



Dr. Madhumita Maitra (Sirkar)

Department: Microbiology

Designation: Assistant Professor

Qualification: M.Sc. Ph.D (Science) Microbiology

Date of Birth: 30th September 1970

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Ph.D Thesis:

“Variation in Mutants of *Streptomyces kanamyceticus* M1 and Production of new antibacterial antibiotic by a mutant *Streptomyces kanamyceticus* M27.

The thesis concentrates on aerobic fermentative production of an antibacterial antibiotic from an isolated mutant strain of *Streptomyces kanamyceticus*, isolation and purification of the antibiotic in semi pure form, studying the physio – chemical and biological properties of the antibiotic and prediction of the tentative chemical structure.

Ph.D Guidance from Prof. S.K Mukherjee, Dept. of Food Technology and Biochemical Engineering (FTBE) and Prof. S.K Majumdar, Dept. of Life Science and Biotechnology, Jadavpur University.

Post Doctoral Research Work:

1. Worked as a Post Doctoral Fellow in the Dept. of Microbiology, Bose Institute from Sept. 1999 till June 2003. The research involved Study of Signal Transduction Pathway during pathogenesis of Tuberculosis in Human Peripheral Blood mononuclear cells.
2. Worked as CSIR Pool Officer in the Dept. of Microbiology, Bose Institute, Kolkata- 54 from June 2003 to Dec 2004.

Research Activities

1. Involved in a collaborative research work with Prof. Ranjana Choudhury , Head, Dept. of Chemical Engineering, J.U regarding a development of Probiotic strain.
2. completed a UGC sponsored Minor research project in the year 2014.
3. Completed a UGC Minor research project entitled “Microbial Production of laccase and its comparison with fungal laccase” in the year 2010.

4. Completed a college sponsored minor research project in the year 2010 entitled "Microbial production of amino acids especially L – lysine : Fermentation and recovery for pharmaceutical industry.

5. Guided the summer training research work of M.Sc. Microbiology student in the year 2007, 2012 and 2013.

6. Working as Ph.D. Co-guide enrolled in Vidyasagar University.

Resource person

1. In Microbial sciences Module of Summer Training camp on Basic Science at Bose Institute Kolkata in the year 2008, 2009 and 2010.
2. As a resource person in Calcutta University for the course work lectures of Ph.D students.

Paper Published:

1. M.Sirkar & S.Majumdar "Lipoarabinomannan induced cell signaling involves ceramide and mitogen activated protein kinase". Clinical & Diagnostic Laboratory Immunology, Vol. 9(6) Nov. 2002: 1175- 1182.

2. S.Ghosh, S. Bhattacharyya, M.Sirkar, G.S Sa, T.Das, D.Majumdar, S.Roy and S.Majumdar. "Leishmaniadonovani suppresses activated protein 1 and Nf-kB activation in host macrophages via ceramide generation: Involvement of extracellular signal regulated kinase: Infection and Immunity Dec. 2002 Vol.70 (12): 6828-6838.

3. N.Majumdar, R.Dey, RK Mathur, S Dutta, M Maitra and S.Majumdar. " An unusual proinflammatory role of IL-10 induced by AraLAM in murine peritoneal macrophages" Glycoconjugate Journal Dec.2006 Vol 23(9) 675-686.

4. A.Nath, S.Sarkar, M Maitra, C Bhattacharjee and R Chowdhury. "An experimental study on production of intracellular β -galactosidase at different conditions by batch process using isolated *Bacillus safensis* (JUCHE 1) & characterization of synthesized β -galactosidase. J.Inst.Eng.India Ser.E 93(2) 55-60.2013.

Books Published:

Author of one of the chapters of the Book, entitled "Practical Manual of Modern Microbiology" published by Himalaya Publishing House in the year 2013.

Audio-Visual Presentation:

Delivered lecture programmes in Audio-Visual mode in various topics like Bacterial systematic, microbial growth, food spoilage, Industrial microbiology etc. at UGC granted EMMRC programmes.