

**ASHUTOSH MANI, PhD**

Assistant Professor

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ACADEMIC QUALIFICATIONS:

PhD from Centre of Bioinformatics, University of Allahabad, India.

M.Sc. in Bioinformatics from University of Allahabad.

B.Sc. in Biology from Gorakhpur University, India.

TEACHING EXPERIENCE:

Assistant professor in the Department of Biotechnology at Motilal Nehru National Institute of Technology, Allahabad. (Since 12/10/2012)

AREA OF INTEREST:

Comparative genomics and structural bioinformatics, drug designing, cancer molecular biology.

FELLOWSHIPS/GRANTS:

Award of University Grants Commission (UGC) research fellowship for pursuing Doctoral Studies.

MUR research grant from Italian Government.

CSIR travel grant for attending BGRS, Novosibirsk, Russia.

SERB,ITS travel grant for attending ANGUS 2017, University of California, USA.

PROJECTS UNDERTAKEN:

S. No.	Title of the project	Funding agency /organization	Duration (Month/ Year)	PI/Co-PI	Status (Ongoing /Completed)
1.	Study of role of lactone signaling and alginate production on neutrophil interaction, apoptosis, and subsequent macrophage mediated phagocytosis against <i>Pseudomonas aeruginosa</i> biofilm associated infections	SERB, New Delhi	Three Year (2015- 2018)	Co-PI	Ongoing
2.	Domain specific functional investigation of YB-1(a cold shock domain protein) interacting proteins as prospective therapeutic targets in adenocarcinoma of colon	SERB, New Delhi	Three Years (2015-2018)	PI	Ongoing
3.	Identification of novel drug targets in <i>Aspergillus fumigatus</i>	CSTUP	Three Years (2015-2018)	PI	Ongoing

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	genome prioritized by essentiality based screening and rational designing of new antifungal compounds				
4.	Comparative study on microarray based expression profiling of transcriptome for revealing the mechanism of heavy metal toxicity tolerance in plants	TEQIP II (MNNIT)	Two Years (2012-2014)	PI	Completed
5.	<i>In silico</i> identification of novel drug targets against Malaria and <i>in vitro</i> assay of drugs	MNNIT	Two Years (2012-2014)	PI	Completed

PhD THESIS SUPERVISION

S. No.	Name of student	Thesis title/area	Status
1.	Birendra Singh Yadav	Genome-wide expression profiling and functional analysis of chick pea during heavy metal toxicity	Ongoing
2.	Prashant Kumar	Designing of novel antimalarial drugs	Ongoing
3.	Pramod Kumar Maurya	Effect of YB-1 silencing on colon cancer gene expression	Ongoing
4.	Amit Chaudhary	NGS data analysis of Alzheimer's disease	Ongoing
5.	Shweta Srivastava	Designing novel antifungal compounds against <i>Aspergillus fumigatus</i>	Ongoing

M.Tech THESIS SUPERVISION

S. No.	Name of student	Thesis title	Status
1.	Ms. Pratibha Bhadauriya	Characterization of cold shock protein in chick pea by nucleic acid binding studies	Completed (2014)
2.	Ms. Manisha Shukla	<i>In silico</i> designing of novel antimalarials	Completed(2015)
3.	Mr. Ashwani Kumar	Study of differentially expressed genes during heavy metal stress in chickpea	Completed (2016)
4.	Mr. Suriya Narayana Murugesan	Expression profiling studies on YB-1 gene in response to anticancer drugs	Completed (2017)

B.Tech DISSERTATION SUPERVISION

S. No.	Name of student	Thesis title	Status
1.	Devika Mathur, Rishij Kr. Agrawal, Raj Kr. Meena	Identification OF Low Complexity regions in prokaryotic and eukaryotic transcription factors and their	Completed (2014)

		comparative study	
2.	Aditya Kumar Gond, Mohit Kumar, Ankur Kumar Kuntal	Comparison of binding efficiency of NSAIDs to Cyclooxygenase(Cox-2) and designing specific inhibitors of COX-2	Completed(2015)
3.	Anuj, Harpreet Kaur Uppal, Priyanka Goyal	Designing a software for identification of cold shock proteins in prokaryotes, plants and animals	Completed (2016)
4.	Darshana Kapri ,Deepak Kr. Jayant , Aditya Kumar Gautam	predictPGPR: a software tool for identification of plant growth promoting bacteria from genomic sequences	Completed (2017)

### RESEARCH PUBLICATIONS

1. Suriya Narayanan Murugesan, Birendra Singh Yadav, Alok Mishra, Pramod Kumar Maurya, Amit Chaudhary, Swati Singh, Ashutosh Mani (2018) Expression and network analysis of YBX1 and its interactors for identification of new drug targets in lung adenocarcinoma. *Journal of Genomics* (Accepted).
2. Pramod Kumar Maurya, Swati Singh, Ashutosh Mani (2018) Comparative genomic analysis of *Rickettsia rickettsii* for identification of drug and vaccine targets: tolC as a proposed candidate for case study. *Acta Tropica* 182;100–110.
3. Prashant Kumar, P.K. Maurya, B.S. Yadav, Ashutosh Mani(2017)Identification of novel drug targets in *Plasmodium falciparum* by multi step filtering of genome. *Biomedicine* 37(4) 576-581.
4. Amit Chaudhary, Birendra Singh Yadav, Swati Singh, Pramod Kumar Maurya, Alok Mishra, Shweta Srivastva, Pritish Kumar Varadwaj, Nand Kumar Singh, Ashutosh Mani (2017) Docking-based screening of *Ficus religiosa* phytochemicals as inhibitors of human histamine H2 receptor. *Pharmacognosy Magazine* 13(51) 706-714.
5. Manmohit Kalia , Pradeep Kumar Singh , Vivek Kumar Yadav, Birendra Singh Yadav, Deepmala Sharma, Sahid Suhail Narvi, Ashutosh Mani , Vishnu Agarwal (2017) Structure based virtual screening for identification of potential quorum sensing inhibitors against LasR master regulator in *Pseudomonas aeruginosa*. *Microbial Pathogenesis* 107 (2017) 136e143
6. Pratibha Bhadauriya, Birendra Singh Yadav, Swati Singh, Ashutosh Mani (2016) Binding preferential of chickpea cold shock protein during nucleic acid interactions. *Journal of Plant Biochemistry and Biotechnology*. 26:208-215 DOI: 10.1007/s13562-016-0383-5.
7. Ashutosh Mani, Akhil Varshney, Ashima Bhaskar, Jyoti Bala, Pramod K. Yadava & Dwijendra K. Gupta (2016) Differential Expression of Middle Silk Gland Proteins Caused by Cold Stress in *Philosamia ricini*. *National Academy Science Letters* 39:269-272.
8. Raghvendra Singh; Birendra Singh Yadav; Swati Singh, Paras Nath Pandey; Ashutosh Mani (2016) *In-silico* screening of *Schistosoma mansoni* Sirtuin I inhibitors for prioritization of drug candidates. *SpringerPlus*. (5) 286 DOI 10.1186/s40064-016-1891-4
9. Birendra Singh Yadava, Swati Singhb, Amit Kumar Shaw, Ashutosh Mani (2015) Structure prediction and docking based molecular insights of human YB-1 and

nucleic acid interaction. *Journal of Biomolecular Structure and Dynamics*.34(12)2561-2580 DOI:10.1080/07391102.2015.1124050.

10. Birendra Singh Yadava, Swati Singh, Prashant Kumar, Devika Mathur, Raj Kumar Meena, Rishij Kumar Agrawal, Ashutosh Mani. (2015) Bioinformatics-based study on prokaryotic, archaeal and eukaryotic nucleic acid-binding proteins for identification of low-complexity and intrinsically disordered regions. *Frontiers in Life Science*. (9) 2-16 DOI:10.1080/21553769.2015.1075433.
11. Swati Singh, Anoop Chaturvedi, Ashutosh Mani (2015) Cross Family Comparative Proteomic Study and Molecular Phylogeny of MAP Kinases in Plants,” *Interdiscip Sci Comput Life Sci (2014) 6: 1–10*.
12. Ashutosh Mani , Dwijendra K. Gupta (2015) Single-stranded nucleic acid binding in *Arabidopsis thaliana* cold shock protein is cold shock domain dependent, *Journal of Biomolecular Structure and Dynamics*, 33(4), 861-868.
13. Ashutosh Mani, Pramod K. Yadava and D.K. Gupta(2012) Cold shock domain protein from *Philosamia ricini* prefers single stranded nucleic acid binding. *Journal of Biomolecular Structure and Dynamics*.30(5)532-541.
14. Swati Singh, Ashutosh Mani, Anubha Dubey, Anoop Chaturvedi (2012) Machine Learning Model For Classification of Motifs in Humulus (HOP). *Journal of Advanced Bioinformatics Applications and Research*. 3( 1), 281-289.
15. Swati Singh, Sanchita Gupta, Ashutosh Mani, Anoop Chaturvedi (2012) Mining and Gene Ontology Based Annotation of SSR Markers from Expressed Sequence Tags of *Humulus lupulus*. *Bioinformation*. 8(3): 114-122 .

#### BOOK CHAPTERS

1. P.K. Maurya, A. Chaudhary, S.Singh, Ashutosh Mani. Signal Networks: Information low,Computation and Decision Making. *Concepts in Cell Signaling* ISBN 978-93-84502-47-8 (PPH New Delhi) (2017)
2. M.Rani, M.P. Singh, P.Sirohi, A. Yadav, A. Mani, S. Srivastava, S. Saraswat. Anticancer Activity of Herbal Medicine: Mechanism of Action. *Anticancer Plants: Mechanisms and Molecular interactions, Volume- 4* (Springer Singapore) (2018) Accepted
3. Birendra Singh Yadav, Alok Kumar Yadav, Swati Singh, Nand Kumar Singh, Ashutosh Mani. Methods in metagenomics and environmental biology. *Environmental Chemistry for a Sustainable World* (Springer International) 2018 Accepted.
4. Pankaj Chaurasia, Ashutosh Mani. Enzymatic Treatment of Petroleum-Based Hydrocarbons *Handbook of Research on Microbial Tools for Environmental Waste Management(IGI Global Publishers, USA)2018 Accepted*.

#### BOOKS/PROCEEDINGS/ABSTRACT BOOKS EDITED

1. Proceedings of International Conference on Health, Environment and Industrial Biotechnology. ISBN:13-978-9-33-2901137-7. McGraw Hill Education(2013)
2. Abstract book of "International Conference on Health, Environment and Industrial Biotechnology"ISBN:978-93-83083-41-1, Excellent Publishing House New Delhi(2013)
3. Abstract book of "International Conference on Translational Biotechnology" ISBN:978-93-80635-20-0, Harileela Publication, Allahabad.(2016)

EXPERT/INVITED LECTURES:

1. Self sponsored short term course on Microbial Technology and Biofilms; Avenues and Applications, Department of Biotechnology, MNNIT Allahabad on 12/01/2015 entitled Tools in Microbial Bioinformatics
2. Self sponsored short term course on Biotechnology, IPR and Entrepreneurship, Department of Biotechnology, MNNIT Allahabad on 13/01/2015 entitled IPR and Bioinformatics
3. Self sponsored short term course on Recent Advances in Fermentation Technology, Department of Biotechnology, MNNIT Allahabad on 18/01/2015 entitled An introduction to Tools in Bioinformatics
4. Self sponsored short term course on Plant Tissue culture Techniques and Applications, Department of Biotechnology, MNNIT Allahabad on 24/01/2015 entitled Tools and databases in Plant Bioinformatics
5. Self sponsored short term course on Genomics for Crop Improvement, Department of Biotechnology, MNNIT Allahabad on 25/12/2015 entitled Crop improvement and Bioinformatics
6. Self sponsored short term course on Biotechnology, Health and diagnostics, Department of Biotechnology, MNNIT Allahabad on 27/01/2016 entitled Introduction to Computational Molecular Biology Tools
7. Self sponsored short term course on Computer Aided Drug Designing, Department of Biotechnology, MNNIT Allahabad on 28/05/2016 entitled An Overview of Computer Aided Drug designing
8. Short term course on Advances in Bioscience and Bioengineering, Department of Biotechnology, MNNIT Allahabad on 21/10/2016 entitled Computational Molecular Biology Tools
9. Self sponsored short term course on Modelling and Optimization of chemical & Biochemical Processes, Department of Chemical Engineering, MNNIT Allahabad on 20/01/2017 entitled Protein structure prediction tools
10. Self sponsored short term course on Research Methodology, Data analysis and stress tolerance in plants, Department of Biotechnology, MNNIT Allahabad on 26/01/2017 entitled Methods in Plant Bioinformatics

EVENTS ORGANIZED

S.No.	Type	Name	Held At	Start Date	End Date	Agency
1	Workshop	Short term training program 'Frontier in Biotechnology'	MNNIT Allahabad	28/05/2013	01/06/2013	Self sponsored
2	Workshop	Short term training program 'Human Health and Environment Sustainability'	MNNIT Allahabad	04/06/2013	08/06/2013	Self sponsored
3	International conference	International Conference on Health, Environment and Industrial Biotechnology (BioSangam 2013)	MNNIT Allahabad	21/11/2013	23/11/2013	CSIR, BRNS, DRDO, ICMR, INSA, DST etc.
4	Workshop	Self financed short term course on Genomics for	MNNIT Allahabad	23/12/2015	29/12/2015	Self sponsored

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		crop improvement				
5	International conference	International Conference on Translational Biotechnology (BioSangam 2016)	MNNIT Allahabad	04/02/2016	06/02/2016	Various
6	Workshop	Self financed short term course on computer aided drug designing	MNNIT Allahabad	27/05/2016	02/06/2016	Self sponsored
7	Workshop	Short term course on Current Advances in Applied Biotechnology		13/10/2016	19/10/2016	TEQIP II
8	International conference	International Conference on " Innovations and Translational Dimensions: Food, Health and Environmental Biotechnology" [Biosangam-2018]	MNNIT Allahabad	09/03/2018	11/03/2018	SERB, TEQIP II

EVENTS ATTENDED

1. The Sixth International Conference on Bioinformatics of Genome Regulation and Structure (BGRS'2008) Novosibirsk, Russia.
  2. INTERNATIONAL CONFERENCE ON ADVANCES IN ENVIRONMENT AND BIOTECHNOLOGY - EBT 2014, HongKong, 2014.
  3. ANGUS: Analyzing High Throughput Sequencing Data, University of California at Davis, USA, 2017.
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