

# Rashmiranjan Behera

DEPARTMENT OF BIOTECHNOLOGY

MIRC Lab, MITS College, Rayagada, Odisha, 765017

Email: [me@rbehera.in](mailto:me@rbehera.in) | Web: [www.rbehera.in](http://www.rbehera.in) | M: +91 7008018094

<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 7 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
- Ensures that the results of their experiments are recorded accurately and to a high standard in accordance with current guidelines.

### BIOINFORMATICS TOOLS

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

### WETLAB TOOLS & TECHNIQUES

<i>PCR</i>	<i>Lifolizer</i>	<i>Western blots</i>	<i>Restriction digestion</i>	<i>Microscopy and imaging</i>
<i>Centrifuge</i>	<i>PH meter</i>	<i>Gel electrophoresis</i>	<i>Bioreactor</i>	<i>uv-vis spectrophotometer</i>

### IT SKILLS

<b>Operating Systems:</b>	Centos, Ubuntu, Red Hat, Windows server 2008, Windows 7 & 10, ROCKS+ Cluster OS
<b>Scripting Languages:</b>	Batch, Shell, PHP-MYSQL, HTML, Perl
<b>Tools:</b>	Microsoft Office, Dreamweaver, Adobe Photoshop, XAMPP
<b>Networking:</b>	IPOIB, IPV4, QOS
<b>Firewall:</b>	IDS&IPS, mac based filtering, L7 packet inspection
<b>Server Administration:</b>	http, ftp, DNS, P2P, HPC with InfiniBand(1.2 T.F.), MYSQL
<b>Storage Systems:</b>	RAID systems, Network files systems, Parallel file systems

### 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
- PHYTOARTHADB - 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

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## PERSONAL TRAITS

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- Holds an excellent level of knowledge in the Biotechnology courses
- Holds an excellent level of knowledge in Supercomputer Administration
- Holds an excellent level of knowledge in 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

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## ACUMEN

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- **Teaching Vision:** Understands and identifies differences in approaches to learning and performance and knows how to design instruction that uses each learner's strengths to promote growth. Committed to support learners as they participate in decision making, engage in exploration and invention, work collaboratively and independently, and engage in purposeful learning
- **Academic Management:** Experienced in managing and supporting members of the staff to conduct educational and research activities which complies with the needs of the college. Possesses a proven ability to handle general administration, support teachers and promote the welfare of the students and teachers for the overall development of the institution
- **Operational Management:** Creates a personal, collaborative approach towards management with active participation of all internal and external stakeholders. Can support the delivery of successful and sustainable transformation across the organization by owning and maintaining programs
- **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

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## ACADEMIC EXPERIENCE

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**MITS Engineering College, Ryagada, Odisha**

**Jul'2013 - Present**

**Assistant Professor and HPC Administrator - 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*

**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
- Ensure that all students fully comprehended and further enhanced their aspirations towards the subject

**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
- Ensured that module design and delivery complied with the quality standards and regulations of MITS and any validating universities
- Dexterously handled student and educator inquiries, and promoted programs
- Demonstrated strong interpersonal skills; worked with all levels of staff to understand processes and provide leadership, recognition and motivation

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## RESEARCH EXPERIENCE

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### 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**)

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## ADDITIONAL ROLES

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- **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:-** [www.mitsmegafoodpark.com](http://www.mitsmegafoodpark.com), [www.mips.edu.in](http://www.mips.edu.in), [www.atc.mits.edu.in](http://www.atc.mits.edu.in), [www.mcbi.mitsbiotech.org.in](http://www.mcbi.mitsbiotech.org.in), [www.msb.ac.in](http://www.msb.ac.in)
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## TRAINING AND PROJECTS

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### 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

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

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

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- Organized Workshop on Content Management System at MIRC Lab of MITS Engineering College Rayagada
  - 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

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

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References available on request

## 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
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.

## 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 2<sup>nd</sup> 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 , 30<sup>th</sup> September to 2<sup>nd</sup> 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.