Curriculum Vitae

Dr. Ravi Shankar

Coordinator and PI, The Himalayan Centre for High-throughput Computational Biology (HiCHiCoB), A BIC, supported by DBT, Govt. of India.

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Senior Principal Scientist, PI and Group Leader
Coordinator, Bioinformatics Program AcSIR @ CSIR-IHBT,
Studio for Computational Biology and Bioinformatics, Division of Biotechnology,
CSIR-Institute of Himalayan Bioresource Technology, Palampur, Himachal Pradesh, India-176061.

Date of Birth	18/09/1977
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Educational Background:

S.No.	Degree/Course	Institute	Year
1	10+2	Kendriya Vidyalaya, Kankerbaugh, Patna	1994
2	B.Sc.	University of Delhi	1997
3	M.Sc. Biochemistry	Jamia Hamdard, New Delhi	1999
4	PGAD (Bioinformatics)	JNU, Delhi	2001
5	PhD (Bioinfomatics/Biotechnology	CSIR-IGIB and Pune University	2006

Professional Experience:

S.No.	Position& Organisation	Nature of Job	Period
1	Researcher, Genetic Information Research Institute, Mountain View, California, USA.	It was H1B visa based employment in the USA. Major work included non-coding elements and repeats oriented research and supervision of Repbase.	2006-07
2	Main Bioinformatician, BIOBASE, Bangalore.	To look after bioinformatics research activities in its India office. Included network analysis and gene regulation.	2007-08
3	Faculty in Bioinformatics, Indian Institute of Advanced Research Gandhinagar, Gujarat.	To carry out Bioinformatics research and teaching.	2008-09
4	Scientist, Bioinformatics, Biotechnology Division, CSIR-IHBT.	To start Bioinformatics based research from 2010 to present with research interest in major areas of NGS, noncoding biology, epi-genomics, computational regulomics and microRNAs.	2010-14
5	Senior Scientist, Bioinformatics, Biotechnology Division, CSIR-IHBT.		2014-18
6	Principal Scientist, Bioinformatics, Biotechnology Division, CSIR-IHBT.		2018-23
7	Senior Principal Scientist, Bioinformatics, Biotechnology Division, CSIR-IHBT.		Since 2023

Current research interests: Regulatory system analysis with respect to microRNAs, Computational epigenomics and regulomics, and computational issues with next generation sequencing, Deep Learning, HPC.

- **Total Ph.Ds guided towards completion: 10**

Fellowships & Recognition:

Delhi University exams topper for all the three years of B.Sc.
GATE qualified
CSIR-NET qualified
DBT fellowship

Hewlett-Packard fellowship
NIH, USA project fellow
DST/SERB Young Scientist Fast Track Grant Award
INSA-Australian Academy of Science Visiting Scientist Fellowship, 2012-13
Visiting faculty and CDC committee member,
Central University of Himachal Pradesh
UGC ENCORE Faculty for University of Jammu

Funded Project Grants Attracted:

1. Project titled **"Computation investigation into the role of alternative splicing in cellular differentiation, tissue regeneration, diseases and evaluation "**, sanctioned for funding by the DBT, Government of India.

2. Project titled **"National Network Project of CSIR-IHBT, Palampur "**, sanctioned for funding by the DBT, Government of India.

3. Project titled **"The Himalayan Centre for High-throughput Computational Biology (HiCHiCoB) - BIC at CSIR-IHBT, Palampur (HP) "**, sanctioned for funding by the DBT, Government of India.

4. Project titled **"iPRESS: Integrated Plant REgulomics Software & Server"**, sanctioned for funding by the CSIR, India.
5. Project titled **"Exploration of RBP-RNA interactions to reveal the post-transcriptional regulatory impact and development of related tools and resource server"**, sanctioned for funding by the Department of Biotechnology.

6. Project titled **"Epigenetic and transcriptional regulation by small RNAs: a computational approach"**, sanctioned for funding by the Department of Science and Technology.

7. Project titled **"Identification of De novo non-coding transcripts in Human Brain [HUNT]"**, Project Funded under "Encouraging and Motivating Pursuit of World Class Exploratory Research " [EMPOWER] CSIR, India.

8. Project titled **"Regulatory system Analysis with respect to microRNAs and development of related softwares and Servers"**, sanctioned for funding by DBT.

9. Project titled **"Profiling and characterization of early phase differential mi-RNA(s) responsible for downstream development of insulin resistance in hMSC derived adipocytes"**, sanctioned for funding by DBT.

10. **National 12th Five Year Plan Project for Computational Biology, "GENESIS"** (2012-2017).

11. **National 12th Five Year Plan Project for Epigenetics, "EpiHED**" (2012-2017).

* Besides these projects, Co-PI in several other projects, funded by **DBT** and **CSIR**.

Important publications (last five years):

S.No.	Title	Authors	Journal volume, Page	Year
1.	Comprehensive analysis of computational approaches in plant transcription factors binding regions discovery.	Jyoti, Ritu, sagar Gupta, Ravi Shankar	Heliyon, Volume 10, Issue 20, 30 October 2024, e39140.	2024
2.	PTFSpot: deep co-learning on transcription factors and their binding regions attains impeccable universality in plants.	Sagar Gupta, Veerbhan Kesarwani, Umesh Bhati, Jyoti, Ravi Shankar	Briefings in Bioinformatics, Volume 25, Issue 4, July 2024, bbae324.	2024
3.	miWords: transformer-based composite deep learning for highly accurate discovery of pre-miRNA regions across plant genomes.	Sagar Gupta, Ravi Shankar	Briefings in Bioinformatics, 24(2), p.bbad088.	2023
4.	Bisbenzylisoquinolines from Cissampelos pareira L. as antimalarial agents: Molecular docking, pharmacokinetics analysis, and molecular dynamic simulation studies	Patil Shivprasad Suresh, Veerbhan Kesarwani, Surekha Kumari, Ravi Shankar, Upendra Sharma	Computational Biology and Chemistry, 104, 107826	2023
5.	De novo transcriptome based insights into secondary metabolite biosynthesis in Malaxis acuminata (Jeevak)–A therapeutically important orchid.	Paromik Bhattacharyya, Tanvi Sharma, Abhinandan Yadav, Lucy Lalthafmkimi, Mohit Kumar Swarnkar, Robin Joshi, Ravi Shankar, Sanjay Kumar	Frontiers in Plant Science, 3008	2022
6.	Time-series RNA-Seq transcriptome profiling reveals novel insights about cold acclimation and de-acclimation processes in an evergreen shrub of high	Nikita Rathore, Prakash Kumar, Nandita Mehta, Mohit Kumar Swarnkar, Ravi Shankar, Amit Chawla.	Scientific Reports, 12(1), p.15553	2022

	altitude.			
7.	DeepPlnc: Bi-modal deep learning for highly accurate plant lncRNA discovery.	Sagar Gupta, Nitesh Kumar Sharma, Ravi Shankar.	Genomics, 114(5), p.110443.	2022
8.	RBPSpot: Learning on appropriate contextual information for RBP binding sites discovery.	Nitesh Kumar Sharma, Sagar Gupta, Ashwani Kumar, Prakash Kumar, Upendra Kumar Pradhan, Ravi Shankar.	iScience, 24(12).	2021
9.	miRbiom: Machine-learning on Bayesian causal nets of RBP-miRNA interactions successfully predicts miRNA profiles.	Upendra Kumar Pradhan, Nitesh Kumar Sharma, Prakash Kumar, Ashwani Kumar, Sagar Gupta, Ravi Shankar.	Plos one, 16(10), p.e0258550.	2021
10.	The first draft genome of Picrorhiza kurrooa, an endangered medicinal herb from Himalayas.	Tanvi Sharma, Nitesh Kumar Sharma, Prakash Kumar, Ganesh Panzade, Tanuja Rana, Mohit Kumar Swarnkar, Anil Kumar Singh, Dharam Singh, Ravi Shankar, Sanjay Kumar	Scientific Reports, 11, 14944	2021
11.	In-depth assembly of organ and development dissected Picrorhiza kurroa proteome map using mass spectrometry.	Manglesh Kumari, Upendra Kumar Pradhan, Robin Joshi, Ashwani Punia, Ravi Shankar, Rajiv Kumar.	BMC Plant Biology, 21(1), pp.1-18.	2021
12.	Comparative transcriptome analysis of Rheum australe, an endangered medicinal herb, growing in its natural habitat and those grown in controlled growth chambers.	Deep Mala, Supriya Awasthi, Nitesh Kumar Sharma, Mohit Kumar Swarnkar, Ravi Shankar, Sanjay Kumar.	Scientific Reports, 11(1), p.3702.	2021
13.	Regulation of color transition in purple tea (Camellia sinensis)	Manglesh Kumari, Shweta Thakur, Ajay	Planat 251, pp.1-18.	2020

		Kumar, Robin Joshi, Prakash Kumar, Ravi Shankar, Rajiv Kumar.		