

Madhumita Maitra M.Sc. Ph.D

Date of Birth: 30th September 1970

Marital Status: Married

Nationality: Indian

Phone no - 9831337928

Present Status: Assistant Professor, Department of Microbiology,
St. Xavier's College (Autonomous), Kolkata



Email: madhumitamaitra@sxccal.edu

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. Collaborative research work going on with the faculty member, Dr. Nirmalendu Das, Department of Botany, Barasat Government college.
2. Completed a UGC sponsored Minor research project in the year 2015, entitled “Identification and characterization of Actinomycetes isolated from soil and exhibiting intriguing antibiotic resistance profiles”
3. Worked in a collaborative research work with Prof. Ranjana Choudhury, Head, Dept. of Chemical Engineering, J.U regarding a development of Probiotic strain in the year 2009-2012.

4. Completed a UGC Minor research project entitled “Microbial Production of laccase and its comparison with fungal laccase” in the year 2011.
5. 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.
6. Guiding the summer training research work of M.Sc. Microbiology students.

Research Guidance:

Working as Ph.D. guide in St. Xavier’s College, Kolkata and as Co-guide enrolled in Vidyasagar University. At the moment three scholars are enrolled for PhD.

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.
3. Invited as a resource person to deliver a talk in Ph.D course work, in the Department of Microbiology, Bose Institute, Kolkata 2018.
4. Invited as a Resource person and judge in The University of Engineering and Management, Kolkata on 25th and 26th August 2017.
5. Invited as Resource person in Yubavani Programme of All India Radio on 08 Jan. 2021 for discussion on the scope of Microbiology for Indian students.
6. Delivered a talk in a webinar on “Introduction to Industrial Microbiology” on October 2020 at Sarojini Naidu College for Women.

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.IndiaSer.E 93(2) 55-60.2013.
5. **M.Maitra** and N.K Maitra. “Exploitation of the soil isolates for the production of amino acids” Int. J adv. Res. In science & Engineering. Mar 2018 Vol.07 Special issue 02 651-656.
6. C.Paul, **M.Maitra** and N.Das. “Comparative study of three *Pleurotus* spp. cultivated on two different substrates with special reference to their biochemical and antibacterial activities”. Mushroom Research 28 (1): 39-46, 2019.
7. Atrayee Roy, Anindya S. Panja , **Madhumita Maitra** , Bidyut Bandoppyadhyay. Isolation and Characterizations of Probiotics from Bovine (Cow) Milk. Research & Reviews in Biotechnology & Biosciences. Volume: 6, Issue: 2, Year: 2019 PP: 12-20.
8. Atrayee Roy, **Madhumita Maitra** and Bidyut Bandyopyadhyay. Phenotypic Characterization and Genotypic Identification of Local Milk Fermented Probiotics. Biotechnology: An Indian journal Vol. 15 issue 4.2019

Books/Book chapters

1. Author of one of the chapters of the Book, entitled “Practical Manual of Modern Microbiology” published by Himalaya Publishing House in the year 2013.
2. Author of one of the chapters of the Book entitled “Research Advances in the Fungal World” Chapter 16. Fungal cellulolytic enzymes: Physiological roles & Biotechnological applications.

Honors and awards

Sir Ganga Ram Memorial Prize on the Paper entitled “An experimental Study on the production of Intracellular β -galactosidase at different conditions by Batch Process using isolated *Bacillus safensis* (JUCHE1) and characterization of synthesized β -galactosidase by The Institution of Engineers (India) 2013.

Participation in MOOC

Member of the Pool of Resource persons since September 2012 for the development of e-content on Microbiology under the NME-ICT project of the MHRD, Govt. of India, assigned to EMMRC Kolkata. Prepared and developed 37 modules for MOOC on Bacteriology and Virology, which was run on platform – Swayam under ministry of MHRD from 4th Sept. to 3rd Nov. 2017.