



**Mahesh Kulharia**

## Curriculum Vitae

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

Name: Mahesh Kulharia  
Designation: Professor  
Department/Institute/University: Department of Computational Sciences,  
Central University of Punjab, Bathinda  
Date of Birth : 15<sup>th</sup> 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 Honors

#### Position and Employment (Starting with the most recent employment)

S. No.	Institution Place	Position	From (Date)	To (date)
1	Central University of Punjab	Assistant Professor	5 <sup>th</sup> July 2013	continuing
2	MD University, Rohtak	Assistant Professor	27 <sup>th</sup> Sep 2010	4 <sup>th</sup> July 2013
3	Cardiovascular Research Institute Maastricht, Netherland	Post-doctoral Fellow	15 <sup>th</sup> Apr 2008	15 <sup>th</sup> Sep 2010
4	Max-Planck Institute for Molecular Physiology, Germany	PhD. Fellow	11 <sup>th</sup> Nov 2003	31 <sup>st</sup> Mar 2008

### Honors/Awards

Agency/Organization which gave the award	Purpose	Nature of the award
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.)
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### **Professional Experience and Training relevant**

S. No.	Institution Place	Position	Duration	Field
1	Central University of Punjab	Assistant Professor	5 years	Structural Bioinformatics
2	MD University, Rohtak	Assistant professor	1.5 years	Structural Bioinformatics
3	Cardiovascular Research Institute Maastricht	Post-doctoral Fellow	2.5 years	Structural Bioinformatics
4	Max-Planck Institute for Molecular Physiology	PhD. Fellow	4 years	Structural Bioinformatics

### **RESEARCH PAPERS PUBLISHED IN:**

#### **(i) PEER REVIEWED JOURNALS**

Sl. No.	Authors in Sequence	Paper Title & Year/Vol./Issue/Page.	Journal Name	Journal ISSN No.	Impact Factor (if any)
1	Mahesh Kulharia, Roger S Goody, Richard M Jackson	Information Theory-Based Scoring Function for the Structure-Based Prediction of Protein-Ligand Binding Affinity /48,10,1990-1998 / 2008	Journal of chemical information and modeling, American Chemical Society	15499596	3.804
2	Mahesh Kulharia, Stephen J Bridgett, Roger S Goody, Richard M Jackson	InCa-SiteFinder: a method for structure-based prediction of inositol and carbohydrate binding sites on proteins / 28, 3, 297-303 / 2009	Journal of Molecular Graphics and Modelling, Elsevier	10933263	1.9
3	Priyanka Dhiman, Neelam Malik, Anurag Khatkar, Mahesh Kulharia	Antioxidant, xanthine oxidase and monoamine oxidase inhibitory potential of coumarins: a review /21, 4, 294-304 / 2017	Current Organic Chemistry, Bentham Science Publishers	13852728	2.193
4	Vicky Kumar, Suchismita Mahato, Anjana Munshi, Mahesh Kulharia	PPIN5: a repository of protein-protein interaction sitesbase / 8, 1, 12453, 2018	Scientific reports, Nature Publishing Group	20452322	4.122
5	Renu Dharra, Sakshi Talwar, Yogesh Singh, Rani Gupta, Jeffrey D Cirillo, Amit K Pandey, Mahesh Kulharia, Promod K Mehta	Rational design of drug-like compounds targeting Mycobacterium marinum Melf protein / 12, 9, e0183060 / 2017	PloS one, Publisher Public Library of Science	9599673	2.766
6	Gerry AF Nicolaes, Mahesh Kulharia, Jan Voorberg, Paul H Kaijen, Aleksandra Wroblewska, Simone Wielders, Roy Schrijver, Olivier Sperandio, Bruno O Villoutreix	Rational design of small molecules targeting the C2 domain of coagulation factor VIII / 123, 1, 113-120/ 2014	Blood, American Society of Hematology	64971	15.4
7	Beatrice Dursina, Reinhard Reents, Christine Delon, Yaowen Wu, Mahesh Kulharia,	Identification and specificity profiling of protein prenyltransferase inhibitors using new fluorescent	Journal of American Chemical Society, American Chemical Society	27863	14.357

	Michael Thutewohl, Alexei Veligodsky, Alexandr Kalinin, Vladimir Evstifeev, Doina Ciobanu, Stefan E Szedlacsek, Herbert	phosphoisoprenoids/ 128, 9, 2822-2835 / 2006			
8	Chiara Mencarelli, Gerard H Bode, Mario Losen, Mahesh Kulharia, Peter C Molenaar, Robert Veerhuis, Harry WM Steinbusch, Marc H De Baets, Gerry AF Nicolaes, Pilar Martinez-Martinez	Goodpasture antigen-binding protein/ceramide transporter binds to human serum amyloid P-component and is present in brain amyloid plaques / 287,18,14897-14911/ 2012	Journal of Biological Chemistry; American Society for Biochemistry and Molecular Biology	219258	4.10
9	Simranjit Kaur, Mahesh Kulharia	Insights from the Molecular dynamics simulation of BcsD Subunit from <i>K. xylinus</i>	Bioinformation, Biomedical Informatics / Nov 2017, 13, 11, 376	9738894	0
10	Gurjant Singh, Mahesh Kulharia	Insights from the analysis of alginate lyase protein model from <i>Pseudomonas fluorescens</i> towards the understanding of mucoid biofilm disruption	Bioinformation, Biomedical Informatics / Sep 2017, 13, 9, 318	9738894	0
11	Suchismita Mahato, Saurav Kumar Jindal, Vicky Kumar, Surinder Singh Khurana and Mahesh Kulharia	Identifying Novel Graph Properties and Solving Graph Isomorphism for Hard Instances of Symmetrical Graphs	International Journal of Engineering Sciences Paradigms and Researches 731 Gull Ave, Foster City / Apr 2019, 48, 02, 02	23196564	0
12	Raman Preet Kaur, Vicky Kumar, Gowhar Shafi, Rajesh Vashishta, Mahesh Kulharia, Anjana Munshi	A study of mechanistic mapping of novel SNPs to male breast cancer	Medical Oncology, Springer Science / manuscript number, #MEDO-D-19-00487	13570560	2.92
13	Piyush Agrawal, Zoozeal Thakur, Mahesh Kulharia	Homology modeling and structural validation of tissue factor pathway inhibitor	Bioinformation, Biomedical Informatics / Sep 2013, 9, 16, 808	9738894	0
14	Promod K Mehta, Renu Dharra, Mahesh Kulharia	Could mycobacterial Melf protein (Rv1936) be used as a potential drug target?	Future Microbiology, Future Medicine Limited / Sep 2018, 13, 11, 1211-1214	17460913	3.190
15	Sarkar B, Kulharia M, Mantha AK	Understanding human thiol dioxygenase enzymes: structure to function, and biology to pathology	International journal of experimental pathology, Wiley-Blackwell / Apr 2017, 98, 2, 52-66	9599673	1.938
16	Renu Dharra, V.S. Radhakrishnan, Tulika Prasad, Zoozeal Thakur, Jeffrey D. Cirillo, Amit K. Pandey, Mahesh	Evaluation of in silico designed inhibitors targeting Melf (Rv1936) against <i>Mycobacterium marinum</i> within macrophages	Scientific reports, Nature Publishing Group /	20452322	4.122

Kulharia and Promod K. Mehta		manuscript number: SREP-19-01674A		
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**(II)**

**II. PUBLICATIONS (OTHER THAN RESEARCH PAPERS):**

**(i) Books authored which are published by International Publishers**

Sl. No.	Authors in Sequence	Book Title & Year/Page.	Publisher Details	ISSN/ISBN Number
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

**Design of new curricula and courses**

Sl. No.	Title of the Curricula / courses	Year	Developed for whom / Sponsorship/Funding, if any
1	Design of Computational and Systems Biology syllabus	2010	for PrePhD
2	Design of "Fundamentals of Computer programming and Algorithms"	2010	for MSc Bioinformatics
3	Design of Biophysics syllabus	2011	for MSc Bioinformatics
4	Syllabus of Life Sciences	2012	Post Graduate programs in Life Sciences
5	Design of syllabus for M.Sc. Life Sciences (Bioinformatics)	2014	M.Sc. Life Sciences (Bioinformatics)
6	Design of syllabus for M.Sc. Life Sciences (Human Genetics)	2014	M.Sc. Life Sciences (Human Genetics)
7	Syllabus of BSc Biotech	2012	Bsc Biotech
8	Syllabus of BSc Bioinformatics	2012	Bsc Bioinformatics
9	UGBOS Biotech	2011	Bsc Biotechnology
10	PGBOS (Bioinformatics)	2011	Bsc Bioinformatics
11	UGBOS Biotech	2012	Bsc Biotechnology
12	PGBOS (Bioinformatics)	2012	Bsc Bioinformatics
13	M.Tech Computer Sciences	2016	M.Tech
14	M.Sc. Mathematics	2018	M.Sc.

**RESEARCH GUIDANCE**

**(i) Summary of Research Guidance**

Sl. No.	Level of Guidance	No. of Thesis	No. of Degree
		Submitted	Awarded
1	Ph.D. Thesis	1	-
2	M. Phil. Dissertation	-	-
3	P.G. Dissertation	18	18

(ii) Details of Ph.D. Guidance

Sl. No.	Name of Scholar	Title of Thesis	Name of Department & University Guided	Date of Submission	Date of Award
1	Er. Vicky Kumar	Understanding the principles of protein-protein interactions: Designing novel means for virtual proteomics	Computational Sciences	30 May 2019	Under Examination

**RESEARCH PROJECTS/CONSULTANCY**

(i) Research Projects

Sl. No.	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 h	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. No.	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	Digital	International (Under	Publication Date:



	for identification of isomorphs for Johnson and strongly regular graphs in polynomial time; Application Number: 201611009948	Communication routing, Image Processing and Cryptography	PCT)	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

### (i) Awards/ Fellowships

Sl. No.	Title of Award/ Fellowship	Year	Conferred by Organization	International/ National
1	<b>International Max Planck Institute Research Fellowship</b>	2003-2008	Max Planck Society	International
2	<b>TransNational Fellowship Limburg</b>	2008-2010	CARIM	International
3	<b>DBT fellowship for Masters' in Biotechnology at MKU</b>	2001-2003	DBT	National

**INVITED LECTURES / RESOURCE PERSON/ PAPER PRESENTATION IN SEMINARS/ CONFERENCES /FULL PAPER IN CONFERENCE PROCEEDINGS (PAPER PRESENTED IN SEMINARS/ CONFERENCES AND ALSO PUBLISHED AS FULL PAPER IN CONFERENCE PROCEEDINGS WILL BE COUNTED ONLY ONCE)\***

Sl. No.	Topic/Title of Lecture/Paper	Title of Conference/ Seminar	Organized by & Date	International (Abroad or within country)/ national /State /University 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	Soci�t� 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 AgricultureFood, 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	4 <sup>th</sup> Refresher Course	UGC Academic Staff College BPSM University Khanpur Kalan	National
14	Optimizing Techniques	4 <sup>th</sup> 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 Punjab	National
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	4 <sup>th</sup> 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: Bathinda

Signature:

Date: 9<sup>th</sup> Aug 20189