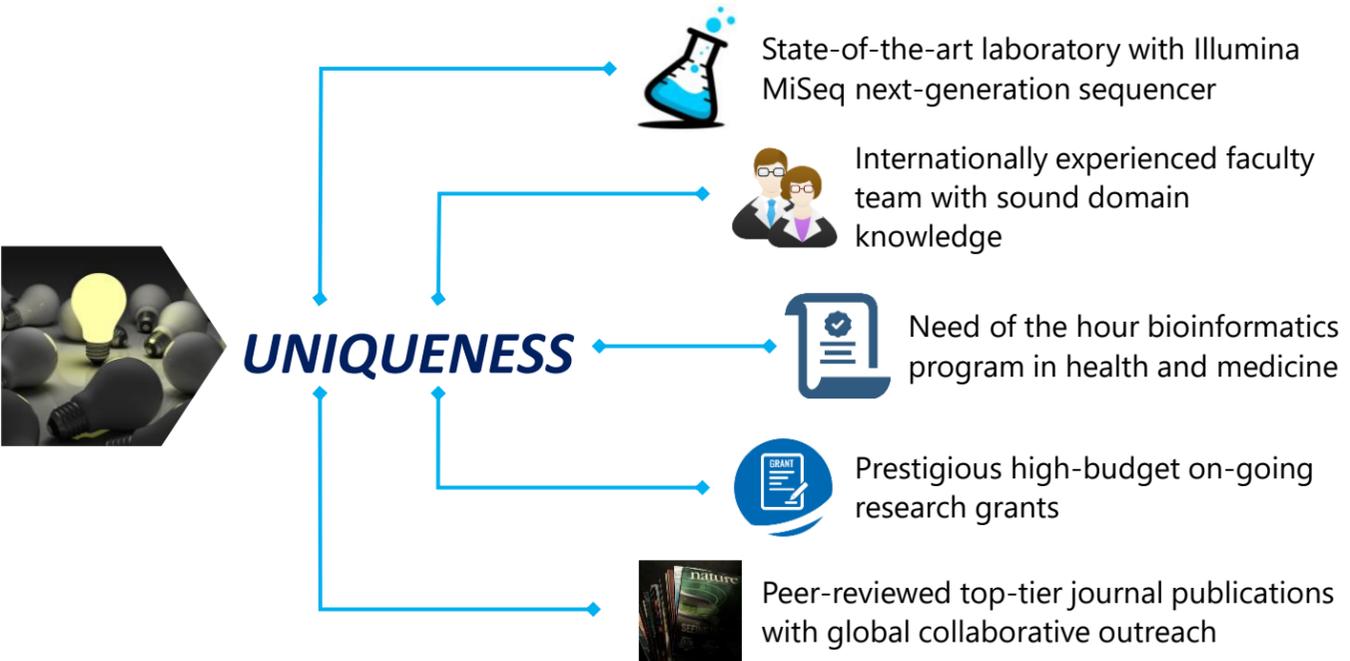


One and only in the eastern zone, rare in India



Research:



Our research-based education system from bench to bedside and back embodies following topics:

- ✓ Bacterial virulence and antibiotic resistance
- ✓ Big data of pathogen evolution in nature
- ✓ Image processing and computer vision
- ✓ Host-pathogen interactions
- ✓ Human microbiome and metagenomics
- ✓ Medical microbiology
- ✓ Medical imaging and machine learning
- ✓ Molecular modelling and drug design

CHeST: On-going Research Grants

Project Title	Investigator(s)	Funding Agency
Automated comprehensive characterization of antibiotic resistance genes from clinical and environmental communities of microbial metagenomes	Dr. Rachana Banerjee Dr. Kausik Basak	ICMR India
Elucidation of cyclic-di-AMP signaling pathway in mycobacteria using chemical proteomics and FRET-based biosensors and its therapeutic implications	Dr. Kamakshi Sureka	DBT - Wellcome Trust
Interactions of Intrinsically Disordered Proteins: A Physics-Based Approach	Dr. Debabani Ganguly	DBT India - Ramalingaswami Fellowship
Par1 and Sgg: un-tango-ling microtubule regulation	Dr. Debabani Ganguly	DBT India
Adaptive role of truncation mutations in <i>Salmonella</i> virulence evolution	Dr. Sujay Chattopadhyay	DBT India

In-house Facilities:



Add-on:



High performance clusters including latest DELL PowerEdge rack-servers, NVIDIA GPUs and computationally fast processing units to manifest machine learning algorithms into application-based inferences for large biological data with increased throughput

Molecular Genomics Core Facilities:

DNA Sequencing:

- ✓ Small whole genome sequencing
- ✓ ChIP Sequencing
- ✓ Targeted gene sequencing (amplicon-based, gene panel)
- ✓ Targeted Gene Expression Profiling
- ✓ 16S Metagenomic Sequencing

RNA Sequencing:

- ✓ MiRNA Sequencing
- ✓ Small RNA Sequencing

Computational Services:

- ✓ Includes in-depth taxonomic classification, pan-/core-genomic profiling, SNP detection, metabolic profiling, protein functional clustering, gene expression data analysis

