

## Updated Bio-Data

Name	:	Dr. Sindhuprava Rana
Designation	:	Scientist-B
Date of joining in ICMR	:	20th December 2016
Educational Qualification	:	BHMS, M.Sc.Bioinformatics, MPhil PhD (Thesis to be submitted)
Award/Fellowship/Membership	:	<p><b>Award/Fellowship:</b></p> <ul style="list-style-type: none"> <li>• JITMM International Travel Award 2016 at Bangkok,</li> <li>• MedTech internship, 2017 to be held at IIT, Kharagpur for 8weeks from 8th May to 22nd July, 2017.</li> </ul> <p><b>Membership:</b></p> <ul style="list-style-type: none"> <li>• Life member of JITMM member.</li> <li>• National: Indian Science Congress Association (India) (ISC).</li> <li>• International: International Society for Computational Biology (ISCB).</li> </ul>
Foreign visits	:	Oral talk in the Joint International Tropical Medicine Meeting 2016 (JITMM) held on 7th to 9th Dec 2016 at Bangkok.
Thrust Area/Specialization	:	<p>Bioinformatics: Drug designing, Database development, Transcriptome and whole genome analysis by next generation sequencing technology, Amplification of specific genes to know effect of drugs on specific genes.</p> <p>Genomic and proteomic data analysis of different viruses (Swine Flu, Dengue, Rotavirus, Calicivirus, JE Virus etc.).</p>
Publications	:	<p><b>Published Research Paper:</b></p> <ol style="list-style-type: none"> <li>1. <b>Rana, S.</b>, Mahat, J. P., Kumar, M., &amp; Sarsaiya, S. (2017). Modeling and docking of cysteine protease-A (CPA) of leishmania donovani. J. Appl. Pharm. Sci, 7, 179-184.</li> <li>2. Kumar, M., <b>Rana, S.</b>, Kumar, H., Kumar, P., Dikhit, M. R., Mansuri, R., ... &amp; Sahoo, G. C. (2017). Computational, structural and functional aspects of hypothetical protein of Aspergillus flavus Pheromone Receptor Pre-A (PRP-A). Journal of Applied Pharmaceutical Science Vol, 7(07), 089-097.</li> <li>3. Kumar, M., <b>Rana, S.</b>, Kumar, H., Kumar, J., Mansuri, R., &amp; Chandra Sahoo, G. (2017). Inhibition of Product Template (PT) Domain of Aflatoxin Producing Polyketide Synthase Enzyme of Aspergillus parasiticus. Letters in Drug Design &amp; Discovery, 14(7), 811-818.</li> </ol>

4. Mahato, J. P., **Rana, S.**, Kumar, M., & Sarsaiya, S. (2017). Homology modeling of Leishmania donovani enolase and its molecular interaction with novel inhibitors. *Journal of pharmacy & bioallied sciences*, 9(2), 99.
5. **Rana, S.**, Dikhit, M. R., Rani, M., Moharana, K. C., Sahoo, G. C., & Das, P. (2012). CPDB: cysteine protease annotation database in Leishmania species. *Integrative Biology*, 4(11), 1351-1357.
6. Ansari, M. Y., Equbal, A., Dikhit, M. R., Mansuri, R., **Rana, S.**, Ali, V., ... & Das, P. (2016). Establishment of correlation between in-silico and in-vitro test analysis against Leishmania HGPRT to inhibitors. *International journal of biological macromolecules*, 83, 78-96.
7. Kumar, R., Sahoo, G.C., Pandey, K., Das, V.N.R., Topno, R.K., Ansari, M.Y., **Rana, S.** and Das, P., 2016. Development of PLGA-PEG encapsulated miltefosine based drug delivery system against visceral leishmaniasis. *Materials Science and Engineering: C*, 59, pp.748-753.
8. Dikhit, M. R., **Rana, S. P.**, Das, P., & Sahoo, G. C. (2009). CHPVDB-a sequence annotation database for Chandipura Virus. *Bioinformatics*, 3(7), 299.
9. Dikhit, M. R., Nathasharma, Y. P., Patel, L., **Rana, S. P.**, Sahoo, G. C., & Das, P. (2011). A comparative protein function analysis database of different Leishmania strains. *Bioinformatics*, 6(1), 20.
10. Sinha, S., Ansari, M. Y., **Rana, S.**, Kumar, R., Mansuri, R., Dikhit, M. R., ... & Das, P. (2014). Computational prediction & Analysis of Fat mass and Obesity associated genes (FTO) responsible for Childhood obesity. *Journal of Advances in Biology*, 8(1).
11. Sahoo, G. C., Rani, M., Ansari, M. Y., Jha, C., **Rana, S.**, Dikhit, M. R., ... & Das, P. (2014). Structure, evolution and virtual screening of NDM-1 strain from Kolkata. *International journal of bioinformatics research and applications*, 10(3), 235-263.
12. Sahoo, G. C., Dikhit, M. R., Rani, M., Ansari, M. Y., Jha, C., **Rana, S.**, & Das, P. (2013). Analysis of sequence, structure of GAPDH of Leishmania donovani and its interactions. *Journal of Biomolecular Structure and Dynamics*, 31(3), 258-275.
13. Chandra Sahoo, G., Ansari, Y., **Rana, S.**, Ranjan Dikhit, M., Kamal Topno, R., Pandey, K., & Das, P. (2014). molecular Modeling and Ligand-protein Interaction of N-protein of Chandipura Virus. *Letters in Drug Design & Discovery*, 11(2), 211-221.
14. Sahoo, G. C., Yousuf Ansari, M., Dikhit, M. R., Kannan, M., **Rana, S.**, & Das, P. (2014). Structure prediction of gBP21 protein of L. donovani and its molecular interaction. *Journal of Biomolecular Structure and Dynamics*, 32(5), 709-729.

15. Kumara, R., Sahoo, G. C., Pandeya, K., Dasa, V. N. R., Yousuf, M., Ansaria, **S. Rana**, & Dasa, P. (2014). PLGA-PEG Encapsulated sitamaquine nanoparticles drug delivery system against Leishmania donovani. *Journal of Scientific and Innovative Research*, 3(1), 85-90.
16. Sahoo, G., **Rana, S.**, Dikhit, M. R., Ansari, M. Y., & Das, P. (2014). Computational Analysis of Microarray Gene Expression Profiling in Leishmania donovani and Leishmania major. *Research & Reviews: A Journal of Bioinformatics*, 1(1), 1-14.
17. Chandra Sahoo, G., Ansari, Y., Ranjan Dikhit, M., Gupta, N., **Rana, S.**, & Das, P. (2013). Computational identification of microRNA-like elements in leishmania major. *MicroRNA*, 2(3), 225-230.
18. Mansuri, R., Ansari, M. Y., Singh, J., **Rana, S.**, Sinha, S., C Sahoo, G., ... & Das, P. (2016). Computational elucidation of structural basis for ligand binding with Mycobacterium tuberculosis glucose-1-phosphate thymidyltransferase (RmlA). *Current pharmaceutical biotechnology*, 17(12), 1089-1099.

#### **Abstracts published:**

1. Acute Organophosphorous Pesticide poisoning and its Impact on Health: A Case of Patients suffered in Munger District in Bihar, **Sindhuprava Rana**, Ganesh Chandra Sahoo (published in **Indian Journal of Medical Informatics**).
2. "CardioGpDb: A Database on GPCR mediated Cardiovascular Disease" presented in 7th International Adhesion-GPCR Workshop June 5-7, 2014 held at Boston, Massachusetts by Boston Children's Hospital, Harvard Medical School, USA by Ganesh Ch. Sahoo, **Sindhuprava Rana**, Md Yousuf, Rani Mansoori, Rishikesh Kumar, Manas Dixit, Kalyani Trivedi, Ravi Kumar, Krishna Pandey, VNR Das & Pradeep Das.
3. Functionalization of Magnetic Nanocarriers with PAMAM Dendrimer Based Drug Delivery System Against Visceral Leishmaniasis, Second International Translational Nanomedicine Conference ITNANO 2014 by Rishikesh Kumar, Ganesh Ch. Sahoo, **Sindhu Rana**, Md Yousuf, Rani Mansoori, Krishna Pandey, VNR Das & Pradeep Das, at North-Eastern University, Boston, USA.
4. Rapid Assay for detecting the Rotavirus using dynamic light scattering, Transmission electron microscope and silver Nanoparticles by Rishikesh Kumar, Ganesh Ch.

Sahoo, **Sindhuprava Rana**, Md Yousuf, Rani Mansoori, Manas Dixit, Kalyani Trivedi, Ravi Kumar , VNR Das, Krishna Pandey & Pradeep Das at 11th International Rotavirus Symposium 2014 to be held during 3rd- 5th Sept 2014 at New Delhi, India.

5. Sahil Sinha, Md Yousuf Ansari, **Sindhuprava Rana**, Rani Mansuri, Manas R Dikhit, Vijay Kumar, Ganesh Chandra Sahoo, Pradeep Das “Computational Analysis of Next Generation Sequences analysis of HIV-1 envelop protein using various NGS software **IMMUNOCON 2015** October 9-11, 2015 at RMRIMS, Patna Page number 174(PP121).
6. Md Yousuf Ansari, Asif Equbal, Manas R Dikhit, **Sindhuprava Rana**, Rani Mansuri, Pradeep Das, Vahab Ali, Ganesh C Sahoo “Targeting Phosphoribosyl Trasferase (PRT) of *Leishmania donovani* to discover novel antileishmanial compounds” **IMMUNOCON 2015** October 9-11, 2015 at RMRIMS, Patna Page number 161(PP104).
7. Rishikesh Kumar, Ganesh Chandra Sahoo, Manas R Dikhit, Ashish Kumar, Krishna Pratap Singh, Md. Yousuf Ansari, **Sindhuprava Rana**, Sahil Sinha, VNR Das, Krishna Pandey RK Topno, Pradeep Das “Nanotechnology based application for improved immune response against infectious disease” **IMMUNOCON 2015** October 9-11, 2015 at RMRIMS, Patna Page number 141(PP74).
8. Rani Mansuri, Manas R Dikhit, Santosh Kumar, Vijay Mahantesh, Ajay Amit , **Sindhuprava Rana**, Ganesh Chandra Sahoo, Md Yousuf Ansari, Rishikesh Kumar, Pradeep Das “Immunoinformatic approach for the screening of potential epitope based peptide vaccine candidate against Ebola Virus” **IMMUNOCON 2015** October 9-11, 2015 at RMRIMS, Patna Page number 116(PP39).
9. Development of Magnetic Nanoparticles (MNPs) Encapsulated Miltefosine Nanoparticle Drug Delivery System against *Leishmania donovani* by Rishikesh Kumar, Ganesh C Sahoo, VNR Das, Krishna Pandey, Sunil Kumar, Kalyani Trivedi, Yousuf Ansari, **Sindhu Purva Rana**, Manas Dixit, Rani Mansuri, Pradeep Das, Nanomedicine and Drug Discovery Department Agamkuan RMRIMS, India presented in **ITNANO2015- 3<sup>rd</sup>** International Translational Nanomedicine Conference held at 21-26 June 2015 Milocer, Hotel Maestral, Montenegro, abstract published in collaboration with **International Journal of Nanomedicine. IF:4.19**
10. Computational Analysis of cathepsin B like protease of

*Leishmania donovani* Antigens and in vitro Evaluation of Specific Epitopes Eliciting CD8 T Cell Response by Manas Ranjan Dikhit, Ajay Amit, Rajesh Chaudhary, Vijaya Mahantesh, Ashu Singh, Bikas Ranjan Sahoo, **Sindhuprava Rana**, Krishna Pandey, Vidya Nand Rabi Das, Niyamat Ali Siddiqui, Ganesh Chandra Sahoo, Pradeep Das and Sanjiva Bimal presented at International Conference on Recent Advances in Mathematics, Statistics and Computer Science [ICRAMSCS – 2015] at Central University of South Bihar, BIT campus, Patna.

11. Designing of Potential Substrate Analogue Inhibitors of Glucose-1-Phosphate Thymidyltransferase (RmlA) against Mycobacterium tuberculosis: Structure Based Approach by Rani Mansuri, **Sindhuprava Rana**, Md Yousuf Ansari, Manas Ranjan Dikhit, Rishikesh Kumar, Ganesh Chandra Sahoo, Pradeep Das presented at International Conference on Recent Advances in Mathematics, Statistics and Computer Science [ICRAMSCS – 2015] at Central University of South Bihar, BIT campus, Patna.
12. Targeting Moonlighting Proteins of Ebola Virus presented in **6<sup>th</sup> Bihar Science Conference 2014** by Ganesh Chandra Sahoo, Shabnam Subhania, Manas Ranjan Dikhit, Rani Mansuri, **Sindhuprava Rana**, KK Ojha, DV Singh, S. Das, DK Gupta, Y. Ansari, V. Ali, RK Topno, K. Pandey, VNR Das, Vijaya Kumar, P. Das held during 23<sup>rd</sup>- 25<sup>th</sup> Dec 2014 at Magadh Mahila College, Patna.
13. Functionalization of Magnetic Nanocarriers with PAMAM Dendrimer Based Drug Delivery System Against Visceral Leishmaniasis, **Second International Translational Nanomedicine Conference ITNANO2014** by Rishikesh Kumar, Ganesh Ch. Sahoo, **Sindhu Rana**, Md Yousuf, Rani Mansoori, Krishna Pandey, VNR Das & Pradeep Das, at North-Eastern University, **Boston, USA**.
14. Rapid Assay for detecting the Rotavirus using dynamic light scattering, Transmission electron microscope and silver Nanoparticles by Rishikesh Kumar, Ganesh Ch. Sahoo, **Sindhuprava Rana**, Md Yousuf, Rani Mansoori, Manas Dixit, Kalyani Trivedi, Ravi Kumar, VNR Das, Krishna Pandey & Pradeep Das at **11<sup>th</sup> International Rotavirus Symposium 2014** held during 3<sup>rd</sup>- 5<sup>th</sup> Sept 2014 at New Delhi, India.
15. Protein–protein interactions in the purine salvage pathway of the *Leishmania donovani* by Md Yousuf Ansari, Manas Ranjan Dikhit, Rani Mansuri, **Sindhuprava Rana**, Vahab Ali, Asif Equbal, Rishikesh Kumar, Sahil Sinha, Ganesh Chandra Sahoo, Pradeep Das presented in **6<sup>th</sup> Bihar Science Conference 2014** held during 23<sup>rd</sup>-25<sup>th</sup> Dec 2014 at Magadh Mahila College,

Patna.

16. Ganesh Chandra Sahoo, Md Yousuf Ansari, Rani Mansuri, **Sindhuprava Rana**, Structural and functional basis of human aromatase (3EQM) for androgen specificity and oestrogen synthesis and its screening of inhibitors to be presented in International Conference on “Male Involvement in Improving Women`s Sexual and Reproductive Health: Evidences, Actions & Possibilities during 28th Feb-2nd March, 2016, at Nehru Centre Conference Hall organized by NIRRH, Mumbai, India.
17. *Leishmania donovani* enolase structure and its molecular interaction with novel inhibitors by J, P Mahato, Dr. G. C. Sahoo, Md. Yousuf Ansari, Manas R. Dikhit, **Dr. Sindhuprava Rana**, Surendra Sarsaiya, Pradeep Das in ICMI 2016 Conference at AIIMS, Bhubaneswar.
18. The Medical Informatics Approach to find Novel Inhibitors of Fructose-1,6 Biphosphatase against Diabetes by Rani Mansuri, Jagbir Singh, Mahesh Kumar, Md. Yousuf Ansari, **Sindhuprava Rana**, Manas R. Dikhit, Ganesh C Sahoo, Pradeep Das in ICMI 2016 Conference at AIIMS, Bhubaneswar.
19. Viro-informatics: finding a herbal remedy for chronic HBV infection and blocking the translation pathway of HBV envelope glycoprotein protein by Kalyani Trivedi, **Dr. Sindhuprava Rana** Rishikesh Kumar, Md. Yousuf Ansari, Manas R. Dikhit, Ganesh C. Sahoo, Pradeep Das at AIIMS, Bhubaneswar.
20. Translational Medical Informatics approach for molecular interaction of Cysteine protease with natural compounds against Kala azar by Rani Mansuri, Jagbir Singh, Mahesh Kumar, Md. Yousuf Ansari, **Dr. Sindhuprava Rana**, Manas R. Dikhit, Surendra Sarsaiya, Ganesh C. Sahoo, Pradeep Das at AIIMS, Bhubaneswar.

**Book Chapter Published (Lambert Publisher: International):**

**Sindhuprava Rana**, Md. Yousuf Ansari Ganesh Chandra Sahoo: Designing Inhibitors against Asthma targeting Mammalian Chitinase: Design Antiasthmatic Drugs (56 pages, November 28, 2012 | ISBN-10: 3843374988 | ISBN-13: 978-3843374989) LAP Lambert Academic Publishing.

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