Dr. SUBARNA THAKUR

M.Sc, PhD

Present Affiliation:
Assistant Professor

Department of Bioinformatics

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UNIVERSITY EDUCATION:

- PhD Awarded in 2014 from University of North Bengal. Thesis title: ***In-silico characterization of some nitrogenase proteins from symbiotic diazotrophs and cyanobacteria***. Supervisor: Dr. Arnab Sen and Dr. Asim Bothra
- M.Sc in in Botany with specialization in Molecular biology and Biochemistry from University of North Bengal (2003- 2005)
- B.Sc Botany (Hons) from Siliguri College affiliated under University of North Bengal (2000-2003)

TEACHING EXPERIENCE:

Assistant Professor in Botany in PD Women's College, Jalpaiguri from 13.01.17 to 13.10.17

RESEARCH INTEREST:

Current Research Area:

Comparative Microbial Genomics and NGS Data analysis

Other area of interest:

- Metagenomics
- Phylogenomics
- Microbial genome evolution and detection of selection pressure
- SNP association and phenotype prediction studies
- Development and utilization of novel phylogenetic methodologies to resolve the intricacies of protein/ gene evolution.
- Codon usage pattern variation in microbes and factors shaping

RESEARCH EXPERIENCE:

- Post Doctoral Research Associate in University of Angers, France under the Rose Genome Project
- DBT- Research Associate in Bose Institute, Kolkata
- Research Associate in JNU-Builder project, JNU New Delhi
- CSIR-Senior Research Fellow in Science, NBU

AWARDS/RECOGNITION:

- University Medal for securing 1st Class 1st Position in M.Sc Exam, 2005
- University Medal for securing 1st Class 2nd Position in B.Sc Exam, 2003
- Awarded SERB Travel Grant for attending 18th Int. Meeting on Frankia and Actinorhizal Plant to be held in Montpellier, France
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NO. OF PH.D. STUDENTS: (a) Supervised: Nil (b) Ongoing: 1(One)

PUBLICATIONS:

Journals:

- Modak D, Paul S, Sarkar S, **Thakur S**, Bhattacharjee S. Validating potent anti-inflammatory and anti-rheumatoid properties of Drynaria quercifolia rhizome methanolic extract through in vitro, in vivo, in silico and GC-MS-based profiling. BMC Complement Med Ther. 2021 Mar 12;21(1):89.
- Ranjan VK, Mukherjee S, **Thakur S**, Gupta K, Chakraborty R. Pandrug-resistant Pseudomonas sp. expresses New Delhi metallo-β-lactamase-1 and consumes ampicillin as sole carbon source. Clin Microbiol Infect. 2021 Mar;27(3):472.e1-472.e5
- Saha T, Ranjan VK, Ganguli S, **Thakur S**, Chakraborty B, Barman P , Ghosh W and Chakraborty R(2019). *Pradoshia eiseniae* gen. nov., sp. nov., a spore-forming member of the family Bacillaceae capable of assimilating 3-nitropropionic acid, isolated from the anterior gut of the earthworm *Eisenia fetida*. Int J Syst Evol Microbiol. 69(5):1265-1273.
- Thakur S. & Sen, A. (2016). Comparative analysis of metabolic machinery of Frankia along with other selected actinobacteria Symbiosis 70: 59-68. https://doi.org/10.1007/s13199-016-0410-2
- Thakur S, Normand P, Daubin V, Tisa L and A Sen (2013). Contrasted evolutionary constraints on secreted and non-secreted proteomes of selected Actinobacteria. BMC Genomics 2013, 14:474
- Thakur S, AK Bothra and A Sen (2013). Functional divergence outlines the evolution of novel protein function in NifH/BchL protein family. Journal of Biosciences 38: 733–740
- Bhattacharya S, A Sen, S Thakur and LS Tisa (2013). Characterization of haemoglobin from Actinorhizal plants – An in silico approach. Journal of Biosciences 38:777-787
- Sen A, N Beauchemin, ……, S Thakur, L Wall, T Woyke, and L Tisa (2013). Draft Genome sequence of Frankia sp. Strain QA3, a nitrogen-fixing actinobacterium isolated from the root nodule of Alnus nitid. Genome Announc. 2013 Mar 21;1(2):e0010313.
- Wall LG, N Beauchemin,……., S Thakur, L Wall, T Woyke, and L Tisa (2013). Draft Genome Sequence of Frankia sp. Strain BCU110501, a Nitrogen-Fixing Actinobacterium Isolated from Nodules of Discaria trinevis. Genome Announc. 2013 Jul-Aug; 1(4): e00503
- Sen A, S Thakur, A Bothra, S Sur and LS Tisa (2012). Identification of TTA codon

containing genes in Frankia and exploration of the role of tRNA in regulating these genes. Archives of Microbiology 194(1):35-45

- Thakur S, A K Bothra and A Sen (2012). In silico studies of NifH protein structure and its post- translational modification in Bradyrhizobium sp. ORS278. Int. J. Pharma and BioSciences 3(3): B22-B32
- A Sen, S Sur, LS Tisa, AK Bothra, S Thakur & UK Mondal (2009). Homology modeling of the Frankia nitrogenase iron protein. Symbiosis 50:37-44
- S Sur, G Sen, S Thakur, AK Bothra & A Sen (2009). In silico analysis of evolution in swine flu viral genomes through re-assortment by promulgation and mutation. Biotechnology 8:434-441.

Book Chapters:

- Thakur S, AK Bothra and A Sen (2014).Exploring the genomes of symbiotic diazotrophs with relevance to biological nitrogen fixation. In R. Bandopadhyay and PB Kavi (ed). Agricultural bioinformatics. Springer publications.
- Thakur S, AK Bothra and A Sen (2013). Insights into the nitrogenase protein – an in silico approach. In: Biology of useful plants and microbes, A Sen (ed), Narosa Publishing House, New Delhi, India, pp 301-320
- Thakur S, AK Bothra, S Sur and A Sen (2012) Molecular dynamics simulation of pr- 1 protein from Solanum tuberosum provides an in-depth view of its structural features. In 'Microbial Resources for Crop Improvement'; BN Chakraborty and U Chakraborty (ed.); Satish Serial Publishing House Pp 173-181