

DR. BISWA RANJAN MEHER

Assistant Professor

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Research Areas:

Computational Biology: Structural Bioinformatics, Structure based drug and vaccine design, Protein structure network and dynamics study, Computer simulations and Molecular Modeling, Nanomedicine development and applications.

Educational Qualification:

Ph.D. in *Biotechnology* with specialization in ***Computational Biology and Bioinformatics***, 2009, ***Indian Institute of Technology, Guwahati (IITG)***, Assam, India.

Work Experience:

Position	Organization	Period
<i>Assistant Professor</i>	PG Department of Botany, Berhampur University	2017-Till Date
<i>Guest Faculty</i>	Department of Biosciences & Bioinformatics, Khallikote University	2020-2021
<i>Visiting Professor</i>	Department of Biological Sciences, IISER, Berhampur	2020
<i>Assistant Professor, DBT-BUILDRER</i>	Centre for Life Sciences, Central University of Jharkhand, Brambe, Ranchi.	2016 - 2017
<i>DS Kothari Post-Doctoral Fellow (DSKPDF)</i>	Department of Biochemistry, & Molecular Biophysics Unit, IISc., Bangalore	2014 - 2016
<i>Post-Doctoral Research Scientist</i>	Department of Chemistry, University of Richmond, Virginia, USA.	2013-2014
<i>Post-Doctoral Research Associate</i>	Department of Natural Sciences, Albany State University, Albany, Georgia, USA.	2010-2013
<i>Post-Doctoral Research Associate</i>	Center for Bioinformatics, University of Kansas, Lawrence, KS, USA.	2009-2010

Dissertation/ Thesis Supervision:

Sl. No.	Name of student	Programs	Title of thesis	Year of Completion	Co-supervisor
1	Mrs. Madhusmita Panda	Ph.D.	Computational exploration of phytocompounds and natural compounds as potential anti-HIV agents against HIV-1 protease.	Under Progress	N/A
2	Mrs. Priyanka Purohit	Ph.D.	<i>In silico</i> exploration of phytocompounds and natural compounds as potential anti-Dengue agents against NS2B-NS3 protease of Dengue Virus.	Under Progress	N/A
3	Ms. Saubhagya S. Sahoo	M.Phil.	Natural product (Maslinic Acid) as the anti-HIV agent: A computational approach.	2019	N/A

Research Publications:

(A) Journal Research/Review Articles

22. J.J. Dash, P. Purohit, J. T. Muya, and **B. R. Meher*** (2020) Drug repurposing of allophenylnorstatine containing HIV-Protease inhibitors against SARS-CoV-2 Mpro: Insights from molecular dynamics simulations and binding free energy estimations. *ChemRxiv.*: Preprint publication.
21. P. K. Panda, S. Patra, P. P. Naik, P. P. Praharaaj, S. Mukhopadhyay, **B. R. Meher**, P. K. Gupta, R. S. Verma, T. K. Maiti, S. K. Bhutia*. (2020) Deacetylation of LAMP1 drives Lipophagy-dependent generation of free fatty acids by *Abrus* agglutinin to promote senescence in prostate cancer. *Journal of Cellular Physiology*. 235: 2776-2791. (IF 4.522)
20. H. Mahto, R. Tripathy, **B.R. Meher**, B. Prusty, M. Sharma, D. Deogharia, A.K. Saha, A.K. Panda*, B. Das*. (2019) TNF- α promoter polymorphisms (G-308A and G-238A) are associated with susceptibility to SLE and *P. falciparum* malaria: a study in malaria endemic area. *Scientific Reports*. 9 (1): 11752. (IF 4.011)
19. J. T. Muya*, **B. R. Meher**, S. C. Sahoo, H. Chung. (2019) A Theoretical insight into the role of counter anions and their interactions in Nitrotropentaamminecobalt(III) towards Linkage Isomerism induced photochemical motion. *International Journal of Quantum Chemistry*. 119 (14), e25929 (IF 2.263)

18. N. Sinha, **B. R. Meher**, P. P. Naik, P. K. Panda, T. K. Maiti, S.K. Bhutia*. (2019) p73 induction by *Abrus* agglutinin facilitates Snail ubiquitination to inhibit epithelial to mesenchymal transition in oral cancer. *Phytomedicine*. 55, 179-190. (IF 4. 180)
17. S. Patel*, Ahmad Homaei, B Raju Akondi, **B.R. Meher**. (2018) Estrogen: The necessary evil for human health and ways to tame it. *Biomedicine & Pharmacotherapy*. 102, 403-411. (IF 3. 743)
16. P. K. Panda, P. P. Naik, P. P. Praharaj, **B. R. Meher**, P.K. Gupta, R.S. Verma, T. K. Maiti, M. K. Shanmugam, A Chinnathambi, S. A. Alharbi, G Sethi, R Agarwal, S. K. Bhutia*. (2018) *Abrus* agglutinin stimulates BMP2 dependent differentiation through autophagic degradation of β -catenin in colon cancer stem cells. *Molecular Carcinogenesis*. 57 (5), 664-677. (IF 3.411)
15. P. K. Panda, P. P. Naik, **B. R. Meher**, D. N. Das, S. Mukhopadhyay, P. P Praharaj, T. K. Maiti, S.K. Bhutia*. (2018) PUMA dependent mitophagy by *Abrus* agglutinin contributes to apoptosis through ceramide generation. *BBA - Molecular Cell Research*. 1865, 480-495 (IF 4. 739)
14. D. N. Das, P. P. Naik, S. Mukhopadhyay, P. K. Panda, N. Sinha, **B. R. Meher**, S.K. Bhutia*. (2017) Elimination of dysfunctional mitochondria through mitophagy suppresses Benzo[a]pyrene-induced apoptosis. *Free Radical Biology and Medicine*. 112, 452-463. (IF 5.657)
13. S. Patel*, A. Rauf, and **B. R. Meher** (2017) *In silico* analysis of ChtBD3 domain to find its role in bacterial pathogenesis and beyond. *Microbial Pathogenesis*. 110, 519-526. (IF 2. 581)
12. S. Patel*, A. Rauf, H. Khan, **B. R. Meher**, S. Shams ul Hassan. (2017) A holistic review on autoimmune disease *vitiligo* with emphasis on the causal factors. *Biomedicine & Pharmacotherapy*. 92, 501-508. (IF 3. 743)
11. P.K. Panda, B. Behera, **B.R. Meher**, D.N. Das, S. Mukhopadhyay, N. Sinha, P.P. Naik, B. Roy, S. Paul, T.K. Maiti, S.K. Bhutia* (2017) *Abrus* agglutinin, a type II ribosome inactivating protein inhibits Akt/PH domain to induce endoplasmic reticulum stress mediated autophagy-dependent cell death. *Molecular Carcinogenesis*. 56 (2), 389-401. (IF 3.411)
10. S. Patel* and **B.R. Meher**. (2016) A review on emerging frontiers of house dust mite and cockroach allergy research. *Allergologia et Immunopathologia*. 44 (6): 580-593 (IF 1.640)
9. **B.R. Meher***, A. Dixit, G. Bousfield, G.H. Lushington* (2015). Glycosylation effects on FSH-FSHR interaction dynamics: A case study of different FSH glycoforms by Molecular Dynamics simulations. *Plos One*. 10(9): e0137897 (IF 2.766)

8. **B.R. Meher**, and Yixuan Wang* (2015). Exploring the drug resistance of V32I and M46L mutant HIV-1 protease to inhibitor TMC114: Flap Dynamics and binding free energy studies. *Journal of Molecular Graphics and Modeling*, 56, 60 -73 (IF 1.863)
7. **B.R. Meher***, M. V. Satish Kumar, and Pradipta Bandhyopadhyay (2014). Interchain hydrophobic clustering promotes rigidity in HIV-1 Protease flap dynamics: New insights from Molecular Dynamics. *Journal of Biomolecular Structure and Dynamics*, 32, 899-915 (IF 3.107)
6. Zhen-feng Xu, **B.R. Meher**, Darnashley Eustache and Yixuan Wang* (2014). Insight into the interaction of DNA bases and defective graphenes: Covalent or Non-covalent. *Journal of Molecular Graphics and Modeling*, 47, 8-17 (IF 1.863)
5. **B.R. Meher**, and Yixuan Wang* (2012). Binding of Single walled carbon nanotube to WT and mutant HIV-1 proteases: Analysis of flap dynamics and binding mechanism. *Journal of Molecular Graphics and Modeling*, 38,430-445. (IF 1.863)
4. **B.R. Meher***, M. V. Satish Kumar, Smriti Sharma and Pradipta Bandhyopadhyay (2012). Conformational dynamics of HIV-1 Protease: A comparative molecular dynamics simulation study with multiple AMBER force fields. *Journal of Bioinformatics and Computational Biology*, 10 (06): 1250018. (IF 0.845)
3. **B.R. Meher**, and Yixuan Wang* (2012). Interaction of I50V mutant and I50L/A71V double mutant to HIV-1 protease inhibitor TMC114 (Darunavir): Molecular Dynamics and Free energy studies. *Journal of Physical Chemistry B*, 116:1884-1900. (IF 2.923)
2. **B. R. Meher**, M. V. Satish Kumar and Pradipta Bandhyopadhyay* (2009). Molecular Dynamics simulation of HIV-protease with polarizable and non-polarizable force fields. *Indian Journal of Physics*, 83, 81-90 (Special issue in simulation) (IF 1.242)
1. P. Bandhyopadhyay* and **B. R. Meher**, (2006). Drug resistance of HIV-1 protease against JE2147: I47V mutation investigation by molecular dynamics simulation. *Chemical Biology and Drug Design*, 67:155-161. (IF 2.256)

(B) Book Chapters.

1. A. Sanjeev, S. Kaushik, **B.R. Meher***, MVS Kumar* (2018). Disorder in Proteins. *Reference Module in Life Sciences*. (ELSEVIER). Editor: Shobha Ranganthan, (Chapter # 20271) ISBN: B978-0-12-809633-8.20271-9.
2. **B.R. Meher***, Megha Vaishnavi, Seema Patel, MVS Kumar, S. Kausik, (2019). Mutation effects on 3D-structural reorganization using HIV-1 protease as a case study. *Encyclopedia of Bioinformatics and Computational Biology*. (ELSEVIER). Editor: Shobha Ranganthan. 2018, pp. 3: 706-721. ISBN: B978-0-12-811414-8.20279-4.

3. **B.R. Meher***, and Seema Patel (2013). Structural and dynamical aspects of HIV-1 protease and its role in drug resistance. *Advances in Protein Chemistry and Structural Biology*, Vol 92, Dynamics of Protein and Nucleic Acids, Tatyana Karabancheva-Christova (Editor) Academic Press, 2013, pp. 299-324. ISBN: 978-0-12-411636-8. (IF 3.783)

Research funded projects:

Sl. No.	Title of the Sponsored project	Duration	Amount Sanctioned (INR)	Funding Agency	Year of completion
1	Discovering phytochemicals as antiviral agent against HIV-1 protease to combat drug-resistance: A multi-faceted <i>in silico</i> approach	2 Years	10.00 Lakhs	UGC, Govt. of India.	Under Progress
2	Exploring Phytocompounds as anti-viral agents against Dengue NS2B-NS3 Protease: A multi-faceted <i>in silico</i> approach.	3 Years	10.00 Lakhs	Science & Technology Dept., Govt. of Odisha.	Under Progress

University Administration Position:

Position Held	Period
Assistant Superintendent, Bahuda Boy's Hostel, Berhampur University.	2018-Till Date

Member of Committees in University and outside:

Committee	Institution
Internal Quality Assurance Cell (IQAC)	Berhampur University, Berhampur
Magazine Publications	Berhampur University, Berhampur
Board of Residence, Boy's Hostels	Berhampur University, Berhampur
Board of Studies, Biotechnology	Ravenshaw University, Cuttack
Co-Principal Investigator, Centre of Excellence (CoE)	Khallikote University, Berhampur

Awards and Recognitions:

Awards and Recognitions	Awarding Authority	Year of Award
DS Kothari Post- Doctoral Fellowship (DSKPDF)	UGC, New Delhi, Govt. of India	2014
National Doctoral Fellowship (NDF)	AICTE, New Delhi, Govt. of India	2006
Ministry of Human Resource Development (MHRD) Research Fellowship	IIT Guwahati	2004
GATE	IITs and IISc	2004
National Eligibility Test (NET)	CSIR-UGC, Govt. of India	2003

Papers Reviewed from Journals:

- 1) PROTEINS: Structure, function and Bioinformatics (WILEY publishers).
- 2) Journal of Computational Biol. and Bioinformatics Research (Academic Journals).
- 3) International Journal of Biological Macromolecules. (Elsevier)
- 4) Mini-Reviews in Medicinal Chemistry. (Bentham Science)
- 5) Molecular Simulation (Taylor and Francis)
- 6) Scientific Reports (Nature Publishing Group)
- 7) Computers in Biology and Medicine, (Elsevier)

Conferences/Workshop/Symposium Organized:

Sl. No.	Name of the Event & Date	Type of the event	Level	Role in the event
1.	National Conference in Biodiversity, Biotechnology & Bioinformatics-2019 (NCBBBIET-2019)	Conference	National	Organizing Secretary
2.	Recent Advances in Plant Science, Biotechnology & Bioinformatics -2020 (RAPSBB-2020)	Conference	National	Co-Convener
3.	International e-Conference on Current Status in Biological Sciences, 2021 (ICSBS-2021)	e-Conference	International	Co-Convener

Publication Databases (Links & IDs):

Google Scholar ID & Link: **Qb8favoAAAAJ**

https://scholar.google.com/citations?hl=en&user=Qb8favoAAAAJ&view_op=list_works

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