BRIEF BIO-DATA OF DR. VISHAL ACHARYA

Present Post: Scientist, Functional Genomics & Complex System Lab, Biotechnology Division, CSIR-Institute of Himalayan Bioresource Technology (IHBT),   Palampur-176061 (H.P.), India

Email-id   vishal@ihbt.res.in, acharya.vishalacharya@gmail.com

Date of Birth   21.05.1982

Professional Experience   Scientist Fellow under CSIR QHS (October, 2011-August, 2014)

Awards/Honours   **i) Indian Science Congress Association (ISCA)** Young Scientist Award -2014 (New Biology)
ii) Young Scientist Award for Best Paper Presentation (2014) by Society of Plant Biochemistry and Biotechnology, New Delhi
iii) Bioclues Innovation, Research and Development (BIRD) Award-2016 from International Society for Computational Biology and Asia-Pacific Bioinformatics Network.
iv) Part of Bioinformatics Team **awarded for 2nd Position** – Incentive Awards for Publications-2016 for publications in Year 2015, from BITSnet, Department of Biotechnology, Govt. of India (including my 5 out of total 8 papers).

Fellowships Merits   **i). ICAR's JRF** for Admission to Msc Programme.
ii). DBT-Fellow, Government of India, conducted by JNU-2003
iii). Junior Research Fellow (2005) granted by DBT
iv).Travel fellowship by European Science Foundation

Supervisory Experience   i).**Two Phd students** defended thesis (2017) through Academy of Scientific and Innovation Research (AcSIR) research program at CSIR-IHBT, Palampur.
ii) Presently, monitoring **three (3) JRF-PhD** students through AcSIR-PhD
iii) Currently monitoring **one Research Associate (RA)**

Computational Experience   Perl, python, Awk, Linux Administrator, R Package, GNU, Matlab, Bioconductor, PHP

Professional Memberships   Life Member of the Indian Science Congress Association (ISCA)

Reviewer   i) **Review Editor** for **Frontiers in Genetics**
ii) **Review Editor** for **Frontiers in Plant Science**
iii) **Review Editor** for Frontiers in Bioengineering & Biotechnology

Assignment Handled:	As Co-coordinator Bioinformatics Infrastructure Facility (BIF) (DBT), Co-PI (Indo-Sri Lankan Project, DST) and 2 CSIR Funded Project as Co-PI
Publications	Published → 20
	Under Review → 2
	Book → 2 (1 as Guest Editor; 1 as book chapter)

Educational Qualifications

Examination	School/College	Board/University	Year of Passing	Percentage/ Remarks
PhD (Bioinformatics)	Center For DNA Fingerprinting and Diagnostics (CDFD), Hyderabad	Manipal University, Manipal	2005- 2011	PhD Degree Awarded
M.Sc. (Biotechnology)	Madurai Kamaraj University, Madurai (T.N)	Madurai Kamaraj University, Madurai(T.N)	2003-2005	75.4%

Scientific Contributions:
* Developed **artificial intelligence based software** (Support vector Machine) named "*Hansa*" for discrimination of pathogenic from nonpathogenic missense mutations with 10% more accurate than best known methods (**Human Mutation, 2012; 2013**)
* "*Hansa***" has been highlighted** in annual virtual issue of Human Mutation entitled "Evaluating Mutation Pathogenicity" for the year 2012.
* **The National Genetics Reference Laboratory (NGRL), Manchester, UK,** on **analyzing popular missense prediction tools** advised usage of "*Hansa*" as one of the three tools, thus emphasizing the importance of this software that will be highly beneficial to the interested biological community.
* Suggested **some plant-derived molecules from Himalayas as anti-oral cancer agents** by means of the **machine learning classification model.** This work has been mentioned as **highly accessed article in BMC Medical Genomics.**
* Developed **a pipeline on the basis of integrated system biology and logistic regression (machine learning classifier)** for analysis of complex human diseases and predicted role of novel genes in oral cancer (**Molecular BioSystems**, 2015)
* Discovered **novel domain** (animal like defense regulator NACHT domain) for the first time related to immune response in **early green plants**
* Discovered dormancy related genes that will lead to improvement of phenological traits **in apple**
* Investigation and organization of abiotic stress factor NAC in potato; **this paper was ranked as 8th most read article** in **DNA Research, 2013**

Publications for the last 5 years:

1. Rakshak Kumar, **Vishal Acharya**, Srijana Mukhia, Dharam Singh, Sanjay Kumar (**2018**) Complete genome sequence of Pseudomonas frederiksbergensis ERDD5:01 revealed genetic

bases for survivability at high altitude ecosystem and bioprospection potential **Genomics (IF=2.91)**

2. Rakshak Kumar**#**, **Vishal Acharya#**, Dharam Singh, Sanjay Kumar (**2018**) Strategies for high-altitude adaptation revealed from high quality draft genome of non-violacein producing *Janthinobacterium lividum ERGS5:01* **Standards in Genomic Sciences (IF=1.6) #Joint First Authors**

3. Parul Goel, Nitesh Kumar Sharma, Monika Bhuria, Vishal Sharma, Rohit Chauhan , Shivalika Pathania , Mohit Kumar Swarnkar , Vandna Chawla , **Vishal Acharya** , Ravi Shankar & Anil Kumar Singh (**2018**) Transcriptome and Co-Expression Network Analyses Identify Key Genes Regulating Nitrogen Use Efficiency in *Brassica juncea* L. **Scientific Reports (IF= 4.12)**

4. Preeti Arya & **Vishal Acharya*** (**2017**) Plant STAND P-loop NTPases: A current perspective of genome distribution, evolution, and function. **Molecular Genetics and Genomics (IF = 2.73)**

5. Shailender Kumar Verma, Ankita Sharma, Padmani Sandhu, Neha Choudhary, Shailaja Sharma, **Vishal Acharya**, Yusuf Akhter (**2017**) Proteome scale identification, classification and structural analysis of iron-binding proteins in bread wheat **Journal of Inorganic Biochemistry** (**IF =3.0**)

6. Preeti Arya & **Vishal Acharya* (2016)** Computational identification raises a riddle for distribution of putative NACHT NTPases in the genome of early green plants **PloS One** 11(3):e0150634 doi: 10.1371/journal.pone **(IF =2.76)**

7. Gulshan Kumar#, Preeti Arya#, Khushboo Gupta, Vinay Randhawa, **Vishal Acharya**, and Anil Kumar Singh (**2016**) Comparative phylogenetic analysis and transcriptional profiling of MADS-box gene family identified *DAM* and *FLC*-like genes in apple (*Malus* x *domestica*) *Scientific Reports (Nature Publishing Group)* (# Equal first authorship) **(IF = 4.12)**

8. Geetika Sirhindi, Poonam Sharma, Preeti Arya, Parul Goel, Gulshan Kumar, **Vishal Acharya**, Anil Kumar Singh (**2015**) Genome-Wide Characterization and Expression Profiling of TIFY Gene Family in Pigeonpea (Cajanuscajan (L.) Millsp.) under Copper Stress *Journal of Plant Biochemistry and Biotechnology* (IF = 0.774)

9. Vinay Randhawa, Anil Kumar Singh & **Vishal Acharya*** (**2015**) A systematic approach to prioritize drug targets using machine learning, a molecular descriptor-based classification model, and high-throughput screening of plant derived molecules: a case study in oral cancer *Molecular BioSystems,* 2015, 3362-3377DOI**:** 10.1039/C5MB00468C (IF= 2.75)

10. Vinay Randhawa & **Vishal Acharya*** (**2015**) Integrated network analysis and logistic regression modeling identify stage-specific genes in Oral Squamous Cell Carcinoma **BMC Medical Genomics** 8:39, DOI: 10.1186/s12920-015-0114-0 (IF = 3.32) (**Highly Accessed Article)**

11. Shivalika Pathania & **Vishal Acharya*** (**2015**) Computational analysis of "-omics" data to identify transcription factors regulating secondary metabolism in *Rauvolfia serpentina* **Plant Molecular Biology Reporter** DOI: 10.1007/s11105-015-0919-1(IF = 1.84)

12. Arun Kumar, Vinay Randhawa, **Vishal Acharya**, Kashmir Singh, Sanjay Kumar (**2015**) Amino acids flanking the central core of Cu,Zn superoxide dismutase are important in retaining enzyme activity after autoclaving **Journal of Bimolecular Structure & Dynamics** 10.1080/07391102.2015.1049551 (IF = 3.10)

13. Preeti Arya, Gulshan Kumar, **Vishal Acharya***, Anil Kumar Singh (**2014**) Genome-wide identification and expression analysis of NBS-encoding genes in Malus x domestica and expansion of NBS genes family in Rosaceae **PLoS ONE** 9(9): e107987. doi:10.1371/journal.pone.0107987 (IF = 2.76)

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