



Dr. Mahashweta Mitra Ghosh

Department: Biotechnology & Microbiology

Designation: Assistant Professor

Qualification: M.Sc. Ph.D.

Thesis title: "Investigation into the developmental expression of genes during the intracellular growth of a mycobacteriophage, using proteome analysis tools".

My area of research was on Mycobacteriophages which infect Mycobacterium tuberculosis (the TB pathogen). An important aspect of Microbiological research is studying the molecular biology of bacteriophages.

The specific issues taken up were:

1. Investigating basic aspects of host pathogen interactions such as timing of phage release, host viability, protein synthesis profile etc.
2. Proteomic analysis of the events taking place during phage infection and a bioinformatics approach to address issues raised through the proteomics approach.
3. Cloning and expression of a key regulatory protein the phage repressor and studying its DNA binding activities.

Research Interest:

To study the role of microbes in heavy metal metal detoxification. To establish the role of microbes in making the plants tolerant towards heavy metals thereby establishing their role in environmental cleanup.

Publications:

Shreyasi Chatterjee, **Mahashweta Mitra**, Sujoy kumar Dasgupta (**2000**). A high yielding mutant of MycobacteriophageL1 and its application as a diagnostic tool. FEMS Microbiology Letters 188, 47-53

Bidisha Bhattacharya, Nabanita Giri, **Mahashweta Mitra**, Sujoy Kumar Dasgupta.(**2008**) FEMS Microbiology Letters 2008 March 280(1); 64-72 Cloning, characterization and expression analysis of nucleotide metabolism related genes of mycobacteriophage L5.

Giri N, Bhowmik P, Bhattacharya B, **Mitra M**, Dasgupta S.K. (**2009**). J. Bacteriology 191(3): 959-967.The Mycobacteriophage D29 Gene 65 encodes an early expressed protein that functions as structure specific nuclease.