CURRICULUM VITAE

Mahesh Kulharia

Professor

Objective: To understand: How we are the way we are?

Personal and Academic Information

Field	Details
Name	Mahesh Kulharia
Designation	Professor
Department/Institute/University	Centre for Computational Biology and Bioinformatics, Central University of Himachal Pradesh
Date of Birth	15th August 1978
Sex (M/F)	Male

Education (Post-Graduation onwards & Professional Career)

S. No.	Institution / Place	Degree Awarded	Year	Field of Study
1	Madurai Kamaraj University / School of Biotechnology	M.Sc.	2001-2003	Biotechnology
2	Technical University of Dortmund / Max Planck Institute for Molecular Physiology, Germany	Ph.D.	2003-2008	Structural Bioinformatics
3	Cardiovascular Research Institute Maastricht, Netherland	Post Doc	2008-2010	Structural Bioinformatics

Position and Employment

S. No.	Institution / Place	Position	From (Date)	To (Date)
1	Central University of Himachal Pradesh	Professor	20 Nov 2020	Till Date
2	Central University of Himachal Pradesh	Associate Professor	20 Nov 2019	19 Nov 2022
3	Central University of Punjab	Assistant Professor	5th July 2013	19th Nov 2019
4	MD University, Rohtak	Assistant Professor	27th Sep 2010	4th July 2013
5	Cardiovascular Research Institute Maastricht, Netherland	Post-doctoral Fellow	15th Apr 2008	15th Sep 2010
6	Max-Planck Institute for Molecular Physiology, Germany	Ph.D. Fellow	11th Nov 2003	31st Mar 2008

Honors / Awards

Agency / Organization	Purpose	Nature of Award
Best Teacher Award	Central University of Himachal Pradesh	In recognition of the teaching and research contribution
Young Researcher Award (2009)	Conference in Boston; organized by Harvard University	500 British pounds
Cardiovascular Research Institute Maastricht Fellowship (2008-2010)	Post-Doctoral Research	Fellowship of Euros 3500 per month (For 3 years)
Max Planck Fellowship (2003-2008)	Doctoral Research	Euros 1103 per month (For the duration of Ph.D.)
Sunderlingam Award (2002)	Topper in M.Sc. Biotechnology in Madurai Kamaraj University	Rs.4,000/-
DBT fellowship for M.Sc. Biotechnology (2001-2003)	M.Sc. Biotechnology at Madurai Kamaraj University	Rs.400/- per month (For the duration of M.Sc.)

Professional Experience and Training Relevant

S. No.	Institution / Place	Position	Duration	Field
1	Central University of Himachal Pradesh	Professor	3 year 10 months	Bioinformatics
2	Central University of Himachal Pradesh	Associate Professor	3 years	Bioinformatics
3	Central University of Punjab	Assistant Professor	6.5 years	Structural Bioinformatics
4	MD University, Rohtak	Assistant Professor	1.5 years	Structural Bioinformatics
5	Cardiovascular Research Institute Maastricht	Post-doctoral Fellow	2.5 years	Structural Bioinformatics
6	Max-Planck Institute for Molecular Physiology	Ph.D. Fellow	4 years	Structural Bioinformatics

Research Papers Published in Peer Reviewed Journals

- **Chauhan M, Kulharia M, Verma SK. Activity-guided identification, cloning, heterologous expression, and characterization of a highly thermostable mitochondrial superoxide dismutase from** *Lantana camara***.** ***Biochimica et Biophysica Acta (BBA) - Proteins and Proteomics*****, 141166, 2026.**
- Chauhan S, Kulharia M, Verma SK. **Computational Analysis of Iron-binding Proteins in the Mutational Landscape of Cancer.** *Biological Trace Element Research* 204(5), 3132–3151, 2026.
- Chauhan S, Kulharia M, Verma SK. **The Computational Study of Toxic Heavy Metal Binding to Cancer-Related Mutation Proteins.** *ChemistrySelect* 10(44), e05441, 2025.
- Bhardwaj V, Kulharia M. **The machine learning-based predictor to identify putative COVID-19-like host jumping viruses.** *Journal of Zoonotic Diseases* 9(4), 979–987, 2025.
- Chauhan S, Thakur A, Kulharia M, Verma SK. **Bioinformatics analysis of cancer related CBP mutations on copper ion and drug binding.** *The Protein Journal* 44(4), 409–424, 2025.
- Chauhan S, Kulharia M, Verma SK. **Exploring the zinc-binding proteins in the mutational hotspots of human cancer.** *Journal of Trace Elements in Medicine and Biology*, 127706, 2025.
- Sood A, Kulharia M. **Inhibition of IRF3-STING axis interaction in silicosis using natural compounds: an in-silico study using molecular docking, ADMET, molecular dynamics and MMPBSA approach.** *In Silico Pharmacology* 13(1), 1, 2024.
- Sood A, Kulharia M. **Exploring the anti-inflammatory potential of phytochemicals against STING::TBK1 pathway.** *Molecular Simulation* 50(15), 1301–1314, 2024.
- Dixit H, Upadhyay V, Kulharia M, Verma SK. **The study of metalloproteome of DNA viruses: identification, functional annotation, and diversity analysis of viral metal-binding proteins.** *Journal of Proteome Research* 23(9), 4014–4026, 2024.
- Dixit H, Kulharia M, Verma SK. **Metal-binding proteins and proteases in RNA viruses: unravelling functional diversity and expanding therapeutic horizons.** *Journal of Virology* 97(12), e01399-23, 2023.
- Ludhiadch A, Sulena, Singh S, Chakraborty S, Sharma D, Kulharia M, et al. **Genomic variation affecting MPV and PLT count in association with development of ischemic stroke and its subtypes.** *Molecular Neurobiology* 60(11), 6424–6440, 2023.
- Nayak J, Sood A, Kulharia M, Sahoo SK, Kumar R. **Structural distortion of β-cyclodextrin plays a key role in the pH-dependent host–guest chemistry with doxorubicin, evident by the electrochemical and molecular dynamics approach.** *Journal of Chemical Information and Modeling* 63(10), 2975–2982, 2023.
- Kushwaha PP, Shuaib M, Prajapati KS, Singh AK, Kulharia M, Kumar S, et al. **Kurarinone, a natural notch signaling inhibitor and modulator of breast cancer stemness.** *Cancer Research* 83(7 Supplement), 4955–4955, 2023.
- Kumar R, Jindal R, Kulharia M, Sharma AK, Thakur K, Brar B, Mahajan D, et al. **Knowledge mining for the differentiation pattern with respect to the productivity and trophic status of some selected lakes of Western Himalayas.** *Frontiers in Environmental Science* 11, 1009942, 2023.
- Dixit H, Kulharia M, Verma SK. **Metalloproteome of human-infective RNA viruses: a study towards understanding the role of metal ions in virology.** *Pathogens and Disease* 81, ftad020, 2023.
- Dixit H, Upadhyay V, Kulharia M, Verma SK. **The putative metal-binding proteome of the Coronaviridae family.** *Metallomics* 15(1), mfad001, 2023.
- Jindal S, Kulharia M, Mahato S. **Structure based algorithm for solving Graph Isomorphism for Johnson, Generalised Johnson and Strongly Regular graphs.** 2022.

- Dwivedi AR, Kumar V, Neha, Jangid K, Devi B, Kulharia M, Kumar R, et al. **Synthesis and Evaluation of Antimicrobial Activity of N-Substituted Indole Derivatives and Molecular Docking Studies.** *Current Organic Chemistry* 26(16), 1565–1574, 2022.
- Kumar V, Sood A, Munshi A, Gautam T, Kulharia M. **YAPPIS-Finder: A novel method for protein-protein interaction site predictions.** *Bioinformation* 18(7), 604, 2022.
- Sharma D, Kumar S, Sharma A, Kumar R, Kumar R, Kulharia M, Kumar M. **Functional assignment to hypothetical proteins in *Orientia tsutsugamushi* strain Ikeda.** *Bioinformation* 18(3), 188, 2022.
- Kumar V, Sood A, Munshi A, Gautam T, Kulharia M. **Geometrical and electro-static determinants of protein-protein interactions.** *Bioinformation* 17(10), 851, 2021.
- Kaur RP, Kumar V, Shafi G, Vashistha R, Kulharia M, Munshi A. **A study of mechanistic mapping of novel SNPs to male breast cancer.** *Medical Oncology* 36(8), 70, 2019.
- Dharra R, Radhakrishnan VS, Prasad T, Thakur Z, Cirillo JD, Sheoran A, et al. **Evaluation of *in silico* designed inhibitors targeting MelF (Rv1936) against *Mycobacterium marinum* within macrophages.** *Scientific Reports* 9(1), 10084, 2019.
- Latinović Z, Leonardi A, Kovačič L, Koh CY, Šribar J, Bakija AT, et al. **The first intrinsic tenase complex inhibitor with serine protease structure offers a new perspective in anticoagulant therapy.** *Thrombosis and Haemostasis* 118(10), 1713–1728, 2018.
- Mehta PK, Dharra R, Kulharia M. **Could mycobacterial MelF protein (Rv1936) be used as a potential drug target?** *Future Microbiology* 13(11), 1211–1214, 2018.
- Kumar V, Mahato S, Munshi A, Kulharia M. **PPInS: a repository of protein-protein interaction sitesbase.** *Scientific Reports* 8(1), 12453, 2018.
- Kaur S, Kulharia M. **Insights from the molecular dynamics simulation of BcsD subunit from *K. xylinus*.** *Bioinformation* 13(11), 376, 2017.
- Singh G, Kulharia M. **Insights from the analysis of alginate lyase protein model from *Pseudomonas fluorescens* towards the understanding of mucoid biofilm disruption.** *Bioinformation* 13(9), 318, 2017.
- Dharra R, Talwar S, Singh Y, Gupta R, Cirillo JD, Pandey AK, Kulharia M, et al. **Rational design of drug-like compounds targeting *Mycobacterium marinum* MelF protein.** *PLoS One* 12(9), e0183060, 2017.
- Sarkar B, Kulharia M, Mantha AK. **Understanding human thiol dioxygenase enzymes: structure to function, and biology to pathology.** *International Journal of Experimental Pathology* 98(2), 52–66, 2017.
- Dhiman P, Malik N, Khatkar A, Kulharia M. **Antioxidant, xanthine oxidase and monoamine oxidase inhibitory potential of coumarins: A review.** *Current Organic Chemistry* 21(4), 294–304, 2017.
- Nicolaes GAF, Kulharia M, Voorberg J, Kaijen PH, Wroblewska A, et al. **Rational design of small molecules targeting the C2 domain of coagulation factor VIII.** *Blood* 123(1), 113–120, 2014.
- Gahlaut A, Dahiya M, Gothwal A, Kulharia M, Chhillar AK, Hooda V, et al. **Proteomics & metabolomics: Mapping biochemical regulations.** *Drug Invention Today* 5(4), 321–326, 2013.
- Agrawal P, Thakur Z, Kulharia M. **Homology modeling and structural validation of tissue factor pathway inhibitor.** *Bioinformation* 9(16), 808, 2013.
- Dahiya S, Gahlaut A, Kulharia M. **Comparative evaluation of commercially available homology modelling tools: a structural bioinformatics perspective.** *Drug Invention Today* 5(3), 207–211, 2013.
- Kulharia M, Chhillar AK, Hooda V, Dabur R. **Proteomics & metabolomics: Mapping biochemical regulations.** 2013.
- Mencarelli C, Bode GH, Losen M, Kulharia M, Molenaar PC, Veerhuis R, et al. **Goodpasture antigen-binding protein/ceramide transporter binds to human serum amyloid P-component and is present in brain amyloid plaques.** *Journal of Biological Chemistry* 287(18), 14897–14911, 2012.
- Nicolaes GAF, Kulharia M, Sperandio O, Voorberg J, Wielders S, et al. **Targeting of the tenase complex by rational design of factor VIII-membrane interaction inhibitors.** *Journal of Thrombosis and Haemostasis* 9, 247–247, 2011.
- Kulharia M, Bridgett SJ, Goody RS, Jackson RM. **InCa-SiteFinder: a method for structure-based prediction of inositol and carbohydrate binding sites on proteins.** *Journal of Molecular Graphics and Modelling* 28(3), 297–303, 2009.
- Kulharia M, Sperandio O, Voorberg J, Wielders S, Rosing J, Villoutreix BO, et al. **Identification and characterisation of factor VIII-membrane interaction inhibitors.** *Journal of Thrombosis and Haemostasis* 7, 680–680, 2009.
- Kulharia M, Goody RS, Jackson RM. **Information theory-based scoring function for the structure-based prediction of protein-ligand binding affinity.** *Journal of Chemical Information and Modeling* 48(10), 1990–1998, 2008.

- Kulharia M. **Targeting REP:GGTase-II interaction and finding new means to predict the protein:ligand interactions.** Doctoral dissertation, Technical University of Dortmund, 2008.
- Kulharia M. **Information theory based scoring function for predicting protein-ligand binding affinity.** *Chemistry Central Journal* 2(Suppl 1), P44, 2008.
- Dursina B, Reents R, Delon C, Wu Y, Kulharia M, Thutewohl M, et al. **Identification and specificity profiling of protein prenyltransferase inhibitors using new fluorescent phosphoisoprenoids.** *Journal of the American Chemical Society* 128(9), 2822–2835, 2006.

Publications (Other Than Research Papers)

Books authored which are published by International Publishers

Sl.	Authors	Book Title & Year/Page	Publisher Details	ISSN/ISBN
1	Suchismita Mahato and Mahesh Kulharia	A Feature Matching Approach for Pharmacophore Modelling: Concepts and Applications, 2016, 92	Scholar Press	9783659837487
2	Mahesh Kulharia and Piyush Agrawal	Understanding tissue factor pathway inhibitor, 2016, 120	LAP LAMBERT Academic Publishing	978-3659887727

Research Guidance

Sl.	Level of Guidance	No. of Thesis Submitted	No. of Degree Awarded
1	Ph.D. Thesis		6
2	M. Phil. Dissertation		3
3	P.G. Dissertation		>100

Research Projects / Consultancy

Sl.	Title of Project	Funding Agency & Year of Funding	Project Duration	Grant/Amount Mobilized (Rs. Lakh)
1	To develop a support vector machine tool for identification of unique protein-protein interaction sites with lowest cross reactivity potential	UGC	2012-16	6.78
2	Targeting Mycobacterium marinum mel2 locus with drug like compounds: its implications for in vitro & in vivo	DBT	2012-2016	42.15
3	Development of novel scoring function for prediction of PPI affinity	CUP	2014-2016	2.91

Administrative Positions Held

1. Director, Centre for Computational Biology and Bioinformatics, CUHP, Kangra — 20 Nov 2019 till date
2. HOD, Centre for Computational Sciences, CUP, Bathinda — 1 Oct 2017 – 19 Nov 2019
3. IQAC policy implementation cell at CUP — 1 Oct 2017 – 19 Nov 2019
4. Organising secretary for the NAAC coordination committee at MD University Rohtak — 1 June 2012 – 1 Dec 2012

Patents

Sl.	Title of Patent	Specialized Area	National/International	Date of Patent

1	METHOD AND SYSTEM FOR ASSIGNING UNIQUE LABELS TO ATOMS IN A CHEMICAL COMPOUND; Application No.201911018211	Digital Chemical Archiving	International (Under PCT)	Publication Date: 24/05/2019
2	Method and system for identification of isomorphs for Johnson and strongly regular graphs in polynomial time; Application Number: 201611009948	Digital Communication routing, Image Processing and Cryptography	International (Under PCT)	Publication Date: 22/04/2016
3	Method and system for identification of isomorphs for generalised Johnson graphs in polynomial time; Application Number: 201611016061	Digital Communication routing, Image Processing and Cryptography	International (Under PCT)	Publication Date: 03/06/2016

Awards / Fellowships

Sl.	Title of Award/Fellowship	Year	Conferred by Organization	International/National
1	International Max Planck Institute Research Fellowship	2003-2008	Max Planck Society	International
2	TransNational Fellowship Limburg	2008-2010	CARIM	International
3	DBT fellowship for Masters' in Biotechnology at MKU	2001-2003	DBT	National

Invited Lectures / Resource Person / Paper Presentations

Sl.	Topic/Title of Lecture/Paper	Title of Conference/Seminar	Organized by & Date	Level
1	Understanding membrane binding dynamics of C2 domain	Joint meeting GTH and NVTH Nuremberg, Germany	GTH and NVTH Nuremberg, Germany	International
2	Correlating genetic changes with the membrane binding dynamics of human factor viii (fviii)	Protein Structure Bioinformatics: Mutations in proteins: structure, function, dynamics, and disease	UMC St Radboud, Nijmegen; Netherlands	International
3	Molecular recognition as information transfer system – possible applications	Systems Biology & Statistical Bioinformatics	Leeds, Leeds University Britain	International
4	Information theory based scoring function for predicting protein-ligand binding affinity	German Conference on Chemoinformatics Goslar, Germany	German Chemical Society	International
5	Identification and characterisation of factor VIII-membrane interaction inhibitors	International Congress on Thrombosis and Haemostasis	ISTH; International Society on Thrombosis and Haemostasis	International
6	Understanding Biology: from genotype to Phenotype	International conference on Biotechnology	Chaudhary Devi Lal University, Sirsa	International
7	Identification and Characterization of factor VIII-membrane interaction inhibitors	Annual One Day Meeting on Medicinal Chemistry	Société Royale de Chimie (SRC) and Koninklijke Vlaamse Chemische Vereniging (KVCV), Belgium	International
8	Understanding Protein-protein interactions	International Conference on Bio and Nano Technologies for Sustainable Agriculture Food, Health, Energy and Industry	GJ University; Hisar	International
9	Application of thermodynamics for deciphering the FVIII and membrane interaction energetics	6th National Conference on Thermodynamics of Chemical and Biological Systems	Indian Thermodynamics Society	National
10	Structural Bioinformatics: from Phenotype to Molecular Mechanism	Molecular Techniques: The face of Modern Science	Department of Biochemistry, MD University	National
11	Application of ANN and HMM in Bioinformatics	Bioinformatics Workshop	Amity University	National
12	Understanding protein-ligand: a walk through InCa-Sites	Protein Modeling & Drug Design	Amity University	National
13	Artificial Neural Network	4th Refresher Course	UGC Academic Staff College BPSM University Khanpur Kalan	National
14	Optimizing Techniques	4th Refresher Course	UGC Academic Staff College BPSM University Khanpur Kalan	National
15	Putting Logic in research	Workshop on advanced Research Methodology, Statistics and Patents	UGC Academic Staff College GNDU Amritsar	National
16	Basics of Copyright	Workshop on advanced Research Methodology, Statistics and Patents	UGC Academic Staff College GNDU Amritsar	National
17	GWAS: Linking Genes to Diseases	Short Term Course on "Plant Transgenics"	DBT-sponsored	National
18	Finding SNP needles in Genomic Haystack	Short Term Course on "Plant Transgenics"	DBT-sponsored	National
19	Applied Bioinformatics	Workshop on Biological Databases and sequence analysis	Department of Botany, MD University Rohtak	University
20	Human Genome Update	Training course in Medical Genetics and Bioinformatics	DBT-Sponsored Training Program at Central University of Punjab	National
21	Introduction to Medical Bioinformatics and its Applications (T)	Training course in Medical Genetics and Bioinformatics	DBT-Sponsored Training Program at Central University of Punjab	National
22	Sequence Analysis: Pairwise sequence alignment, multiple sequence alignment	Training course in Medical Genetics and Bioinformatics	DBT-Sponsored Training Program at Central University of Punjab	National
23	Pattern Search	Training course in Medical Genetics and Bioinformatics	DBT-Sponsored Training Program at Central University of	National

			Punjab	
24	In silico restriction digestion, transcription, using Bioinformatics tools	Training course in Medical Genetics and Bioinformatics	DBT-Sponsored Training Program at Central University of Punjab	National
25	In silico epitope identification	Training course in Medical Genetics and Bioinformatics	DBT-Sponsored Training Program at Central University of Punjab	National
26	In silico biology for clinical research	4th winter symposium	Department of Biotechnology and Molecular Medicine PGIMS Rohtak, Pt. BDS University of Health Sciences	University
27	Writing Ideas into knowledge	3 week interaction programme for PhD scholars	UGC Academic Staff College GNDU Amritsar	National
28	Art of Written communication	3 week interaction programme for PhD scholars	UGC Academic Staff College GNDU Amritsar	National

Place: Dharamshala **Date: 18th Aug 2026**