



Dr. Ayon Pal
Assistant Professor (Stage II)
&
Coordinator
Department of Botany

Academic Qualifications:

B. Sc. in Botany (Hons.) [Gold Medalist, NBU]

M. Sc. in Botany (C. U.)

Ph. D. (Science) in Biophysics, Molecular Biology & Bioinformatics (C. U.)

Contact Address:

Department of Botany

Raiganj University

Collegepara, Raiganj-733134

District – Uttar Dinajpur, West Bengal, INDIA

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Research Interest:

Presently, pursuing research in microbial and viral genome design and codon utilization structuring along with molecular modeling and analysis of some important bacterial proteins involved in vital metabolic pathway for use in development of newer antibacterial targets.

Specialization: Microbiology and Computational Biology

Award: Awarded gold medal for securing first class first position in B. Sc. in Botany (Hons.) from University of North Bengal in 2001.

Conference/Seminar/Organisation: Has attended more than 14 national and international conferences and workshops, and has organized two national level seminars.

Teaching Experience: More than 12 years.

Research Experience: More than 10 years including the time spent in doctoral research.

Research Guiding Experience:

Ph.D. Scholars: 04 scholars at present are carrying out doctoral research in the field of computational biology and microbial sciences. Two of these are collaborative ventures.

Previous & Present Employment:

1. Presently, Assistant Professor in Botany, Raiganj University from 2015
2. Previously, Assistant Professor in Botany, Raiganj College (University College) from 2006 to 2015.
3. Previously, Lecturer in Microbiology (Contractual), A. C. College, Jalpaiguri from 2005-2006.

Administrative Experience: More than 12 years administrative experience.

Publications:

Books: Contributed two book chapters.

Research Papers: More than 15 research papers in different international and national journals as of 2017.

Resource Person: Acted as resource person in a national level workshop on bioinformatics organized by BIF-NBU.

LIST OF PUBLICATIONS:

1. **Pal A, Bothra AK, Mukhopadhyay S: Glycolysis as a determinant of genome and proteome composition of different extremophilic archaea species.** Published in: Bioinformatics and Systems Biology (BSB), International Conference on, held on 4-6 March 2016. *IEEE Xplore Digital Library*. DOI: 10.1109/BSB.2016.7552130.
2. **Pal A, Bothra AK, Mandal UK, Mukhopadhyay S: Evolutionary divergence and comparative homology modeling analysis of LpxC enzyme from human pathogenic bacteria.** Published in: Bioinformatics and Systems Biology (BSB), International Conference on, held on 4-6 March 2016. *IEEE Xplore Digital Library*. DOI: 10.1109/BSB.2016.7552129.
3. **Pal A: A comparative primary structure analysis of phosphofructokinase from different plant pathogenic bacteria.** *International Journal of Advanced Research in Biological Sciences* 2016, 3(4): 1-7.

4. **Pal A: Analysis of the codon utilization pattern of the *lpxC* gene from different human pathogenic bacteria.** *International Journal of Recent Scientific Research* 2016, 7(2): 9113-17.
5. **Pal A: Comparative in silico genomic analysis of *Myxococcus* – an enigmatic eubacterial genus.** *International Journal of Recent Scientific Research* 2016, 7(2): 9661-65.
6. **Pal A: Capturing the structural variation of 1-phosphofructokinase from different pathogenic bacteria - an *in silico* approach.** *European Journal of Biomedical and Pharmaceutical Sciences* 2016, 3(11): 381-386.
7. **Pal A, Banerjee R, Mondal UK, Mukhopadhyay S, Bothra AK: Deconstruction of archaeal genome depict strategic consensus in core pathways coding sequence assembly.** *PLoS ONE* 2015, 10(2): e0118245.
8. **Pal A, Mondal UK, Mukhopadhyay S, Sen A, Bothra AK: The Implication of Codon Usage Design and Expression Level in Determining the Nature of Selection and Functionality amongst the Amino Acid Biosynthetic Pathway coding sequences of *Arthrobacter sp.* FB24.** *Current Bioinformatics* 2014, 9(5): 470-480.
9. **Pal A, Mukhopadhyay S, Bothra AK: Statistical analysis of pentose phosphate pathway genes from eubacteria and eukarya reveals translational selection as a major force in shaping codon usage pattern.** *Bioinformation* 2013, 9(7): 349–356.
10. **Mondal UK, Pal A, Sen A, and Bothra AK: Bioinformatic Study of Pathogenicity Related Genes of Three Species of *Helicobacter*.** *International Journal of Applied Biotechnology and Biochemistry* 2011, 1(2): 193-200.
11. **Pal A, Mondal UK, Mukhopadhyay S, Bothra AK: Genomic heterogeneity within conserved metabolic pathways of *Arthrobacter* species - a bioinformatic approach.** *Bioinformation* 2011, 15;5(10):446-54.
12. **Sen, A., Pal, A. and Bose, D. (2007). Economic uses of Seabuckthorn (*Hippophae L.*) In. Advances in Ethnobotany** edited by A. P. Das and A. K. Pandey. 1st ed. Dehra Dun, Bishen Singh Mahendra Pal Singh. 2007, ISBN: 8121106139.
13. **Sur, S., Pal, A., Bothra, A., and Sen., A. (2005). Moderate codon bias attributed to**

translational selection in nitrogen fixing genes of *Bradyrhizobium japonicum* USDA 110.
Bioinformatics India 3(2).

Conferences, Seminars and Workshops attended:

Sl. No.	Title of the Paper presented (if any)	Title of Conference / Seminar	Organised by
1.	Attended	Bioinformatics in Genomics and Proteomics (2005)	Indian Institute of Technology, Kharagpur, Continuing Education Programme
2.	The implication of expression level and codon usage pattern in determining nature of selection and functionality amongst the amino acid biosynthetic pathway genes of <i>Arthrobacter sp.</i> FB24	The 8 th Asia-Pacific Bioinformatics Conference (2010)	International Society for Computational Biology; National Center for Biological Sciences, Bangalore; IBM Research; Indian Institute of Science, Bangalore.
3.	Attended	UGC-DSA Funded Workshop on Advanced Tools in Molecular Biology: Microscopy & Spectroscopy (2011)	Department of Biophysics, Molecular Biology & Bioinformatics, University of Calcutta
4.	Metagenomics in exploring microbial biodiversity	DST, Govt. of West Bengal sponsored National Seminar on Biodiversity and Sustainable Dev. and Sesquicentennial Birth-Year Celebration of Acharya Prafulla Chandra Ray	Raiganj College (University College), Raiganj
5.	Codon utilization and amino acid deployment pattern in the glycolytic pathway genes of some Archaea species	UGC & DST Sponsored National Symposium on Advances in Plant and Microbial Research-2014	DRS-Department of Botany, University of North Bengal
6.	Codon context and amino acid usage scheme in the glycolytic coding sequences of some species of domain Archaea	International Conference on Modern Trends in Social and Basic Sciences-2015	Alipurduar College, Alipurduar
7.	Evolutionary divergence and comparative genomic analysis of <i>lpxC</i> gene from pathogenic gram negative bacteria	UGC Sponsored National Seminar Advances in Biology: Eastern Himalayan Perspective-2015	Department of Botany & Department of Zoology, Kalimpong College, Kalimpong
8.	Relative Structural Analysis of LpxC enzyme: A promising drug target	3rd International Conference on Biotechnology and Bioinformatics-2016	International Center for Stem Cells, Cancer and Biotechnology (ICSCCB), Pune, India
9.	Homology Modeling and Structural Analysis of UDP-3-O-(R-3-hydroxymyristoyl)-N-	National Symposium on Exploring Biological Systems: Cell to	Department of Biophysics, Molecular Biology & Bioinformatics, University of

	acetylglucosamine deacetylase from pathogenic bacteria	Organisms-2016	Calcutta
10.	Glycolysis as a determinant of genome and proteome composition of different extremophilic archaea species	International Conference on Bioinformatics and Systems Biology & Workshop on Systems Biology-2016	Department of Applied Sciences, Indian Institute of Information Technology-Allahabad
11.	The Interface between Biology and Mathematics	International Seminar on Gravitational Waves: A recent vista to the universe-2016	Department of Mathematics, Raiganj University, Raiganj, West Bengal
12.	Phylogenetic, evolutionary divergence and codon usage design analysis of the <i>lpxC</i> gene from different pathogenic gram negative bacteria	National Seminar on Current Trends in Plant and Microbial Research-2016	Department of Botany, Raiganj University, Raiganj, West Bengal
13.	Analysis of the compositional variability of phosphofructokinase enzyme within the eubacterial domain	Govt. of W. B. Sponsored International Seminar on Exploring Chemistry for the Development of North Bengal-2016	Department of Chemistry, Raiganj University, Raiganj, West Bengal
14.	Structural Analysis of UDP-3-O-(R-3-hydroxymyristoyl)-N-acetylglucosamine deacetylase from pathogenic bacteria	National Seminar on Man and Microbes-2016	Department of Microbiology, Raiganj University, Raiganj, West Bengal

Seminars organized:

1. *National Seminar on Current Trends in Plant and Microbial Research-2016*, organized by Department of Botany, Raiganj University, Raiganj, West Bengal. – **Acted as Convener of the Organizing Committee.**

2. *National Seminar on Current Trends in Plant and Microbial Research-2017*, organized by Department of Botany, Raiganj University, Raiganj, West Bengal. – **Acted as Convener of the Organizing Committee.**