

Upalabdha Dey

PHD CANDIDATE

Dept of Molecular Biology and Biotechnology, Tezpur University

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I specialize in the dynamic intersection of genomics, statistics, and computational biology. My PhD research delves into the specific modes of DNA-protein interactions, examining DNA's three-dimensional shape, flexibility, and various sequence analysis methods. Additionally, I explore pivotal questions in microbial genomics and metabolic disorders. Passionate about open science and reproducible research, I am dedicated to advancing these principles within the scientific community.

Education

PhD (Molecular Biology and Biotechnology)

TEZPUR UNIVERSITY

2021/02-Present

Tezpur, Assam, India

- Thesis: Data driven approach to decipher the role of DNA-flexibility in Human TF-DNA interaction.

Master of Science (Molecular Biology and Biotechnology)

TEZPUR UNIVERSITY

2017/08-2019/08

Tezpur, Assam, India

- Dissertation: Role of G-quadruplex in prokaryotic regulatory regions

B.Sc Hons in Physiology

CALCUTTA UNIVERSITY

2015/01-2017/04

Kolkata, West-Bengal, India

- Obtained First Class

Skills

Management

RESEARCH GRANT WRITING, PROJECT HANDLING, TRAINING HUMAN RESOURCES

Programming languages

BASH AND SHELL SCRIPTING, R, PYTHON, SQL

Markup languages

MARKDOWN, RMARKDOWN

Version control

GIT, GITHUB

Containerization

DOCKER, SINGULARITY

Others

INKSCAPE, LATEX

Software packaging and distribution

PIP, CONDA, GITHUB WORKFLOW

Genomics

MICROBIAL GENOME ASSEMBLY, HYBRID GENOME ASSEMBLY, CHIP-SEQ

Transcriptomics

RNA-SEQ, scRNA-SEQ

Metagenomics

16S-rRNA, SHOTGUN METAGENOMICS, METAGENOMIC ASSEMBLED GENOMES (MAG)

Workflow management/pipeline

SNAKEMAKE

Databases

NCBI-GEO, ENCODE, ReMAP, JASPAR, CisBP

Achievements

Biotechnology Entrance Test (BET)

CATEGORY-II

DBT-2020

Graduate Aptitude Test for Engineering

PAPER: LIFE SCIENCE (XL); AIR-292; SCORE-619

MHRD-2020

Combined Entrance Examination for Biotechnology (CEEB)

AIR-293

JNU-2017

Joint Admission Test for M.Sc (JAM)

MHRD-2017

Scholarship

SCHOLARSHIP FOR PURSUING M.Sc

DBT-2017-2019

Presentations and workshops

International Conference of On Bioinformatics

InCOB

25/11/2020-29/11/2020

Computer Aided Drug Design for Human Pathogens

Tezpur University

27/06/2019-28/06/2019

2 Days Workshop cum Training Program on Ribosome and Translation Techniques

Tezpur University-DBT

12/03/2020-13/03/2020

MBU 50

MBU

23/01/2023-25/01/2023

Publications

Reverse vaccinology and immunoinformatics approach to design a chimeric epitope vaccine against *Orientia tsutsugamushi*

Heliyon (Elsevier)

DOLLEY, ANUTEE; GOSWAMI, HIMANSHU BALLAV; DOWERAH, DIKSHITA; *DEY, UPALABDHA; KUMAR, ADITYA; HMUAKA, VANLAL; MUKHOPADHYAY, RUPAK; KUNDU, DEBASREE; VARGHESE, GEORGE M; DOLEY, ROBIN;

2024

[HTTPS://DOI.ORG/10.1016/J.HELIYON.2023.E23616](https://doi.org/10.1016/J.HELIYON.2023.E23616)

Adipose tissue macrophage-derived microRNA-210-3p disrupts systemic insulin sensitivity by silencing GLUT4 in obesity

Journal of Biological Chemistry (Elsevier)

PATRA, DEBARUN; RAMPRASAD, PALLA; SHARMA, SHIVAM; *DEY, UPALABDHA; KUMAR, VINOD; SINGH, SATPAL; DASGUPTA, SUMAN; KUMAR, ADITYA; TIKOO, KULBHUSHAN; PAL, DURBA; [HTTPS://DOI.ORG/10.1016/J.JBC.2024.107328](https://doi.org/10.1016/J.JBC.2024.107328)

2024

Discerning the Role of DNA Sequence, Shape, and Flexibility in Recognition by *Drosophila* Transcription Factors

ACS Chemical Biology (American Chemical Society)

MURTHY, SMRITHI; *DEY, UPALABDHA; OLYMON, KAUSHIKA; ABBAS, ESHAN; YELLA, VENKATA RAJESH; KUMAR, ADITYA;

2024

[HTTPS://DOI.ORG/10.1021/ACSCHEMBIO.4C00202](https://doi.org/10.1021/ACSCHEMBIO.4C00202)

Macrophage foam cell-derived mediator promotes spontaneous fat lipolysis in atherosclerosis models

Journal of Leukocyte Biology (Oxford University Press)

BANERJEE, DIPANJAN AND PATRA, DEBARUN AND SINHA, ARCHANA AND CHAKRABARTY, DWAIPAYAN AND PATRA, APARUP AND SARMAH, RAKTIM AND *DEY, UPALABDHA AND DUTTA, RAJDEEP AND BHAGABATI, SARADA K AND MUKHERJEE, ASHIS K AND OTHERS [HTTPS://DOI.ORG/10.1093/JLEUKO/QIAE210](https://doi.org/10.1093/JLEUKO/QIAE210)

2024

Anti-tumor potential of high salt in breast Cancer cell lines

Molecular Biology Reports (Springer Netherlands)

SHARMA, MANOJ AND *DEY, UPALABDHA AND DAS, ANINDHYA SUNDAR AND OLYMON, KAUSHIKA AND KUMAR, ADITYA AND MUKHOPADHYAY, RUPAK [HTTPS://DOI.ORG/10.1007/S11033-024-09925-4](https://doi.org/10.1007/S11033-024-09925-4)

2024

Exploring the multifaceted role of *pehR* in *Ralstonia solanacearum* pathogenesis: enzyme activity, motility, and biofilm formation

Microbiological Research (Urban & Fischer)

SARKAR, SHARMILEE AND YADAV, MOHIT AND *DEY, UPALABDHA AND SHARMA, MANOJ AND MUKHOPADHYAY, RUPAK AND KUMAR, ADITYA [HTTPS://DOI.ORG/10.1016/J.MICRES.2024.127925](https://doi.org/10.1016/J.MICRES.2024.127925)

2024

miR-210-3p promotes obesity-induced adipose tissue inflammation and insulin resistance by targeting SOCS1-mediated NF-κB pathway

PATRA, DEBARUN; ROY, SOUMYAJIT; ARORA, LEENA; KABEER, SHAHEEN WASIL; SINGH, SATPAL; *DEY, UPALABDHA; BANERJEE, DIPANJAN; SINHA, ARCHANA; DASGUPTA, SUMAN; TIKOO, KULBHUSHAN; [HTTPS://DOI.ORG/10.2337/DB22-0284](https://doi.org/10.2337/DB22-0284)

Diabetes (American Diabetes Association)

2023

DNA structural properties of DNA binding sites for 21 transcription factors in the mycobacterial genome

*DEY, UPALABDHA; OLYMON, KAUSHIKA; BANIK, ANIKESH; ABBAS, ESHAN; YELLA, VENKATA RAJESH; KUMAR, ADITYA; [HTTPS://DOI.ORG/10.3389/FCIMB.2023.1147544](https://doi.org/10.3389/FCIMB.2023.1147544)

Frontiers in Cellular and Infection Microbiology (Frontiers Media SA)

2023

The Role of Whole-Genome Methods in the Industrial Production of Value-Added Compounds

OLYMON, KAUSHIKA; *DEY, UPALABDHA; ABBAS, ESHAN; KUMAR, ADITYA; [HTTPS://DOI.ORG/10.1007/978-981-99-2816-3_6](https://doi.org/10.1007/978-981-99-2816-3_6)

Industrial Microbiology and Biotechnology: Emerging concepts in Microbial Technology (Springer)

2023

Genome Sequence of a Wa-Like G3P [8] Rotavirus from a 12-Month-Old Child with Diarrhea in Manipur, India

DEVI, YENGKHOH DAMAYANTI; *DEY, UPALABDHA; KUMAR, ADITYA; SINGH, CHONGTHAM SHYAMSUNDER; NAMSA, NIMA D; [HTTPS://DOI.ORG/10.1128/MRA.01254-21](https://doi.org/10.1128/MRA.01254-21)

Microbiology Resource Announcements (Am Soc Microbiol)

2022

G-quadruplex motifs are functionally conserved in cis-regulatory regions of pathogenic bacteria: An in-silico evaluation

*DEY, UPALABDHA; SARKAR, SHARMILEE; TERONPI, VALENTINA; YELLA, VENKATA RAJESH; KUMAR, ADITYA; [HTTPS://DOI.ORG/10.1016/J.BIOCHI.2021.01.017](https://doi.org/10.1016/J.BIOCHI.2021.01.017)

Biochimie (Elsevier)

2021

Analysis of nucleoid-associated protein-binding regions reveals DNA structural features influencing genome organization in Mycobacterium tuberculosis

SARKAR, SHARMILEE; *DEY, UPALABDHA; KHOHLIWE, TRUST BOITUMELO; YELLA, VENKATA RAJESH; KUMAR, ADITYA; [HTTPS://DOI.ORG/10.1002/1873-3468.14178](https://doi.org/10.1002/1873-3468.14178)

FEBS letters (NA)

2021