

# RESUME



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<b>Qualification</b>	Ph.D. (Agricultural Statistics)
<b>Area of Interest/Specialization</b>	Statistical Genetics & Genomics; Computational Biology; Bioinformatics
<b>Academic Experience</b>	Research: 22 years Teaching: 22 years
<b>International Exposure</b>	Post Doctoral Exp. in Bioinformatics from 1. Cold Spring Harbor Laboratory, New York 2. University of Washington, Seattle
<b>Projects (National and International)</b>	National – 5 Externally funded & 4 Institute projects as PI; 7 Externally funded & 9 Institute projects as Co-PI  International – ICAR, New Delhi & ILRI, Kenya collaborative project on “Genome wide association study in Indigenous poultry breeds/varieties”
<b>Top 10 Peer Reviewed Publications</b>	<ol style="list-style-type: none"><li>1. Meher, P.K., Sahu, T.K., Raghunandan, K., Gahoi, S., Choudhary, N.K., Rao, A.R.* (2019). HRGPred: Prediction of herbicide resistant genes with k-mer nucleotide compositional features and support vector machine. <i>Scientific Reports</i>, 9: 778. DOI:10.1038/s41598-018-37309-9.</li><li>2. Meher, P.K., Sahu, T.K., Gahoi, S., Tomar, R., Rao, A.R.* (2019). funbarRF: DNA barcode-based fungal species prediction using multiclass Random Forest supervised learning model. <i>BMC Genetics</i>, 20:2. DOI: 10.1186/s12863-018-0710-z</li><li>3. Sahu, T.K., Pradhan, D., Rao, A.R.* and Jena, L. (2018). In silico site-directed mutagenesis of neutralizing monoclonal antibody 4C4 and analysis of its interaction with G-H loop of VP1 protein to explore its therapeutic applications against foot and mouth disease. <i>Journal of Biomolecular Structure and Dynamics</i>, 37:10, 2641-2651, DOI: 10.1080/07391102.2018.1494631</li><li>4. Meher, P.K., Sahu, T.K., Mohanty, J., Gahoi, S., Purru, S., Grover, M. and Rao, A.R.* (2018). nifPred: Proteome-wide identification</li></ol>

	<p>and categorization of nitrogen-fixation proteins of diazotrophs based on composition-transition-distribution features using support vector machine. <i>Frontiers in Microbiology</i>, 9:1100,doi: 10.3389/fmicb.2018.01100.</p> <ol style="list-style-type: none"> <li>5. Meher, P.K., Sahu, T.K., Bancharia, A. and Rao, A.R.* (2017). DIRProt: a computational approach for discriminating insecticide resistant proteins from non-resistant proteins. <i>BMC Bioinformatics</i> 18:190, DOI: 10.1186/s12859-017-1587.</li> <li>6. Meher, P.K., Sahu, T.K., Saini, V. and Rao, A.R.* (2017). Predicting antimicrobial peptides with improved accuracy by incorporating the compositional, physico-chemical and structural features into Chou's general PseAAC. <i>Scientific Reports</i> 7:42362, DOI: 10.1038/srep42362.</li> <li>7. Gupta, S., Rao, A. R.*<sup>S</sup>, Varadwaj, P., De, S. and Mohapatra, T. (2015). Extrapolation of inter domain communications and substrate binding cavity of Camel HSP70 1A: A molecular modeling and dynamics simulation study. <i>PLOS ONE</i>, 10(8):e0136630. DOI:10.1371/journal.pone.0136630.</li> <li>8. Kumar, V., Singh, A., Mithra, S.V.A., Krishnamurthy, S.L., Parida, S.K., Jain, S., Tiwari, K.K., Kumar, P., Rao, A. R., Sharma, S.K., Khurana, J.P., Singh, N.K. and Mohapatra, T. (2015). Genome-wide association mapping of salinity tolerance in rice (<i>Oryza sativa</i>). <i>DNA Research</i>, 22(2), 133-145. DOI: 10.1093/dnares/dsu046, 1-13.</li> <li>9. Meher, P.K., Sahu, T.K., Rao, A. R.* and Wahi, S.D. (2014). A statistical approach for 5' splice site prediction using short sequence motifs and without encoding sequence data. <i>BMC Bioinformatics</i>, 15:362 DOI:10.1186/s12859-014-0362-6.</li> <li>10. Roca,X., Olson,A.J., Rao, A. R., Enerly,E.R., Kristensen,V.N., Dale,A.B., Anderson, B.S., Krainer,A.R. &amp;Schidanandam,R. (2008). Features of 5' splice site efficiency derived from disease causing mutations and comparative genomics. <i>Genome Research</i>. 18, 77-87.</li> </ol>
<p><b>Awards and Recognition</b></p>	<ol style="list-style-type: none"> <li>1. Fellow, National Academy of Agricultural Sciences (NAAS) under section Social Science, covering Agricultural Economics, Agricultural Statistics, Extension Education, Bioinformatics, Food Science &amp; Nutrition, Food Technology and Home Science (since 2016).</li> <li>2. Awarded Fellow, Indian Society of Genetics and Plant Breeding, New Delhi by considering achievements and contributions in the field of Crop Improvement (since 2015).</li> <li>3. Fellow, Society for Applied Biotechnology, Tamil Nadu (since 2016).</li> <li>4. Fellow, Indian Society of Agricultural Statistics (since 2018) by considering achievements and contributions in the field of Agricultural Statistics and applied sciences.</li> <li>5. Received Prof. P.V. Sukhatme Gold Medal in 2016 from the Indian Society of Agricultural Statistics, New Delhi</li> <li>6. Received "Best Teacher Award in Agricultural Higher Education 2018-19" from ICAR-Indian Agricultural Research Institute, New Delhi.</li> <li>7. DBT Overseas Associateship Award – Long Term (2004-05) awarded by Department of Biotechnology, Government of India. Under this award, postdoctoral advanced research work in</li> </ol>

	<p>Bioinformatics was conducted at Cold Spring Harbor Laboratory, New York, USA during 2006-07.</p> <ol style="list-style-type: none"> <li>8. Member, Task Force for Theoretical and Computational Biology, Department of Biotechnology, Government of India (till 2018).</li> <li>9. Member, Editorial Board, Indian Journal of Genetics and Plant Breeding; Editorial Board Member, Scientific Reports</li> </ol>
<b>Mentorship</b>	<p>Guided 3 Ph.D. students and 4 Master's degree students in the discipline of Agricultural Statistics and 1 Ph.D. student and 3 Master's degree students in the discipline of Bioinformatics, Post Graduate School, Indian Agricultural Research Institute (IARI), New Delhi, India.</p>