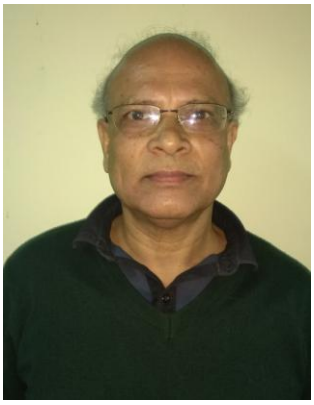
CURRICULUM VITAE



Swadesh Ranjan Biswas, Ph.D
Professor

Department of Botany, Visva-Bharati, Santiniketan-731235
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AREAS OF EXPERTISE

- Enhancing safety and shelf life of dairy foods
- Detecting spoilage and pathogenic bacteria in foods
- Constructing food-grade plasmid vectors
- Developing simple and efficient CRISPR-Cas9 platform for Food-grade bacteria.
- Developing non-CRISPR genome engineering platform.
- Developing engineered thermostable enzyme for industrial biotechnology.
- Developing probiotic bacteria through bioengineering

EDUCATION:

- University of Calcutta (Bose Institute): Microbiology, Ph.D.
- Visva-Bharati University, Botany: M.Sc.
- Suri Vidyasagar College, Botany (Hons): B.Sc.

PROFESSIONAL SOCIETIES:

- The Association of Microbiologists of India (AMI)
- Indian Science Congress Association

PROFESSIONAL EXPERIENCE:

2004 - present. Professor. Visva-Bharati, Department of Botany. Santiniketan

2008-2011: Associate professor, Visva-Bharati, Department of Botany. Santiniketan

2005-2008: Reader , Visva-Bharati, Department of Botany. Santiniketan

2002-2005: Senior lecturer, Visva-Bharati, Department of Botany. Santiniketan

1998-2002: Lecturer

1994-1997: CSIR (New Delhi) Pool Officer

1989-1993: Post-doc (food Bio-preservation, University of Wyoming, Laramie, USA;

Post-doc (Drug development), Meharry Medical College, Nashville, USA

Post-doc (DNA repair), University of Kentucky, Lexington, USA

RESEARCH INTERESTS

Lactic acid bacteria: physiology, functionality, taxonomy and biodiversity

Quality and safety of dairy foods

Genome engineering and probiotic bacteria

Protein engineering and industrially relevant peptide and enzyme

Genomics of lactic acid bacteria: Plasmid and Genome Sequencing of Lactic Acid Bacteria

Gene Regulation in Lactic Acid Bacteria

Bioengineering of Therapeutic peptide of medical importance

Genetic tools for genetic modification of lactic acid bacteria: Development of food-grade vector for use as delivery vehicle

GRANT SUPPORT:

- Oligo-meidtaed genome engineering of *Lactococcus lactis* W8 to generate novel nisin peptides for use in food and health (DBT, New Delhi, Ongoing).
- Molecular investigation into the carbon source mediated transcriptional regulation of *nisZ* gene in *Lactococus lactis* W8 (UGC, New Delhi, Completed)
- Mechanism of bile inhibition of nisin mediated antimicrobial activity of *Lactococus lactis* W8 (CSIR, New Delhi, Completed)
- Cloning of β-galactosidase gene from lactic acid bacteria for development of food-grade Selection marker (UGC, New Delhi, Completed)

Ph.D. produced: Five

Postdoc project (CSIR/DBT) supervised:

- Biopreservation of dairy Foods
- Gene regulation in lactic acid bacteria

Ongoing Postdoc Project (CSIR): Therapeutic drug development

M.Sc Dissertation Guidance: 16 (Molecular Biology)

Current Postdoctoral Fellow:

DBT- Women Scientist: Dr. Suranjita Mitra

CSIR Research Associate: Dr. Bidhan Chandra Mukhopadhyay

Current Doctoral Fellow:

CSIR- SRF: Mr. Kazi Tawsif Ahmed
DBT Project Fellow: Mr. Rajarshi Bhattacharya

PUBLICATIONS

Biswas SR**,** Ray P, Johnson M.C, and Ray B. Influence of growth conditions on the production of bacteriocin, Pediocin ACH by *Pediococcus acidilactici* H (1991). **Applied and Environmental Microbiology (ASM).** 57(4): 1265. (I. factor- 4.0.

Mellon, I, Biswas SR, and Champe GN (1993). Repair of ribosomal RNA genes is selectively inhibited in mfd strains of *Escherichia coli*. **Environ. Mol. Mutagen**. 21(Suppl. 22):47.

Mitra S, Mukhopadhyay BC, Chakrabartty PK, Biswas SR (2005). Production and characterization of nisin-like peptide produced by a strain of *Lactococcus lactis* isolated from fermented milk. **Current Microbiology**. 51(3), 183-187 (I. Factor 1.6).

Mitra S, Mukhopadhyay BC, Chakrabartty PK, Biswas SR (2007). Production of nisin Z by *Lactococcus lactis* isolated from Dahi. **Applied Biochemistry and Biotechnology**. 143 (1), 41-53. (I. factor- 2.1

Mitra S, Mukhopadhyay BC, Chakrabartty PK, Biswas SR (2010). Potential production and preservation of dahi by *Lactococcus lactis* W8, a nisin producing strain. **LWT-Food Science and Technology**. 43 (2), 337-342 (**I.Factor- 3.714)**

Mitra S, Mukhopadhyay BC, Chakrabartty PK, Biswas SR (2011). Potential application of the nisin Z preparation of *Lactococcus lactis* W8 in preservation of milk. **Letters in Applied Microbiology**. 53, 98-105 (I. factor-1.805)

Mitra S, Mukhopadhyay BC, Chakrabartty PK, Biswas SR (2013). Effect of bile on nisin-mediated antibacterial activity and the expression of nisin genes of *Lactococcus lactis* W8. **Current Microbiology**. 67(6):668-73 (I. factor 1.6)

Mitra S, Mukhopadhyay BC, Mandal AR,, Chakrabarty K, Das GK, Chakrabarttya PK, Biswas SR(2015). Cloning, overexpression and characterization of a novel alkali-thermostable xylanase from *Geobacillus* sp. WBI. **Journal of Basic Microbiology**. ;55(4):527-37 (I. factor 1.6)

Arukha AP, Mukhopadhyay, BC, Mitra S, Biswas SR (2015). A Constitutive Unregulated Expression of beta-Galactosidase in *Lactobacillus fermentum* M1 **Current Microbiology** 70(2):253-259 (I. factor 1.6)

Juin SK, Mukhopadhyay, BC., Biswas SR., Nath P (2017). Conspecific vitellogenin induces the expression of *vg* gene in the Indian male walking catfish, *Clarias batrachus* (Linn.). **Aqua. Reports**. 6, 61–67 (I. factor 1.887)

Maji J, Mukhopadhyay BC, Mitra S, Biswas SR (2018). Molecular Characterization of Yeasts and Bacteria Isolated From Handia, an Indian Traditional Rice Fermented Alcoholic Beverage. **American Journals of Current Microbiology,** 6, 1-12

Mitra S, Mukhopadhyay BC, Kaz TA, Bhattacharya R, Mandal S, Biswas SR (2018**).** Draft Genome Sequence of *Lactococcus lactis* subsp. *lactis*W8, a Potential Nisin-Producing Starter Culture for Indian Traditional Fermented Milk (Dahi). **Microbiology Resource Announcements (American Society of Microbiology),** vol. 7, issue 23, e01305-18

Mukhopadhyay BC, Mitra S, Kazi TA, Mandal S, Biswas SR (2019). Draft Genome Sequence of Cold-Tolerant *Kurthia gibsonii* B83, Isolated from Spinach Leaf. Microbiology Resource Announcements **(American Society of Microbiology),** Vol. 8, issue-11, e01480-18.