Environmental Epigenomics Laboratory

Dr. Pritha Bhattacharjee

Assistant Professor

Address: Environmental Epigenomics Lab, Room No-857, 7th Floor, Department of Environmental, Science, University of Calcutta, 35, Ballygunge Circular Road, Kolkata 700019.

Phone: +91-9432910619;
E-mail: 777.pritha@gmail.com; pbenvs@caluniv.ac.in
ORCiD ID: https://orcid.org/0000-0002-4623-7746

RESEARCH AREAS OF LAB:

A. Epigenetic-genetic-environmental interaction-

1. Epigenetic alterations (histone modifications, promoter methylation, miRNA regulation) in response to chronic arsenic exposure and carcinogenesis.
2. Mito-epigenetics: Epigenetic alterations of mitochondrial DNA and mitochondrial dynamics regulatory genes in response to arsenic toxicity and arsenic-induced cancer.

B. Nutri-epigenetics-

Tea polyphenols and its role in cancer therapy: Epigenetic interplay in health and diseases.

C. Non-communicable lifestyle disorder: Environmental impact and role of epigenetics-

1. Obesity and cardiovascular disease risk in urban-population.
2. Endocrine disrupters and its effect on poly-cystic-ovarian syndrome.

D. Analysis of trace metals and disease risk assessment by in-silico study-

a. Study of trace elements from biological samples (blood, nail and hair samples) using PIXE.
b. *In-silico* analysis of functionally altered genetic variants of target genes to predict risk.

E. Sustainable mitigation strategies for environmental and occupational health hazards-

a. Socio-environmental challenges in waste hair reprocessing workers.
b. Application of spent tea leaves for environmental waste management.

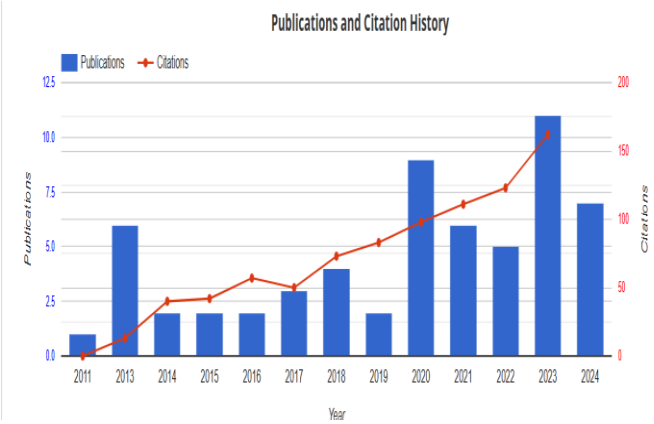
F. Behavioural epigenetics-

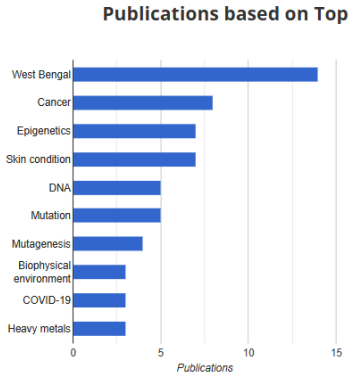
To examine how life experiences of urban-adapted primates are transmuted into persistent changes in body function and behaviour in contrast to their wild brethren.

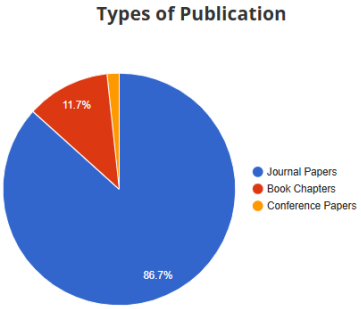
PhD candidates: Awarded-07, Submitted Thesis-04, Registered-04

Publication Record:

ORCiD ID: https://orcid.org/0000-0002-4623-7746
Total publications: 59 (Since 2013)
2024 (7), 2023 (11), 2022 (5), 2021 (6), 2020 (9), 2019 (2), 2018 (4), 2017 (3), 2016 (2), 2015 (2), 2014 (2), 2013 (6)
h-index: 23







Research projects:

- Trace Metal Analysis of Bio-fluids of Tuibur Consumers and Identification of its Cellular, Genetic and Epigenetic Targets - DBT-NER-Twinning Grant
- Nutritional and Environmental Hazards in Non- communicable diseases, obesity and cardiovascular risk- UGC-UPE
- Comparative Study of Trace Elements in the Blood and Buccal Saliva of Arsenicosis and Cancer Patientsusing PIXIE & Its Relation with DNA Damage Progression, UGC-DAE
- Promising Role of Black Tea Polyphenols as Epigenetic Modulator: A New Bridge Between Nutrition and Health; NTRF
- Role of Epigenetic Modifications in Arsenic-Induced Toxicity and Carcinogenicity: with special reference toHistone Modification, DST-Fast track
- Cardiovascular Disease in Children Exposed to Arsenic, Lead and Mercury, SUNY-OSWEGO, NY & Syracuse University (International collaboration)
- Genetic Variation in Multidrug Resistance Gene *(MRP4)* in Arsenic Exposed Population of WestBengal, University of Alberta, Canada