farnesyl transferase and PRL-PTP of malaria parasite: An interaction study of prenylation process in Plasmodium, Journal of Biomolecular Structure and Dynamics , 34(12):2667-2678, 2016 . DOI:10.1080/07391102.2015.1126533	3.1
20.	Patel S, Joshi D, Soni R, Sharma D & Bhatt TK . Molecular modeling, in silico screening and molecular dynamics of PfPRL-PTP of P.falciparum for identification of potential anti-malarials, Journal of Biomolecular Structure and Dynamics , Sept 22:1-15, 2015 DOI: 10.1080/07391102.2015.1078746.	3.1
21.	Pandey RK, Sharma D, Bhatt TK , Sundar S & Prajapati VK. Developing imidazole analogues as potential inhibitor for Leishmania donovani trypanothione reductase: virtual screening, molecular docking, dynamics and ADMET approach, Journal of Biomolecular Structure and Dynamics , Sept 28:1-13, 2015 DOI:10.1080/07391102.2015.1085904.	3.1
22.	Kalidhasan N, Joshi D, Bhatt TK and Gupta AK. Identification of key genes involved in root development of tomato using expressed sequence tag analysis. Physiology and Molecular Biology of Plant , 21 (4):491-503, 2015 .	0.95
23.	Bhatt TK , Khan S, Dwivedi VP, Banday MM, Sharma A, Chandele A, Camacho N, Pouplana LR, Wu Y, Craig AG, Mikkonen AT, Mair AG, Yogavel M, Sharma A. Malaria parasite tyrosyl-tRNA synthetase upon secretion triggers pro-inflammatory responses. Nat. Commun. 8 (2):530, 2011 .	11.32
24.	Bhatt TK , Yogavel M, Wydau S, Berwal R, Sharma A. Ligand-bound structure provide atomic snapshots for the catalytic mechanism of D-amino-acid deacylase. J Biol Chem. 285(8):5917-30, 2010 .	4.57
25.	Bhatt TK , Kapil C, Khan S, Jairajpuri MA, Sharma V, Satoni D, Silvestrini F, Pizzi E, Sharma A. A genomic glimpse of aminoacyl-tRNA synthetases in malaria parasite <i>Plasmodium falciparum</i> . BMC Genomics. 31(10):644, 2009 .	3.86
26.	Yogavel M, Khan S, Bhatt TK . and Sharma A: Structure of native D-tyrosyl-tRNA ^{Tyr} deacylase by Iodide-SAD: structural polymorphism and HEPES bound enzyme states. Acta Crystallogr D Biol Crystallogr. 66(Pt 5):584-92, 2010 .	5.2
27.	Goyal S, Arora S, Bhatt TK , Das P, Sharma A, Kumari S, Arya D.S. Modulation of PPAR-gamma by telmisartan protects the heart against myocardial infarction in experimental diabetes. Chem Biol Interact. 14;185(3):271-80, 2010 .	3.7

Books

S.N.	Title
1.	Studies on protein synthesis machinery of malaria parasite: Identification of new drug targets against malaria parasite by targeting protein synthesis machinery LAP Lambert Academic Publishing (2012-07-19) Tarun Kumar Bhatt ISBN: 9783659175749
2.	The design and development of novel drugs and vaccines: Principles and protocols Academic Press, Elsevier Tarun Kumar Bhatt and Surendra Nimesh 9780128214718

Book chapters:

S.N.	Title
1.	H Arya, TK Bhatt . Role of Bioinformatics in Subunit Vaccine Design. <i>Molecular Docking for Computer-Aided Drug Design: Fundamentals, Techniques, Resources and Applications</i> (ISBN: 9780128223123) 425-439; https://doi.org/10.1016/B978-0-12-822312-3.00013-8 .
2.	H Arya, MS Coumar, TK Bhatt . Introduction of structural bioinformatics with respect to drug discovery. <i>The Design & Development of Novel Drugs and Vaccines: Principles and Protocols</i> (ISBN: 9780128214718) 3-9; https://doi.org/10.1016/B978-0-12-821471-8.00001-5 .
3.	H Arya, MS Coumar, TK Bhatt . Retrieval of compounds. <i>The Design & Development of Novel Drugs and Vaccines: Principles and Protocols</i> (ISBN: 9780128214718) 21-29; https://doi.org/10.1016/B978-0-12-821471-8.00003-9 .
4.	H Arya, TK Bhatt . Molecular dynamics simulations. <i>The Design & Development of Novel Drugs and Vaccines: Principles and Protocols</i> (ISBN: 9780128214718) 65-81; https://doi.org/10.1016/B978-0-12-821471-8.00005-2 .
5.	H Arya, TK Bhatt . An overview of vaccine design. <i>The Design & Development of Novel Drugs and Vaccines: Principles and Protocols</i> (ISBN: 9780128214718) 85-91; https://doi.org/10.1016/B978-0-12-821471-8.00006-4 .
6.	H Arya, TK Bhatt . Design of vaccine constructs. <i>The Design & Development of Novel Drugs and Vaccines: Principles and Protocols</i> (ISBN: 9780128214718) 109-119; https://doi.org/10.1016/B978-0-12-821471-8.00009-X .
7.	A Satapathy, TK Bhatt. Evaluation of immunogenicity of vaccine candidates. <i>The Design & Development of Novel Drugs and Vaccines: Principles and Protocols</i> (ISBN: 9780128214718) 233-238; https://doi.org/10.1016/B978-0-12-821471-8.00017-9 .
8.	A Satapathy, TK Bhatt. In-vitro evaluation of lead molecule. <i>The Design & Development of Novel Drugs and Vaccines: Principles and Protocols</i> (ISBN: 9780128214718) 239-245; https://doi.org/10.1016/B978-0-12-821471-8.00018-0 .
9.	H Arya, MS Coumar, TK Bhatt . Brief introduction of clinical research and trials. <i>The Design & Development of Novel Drugs and Vaccines: Principles and Protocols</i> (ISBN: 9780128214718) 263-266; https://doi.org/10.1016/B978-0-12-821471-8.00020-9 .
10.	H Arya, TK Bhatt . Introduction of intellectual property rights. <i>The Design & Development of Novel Drugs and Vaccines: Principles and Protocols</i> (ISBN: 9780128214718) 275-281; https://doi.org/10.1016/B978-0-12-821471-8.00022-2 .

Membership:

1.	Association of Microbiologists of India (AMI)
2.	Indian Biophysical Society, Kolkata
3.	The Indian Science Congress Association, Kolkata
4.	Indian Crystallographic Association, Bangalore
5.	Indian Society for Parasitology
6.	International Science Congress Association, Indore

Conferences attended:

1. EMBO lecture course on Functional Nucleic Acids: Recent landscapes and therapeutic application, RCB, Faridabad, India, 16-19 Aug 2022.
2. DBT sponsored National workshop on foldscope & symposium on applied Biotechnology, IIS University, Jaipur, 2019.
3. National workshop on foldscope & symposium on applied microbiology, Manipal University, Jaipur, 2018.
4. National Seminar on Recent trends in chemical sciences: Global opportunities and challenges, SSG College, Banswara, 2016
5. National workshop on NGS data: Assembly and exploration, NIPGR, New Delhi, 2016.
6. National Conference on recent advances in Chemistry, Banswara, 2016.
7. 56th International conference of AMI, New Delhi, 2015.
8. Symposium on 'Good Laboratory Practices and Safety Guidelines' July, 2015, CURAJ, Bandarsindri.
9. International Science Congress, Udaipur 2014.
10. International conference on microbial, plant and animal research, Laxamangarh 2012.
11. EMBO global lectures course on amoebiasis: Exploring the biology and pathogenesis of Entamoeba, JNU, New Delhi 2012.
12. National conference on omics for biotechnology, CURAJ, Kishangarh 2012.
13. 8th National biennial conference on medical bioinformatics, AIIMS, New Delhi 2012.
14. National conference on newer horizons and innovations in biotechnology and biosciences (NIHBB), Agra 2012.
15. MEPHITIS annual meeting, Barcelona 2009.
16. Selected in ABLE (Association of Biotechnology Led enterprises) India 2009.
17. National Parasitology Congress Meeting, Nehu, Shilong 2009 (First prize).
18. aaRS2008, Annecy, France.
19. ANACOR travel fellowship 2008.
20. International conference on crystallography, Chennai 2008.
21. Hands on training in crystallographic techniques, Hyderabad 2007.
22. Science day and aqua-terr annual conference, Madurai 2005

Conference Organized:

S.N	Conference
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1.	National conference on 'Omics for Biotechnology' 2012 Central University of Rajasthan, Kishangarh Organizing Secretary

Research project:

S.No.	Title	Cost (INR)	Duration	Agency
1)	Molecular modeling of malaria parasite secretome: A potential drug target. (PI)	16.74 lacs	3 years 2013-2016	DST, Govt. of India
2)	Functional characterization of a heat shock protein (HSP90), Amino acid transporter (AAT), and Nucleosome Assembly Protein (NAP) genes for their role in root development in tomato. (Co-PI)	54.00 lacs	3 years 2014- 2017	DBT, Govt. of India
3)	In-silico screening of apicoplast proteome: In search of potential anti-malarials. (PI)	24.76 lacs	3 years 2014-2017	BRNS-DAE, Govt. of India
4)	Biochemical and structural studies on two secretory proteins of Plasmodium falciparum. (PI)	6.0 lacs	2 years 2015-2016	UGC Start-up
5)	Molecular and Structural Characterization of Mitochondrial DNA Primase in Leishmania donovani. (PI) (With Central University of Assam).	120 lacs (44.21 lacs to CURAJ)	3 years 2016-2019	DBT-NER, Govt. of India
6)	Development and screening of potential anti-malarials based on privileged scaffolds. (PI)	6.0 lacs	3 years 2017- 2020	DST, Govt. of Rajasthan
7)	Design, Synthesis and Insilico/invitro studies of Cladosporin derivatives as potent antimalarial agents. (PI) (Multi institutional: With ICGEB and HCU).	15.95 lacs	3 years 2018- 2021	DST, Govt. of India
8)	Identification and Characterization of glycyl-tRNA synthetase in Leishmania donovani. (PI) (With Central University of Assam).	80 lacs (29.37 lacs to CURAJ)	3 years 2019- 2022	DBT-NER, Govt. of India
9)	Design and Development of Multi-epitopes vaccine against malaria parasite. (Mentor)	20 lacs	3 years 2019-2022	ICMR-RA fellowship to Dr. Hemant Arya
Total cost:		>200.00 lacs		

No. of PhD degree awarded: 03

No. of PhD working: 03

No. of Postdoc working: 01

Fellowships:

- ANACOR research travel fellowship, France 2008.
- Qualified CSIR-UGC NET-JRF Fellowship (June, 2005)
- Qualified DBT JRF Fellowship (December, 2005)
- Qualified GATE 2006 (99.67 %) and SPM call
- Merit Scholarship holder during M.Sc.
