

Dr. Jyoti Prakash Rath (M.Sc., M.Phil., GATE, NET, Ph.D.)
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- **Department of Biotechnology (DBT) merit scholarship 2004-2005** for securing top ten (8th) positions in **Jawaharlal Nehru University's**, all-India entrance examination for **M.Phil. Bioinformatics** programme.
- Qualified all India examination for **Junior Research Fellowship (JRF)** conducted by **ICMR (Indian Council of Medical Research)**, 2005.
- **Graduate Aptitude Test in Engineering (GATE) 2006, Score-414, All India Rank-525.**
- Worked as a **Junior Research Fellow** in CSIR project "Investigating the role of Aldose reductase in *Leishmania donovani*". Principal Investigator **Prof. R. Madhubala, Jawaharlal Nehru University, New Delhi** (May 2006-July 2007) (01 Years 02 Months).
- Invited speaker in a National Seminar, **VIT University, Tamil Nadu, India, 30-04-2014.**
- **Rare distinction of having expertise in both WETLAB and DRYLAB cutting edge Biotechnology tools** which is the need of the hour.
- **Knowledge and work experience in Linux environment with coding experience in Python and Perl and trained from one of the premier centre for Bioinformatics research in India i.e. Centre for Computational Biology and Bioinformatics, JNU, New Delhi, India.**
- **Appreciation award for poster presentation in national symposium cum workshop on "Recent Trends in Structural Bioinformatics and Computer Aided Drug Design [SBCADD-2012]", 20-23 February, 2012, Alagappa University, Karaikudi, Tamil Nadu, India.**

Education

- **Ph.D. (Life Sciences) 2019**
Sambalpur University, Odisha, India.

In collaboration with **IIT- Madras, Chennai, India**. The work was entirely carried out by me in **Bhupat and Jyoti Meheta School of Biosciences, IIT Madras (Ranked-1: Recently published Government of India Ranking)**,

Title: Searching novel putative inhibitors for key Rhamnose-Biosynthetic enzyme RmlC: The Target Enzyme in *Mycobacterium tuberculosis*.

Mentors:

Prof. Sanjib Senapati
Bhupat and Jyoti Meheta School of Biosciences, IIT Madras.

Prof. Mukesh Kumar Raval (Distinguished Professor, Gangadhar Meher University, Odisha, India)

- **M.Phil. (Bioinformatics) 2005**
Jawaharlal Nehru University (JNU), New Delhi, India
(Ranked-2 Recently published Government of India ranking)

Mentor: Prof. Andrew M. Lynn
Jawaharlal Nehru University (JNU), New Delhi, India

- **M.Sc. (LifeScience)**
Sambalpur University, Odisha, India. 2001.

- **UGC-CSIR National Eligibility Test (NET) for Lectureship- June 2005, June 2004, December 2003, December 2001 (Total – 04 times)**

Experience

- Working as **Associate Professor**, School of Applied Sciences, Centurion University of Technology and Management, **Bolangir Campus**, Odisha, India since **25 January 2025**.

. Worked as **Assistant Professor**, School of Applied Sciences, Centurion University of Technology and Management, **Bolangir Campus**, Odisha, India from **01 July 2018 to 24 January 2025 (06 Years 06 Months)**

- Worked as an **Assistant Professor (Biotechnology) (Senior Grade)** Chettinad Academy of Research And Education, Chettinad University, Kelambakkam, Chennai, **(NAAC : A⁺⁺)**
08 November 2010-17 February 2018 (07 Years 03 Months)

• Worked as a **Junior Research Fellow** in CSIR project “Investigating the role of Aldose reductase in *Leishmania donovani*”. Principal Investigator **Prof. R. Madhubala, Jawaharlal Nehru University, New Delhi (May 2006-July 2007) (01 Years 02 Months).**

• Visiting faculty
Sambalpur University, Odisha, 2009-2010 (01 Year).

Teaching domains

- **Biotechnology**
- **Biochemistry**
- **Genetic Engineering**
- **Analytical Techniques**
- **Molecular Biology**
- **Techniques of Tissue Culture**
- **Stem cell Biology**
- **Immunology**
- **Cell Biology**
- **Bioinformatics**
- **Structural and Computational Biology**
- **Nanotechnology**
- **Genetics**
- **Mycology and Phytopathology**

Research Summary

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Research Experience

- Worked as a Junior Research Fellow in CSIR project “**Investigating the role of Aldose reductase in *Leishmania donovani***”. Principal Investigator **Prof. R. Madhubala, Jawaharlal Nehru University, New Delhi (May 2006-July 2007).**
- Worked in the project “**Active analogs generated from combinatorial diversity of known inhibitors: Application to Anthrax toxin lethal factor** Supervisor: **Dr. Andrew M Lynn, Jawaharlal Nehru University, New Delhi.**

Research Publications

- **Jyoti Rath**, V. S. Gowri, Swati C. Chauhan, Prasad K. Padmanabhan, N. Srinivasan and Rentala Madhubala. A glutathione-specific aldose reductase of *Leishmania donovani* and its potential implications for methylglyoxal detoxification pathway. **Gene**, **2009**, **429(1-2):1-9**. PMID: 18983902, IMPACT FACTOR: 3.5, ISSN: 0378-1119
- Bijaya Shrestha, **Jyoti Prakash Rath**. Poly (vinyl alcohol) coated chitosan microparticles act as an effective oral vaccine delivery system for hepatitis – B vaccine in rat model. **IET- Nanobiotechnology**, **2013**, **8 (4)**, 201-207, IMPACT FACTOR: 3.8, ISSN:1751-8741.
- A.K.Rath, B.N. Behera, **J.P.Rath**, B.N.Mishra. Alleviation of aluminium toxicity by calcium in *Brassica juncea* (L.) czernj & cosson. **Bionature**, **2010**, **30 (1)**: 19-28, ISSN:0970-9835.
- Subhankar Dash, **Jyoti Prakash Rath**. 12- Deoxyphorbol 13- (9, 10-Methylene) Undecanoate As a Drug Candidate for Tuberculosis. **Indian Journal of Natural Sciences**, **2021**, **12 (67)**, 33430-33433. ISSN: 0976-0997.
- Neetu Patra, **Jyoti Prakash Rath**. 3-Epi-Betulinic Acid Acetate as A Drug Candidate for Tuberculosis. **Bioscience Biotechnology Research Communications**, **2020**, **13 (12)**, 175-177. ISSN: 0974-6455.
- **Anand Kumar**, **Jyoti Prakash Rath**. Silver Nanoparticles Play Key Role in Silver-Poly (Lactic acid) Nanocomposite Directed Wound Healing. **Indian Journal of Natural Sciences**, **2020**, **10 (60)**, 23997-24004. ISSN: 0976-0997.
- **J.P.Rath**, M.K. Raval. Structure based screening of ligands against dTDP-6-deoxy-D-xylo-4-hexulose 3, 5-epimerase (RmlC): phytochemical as drug candidate for *Mycobacterium tuberculosis*. **Pharmaceutical and Biological Evaluations**, **2017**, **4 (2)**, 97-102. ISSN: 2394-0859.

Patents:

UK Design Patent:

Soil and Crop Enhancing Robotic Device: Design number 6371193

18th JUNE 2024, Owners: Dr. Shantanu Bhattacharyya, Dr. Pratibha Rani Deep, Dr. Bhairaba Kumar Majhi, Dr. Saurav Barman, Dr. Nilanjana Dutta, Mr. Sameer Kumar Barik, Dr. Katuri Venkata Prasad, Miss. Leepsa Nanda Dr. Jyoti Prakash Rath, Mrs. Namita Panda

Sequences deposited to NCBI

Leishmania donovani isolate Indian prostaglandin f2-alpha synthase gene, complete cds, Depositor: Padmanabhan, P.K., **Rath, J.P.** and Madhubala, R. **GenBank Accession: EF486516.**

Prize/Award received

- **Appreciation award** for poster presentation in national symposium cum workshop on “Recent Trends in Structural Bioinformatics and Computer Aided Drug Design” [SBCADD-2012], 20-23 February, 2012, Alagappa University, Karaikudi, Tamil Nadu, India.

Conferences / Workshops Organised:

- International – 2, National- 2

Seminar attended/Talk delivered

- **Invited speaker** topic “**Possible drug for tuberculosis**”, 4th March 2020, **Organized by “School of Biotechnology and Bioinformatics, Sambalpur University,” Jyoti Vihar, Odisha, India.**
- **Invited speaker** topic “**Wound healing efficacy of silver-poly(lactic acid) nanocomposite is because of silver nanoparticles. Physics and Chemistry of Noble Materials (PCNM)**” 28th February 2020, Organized by “School of Applied Sciences, Centurion University,” Odisha, India.
- **Invited speaker** topic “**Novel inhibitor for key rhamnose biosynthetic enzyme, RmlC in *Mycobacterium tuberculosis***”, 4th April 2019, Organized by “School of Life Sciences, **Sambalpur University**”, Jyoti Vihar, Odisha, India.
- Delivered an invited lecture on “**Nanoparticle in drug and vaccine delivery**”, VIT University, Tamil Nadu, India.
- Delivered a talk on “**Jaibasuchana Bigyan**” on All India Radio, Balangir, Odisha, India.

- Attended NAAC sponsored National seminar on **“Outreach- A catalyst towards improved Education Outcomes”** 28-29th September 2012, Organized by “Internal Quality Assurance Cell - Chettinad Academy of Research And Education”, Chennai, India.

Poster presentation:

- **“Searching novel inhibitors for key rhamnose-biosynthetic enzyme, (RmlC), an emerging target in *Mycobacterium tuberculosis*”** at **“International conference on Bio-molecular simulations and dynamics”** 28-30th November 2013, [ICBSD-2013] IIT Madras.
- **“A glutathione-specific aldose reductase of *Leishmania donovani* and its potential implications for methylglyoxal detoxification pathway”** at DBT sponsored national symposium cum workshop on **“Recent Trends in Structural Bioinformatics and Computer Aided Drug Design”**[SBCADD-2012] 20-23rd February, 2012, **Alagappa University, Karaikudi, Tamil Nadu, India.**
- **“A novel target in *Mycobacterium tuberculosis*”** at national symposium on **“Recent Trends in Chemical Sciences”** [Retics-2010] 20-23rd March, 2010, Dept. of Chemistry, Sambalpur **University, Sambalpur, Orissa, India.**

Workshop/Training programme attended

- **“National Workshop on Structure Based Drug Designing”**, February 28 & March 1, 2015, organized by CAS in Crystallography & Biophysics and Bioinformatics Infrastructure Facility (DBT Funded), University of Madras, Guindy Campus – 600025, Tamil Nadu, India.
- DBT sponsored national symposium cum workshop on **“Recent Trends in Structural Bioinformatics and Computer Aided Drug Design”** [SBCADD-2012], 20-23rd February, 2012, Alagappa University, Karaikudi, Tamil Nadu, India.
- Indian Council of Agricultural Research sponsored National level training programme on **“Subject Training Workshop on Application of computational Biology in studying Abiotic stress in insects” under National Agricultural Bioinformatics Grid project (Indian Council of Agricultural Research)** 05-17th March-2012, organized by : National Bureau of Agriculturally Important Insect, Bangalore, India.

Resource Person

- **“Open house on Demonstrating the Genomic Technologies involved in the Genographic project”**, 15th February 2013, organized by: “The Genographic Laboratory, Chettinad Academy of Research And Education”, Chennai, India.

Members of Academic Bodies:

- **Course co-ordinator M.Sc. Bioinformatics**, Chettinad Academy of Research And Education (Chettinad University), Kelambakkam, Chennai, Tamil Nadu, **2011- 2018**.
- Member of **Board of studies, M.Sc. Bioinformatics**, Chettinad Academy of Research And Education (Chettinad University), Kelambakkam, Chennai, Tamil Nadu, **2011- 2018**.
- Reviewer **“Vaccine (Elsevier publication) Impact Factor: 4.12”**, **2015-continuing**.
- Reviewer **“Journal of Biomedical Research (Elsevier publication), Impact Factor: 2.17”**, **2015-continuing**.

M.Sc. Project Guided:

- **“Study of some important medicinal plants of Gandhamaradan hill”** December-April (2018-19), Candidate - Ms. Subhashree Panigrahi, University Regd.No.170605170004, Centurion University, Bolangir Campus, Bolangir, Odisha, India.
- **“Ethno-botanical study of some important medicinal plants of Gandhamaradan hill range”**. December-April (2018-19), Candidate – Ms. Addyasha Bhoi, University Regd.No. 170605170001, Centurion University, Bolangir Campus, Bolangir, Odisha, India.
- **“Drug Candidate for Tuberculosis”**. December-April (2020-21), Candidate – Ms Neetu Patra, Centurion University, Bolangir Campus, Bolangir, Odisha, India.
- **“Herbal derivative as Drug Candidates for Tuberculosis”**. December-April (2020-21), Candidate – Mr. Nisith Mohanty, Centurion University, Bolangir Campus, Bolangir, Odisha, India.
- **“In-silico Drug Designing for Tuberculosis”**. December-April (2020-21), Candidate – Mr.Ajit Meher, Centurion University, Bolangir Campus, Bolangir, Odisha, India.

- **“Evaluation of nano patch as oral vaccine delivery system for hepatitis-B vaccine”** January-May (2013), Candidate – Ms. T. Joshna, University Regd.No. 3110103, Chettinad Academy of Research And Education, Kelambakkam, Chennai, Tamil Nadu.
- **“Study of nanoparticle - based oral vaccine delivery system using a rat model for hepatitis – B”** January-May (2012), Candidate – Mr. Bijaya Shrestha, University Regd.No. 31100501, Chettinad Academy of Research And Education, Kelambakkam, Chennai, Tamil Nadu.
- **“Studies on complement consumption test to detect the circulating immune complexes”** January-May (2012), Candidate – Mr. Bachalakuri Sarath Chandu, University Regd.No. 31100504, Chettinad Academy of Research And Education, Kelambakkam, Chennai, Tamil Nadu.
- **“Synthesis and biomedical application of silver-poly (lactic acid) nanocomposite”** January-May (2011), Candidate - Mr. A. Anand Kumar, University Regd.No. 31090501, Chettinad Academy of Research And Education, Kelambakkam, Chennai, Tamil Nadu.

B. Sc.

- **“*In Silico* inhibitor designing for FtsZ in *Mycobacterium tuberculosis*”** December 2016-May 2017, Candidates- Ms. S.Harini N. Pillai, Ms. Sushmita Roy, Ms. V.Anuja, Chettinad Academy of Research And Education, Kelambakkam, Chennai, Tamil Nadu.

References:

1. **Prof. Mukesh Kumar Raval**
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