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# DR. SAYAK GANGULI

Assistant Professor

Postgraduate and Research Department of Biotechnology

I am a biologist, with background in Plant Biology, specialization in Plant Tissue Culture; Cytogenetics, Bioinformatics, Computational Biology, Genomics and Ethnomedicine.



## RESEARCH FOCUS:

Gut Microbial interactions with traditional diet practices of ethnic Indian tribes

Genomics Guided Drug Screening against antibiotic-resistant bacteria

### ENVIRONMENTAL GENOMICS FOR A SUSTAINABLE PLANET

Plant environment interactions in the Indian Sunderbans - an UNESCO World Heritage Site

COPD Microbiome

## COURSES TAUGHT

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

## SUPERVISION

1. DR. MEESHA SINGH [Awarded Ph.D. in 2023] – Wastewater Antibiotic Profiling
2. MR. SOURADIP BASU, [Ph.D. Scholar] – Gut Microbiome (*Thesis Submitted*)
3. MS. SARMISTHA MUKHOPADHYAY, [Ph.D. Scholar] – Shigella Genomics (*Thesis Submitted*)
4. MS. RUPSHA KARMAKAR [Ph.D. Scholar] – Resistome Mapping
5. MR. WRICK CHAKRABORTY [IPCR – FELLOW] – COPD Microbiome
6. MR. DEBAVA CHAUDHURI (DBT – JRF) – Endophytic Microbiome Mapping
7. Final Year Dissertation Project Trainees: SXC, Kolkata (6); MAKAUT (3); and Delhi University (2)
8. Summer Interns: SXC - Kolkata (30); VIT (4); Amity (2); Christ University (1), CU(4).

## **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 *Nyssa fruticans* Wurmb 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. 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
6. 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.
7. 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.
8. Best Presenter Award (Science Group) in the FIP -12 conducted by UGC - HRDC, North Bengal University (3rd January to 6th February 2022).
9. Served as Course Coordinator for the two day workshop on Gut Microbiome Analysis for Anthropological Survey of India, Government of India personnel on the 13th and 14th of June 2023.
10. Served as Convener for the first International Symposium on Biotechnology (ISBT 2023), organized by the Postgraduate and Research Department of Biotechnology on the 12th and 13th of October 2023.

## **ACHIEVEMENTS FROM SGLAB: [STUDENT ACHIEVEMENTS]**

1. BEST POSTER AWARD (UG and PG students category): Arunima Bhattacharya; @ICCCGC, Kolkata
2. 3rd Prize in Poster (Research Scholar Category): Sarmishta Mukhopadhyay @ICCCGC, Kolkata
3. Second Prize in Young Researcher (s) Category: Nabarun Dawn and Souptik Ghosh @ICCCGC, Kolkata
4. Judges 'Special Appreciation Award. "Creating a Mangrove endophyte bacterial collection for targeted genome editing. International Seminar and Workshop on CRISPR/Cas-based Plant Functional Genomics & Computational Modelling, organised by CSIR – North East Institute of Science and Technology, Jorhat, Assam (17th to 21st January 2023): Gaurab Aditya Dhar
5. Second Prize in Poster presentation for the poster titled "Exploring metagenome-based disease susceptibility predictions in three indigenous tribal families of West Bengal, India at the International Symposium on Biotechnology at SXC, Kolkata, 12th and 13th of October 2023: Gaurab Aditya Dhar
6. Souradip Basu presented a paper titled " Insights into the gut, dietary practices and subsistence patterns from an Indian foothill tribe at Students Conference on Conservation Science (SCCS2023) in University of Cambridge; 28<sup>th</sup> – 30<sup>th</sup> March 2023.
7. Sarmishta Mukhopadhyay joined the lab of Dr. Gautam Sethi at the National University of Singapore as a visiting scholar for a tenure of 1 year (2023 – 2024) to perform some collaborative experiments.

## **FELLOWSHIP**

1. 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- Bioinformatics).
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. Consultant Research Scientist at ABP Ltd. Kolkata. [2016 - 2019]
6. APT Software Pvt Ltd. Kolkata (2010 to 2012) [Consultant for DBT - BIRAC - training program]

## **FUNDING**

1. Recipient of INTRAMURAL RESEARCH GRANT FROM St. Xavier's College (Autonomous), Kolkata for two consecutive years - 2023 and 2024 [ Total – 2 lakh 10 thousand]
2. 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)



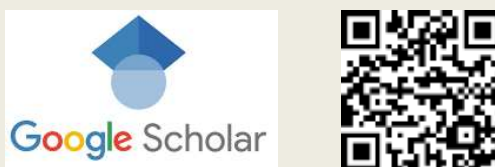
# COMPLETED PROJECTS

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 - 30Lakhs.
2. West Bengal Biodiversity Board on “Mango Germplasm Conservation” (2017 - 2020); 3 years – 10 Lakhs.
3. “Identification of major pathogenic microbes in hospital effluents using metagenomic screening and design of potent inhibitors using virtual screening of medicinal plant library against them” funded by Department of Science and Technology and Biotechnology, Government of West Bengal: 3 years [13.99 lakhs][Role– Co-PI; with Dr. Mahashweta Mitra Ghosh as PI]

## DATABASE ACCESSIONS



## PUBLICATIONS



## SOCIAL MEDIA



@GanguliS01

## MEMBERSHIPS



## PHOTO GALLERY



- 1) @ISBT2023; 2) @ANSI-SXC workshop; 3) @FDP\_2022; 4) @Launch of Proceedings of ICCGC\_2022; 5) @ICCGC\_2022\_SXC; 6) @Chiasma\_2022; 7) @Field Trip on Ethnic Tribes; 8) @DBT\_LBC workshop; 9) @Field trip @IndianSunderbans; 10) @Core Area\_IndianSunderbans; 11) @XPL2022; 12) @XPL2023