

Rashmikiranjan Behera

DEPARTMENT OF BIOTECHNOLOGY

MITS School Of Biotechnology, 751024

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<https://scholar.google.co.in/citations?user=m9rj5bYAAAAJ&hl=en>



ACADEMIC AND RESEARCH PROFESSIONAL

Looking for a research / administration / academic based role within a well-established and growing organization within the Research and Development Industry

PROFILE SUMMARY

- A results oriented and highly dedicated Academician and HPC Administrator with over 15 years' experience and sound knowledge of a range of learning and teaching approaches
- Exposure of providing advanced research in a wide variety of fields including Molecular Dynamics & Simulation, Docking, Sequence Alignment, Machine Learning, Internet Of Thing, and Web Technology, to name a few, using advanced and analytical methods
- Recognized as an ingenious Educationist, I offer a broad knowledge of Biotechnology and academic administration that aligns well with the academic needs for a challenging and creative position within a well-established institution
- Excellent quantitative scientific and analytical skills, with an ability to identify research opportunities
- I am capable to effectively manage multiple priorities. I am conceptually strong, detail-oriented and matured in approach and can make an effective contribution to the performance of a team with good leadership and motivating capabilities
- Throughout my extensive tenure as a Researcher, I have developed a wide range of practical laboratory skills and have demonstrate flexibility within and across teams

WETLAB TOOLS & TECHNIQUES

PCR	Lifolizer	Western blots	Restriction digestion	Microscopy and imaging
Centrifuge	PH meter	Gel electrophoresis	Bioreactor	uv-vis spectrophotometer
Autoclave	Staining	Laminar air flow	BOD Incubator	Culture techniques

BIOINFORMATICS TOOLS

Gromacs	SPSS	Molegro Package	Pymol	Matlab
Auto Dock With ADT	ADMET	Ligand Scout	Hyperchem	Lasergene Genomics Suite
Modeller	Flex-x (LeadIT)	BLAST	Marvin package	Accelrys discovery studio

IT SKILLS

Operating Systems:	CentOS, Ubuntu, Red Hat Enterprise Linux, Windows Server, Windows 10/11, ROCKS+ Cluster OS
Scripting & Programming:	Batch, Shell, PHP-MySQL, HTML, Perl, C, C++
Tools & Applications:	Visual Studio Code, Git/GitHub, Docker, Jupyter Notebook, AWS, Azure, Google Cloud, cPanel
Networking:	IP over InfiniBand (IPoB), IPv4, Quality of Service (QoS)
Firewall & Security:	IDS/IPS, MAC-based filtering, Layer 7 (L7) packet inspection
Server Administration:	HTTP, FTP, DNS, High-Performance Computing (HPC) with InfiniBand (1.2 TFlops), MySQL
Artificial Intelligence:	Applied AI, Prompt Engineering, Machine Learning (ML), Deep Learning

DEVICE, SOFTWARE AND DATABASE DEVELOPED

- Smart Box - IoT device to sense, inform and react (**Provisional Patent No :- 201831028032**)
- Protein Propensity Calculator
- Protein Core & Surface Residue Finder
- Thermophilic and Mesophilic Protein Prediction Software
- PHYTOARTHRADB - The Database contains information about 200 plants throughout the world which produces anti-arthritis phytochemicals.
- PRTVBase - The database of predicted promoter of retro transcribing virus

GITHUB CONTRIBUTIONS

- GitHub Profile: github.com/rayx1
- Developed and maintained projects in Python and JavaScript
- Contributions focus on [e.g., automation, web development, data analysis].

PERSONAL TRAITS

- Holds an excellent level of knowledge in the Biotechnology courses
- Holds an excellent level of knowledge in Supercomputer Administration , Web Technologies & Website Development
- Ability to supervise and train subordinates
- Possesses a high standard of personal integrity and decisiveness in addition to problem-solving and influencing skills
- Strong analytical and interpersonal skills. Organized and detail oriented; can handle complex and dynamic environments
- Creates and preserves a robust communications management mechanism between teachers and parents

ACUMEN

- **Teaching Vision:** Designs instruction tailored to learners' strengths, fostering growth through decision-making, exploration, collaboration, independence, and purposeful learning.
- **Academic Management:** Experienced in managing staff, supporting educational and research activities, overseeing administration, and promoting student–teacher welfare for institutional growth.
- **Operational Management:** “Fosters collaborative management with active stakeholder engagement, driving sustainable organizational transformation through program ownership and delivery.
- **Managerial Vision:** Has an ability to deal with multiple personalities, is a focused trainer, open minded, capable of ‘thinking outside the box’. Has a high level of aptitude for learning and change, and time management skills

ACADEMIC EXPERIENCE

MITS School Of Biotechnology, Bhubaneswar, Odisha

Jan'2019 – Present

Assistant Professor - Department of Biotechnology

Demonstrated cross-functional leadership and work direction; by using appropriate teaching, learning support and assessment methods to design and deliver modules; supervised student projects and the academic elements of research

MITS Engineering College, Ryagada, Odisha

Jul'2013 – Dec'2019

Assistant Professor and HPC Administrator - Department of Biotechnology

Highlights:

- Utilize broad scope of academic knowledge towards identifying areas where current provision is in need of revision or improvement and contribute to the planning, design and development of objectives and research material
- Select appropriate assessment instruments and criteria to evaluate the work and progress of students - provide constructive feedback to students
- Build on, providing academic leadership that maintains and grows MITS's reputation for high quality technical education through effective strategic and operational planning
- Design well-resourced and purpose-built teaching material, scheme of work, weekly teaching plan, and assessment and marking scheme

MITS Engineering College, Ryagada, Odisha

Jul'2010 - Jun'2013

TEACHING ASSISTANT and HPC Administrator - Department of Biotechnology

Highlights:

- Facilitated a healthy learning environment for the students. Promoted trust, open communication, creative thinking, and collaborative efforts
- Dealt with all aspects of setting, marking and assessing coursework and examinations and provided feedback to students in a timely manner in line with the institutional Feedback and Assessment Policy

RESEARCH EXPERIENCE

1.2 T.F Supercomputer with IB

Undertook research in Molecular Dynamics & Simulation, Docking, Sequence Alignment and Matlab Simulations .using the appropriate methods and techniques. Established the professional objectives and performance standards and made evaluations to produce research reports and publications (ANNEXURE)

ADDITIONAL ROLES HANDLED

- **Entrepreneurship development cell coordinator** at MITS Engineering College Rayagada
 - **Supercomputer Administration** at MIRC Lab, MITS Engineering College Rayagada
 - **Internet gateway Administration** at MITS Engineering College Rayagada
 - **Development and Maintenance Of MITS Group Websites & Android Apps**
 - **Admission Strategist** at MITS Bhubaneswar
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AWARDS & RECOGNITIONS

- **Winner – Startup Odisha Incubation Program (2018)** Selected by Government of Odisha for innovative startup idea; received incubation, mentorship, and funding support.
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TRAINING AND PROJECTS

Major Project

- Computational Analysis of Mesophilic and Thermophilic Proteins (M. Tech. project)
- Computational Prediction of Substrate Binding Site of Lycopene Cleavage Oxygenase: The first Enzyme involved in Bixin Synthesis (B. Tech. project)

Minor Project

- **One month Training on 'Milk Processing'** at Pragati Cooperative Private. Ltd., Cuttack
 - **One month Training on Production of Alcohol Form Molasses** at Aska Cooperative Sugar Factory, Aska, Ganjam.
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ACADEMIC DETAILS

- **M. Tech. in Biotechnology**, B.P.U.T, Rourkela, Odisha, 2014
 - **B. Tech. in Biotechnology**, B.P.U.T, Rourkela, Odisha, 2011
 - **12th**, C.H.S.E., Odisha, 2006
 - **10th**, B.S.E., Odisha, 2003
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CERTIFICATION COURSE

- High-performance Computing for Reproducible Genomics, **HarvardX Certification**, 2016
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EXTRACURRICULAR ACTIVITIES

- Organized National Conference on Environment and Pollution – The Future Ahead at MITS Engineering College Rayagada
 - Developed and implemented IPS&IDS with cache server and website filtering service internet gateway in college campus
 - Developed and implemented torrent based intranet file sharing server with DNS server
 - Developed and implemented seismic alarm system in MIRC Lab
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ADDITIONAL INFORMATION

Languages	English, Hindi, and Oriya
Interests:	Molecular Modeling, Drug Designing & Molecular Dynamics-Simulation Biological database designing & Management Renewable energy Plant Biotechnology Bioprocess Technology
Hobbies:	Surfing the web, watching sci-fi movies, experimenting, optimizing and implementing ideas, and listening music

References available on request

ANNEXURE

BOOK CHAPTERS:

1. **Behera R.** Computational classification of thermophilic and mesophilic proteins based on structural properties.
In: Satpathy R (Ed.), *Prospects and Applications in Biotechnology and Bioscience*. Urania Publishing House, 2025: 66–75.

RESEARCH PUBLICATIONS | JOURNALS:

1. **Behera R**, Satpathy R, Guru RK, Nayak B. Prediction of anticancer property of bowsellic acid derivatives by quantitative structure activity relationship analysis and molecular docking study. *Journal of Pharmacy and Bioallied Sciences* 2015, 7(1):21-25. DOI: [10.4103/0975-7406.148784](https://doi.org/10.4103/0975-7406.148784), PMID: [25709332](https://pubmed.ncbi.nlm.nih.gov/25709332/)
2. **Behera R**, Satpathy R, Nayak B, Analysis of proline amino acid of Dehalogenase enzymes by Molecular dynamics simulation. *Biotechnology: An Indian Journal* 2015,11(10):385-390.
3. Satpathy R, **Behera R**, Computational tools to detect Single nucleotide polymorphism (SNP) in nucleotide sequences: A review. *European Journal of Bioinformatics*,2015,2:1-8.
4. Satpathy R, **Behera R**, Padhi SK, Guru RK. Computational Phylogenetic Study and Data Mining Approach to Laccase Enzyme Sequences. *J Phylogen Evolution Biol* 2013, 1: 108. DOI: [10.4172/2329-9002.1000108](https://doi.org/10.4172/2329-9002.1000108)
5. Satpathy R, **Behera R**, Guru RK, Diwedi R Phytoarthradb: A Data Base of Plants Containing Anti-Arthritis Compounds. *Advanced Bio Tech* 2013, 12(9)1-3.
6. Satpathy R, Guru RK, **Behera R**, Nanada SS Comparative analysis for anti-arthritis potential of some Bowsellic acid and Curcumin derivatives: a computational approach. *International Journal of Biotechnology Research* 2013, 6(1) 52-59.
7. Satpathy R, Roy S, Guha R, Adikary S, Guru RK, **Behera R** In silico based identification and characterization of some novel drug targets in case of *Mycobacterium tuberculosis* H37Rv. *Drug invention today* 2012, 4(8):424-429.
8. Satpathy R, Guru RK, **Behera R**, Evaluation of anti-influenza activity of Curcumin derivatives by docking and pharmacophore modeling approach. *International Journal of Pharmacy and pharmaceutical sciences* 2012,4(1):469-473.
9. **Behera R**, Satpathy R, Guru RK, Variable pH based molecular Dynamics Simulation of type II Antifreeze Protein. *Advances in Applied Science Research* 2012, 3 (3):1545-1550.
10. **Behera R**, Satpathy R, Guru RK, Aparajita P. Homology modeling of Lycopene cleavage oxygenase: The key enzyme for Bixin production *Journal of Computer Science and system biology*.2010.3:59-61. DOI:10.4172/jcsb.1000057.
11. Guru RK, **Behera R**, Ghosh S, Bajpayee A, Dr. Panigrahi J, Dr. Patel AK, Satpathy R. A Comparative 2D QSAR analysis of Levetiracetam & Its analogs: The inhibitor of Glioblastoma, by Different Statistical Techniques: MLR, PLS, SVM, ANN, *Journal of Global Pharma Technology*, April 2011; 3(4):1-13.
12. **Behera R**, Satpathy R, Mohapatra A, Guru RK, PRTVBase: A Predicted promoter data base of Retro transcribing virus, *Indian Journal of Computer Science & Engineering*, Vol. 2 No. 2 Apr 2011.
13. Ghosh S, Guru RK, **Behera R**, Bajpayee A, Satpathy R and J. Panigrahi, In-silico ,Comparative Study and 2D QSAR Analysis of Some Structural and Physiochemical Descriptors of Levetiracetam Analogs. *Journal of Computational Intelligence in Bioinformatics*, Vol.4(1), 151—169 (2011).
14. **Behera R**, Satpathy R, Guru RK, Aparajita Priyadarshini, Prediction of Translycopene binding site of Lycopene cleavage oxygenase enzyme involved in Bixin synthetic pathway: A computational approach., *Asian journal of experimental biological sciences*, Vol 2(1), 2011.
15. Satpathy R, Guru RK, **Behera R**, Computational QSAR analysis of some physiochemical and topological descriptors of Curcumin derivatives by using different statistical methods, *Journal of Chemical and Pharmaceutical Research* Vol 2 (6), 344-350 ,2010.
16. Satpathy R, **Behera R**, Guru RK, Aparajita P, In-Silico Modelling and Investigation of ATP Binding Pocket of An Algal Oil Producing Enzyme, *nst Life Sciences and Bioinformatics* Vol. 2: 147-152 (2010).
17. **Behera R**, Satpathy R, and Guru RK. "Homology modelling and molecular dynamics study of plant defensin DM-AMP1." *Journal of Biochemical Technology* 3, no. 4 (2011): 309-311.

18. Satpathy R, Padhan P, **Behera R**, Ratha J. Investigating the endocrine disruption potential of sclareol through docking and molecular dynamics simulation methods. *Mathematical Biology and Bioinformatics* 2025, 20(1): 122–134. DOI: 10.17537/2025.20.122.
19. Samantaray B, **Behera RR**, Mishra RR, Thatoi H. In silico studies of fungal xylanase enzymes: structural and functional insight towards efficient biodegradation of lignocellulosic biomass. *Systems Microbiology and Biomanufacturing*. 2024 Jul;4(3):1174-92.

CONFERENCE /SEMINAR/ PROCEEDINGS:

1. **Behera R**, Satpathy R, Patra R, Novel drug target finding of Salmonella Serovar Typhi: A computational approach, one day regional seminar on Biotechnological and computational approach for sustainable development, Bhubaneswar, February 11, 2016, page no. 22.
2. Satpathy R, **Behera R**, Mahapatra S, Docking study of some phytochemicals and experimental drug molecules with NS5 methyl transferase enzyme of dengue virus, one day regional seminar on Biotechnological and computational approach for sustainable development, Bhubaneswar, February 11, 2016, page no. 21.
3. Satpathy R, **Behera R**, Nayak B. Chloride –ion Proline interaction in Haloalkane dehalogenase: A computational approach, National seminar on Science Technology for Human Development, Siksha ‘O’ Anusandhan University, December 05-06, 2014.
4. Satpathy R, Guru RK, **Behera R** and Nayak B Potential Anti-Cancer Compound from Coral Toxin, International Conference on Oceanography & Natural Disasters, Holiday Inn Orlando International Airport, Orlando, FL, USA. August 21-23, 2013 : Abstract published in *J Marine Sci Res Dev* 2013 3(3) page no.163 (<http://dx.doi.org/10.4172/2155-9910.S1.004>)
5. **Behera R**, Satpathy R, Guru RK, and Nayak B, Natural extracts from marine environment : A source of anticancerous compounds, International Conference on Oceanography & Natural Disasters, Holiday Inn Orlando International Airport, Orlando, FL, USA. August 21-23, 2013 : Abstract published in *J Marine Sci Res Dev* 2013 3 (3) page no. 227 (<http://dx.doi.org/10.4172/2155-9910.S1.004>)
6. Guru RK, Satpathy R, **Behera R** and Nayak B A comparative 2D QSAR analysis of levetiracetam & its analogs: The inhibitor of glioblastoma, by different statistical techniques: MLR, PLS, SVM, ANN 2nd International Conference on Medicinal Chemistry & Computer Aided Drug Designing, October 15-17, 2013 Hampton Inn Tropicana, Las Vegas, NV, USA , Abstract published in *Med chem* 2013 3 (4) page no. 190 (<http://dx.doi.org/10.4172/2161-0444.S1.009>)
7. Satpathy R, **Behera R**, Guru RK, Comparative analysis anti-arthritis property of bowsellic acid and Curcumin derivatives, National conference on Recent advances in Biotechnology (NCRB-2011), Rayagada, 06 December 2011.
8. Satpathy R, **Behera R**, Guru RK, Computational basis of gene annotation study of Hepatitis C virus genotypes , National conference on Recent advances in Biotechnology (NCRB-2011), Rayagada, 06 December 2011.
9. Satpathy R, **Behera R**, Guru RK, Analysis of PH variation effect on structure and function of type II antifreeze protein by using Molecular dynamics simulation method, International Conference on Tissue Engineering & Regenerative Medicine (ICTERM-2011) NIT Rourkela , 30th September to 2nd October 2011.
10. **Behera R**, Satpathy R, Vimal Yadav, Guru RK, , *In silico* based investigation of anti- renal cancer compounds by molecular docking method. National seminar on Vedic studies & information technology, 23-24 August 2011.
11. Satpathy R, **Behera R**, Guru RK, Susant Ku. Padhi, Vimal Yadav, Jagneyswar Ratha, *In silico* based modeling study and prediction of antifungal property of plant defensin DM-AMP1 protein. International conference on plant science in post genomic Era, Sambalpur University, February 17-19, 2011.
12. Satpathy R, **Behera R**, Guru RK, *In-silico* mutational analysis of 2009 H1N1 swine flu virus genomic sequences and investigation of evolutionary selection pressure on genes. INCOFIBS-2010, NIT Rourkela, October 1-3 2010.
13. Satpathy R, **Behera R**, Guru RK, *In silico* study of NP antigenic peptide cross immunity among Indian 2009 and 1980 H1N1 viral strains, National Conference on Cellular and Molecular immunology, Andhra University, September 25-26 2010.
14. Satpathy R, **Behera R**, Guru RK, *In-silico* modeling and docking studies of antiviral drugs for Swine flu. National conference on computational Biology (NCCB), Siksha O Anusandhan University, December 28-29 2009.

