

# Sickle Cell Institute Chhattisgarh, Raipur

Phone & Fax: 0771-2885505, website: [www.scic.cg.nic.in](http://www.scic.cg.nic.in)

**Name:** Dr. Hrishikesh Mishra

**Designation:** Scientist in Bioinformatics

**Educational Qualification:**

M.B.B.S. (Pt. J.N.M. Medical College, Raipur),

M.Tech. Bioinformatics (IIIT Allahabad)

Ph.D. Bioinformatics (IIIT Allahabad)

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**Additional Responsibilities:**

1. **Member:** Institutional Ethics Committee, Sickle Cell Institute Chhattisgarh, Raipur.
2. **Member:** Committee for drafting preparing Sickle Cell Policy for state of Chhattisgarh and Action Plan for Sickle Cell Institute Chhattisgarh, Raipur.
3. **Member:** Editorial Board for Handbook on Sickle Cell Disease, published by SCIC, Raipur.
4. **Member:** Committee for preparing answers to questions related to sickle cell disease raised in Chhattisgarh Vidhan Sabha during Monsoon session 2015.
5. **Member:** Website Development Committee for website of Sickle Cell Institute Chhattisgarh, Raipur.
6. **Executive Editor:** International Journal of Sickle Cell Disease and Blood Disorders (IJSCDBD), the official journal of SCIC, Raipur.

**Association with Scientific organizations:**

1. **Life Member** of Indian Society of Human Genetics (ISHG)
2. **Life Member** of Indian Association for Medical Informatics (IAMI)
3. **Associate Member** of Bioinformatics Organization (Bioinformatics.org)
4. **Member** of Global Sickle Cell Disease Network

**Extramurally Funded Research Projects:**

1. Assessment of Impact of Sickle Cell Mobile Clinic Facility on Patients' Compliance and Psychological Stress Level: Ongoing since March 2015, Funded by CCOST, Govt. of Chhattisgarh. (Tenure: 2 Years)
2. Artificial intelligence aided computational approach using clinical laboratory markers to predict response to hydroxyurea therapy in Indian patients with sickle cell disease: Ongoing since 16<sup>th</sup> March 2017, Funded by ICMR, Govt. of India. (Tenure: 3 years)

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## Ph.D./MD/MDS/MS Theses Guided:

1. Image processing based intelligent approach to automate reticulocyte count and mine its clinical implications in Indian sickle cell disease patients (Ph.D. Thesis: as Guide) Ongoing

## Conference and symposium organized:

1. **Organizing Secretary** for Symposium on 'Digital Medicine' and Hands-on- Workshop on 'Bioinformatics in Medical Sciences', held at Department of Biochemistry, Pt. J.N.M. Medical College, Raipur, Chhattisgarh, India, July 25th -31<sup>st</sup> July 2014. (Supported by Directorate of Medical Education, Govt. of Chhattisgarh & Indian Council of Medical Research, Govt. of India)

## Publications in journals:

1. "Surface characterization of proteins using multi-fractal property of heat-denatured aggregates", Tapabrata Lahiri, **Hrishikesh Mishra**, Subrata Sarkar, Krishna Misra, Bioinformation 2(9): 379-383, 2008. PMID: 18795110, PMCID: PMC2533056, (ISSN: 0973-2063). [**Impact Factor**: 1.15, **h-index**: 10, **Citations**: 7]
2. "Derivation of a protein-marker from heat-denatured protein-aggregate", Tapabrata Lahiri, **Hrishikesh Mishra**, Upendra Kumar, Krishna Misra, Online Journal of Bioinformatics 10(1): 29-39, 2009. (ISSN: 1443-2250) [**Impact Factor**: 7.40 (By IBIO Japan. Note: This NOT an ISI Thompson IF), **h-index**: 6, **Citations**: 6]
3. "A comparative study on the molecular descriptors for predicting drug-likeness of small molecules", **Hrishikesh Mishra**, Nitya Singh, Tapabrata Lahiri, Krishna Misra. Bioinformation 3(9), 384-388, 2009. PMID: 19707563, PMCID: PMC2728118, (ISSN: 0973-2063) [**Impact Factor**: 1.15, **h-index**: 10, **Citations**: 15]
4. "Analysis of ECG signal by chaos principle to help Automatic Diagnosis of Myocardial Infarction", Tapabrata Lahiri, Upendra Kumar, **Hrishikesh Mishra**, Subrata Sarkar, Arunava Das Roy. Journal of Scientific & Industrial Research 68(10), 866-870, 2009. (ISSN: 0022-4456) [**Impact Factor**: 0.385, **h-index**: 21, **Citations**: 11]
5. "Multifractal analysis of protein aggregates to derive protein-specific signature", **Hrishikesh Mishra** and Tapabrata Lahiri. The IIOAB Journal 1(4), 22-26, 2010. (ISSN: 0976-3104) [**Impact Factor**: Not available, **IndexCopernicus (IC) Value**: 4.55]
6. "Neurocognitive Derivation of Protein Surface Property from Protein Aggregate Parameters", **Hrishikesh Mishra** and Tapabrata Lahiri. Bioinformation 6(4), 158-161, 2011. PMID: 21572883, PMCID: PMC3092950 [**Impact Factor**: 1.15, **h-index**: 10, **Citations**: 2]
7. "An ANN-GA model based promoter prediction in Arabidopsis thaliana using tilling microarray data", **Hrishikesh Mishra**, Nitya Singh, Tapabrata Lahiri, Krishna Misra.

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Bioinformation 6(6), 240-243, 2011. PMID: 21887014, PMCID: PMC3159145 [**Impact Factor: 1.15, h-index: 10, Citatoins: 10**]

8. "Exploring geometric properties of gold nanoparticles using TEM images to explain their chaperon like activity for citrate synthase", Vikas Kaushik, Tapobrata Lahiri, Santiswarup Singha, Anjan Kumar Dasgupta, **Hrishikesh Mishra**, Upendra Kumar, Rajeev Kumar. Bioinformation 7(7): 320-323, 2011. [Impact Factor: 1.15, **h-index: 10, Citatoins: 4**]
9. "Epigenomic regulation of genes involved in anti-stress mechanism in Arabidopsis thaliana using high-throughput genomic data", Nitya Singh, **Hrishikesh Mishra**, Krishna Misra, Online Journal of Bioinformatics, 12(2), 329-344, 2011. (ISSN: 1443-2250) [**Impact Factor: 1.67, h-index: 6, Citations: 0**]
10. "A model database to identify drug like molecules", Kailash Adhikari, Tapobrata Lahiri, **Hrishikesh Mishra**, Kalpana Singh, Arun Kumar CN, Online Journal of Pharmacology, 8, 23-31, 2012.
11. "Effect of hydroxyurea therapy on erythrocyte membrane  $\text{Na}^+ \text{K}^+$  ATPase activity, HbF and haematological indices in sickle cell disease patients", Harish Kumar Uraon, Onkar Prasad Kashyap, Pradeep Kumar Patra, Debapriya Rath, **Hrishikesh Mishra**, Sharja Phuljhele, Shashank Gupta, Prafulla Kumar Khodiar, Indian Journal of Medical Biochemistry, 17(2), 3-9, 2013. ISSN: 0972-1207.
12. "Gene expression in sickle cell patients: Putative genes associated with variability in pleiotropic phenotype", Ipsita Das, **Hrishikesh Mishra**, Prafulla K Khodiar, Pradeep K Patra, Online Journal of Bioinformatics, 16(3): 327-343, 2015. ISSN: 1443-2250.
13. "Implementation of Indigenous Electronic Medical Record System to Facilitate Care of Sickle Cell Disease Patients in Chhattisgarh", Mona Choubey, **Hrishikesh Mishra**, Khushboo Soni, Pradeep K Patra, Journal of Clinical and Diagnostic Research, 10(2), LC01-06, 2016. PMID: 27042486; PMCID: PMC4800551, doi: 10.7860/JCDR/2016/16047.7186, ISSN: 0971-709X.
14. "Hematological and biochemical parameters in clinical spectrum of Indian sickle cell disease patients", Ipsita Das, Dnyanesh Amle, Prafulla Kumar Khodiar, **Hrishikesh Mishra**, Pradeep Kumar Patra, International Journal of Pharma and Bio Sciences, 7(2): (B) 34-39, 2016. ISSN 0975-6299.
15. "Current understanding of diagnosis and treatment of rare mitochondrial disorders", LVKS Bhaskar, **Hrishikesh Mishra**, Pradeep K Patra, The Journal of Rare Disorders, 4(1): 44-58, 2016. ISSN: 2325-6222.
16. "NOS3 27-bp and IL4 70-bp VNTR polymorphisms do not contribute to the risk of sickle cell crisis", Henu Verma, **Hrishikesh Mishra**, P.K. Khodiar, P.K. Patra, Bhaskar LVKS, Turkish Journal of Hematology, 33(4): 365-366, 2016. PMID: 27400089, DOI: 10.4274/tjh.2016.0166, ISSN: 1300-7777.

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## Papers presented in conferences:

1. "A computational approach for risk-estimation of Coronary Artery Blockade using thermogram", Tapobrata Lahiri, Gohel Bakul Chandulal, **Hrishikesh Mishra**, Abhishek Vaish, Pritish Kumar Varadwaj, Shirshu Varma, Uma Shankar Tiwary, V.E. Anticeperov, Yuri Vladimirovich Obukhov, Alexei Alexandrovich Morozov, Gennady Mansurov, 3, 133-137, Proceedings of ISMTII-2009 (Selected for oral presentation at ISMTII-2009: The 9th International Symposium on Measurement Technology and Intelligent Instruments, June 29 – July 2, 2009, Saint-Petersburg, Russia).[Citations: 1]
2. "Heart rate wireless monitoring system, novel approach to ECG processing and representation", Vjacheslav E. Antsiperov, Yuri V. Obukhov, Sergey A. Nikitov, Tapobrata Lahiri, Gohel Bakul Chandulal, **Hrishikesh Mishra**, Abhishek Vaish, Pritish Kumar Varadwaj, Shirshu Varma, 3, 64-68, Proceedings of ISMTII-2009 (Selected for oral presentation at ISMTII-2009: The 9th International Symposium on Measurement Technology and Intelligent Instruments, June 29 - July 2, 2009, Saint-Petersburg, Russia).
3. Evaluation of different vaso-occlusive biochemical markers in sickle cell patients of Chhattisgarh, Das I., Mishra H., Khodiar P.K., Patra P.K., National CME on “Biochemical aspects of inborn error of metabolism” and 2nd AMBICON, Chhattisgarh Chapter, 17th January 2015, Late Shri Lakhiram Agrawal Memorial Medical College, Raigarh, C.G., India.
4. Evaluation of whole blood transcriptome to mine biochemical markers in sickle cell disease patients in vasoocclusive crisis, Mishra H., Das I., Khodiar P.K., Patra P.K., Indo-US Bilateral Conference cum workshop, 18th -22nd January 2015, School of computational and integrative sciences, Jawaharlal Nehru University, New Delhi, India

## Invited Talks evocated in Conferences/ Seminars/ Workshops:

1. “Introduction to Bioinformatics for Medical Students” in 2nd Molecular Medicine Winter School on "Molecular Basis of Disease- Research from Hypothesis to Experiment" at Pt. B.D. Sharma Post Graduate Institute of Medical Sciences, Rohtak, Haryana, India, November 2011.
2. “Biological Sequence Comparision” in Hands-on Training in ‘Basics of Bioinformatics’ at Chhattisgarh Infotech Promotion Society, Raipur, Chhattisgarh, India, March 13-15, 2014.
3. "Introduction to Bioinformatics and its Applications ", in National Symposium on "Bioinformatics in Medicine & 3rd AMBI-Chhattisgarh State Chapter" at Department of Biochemistry, Pt. J.N.M. Medical College, Raipur on 25th January, 2016.
4. “Microarrays: Basic Aspects and Their Use for Finding Differentially Expressed Genes”, in National Workshop on "Genome to Drug: in-silico Analysis" at Department of Biochemistry, Pt. J.N.M. Medical College, Raipur, January 25-31, 2016.

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5. "Introduction to Bioinformatics and its Applications ", in Hands-on-workshop on "Molecular Diagnostics" at Department of Biochemistry, Pt. J.N.M. Medical College, Raipur, Chhattisgarh, India, July 26th – August 1st 2016.
6. “Phenotypic Variability in Sickle Cell Disease: Plausible Genetic & Environmental Factors” in National Symposium on "Genetic basis of haematological disorders with special emphasis on sickle cell disease" at Department of Biochemistry, Pt. J.N.M. Medical College, Raipur, Chhattisgarh, India, July 25th- 26th 2016.
7. "Use of Bioinformatics as a Tool of Research: Possible Application to Ayurveda", in A Three day Training Programme on "Research Methods, Manuscript Writing and Career Opportunities for Ayurveda PG Students", 17-19th October, 2016, at Shri Narayan Prasad Awasthi Government Ayurved College, Raipur.
8. “Introduction to Perl Programming”, in short term training program on “Introduction to Perl programming language for biologists” at Biomedical Informatics Centre (of ICMR), Department of Biochemistry, Pt. J.N.M. Medical College, Raipur, Chhattisgarh, India, November 7<sup>th</sup>- 13<sup>th</sup> 2016.