

DR. SUDESHNA MANDAL

Assistant Professor
CDOE, MANUU
Hyderabad



Kolkata, 700032, India



+91-9775042093



sudeshnamandal94@gmail.com
sudeshnamandal@manuu.edu.in



PERSONAL DETAILS

Nationality
Indian

WEBSITES & SOCIAL LINKS

Google Scholar:
<https://scholar.google.com/citations?user=WT3vJLwAAAJ&hl=en&oi=...>

Research Gate:
<https://www.researchgate.net/profile/Sudeshna-Mandal>

Linkedin:
<https://www.linkedin.com/i>

I Dr. Sudeshna Mandal, during my doctoral tenure, I have worked on metagenomics analysis and established a link between gut microbiota and parasite infection. To investigate its interaction and function with the parasite in the host, I worked on the status of gut probiotics in the presence of cestode parasite (*Hymenolepis diminuta*). Furthermore, the probiotics treatment established anthelmintic activity as well as metabolic activity and Immunomodulatory changes. The study explored an enrichment of harmful bacteria under Proteobacteria, Fusobacteria, and Streptococcus in the infected host intestine, along with a decrease in the relative abundance of beneficial Lactobacillus which defining overall gut health disruption during tapeworm infection. Further, molecular characterization of probiotics strain from host gut and their effect on tapeworm infection explored for the first time, which established promising anticestode activity of gut probiotics and mitigate inflammatory responses (Intestinal TLR2, TLR4, NF- κ B, COX-2 Inflammatory Signalling Pathways) and mitochondria density recovery in the intestine. I established mode of action of probiotics responsible for eliminating intestinal tapeworm by increasing IgG production. I gained scientific expertise in the field of Parasitology, Host pathogen interaction, Pharmacological value of Probiotics, Immunology, Microbiology, Molecular biology, Host physiology and Animal handling.

WORK EXPERIENCE

INDIANA UNIVERSITY (INDIANAPOLIS, USA)

2025

POSTDOC

During my postdoctoral research tenure, I investigated the role of T-cell-mediated pathogenesis in type 1 diabetes using mouse models. My work focused on understanding immune dysregulation, autoimmune destruction of pancreatic β -cells, and the molecular mechanisms driving disease progression. This research contributed to insights into immune-based therapeutic targets for autoimmune diabetes.

REFERENCE

Will be provided upon request.

LANGUAGES

- ENGLISH
- URDU
- BENGALI
- HINDI

VISVA-BHARATI (CENTRAL UNIVERSITY)

Nov 2018 - July 2024

Ph.D.

Research on the "Role of probiotic gut bacteria in Hymenolepis diminuta infection in Swiss Albino rats." Accomplished and energetic research fellow, with experience and achievement in Microbiology and Parasitology, Host parasitic interactions and Immunology. Hardworking and focused on completing work with efficiently. Motivated leader with strong organizational and prioritization abilities. Work well independently to handle assignments and always ready to go beyond basics assignments. Areas of expertise in microbial infections, animal handling include in vivo murine models of parasitic disease.

EDUCATION

VISVA-BHARATI (CENTRAL UNIVERSITY)

Santiniketan
2024

Ph.D. (Awarded on 22.07.2024)

Thesis on the research entitled 'The Role of Probiotic Gut Bacteria in Hymenolepis diminuta infection in Swiss Albino rats.'

UNIVERSITY OF GOUR BANGA

2016-01-01T00:00:00.000Z

M. SC. IN ZOOLOGY

UNIVERSITY OF GOUR BANGA

2014-01-01T00:00:00.000Z

B. SC. IN ZOOLOGY

SKILLS

- Transcriptomics
 - FACS
- Western Blot
 - PCR, qRT-PCR

- Immunohistochemistry
- Microbiological Techniques
- Bioinformatics-Metagenomic Analysis, Phylogenetic Analysis
- Confocal Microscopy
- Animal Handling
- Sample preparation for TEM, SEM
- Biochemical Analysis
- Probiotic Characterization
- Mammalian Cell Culture
- Basic Knowledge on Python, R, SPSS
- Histology
- Enzyme Assay
- ELISA

EXTRA-CURRICULAR ACTIVITIES

DEPARTMENT OF ZOOLOGY, UNIVERSITY OF GOUR BANGA

Jan 2018 - Jan 2018

TECHNICAL ORGANIZING

Acted as Technical organizing team member in the Hands-on training workshop on Microbiological tools and Techniques.

May 2022 - Jun 2022
Department of Zoology,
Siksha- Bhavana, Visva-
Bhara

Teaching

Involved in teaching the CSIR-UGC NET aspirants of M.Sc Sem IV and M.Sc Sem II students in a NET coaching programme.

ACADEMIC ACHIEVEMENT

1. Qualified UGC-CSIR JRF in the year of 2018.
2. Qualified GATE in the year of 2017.
3. Qualified UGC-CSIR LS in the year of 2016.

WORKSHOP, CONFERENCE AND AWARD

IICB, Kolkata
Jun 2024 - Jun 2024

● **High end equipments for clinical applications-
Flow Cytometry**

15 days hands on training and skill development programme

Delhi, India
Sep 2019

● **30th National Congress of Parasitology & Global Summit on Malaria Elimination**

Sudeshna Mandal and Larisha M. Lyndem. 'Probiotics: A target for Helminth Infection.'

Santiniketan, India
Feb 2020

● **National Seminar on Advancement of Biology in the 21st Century**

Sudeshna Mandal, Chandrani Mondal and Larisha M. Lyndem. 'Hymenolepis diminuta Alters Lactic Acid Fermented Bacteria Colonization in Swiss Albino Rat.'

Chennai, India
Nov 2022

● **31st National Congress of Parasitology on Global Technological Advancements in the Diagnosis and Sustainable Control of Parasitic Diseases**

Sudeshna Mandal and Larisha M. Lyndem. 'Hymenolepis diminuta Alters Lactic acid Fermented Bacteria Colonization in Small Intestine of Rat.'

Varanasi, India
Jan 2023

● **45th All India Cell Biology Conference & International Symposium on Biology of Development and Disease**

Sudeshna Mandal and Larisha M. Lyndem. 'Evaluation of two newly isolated indigenous probiotics against tapeworm infection induced in rats.'

Chennai, India
Nov 2022

● **Best Poster award in 31st National Congress of Parasitology**

PUBLICATIONS

MICROBIOLOGICAL RESEARCH (UNDER COMMUNICATION)

July 2024

● PROBIOTICS EXERTS IMMUNOMODULATORY ACTIVITY OF HYMENOLEPIS DIMINUTA BY REGULATING TLR2, TLR4, NFKB AND COX-2 EXPRESSION IN SWISS ALBINO RAT.

EXPERIMENTAL PARASITOLOGY

Feb 2024

● EFFICACY OF LACTOBACILLUS TAIWANENSIS S29 AND LACTIPLANTIBACILLUS PLANTARUM S27 AGAINST TAPEWORM INFECTION IN SWISS ALBINO RATS

MICROORGANISMS

Nov 2022

● HYMENOLEPIS DIMINUTA REDUCE LACTIC ACID BACTERIAL LOAD AND INDUCE DYSBIOSIS IN THE EARLY INFECTION OF THE PROBIOTIC COLONIZATION OF SWISS ALBINO RAT

**ACTA SCIENTIFIC
PHARMACEUTICAL
SCIENCES**

Jan 2018

MULTIPLE ANTIBIOTIC RESISTANCE INDICES OF POTENTIAL PATHOGENIC BACTERIA ISOLATED FROM STREET VENDED FRUIT AND SUGARCANE JUICES, MALDA TOWN, INDIA

**ACTA SCIENTIFIC
MICROBIOLOGY**

Jan 2021

ALTERATION IN THE TEGUMENTAL ENZYMES OF HYMENOLEPIS DIMINUTA BY SENNA SPP PROBIOTICS: AN ALTERNATIVE ANTI-PARASITE THERAPY

**PARASITOLOGY
RESEARCH**

May 2023

GALLIC ACID AND CATECHIN INDUCE MORPHOLOGICAL ALTERATIONS ON THE ZOONOTIC PARASITE HYMENOLEPIS DIMINUTA

**JOURNAL OF
PARASITIC DISEASES**

Apr 2024

Probiotics: An alternative anti-parasitic therapy

WILEY AND SONS

May 2024

Methicillin Resistant Staphylococcus aureus (MRSA) An Underestimate Threat

IGI GLOBAL

May 2024

Plant Secondary Metabolites: Their Impact on Human Health within the Context of Harnessing NanoOmics and Nanozymes for Sustainable Agriculture

**NOVA SCIENCE
PUBLISHERS**

Sep 2022

Parasitology Risks and Challenges for Health and Sustainability, Chapter 7, The Effect of Climate Change and Environment on the Population Biology of Helminths: Trematodes, Cestodes and Nematodes

**BENTHAM SCIENCE
PUBLISHERS**

Apr 2023

Recent advances of Biosensors technology (vol-1). Biosensors for the diagnosis and therapeutics of cardiovascular diseases

**JOURNAL OF
PARASITIC DISEASES**

May 2024

In vitro anthelmintic efficacy of Ferulic and Sinapic acid against zoonotic cestode Hymenolepis diminuta (Rudolphi, 1819)