Himansu Kumar, PhD Post-doctoral Fellow, University of Texas Health Science and Centre at Houston, USA	Contact information. **Mob**: (+1) 6462582276 **Email:** himanshu.genetics@gmail.com **Skype ID:** himanshu.genetics

Objective

In quest of a challenging position in the organization that offers me generous opportunities to explore & outshine in the field of bioinformatics while accomplishing personal, professional as well as organizational goals.

Achievements

- Served as guest editor, Animals Journal for Special Issue "Animal's Transcriptome Response to Environment Change".
- Reviewed 20 manuscripts of renowned international journal.
- 394 citations, (https://scholar.google.com/citations?user=NkCQEBEAAAAJ&hl=en)
- Published 34 manuscripts in international journals.

Research Experience

Post	Research Title	Institute	Duration
Post-doctoral Fellow	WGS and RNA-Seq data analysis, Computational Drug Designing of Fusion protein	University of Texas Health Science and Centre at Houston, USA	April 2021-till date
Post-doctoral Fellow	WGS, RNA-Seq data analysis	Icahn School of Medicine, Mount Sinai, New York	Nov 2020-April 2021
Post-doctoral Fellow	Epigenomics, Transcriptomics, and Metagenomics data analysis.	National Institute of Animal Science, Jeonjou, South Korea	March 2018-Oct 2020
Senior Scientist	Metagenomics, Next Generation Sequencing Data Analysis	Qtlomics Technologies Bangalore, India	July 2017-March 2018
Research Associate	Epigenomics, Transcriptomics data analysis	Indian Agricultural Statistics Research Institute, New Delhi	Nov-2015 to June 2017

Publication in SCI indexed journal

1. Systematic investigation of the homology sequences around the human fusion gene breakpoints in pan-cancer – bioinformatics study for a potential link to MMEJ. **Himansu Kumar**, LY Tang, C Yang, P Kim – 2023 accepted in Briefings in Bioinformatics.
2. FusionPDB: a knowledgebase of human Fusion Proteins, **Himansu Kumar**, LY Tang, C Yang, P Kim – 2023 accepted in NAR.

3. Integrative bioinformatics studies of the transcription factor (TF) fusion proteins in cancer **Himansu Kumar**; Chengyuan Yang; Xiao Chen; Zhiwei Ji; Pora Kim. 2023 (Submitted in Cell Reports Medicine).
4. Pora Kim *, Hua Tan, Jiajia Liu, **Himansu Kumar**, and Xiaobo Zhou, “FusionAI, a DNA sequence-based deep learning protocol reduces the false positives of human fusion gene prediction”.***STAR Protocol, 2022 Feb 28;3(1):101185 Cell Press.***
5. Kim P*, Tan H, Liu J, Lee H, Jung H, **Kumar H**, and Zhou X. “FusionGDB 2.0: fusion gene annotation update aided by deep learning”. ***Nucleic Acids Research*** **(IF:16.9**)
6. Srivastava, S., Lopez, B. I., **Kumar, H**., Jang, M., W., ... & Lim, D. (2021). Prediction of Hanwoo Cattle Phenotypes from Genotypes Using Machine Learning Methods. ***Animals***, *11*(7), 2066. **(IF:2.7)**
7. **Kumar, Himansu, et al.** "RNA seq analyses of chicken reveals biological pathways involved in acclimation into different geographical locations." **Scientific Reports** 10.1 (2020): 1-12. **(IF: 4.37)**
8. **Kumar, Himansu, et al.** "Compositional and Functional Characteristics of Swine Slurry Microbes through 16S rRNA Metagenomic Sequencing Approach." **Animals** 10.8 (2020): 1372. **(IF: 2.7)**
9. Srikanth, Krishnamoorthy, Jong-Eun Park, Sang Yun Ji, Ki Hyun Kim, Yoo Kyung Lee, **Himansu Kumar**, Minji Kim et al. "Genome-Wide Transcriptome and Metabolome Analyses Provide Novel Insights and Suggest a Sex-Specific Response to Heat Stress in Pigs." **Genes** 11, no. 5 (2020): 540. **(IF: 4.09)**
10. **Kumar, Himansu, et al**. "Whole metagenome sequencing of cecum microbiomes in Ethiopian indigenous chickens from two different altitudes reveals antibiotic resistance genes." ***Genomics*** (2019), (**IF: 6.2,** ISSN: 0888-7543).
11. **Kumar, Himansu, et al.** “Comparison of Bacterial Populations in the Ceca of Swine at Two Different Stages and their Functional Annotations”. ***Genes,*** 10(5), p.382. **(IF: 4.09,** ISSN: 20734425, **UGC No.** 27473**).**
12. **Kumar, Himansu, et al.** "Transcriptome of chicken liver tissue reveals the candidate genes and pathways responsible for adaptation into two different climatic conditions.” ***Animals*** **(2019),** (**IF: 2.7,** ISSN: 2076-2615).
13. Junaid Alim, **Himansu Kumar**, A. R. Rao, A. N. Patil, N. K. Singh, and Kishor Gaikwad. "Unravelling the epigenomic interactions between parental inbreds resulting in an altered hybrid methylome in pigeonpea." ***DNA Research*** 25, no. 4 (2018): 361-373. (**IF: 5.40,** ISSN: 13402838, **UGC No.** 13328).
14. Srikanth, Krishnamoorthy, **Himansu Kumar** et al. "Cardiac and skeletal muscle transcriptome response to heat stress in Kenyan chicken ecotypes adapted to low and high altitudes reveal differences in thermal tolerance and stress response." ***Frontiers in genetics*** 10 (2019): 993. **(IF: 3.7)**.
15. **Kumar, Himansu,** Krishnamoorthy Srikanth, Woncheol Park, Seung-Hoon Lee, Bong-Hwan Choi, Hana Kim, Yong-Min Kim et al. "Transcriptome analysis to identify long non-coding RNA (lncRNA) and characterize their functional role in back fat tissue of pig." **Gene** 703 (2019): 71-82. **(IF: 2.4,** ISSN: 3781119, **UGC No.** 27445).
16. Saurabh Gupta, Manju Kumari, **Himansu Kumar**, Pritish Kumar Varadwaj “Genome-wide analysis of miRNAs and Tasi-RNAs in *Zea mays* in response to phosphate deficiency”, ***Functional Integrative Genomics****,* 2017 May; 17(2-3):335-351 (**IF: 3.88**, ISSN: 1438793X, **UGC No**. 17835).
17. Utkarsh Raj, **Himansu Kumar**, and Pritish Kumar Varadwaj. "Molecular docking and dynamics simulation study of flavonoids as BET bromodomain inhibitors" ***Journal of***

Biomolecular Structure and Dynamics *2017* Aug;35(11):2351-2362 (**IF: 3.5**, ISSN: 7391102, UGC No. 21655),

18. Gupta, Saurabh, Yashbir Singh, **Himansu Kumar**, Utkarsh Raj, A. R. Rao, and Pritish Kumar Varadwaj. "Identification of novel abiotic stress proteins in Triticum aestivum through functional annotation of hypothetical proteins." ***Interdisciplinary Sciences: Computational Life Sciences*** 10, no. 1 (2018): 205-220. **(IF: 2.2,** ISSN:19132751, UGC No. 2311)
19. **Himansu Kumar,** Utkarsh Raj, Saurabh Gupta, and Pritish Kumar Varadwaj. "In-silico identification of inhibitors against mutated BCR-ABL protein of chronic myeloid leukemia: a virtual screening and molecular dynamics simulation study." ***Journal of Biomolecular Structure and Dynamics*** 2016 Oct; 34(10):2171-83. **(IF: 3.5,** ISSN:7391102, UGC No. 21655**)**.
20. **Kumar, Himansu,** Utkarsh Raj, Swati Srivastava, Saurabh Gupta, and Pritish K. Varadwaj. "Identification of dual natural inhibitors for chronic myeloid leukemia by virtual screening, molecular dynamics simulation and ADMET analysis." ***Interdisciplinary Sciences: Computational Life Sciences*** 8, no. 3 (2016): 241-252. **(IF: 2.2,** ISSN:19132751, UGC No. 2311**).**
21. **Kumar, Himansu,** Swapnil Tichkule, Utkarsh Raj, Saurabh Gupta, Swati Srivastava, and Pritish Kumar Varadwaj. "Effect of STAT3 inhibitor in chronic myeloid leukemia associated signaling pathway: a mathematical modeling, simulation and systems biology study." ***3 Biotech,*** 6 no. 1 (2016): 40. **(IF: 2.4,** ISSN:2190572X, **UGC No**. 99**).**
22. Saurabh Gupta, **Himansu Kumar**, Utkarsh Raj, Pritish Kumar Varadwaj, "Exploration of new drug like inhibitors for serine/threonine protein phosphatase 5 of Plasmodium falciparum: A docking and simulation study" ***Journal of Bimolecular Structure and Dynamics*****.** 2015; 33(11):2421-41. **(IF: 3.5,** ISSN:7391102, **UGC No**. 21655**).**
23. Utkarsh Raj, **Himansu Kumar**, Pritish Kumar Varadwaj, "Exploring dual inhibitors for STAT1 and STAT5 receptors utilizing Virtual Screening and Dynamics Simulation Validation", ***Journal of Biomolecular Structure and Dynamics,*** *34(10):2115-29.* **(IF: 3.5,** ISSN:7391102, **UGC No.** 21655**).**
24. Utkarsh Raj, **Himansu Kumar**, Pritish Kumar Varadwaj "3D Structure Generation, Molecular Dynamics and Docking Studies of IRHOM2 Protein Involved in Cancer & Rheumatoid Arthritis", ***Current Computer - Aided Drug Design*****,** Volume 11, Number 4, December 2015, pp. 325-335(11), **(IF:1.6, ISSN:**15734099, **UGC No.** 14194 **).**
25. Utkarsh Raj, **Himansu Kumar**, Saurabh Gupta, Pritish Kumar Varadwaj, "Identification of Novel Inhibitors for Disrupting EZH2-EED Interactions Involved in Cancer Epigenetics: An In-Silico Approach". ***Current Proteomics***, Volume 13, Number 4, December 2016, pp. 313-321(9). **(IF: 0.87, ISSN:** 15701646, **UGC No.** 14368**).**
26. **Kumar, Himansu,** et al. "Stage specific transcriptome analysis of liver tissue from a crossbred Korean Native Pig (KNP× Yorkshire)." Journal of Biomedical and Translational Research (JBTR) 19.4 (2018): 116-124.
27. **Himansu Kumar**, Utkarsh Raj, and Pritish Kumar Varadwaj "Parameters Involved in Autophosphorylation in Chronic Myeloid Leukemia: a Systems Biology Approach". *Asian Pac J Cancer Prev. 2015; 16 (13):5273-8.* **Scopus (ISSN:** 15137368 **UGC No.** 1287)
28. **Himansu Kumar,** Swati Srivastava, and Pritish Kumar Varadwaj. "Determination of protein-protein interaction through Artificial Neural Network and Support Vector Machine: A Comparative study." *International Journal for Computational Biology (IJCB)* 3.2 (2014): 37-43.
29. **Himansu Kumar**, Utkarsh Raj, Pritish Kumar Varadwaj" Systemic review on Chronic Myeloid Leukemia: Therapeutic Targets, Pathways and Inhibitors" *J Nucl Med Radiat Ther* 6:257.
30. Utkarsh Raj, **Himansu Kumar**, Pritish Kumar Varadwaj "Novel Natural inhibitors for DOT1L receptor involved in Mixed Lineage Leukemia: A Virtual Screening, Molecular Docking and

Dynamics Simulation study", *Asian Pac J Cancer Prev,* 16 (9), 3817-3825. **Scopus (ISSN:** 15137368 **UGC No.** 1287**)**

31. Utkarsh Raj, **Himansu Kumar**, Pritish Kumar Varadwaj "In silico identification of glucagon receptor antagonist for the treatment of Type 2 Diabetes Mellitus" *Enz Eng 4: 128. doi: 10.4172/2329-6674.1000 128.*
32. **Himansu Kumar**, and Pritish Kumar Varadwaj "DPAAR: a Database of Perfect Amino Acid Repeat", *International Journal for Computational Biology.Vol.4, No.1, April 2015, pp. 62-66.*
33. Prashant Kumar, **Himansu Kumar** "In-silico Study of Arylalkylamine - Nacetyltransferase enzyme to regulate circadian rhythmicity" *Bioinformation 9(15): (2013) 771-776.*
34. Saurabh Gupta, **Himansu Kumar** "Evolutionary and functional analysis of fructose bisphosphate aldolase of plant parasitic nematodes", *Bioinformation 9(1): (2013) 001-008.*
35. Sneha Rai, Utkarsh Raj, Swapnil Tichkule, **Himansu Kumar**, Sonali Mishra, Neeti Sharma, Pritish Kumar Varadwaj "Recent Trends in In-silico Drug Discovery", *International Journal for Computational Biology*,Vol 5, No 1 (2016).

Publication in Conferences

1. **Himansu Kumar**, Swati Srivastava, Utkarsh Raj, and Pritish Kumar Varadwaj" Classifications of the genes responsible for stem cells differentiation and regenerations by Rotation Forest: An ensemble method". *Elsevier. ISBN: 978-93-5107-313-0.*
2. Sonali Mishra, **Himansu Kumar**, Utkarsh Raj, Pritish Kumar Varadwaj. Designing and Development of Novel Natural Inhibitors for dihydrofolate reductase as suppressors for Psoriasis: A Virtual Screening and Molecular Docking Study. *Elsevier. ISBN: 978-93-5107-313-0.*

Book Chapter

1. Transcriptomic and epigenomic network analysis reveals chicken physiological reactions against heat stress.

Paper and Poster Presentations

1. Poster presented titled with "**Transcriptome analysis to identify candidate genes and pathways for adaptation of liver tissue in to two different climatic conditions**" International conference and symposium, The Korean Society of Animal Breeding and Genetics. Date25/06/2019, Daejeon, South Korea.
2. Poster presented titled with **"RNA-Seq analysis to identify and characterize long-non coding RNA (lncRNAs) and their potential role in back fat tissue of pig",** International conference and symposium, The Korean Society of Animal Breeding and Genetics (ISSN: 1226-5543). Daejeon, Korea.
3. Poster presented titled with **"Stage specific comparative metagenomic analysis of pig cecum content to decipher the microbial composition and their function",** in the 27th international KOGO annual conference "Genomics: a new path towards convergence of Biology and Medicine", 5th - 7th September 2018 (Sejong University, Seoul, korea).
4. **Kumar H,** A R Rao, **"Prediction of lncRNAs from *Capra hircus* transcriptome"** 70th Annual "International Conference on Statistics & Big Data Bioinformatics in Agricultural Research"in 21-23 Nov, 2016 organized by International Crop Research Institute for the semi-arid tropics. (Paper Presented)
5. Gupta S, **Kumar H**, Varadwaj PK **"Embryo and endosperm specific comparative transcriptome analysis of *Triticum aestivum* in response to ABA and H2O2 stress",** presented in International Conference on Bioinformatics and Systems Biology (BSB) in 4th-

6th march 2016, organized by Indian Institute of Information Technology Allahabad.(Paper Presented)

6. **Kumar H**, Chaudhary KK, & C.V.S.Siva Prasad, "Study of Inhibitors of Chronic Myeloid Leukemia Protein BCL-2 by Virtual screening approach", National Symposium on Chemistry at the interface of Innovative researches in Science and Technology (CIIRST-14) February 27-28, 2014, Department of Chemistry, Allahabad University, India. (Paper Presented)
7. **Kumar H**, Chaudhary KK "Design of inhibitors for Bcr-Abl complex protein by Virtual Screening and Docking approaches",7th Annual Convention of ABAP & International Conference on Plant Biotechnology, Molecular Medicine & Human Health, October 18-20, 2013. (Poster Presented)
8. **Kumar H**, Chaudhary KK, Gupta S," Role of Machine Learning Approaches in Stem Cell Research", National Seminar on Stem Cell an Emerging Health Care Frontier,20-21 August 2012. (Poster Presented).

Invited Speaker

1. Delivered a guest lecture on a workshop "National workshop on Advances in Bioinformatics and Computer Aided Drug Designing" being held on 21 Feb 2017 at Institute of Advanced Science & Technology, NIMS University Rajasthan, Jaipur, India. Title "Whole genome DNA methylation study".
2. Delivered an invited lecture on faculty development program organized by the IILM Academy of Higher Learning, Noida, India at 08/04/17. "Exploring the long non-coding RNA through NGS data analysis".

Conference and Workshops Attended

1. Workshop on Systems Biology (16-17 March 2013), Organized by Indian Institute of Information Technology, Allahabad.
2. *Workshop* on High-throughput Data Analysis using *R packages* 27-28 September, 2012. Organized by International Centre for Genetic Engineering and Biotechnology (ICGEB) New Delhi, India.
3. National *Workshop* on E & ICT *Intellectual Property* Right (7 Feb 2012), Organized by Indian Institute of Information Technology, Allahabad.
4. Pursued Intellectual Property Right course from WIPO (World Intellectual Property Right Organization March 1 to April 15, 2010).

Educational Qualifications

Degree	**University**	**Subject**	**Year**	**Marks (CGPA)**
Ph.D.	Indian Institute of Information Technology Allahabad, India *Topic: Systems Biology approach to study chronic myeloid leukemia, a stem cell's disorders*	Bioinformatics	Awarded: Jan 2017, Thesis Submitted in Jan 2016	9.0
M.Tech.	Indian Institute of Information Technology Allahabad, India	Bioinformatics	2011	8.6

B.Tech.	Allahabad Agriculture Institute, Deemed- University, Allahabad, India	Biotechnology	2009	8.9