

Dr. Sayak Ganguli

Assistant Professor

Department of Biotechnology

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I am a biologist, with background in Plant Biology, specialization in Plant Tissue Culture and Micropropagation; Bioinformatics, Computational Biology, Genomics and Machine Learning

Current Work Area(s):

1. Genomics Guided Drug Screening
2. Plant environment interactions in the Indian Sunderbans; a UNESCO World Heritage Site to formulate proper conservation and habitat restoration strategies for reducing the impact of climate change
3. Gut Microbial interactions with traditional diet practices of tribal members of Savar, Bhutia, Mech, Lodha, Toto etc. For predicting new measures for assessment of malnutrition among children and adults.

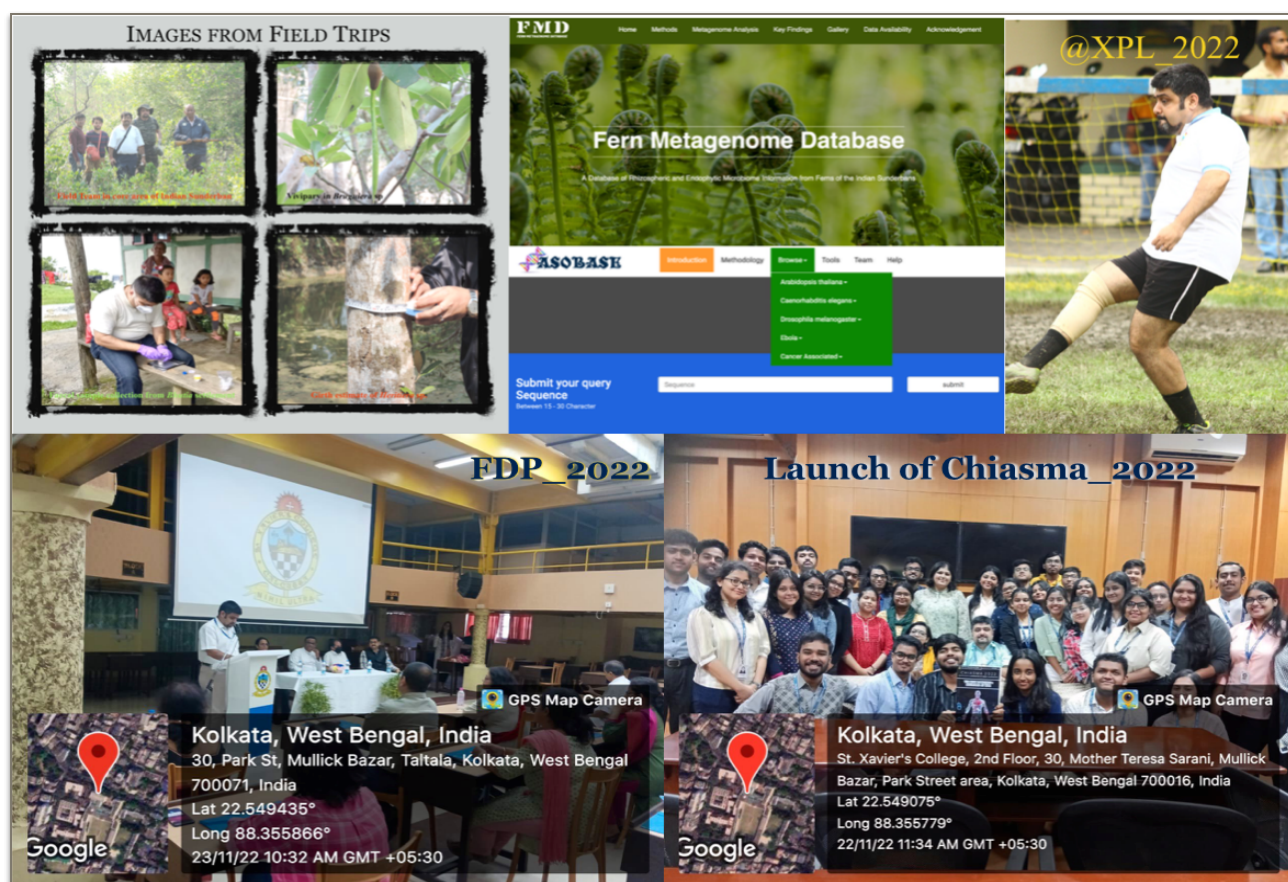


Figure: Glimpses of various activities

Summary of Publications and Scientific Contributions:

1. International Publications: 98 {Last Two Years: 20; Average IF - 2.07}
2. Book Chapters in International Publishing Houses: 17
3. Poster Presentations (National and International): 120
4. Accession Numbers in Databases: 20 (CDS; Transcriptome and Metagenome)
5. Invited Talk and Oral Presentations (International): 7
6. Invited Talk and Oral Presentations (National and State Level): 16

For Details Visit: [Google Scholar](#)/ [ORCID](#)/ [RESEARCHGATE](#)

Academic Achievements and Awards (Personal):

1. Aurobindo Guha Life Science Endowment (**GOLD MEDAL**) for Highest marks in BSc. Examination (2003)
2. **DST Award** for Invited lecture at Next Generation Sequencing Congress Asia (2012) at Singapore

3. **BEST POSTER AWARD** for the poster titled: “*Rhizospheric Metagenome Dataset of the terrestrial mangrove Nypa fruticans Wurm from Indian Sunderbans*” at the National Seminar on Water Conservation and Harvesting: Focusing Biodiversity Issues and Management held on 8th February 2020 at Jadavpur University, Kolkata.
4. **BEST POSTER AWARD** as Senior Author, for the poster titled “*An insight into the Rhizospheric Metagenomic Analysis of Excoecaria agallocha from Indian Sunderbans Mangrove Forest*” at APBGE, April 8 - 10 2021.
5. Selected and participated as an **Early Career Researcher** in the Newton Bhabha Researchers Link Workshop titled “Building Ecological Resilience in Vulnerable Mangroves of the Indian Sunderbans: Sustainable and Equitable Management of Biodiversity and Ecosystem Services in the era of Climate Change” jointly organised by WBSU, INDIA and NEWCASTLE UNIVERSITY, UK, funded by DBT - GoI and British Council held in Indian Sunderbans 2nd to 6th January 2022.
6. **Invited Speaker** at the Indian Anthropological Congress 2022 for the paper titled - “Dietary Intake and Nutritional Status of the adult Kheria Sabar males of West Bengal, India”
7. **Elected member of the Executive Council** of the Barasat Government College Alumni Association.
8. **Invited Executive Editor** of the Journal of Environment and Sociobiology (Web of Science / UGC Care List II)
9. Served as Organizing Committee Member of the Professional Scientific Development Program, organised by St. Xavier’s College (Autonomous), from 23rd to 30th November 2022; under RUSA and DBT Star College Scheme.

Recent Achievements from SGLAB:

1. **BEST POSTER AWARD** for the poster titled “*Evaluating the impact of tropical cyclones on the soil microbiome of Indian Sunderbans*” at One Day International Seminar on Recent Trends in Microbiology on 18th May 2022 at VJRC, Kolkata [Poster presenter Mr. Rohan Pal, BMBT Dissertation trainee]
2. **BEST POSTER AWARD** (UG and PG students category): Arunima Bhattacharya; @ICCCGC, Kolkata
3. **3rd Prize in Poster (Research Scholar Category)**: Sarmistha Mukhopadhyay @ICCCGC, Kolkata
4. **Second Prize in Young Researcher (s) Category**: Nabarun Dawn and Souptik Ghosh @ICCCGC, Kolkata

Supervision:

1. Ms. Meesha Singh and Mr. Souradip Basu, Ph.D. Scholar (Registered under Department of Microbiology, SXC Kolkata with Dr. MM Ghosh as PI)
2. Ms. Sarmistha Mukhopadhyay, Ph.D. Scholar (Registered under Department of Biotechnology, SXC)
3. Final Year Dissertation Project Trainees: SXC, Kolkata (4); MAKAUT (1); and Delhi University (1)
4. Summer Interns: SXC - Kolkata (18).

Courses Taught:

1. Plant Biotechnology, Plant Tissue Culture, Intellectual Property Rights (Theory and Practical)
2. Plant Breeding, Genomics and Bioinformatics, (Theory and Practical)
3. Quantitative Genetics, Biostatistics and R (Theory)
4. Computer Aided Drug Discovery (Theory and Practical)
5. Plant Anatomy, Plant Taxonomy, Plant Pathology. (Theory and Practical)

Fellowship:

Research Fellowship funded by the Department of Biotechnology (DBT - BTBI; Govt. of India) from 2007 to 2015 at Presidency College and Presidency University, Kolkata

Experience [Before Joining Current Position] [Teaching and Industrial Consultancy - 15 Years]

1. 2005 to 2014 at Barasat Government College (Visiting Faculty UG and PG).
2. 2006 to 2010 at Indian Institute of Social Welfare and Business Management (Visiting Faculty).
3. 2015 to 2016 at St. Xavier’s College (Dept. of Microbiology) (Visiting Faculty - PG).
4. 2015 to 2019 at Lady Brabourne College (Visiting Faculty - PG).
5. APT Software Pvt Ltd. Kolkata (2010 to 2012) [Consultant for DBT - BIRAC - training program]

Funding:

Collaborative Projects funded by DST – Government of West Bengal; DST – SERB; with University of Calcutta (Anthropology and Biotechnology, PG Department of Microbiology, SXC Kolkata; PG Department of Zoology, Rammohan College, Kolkata)

Completed Projects:

1. ICMR and Department of Biotechnology – Ministry of Science and Technology, Government of India (GOI) entitled: Identification of Regulatory elements in the HIV genome and designing of *in silico* designed aptamers against them (2013 – 2016); 3 Years - 30 Lakhs.
2. West Bengal Biodiversity Board on “Mango Germplasm Conservation” (2017 - 2020); 3 years - 10 Lakhs.

Accession Numbers**1. SIX ACCESSION NUMBERS FOR GLUTATHIONE PEROXIDASE GENE**

EF620778 – EF62083 available publicly at NCBI – GENBANK Collection since 2007.

2. NGS BASED TRANSCRIPTOME LIBRARY ACCESSION:

- A. BIOPROJECT ID: PRJNA288413; BIOSAMPLE: SAMN03799418; SRA ACCESSION: SRX1058325; SRX1058327.
- B. BIOPROJECT ID: PRJNA283940; BIOSAMPLE: SAMN03658143; SRA ACCESSION: SRX1032950; SRX1082731

3. NGS BASED METAGENOME LIBRARY ACCESSION:

Experiment Accession	LIBRARY Description
SRX6860832	Root Endophytic Metagenome
SRX6860831	Root Endophytic Metagenome
SRX6860830	Root Endophytic Metagenome
SRX6860829	Root Endophytic Metagenome
SRX6860828	Root Endophytic Metagenome
SRX6860827	Root Endophytic Metagenome
SRX6860826	Root Endophytic Metagenome
SRX6849506	Fern Rhizosphere Metagenome of <i>Christella</i>
SRX6849505	Fern Rhizosphere Metagenome of <i>Microsorium</i>
SRX6849504	Fern Rhizosphere Metagenome of <i>Ceratopteris</i>
SRX6849503	Fern Rhizosphere Metagenome of <i>Marsilea</i>
SRX6849502	Fern Rhizosphere Metagenome of <i>Pyrrosia</i> and <i>Drynaria</i>
SRX6470494	Milk Metagenome
SRX6470493	Milk Metagenome
SRX5806390	Metagenome of solid sludge: urban hospital effluent
SRX5806389	Metagenome data of liquid sludge: rural hospital effluent
SRX5459403	Gut Microbiome of Savar Kid
SRX5459389	Gut Microbiome from Adult Female
SRX5459385	Metagenome Profiling of Adult Male Gut
SRX2660456	Fern Rhizospheric Metagenome analyses from Indian Sunderbans
SRX2527833	Rice Endophytic Root Metagenome
SRX2524586	Rice Endophytic Root Metagenome
SRX10655654	Gut Microbiome analysis of Bhutia Kid
SRX10651311	Gut Microbiome analysis of Bhutia Male
SRX10650646	Gut Microbiome analysis of Bhutia Female
SRX10766711	Gut Microbiome analysis of Mech Male
SRX10759329	Gut Microbiome analysis of Mech Female
SRX10752763	Gut Microbiome analysis of Mech Kid

Life Member:

- 1. Alumnorum Societas, Kolkata (ALSOC)
- 2. Indian Science Congress Association (ISCA)
- 3. Social Environment and Biological Association (SEBA)
- 4. Society of Biological Chemists (SBC); India.

Hobbies:

Collecting Folk Songs; Playing/Watching Cricket and Football, NGO activities.