

Dr. Debojyoti Chakraborty

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Current position **CSIR- Institute of Genomics and Integrative Biology (New Delhi)**

Principal Scientist [October 2020 onwards]

CSIR- Institute of Genomics and Integrative Biology (New Delhi)

Senior Scientist [October 2016- October 2020]

Faculty of Biological Sciences, Academy of Scientific and Innovative Research

Assistant Professor [February 2017 onwards]

Academic Affiliations **CSIR- Institute of Genomics and Integrative Biology (New Delhi)**

Scientist Fellow [January 2016- October 2016]

Biotechnology-Zentrum, Medical Faculty, Technical University Dresden

Post Doctoral Researcher [December 2013 – November 2015]

Max Planck Institute of Molecular Cell Biology and Genetics & Technical University, Dresden, Germany

PhD in Molecular Biology, 2014 [Magna Cum Laude]

West Bengal University of Technology, Kolkata, India

Master of Science in Molecular Biology, 2009 [DGPA 8.92, First position]

University of Kalyani, Kalyani, India

Bachelor of Science, 2007 [83%, First position]

Awards **Ananda Mohan Chakraborty Gen. Eng. Inspiration Award, Institute of Genetic Engineering [2023]**

Elected Member, Guha Research Conference [2022]

CSIR Technology Award, Council for Scientific and Industrial Research [2021]

EMBO Young Investigator, European Molecular Biology Organization [2020]

VASVIK Award in Life Sciences and Technology [2020]

Young Scientist Award, Indian National Science Academy (INSA) [2020]

Young Scientist Award, Council for Scientific and Industrial Research [2020]

Young Scientist Award, Merck [2019 and 2020]

Young Investigator Award, Lady TATA Trust [2019]

Wellcome Trust India Alliance Early Career Fellowship (not activated) [2016]

INSPIRE Faculty Award, Department of Biotechnology, India (not activated) [2015]
German Stem Cell Network Travel Award, Frankfurt, Germany [2015]
German Stem Cell Network Conference Poster Prize, Heidelberg, Germany [2014]
Nucleic Acids Research Poster Prize, Heidelberg, Germany [2014]
Dresden International Graduate School Travel Award, Dresden, Germany [2012]
Future of Science Foundation Scholarship, Keystone Symposia, Utah, USA (2012)
University merit scholarship, West Bengal University of Technology, Kolkata, India [2008]
Lindau Meeting of Nobel Laureates Award, DST (India) and DFG (Germany) [2007]

Membership
(past & present)

DBT Expert Committee on mRNA Therapeutics
DBT Expert Committee on Cell and Gene Therapy
Mission Lead, National Sickle Cell Anemia Clinical Trial (DST and Ministry of Tribal Affairs)
Ethics Committee, AIIMS, Kalyani
Proposal Review Committees, ICMR
Ad Hoc Reviewers in Biosensors and Bioinformatics, Nucleic Acid Research, Science Advances, Nature Medicine etc.

TOBF1 modulates mouse embryonic stem cell fate through regulating alternative splicing of pluripotency genes

Meghali Aich, Asgar Hussain Ansari... Debojyoti Chakraborty# **Cell Reports** [2023]

Combination of engineered FnCas9 and extended gRNAs for PAM-flexible, robust and nucleobase specific editing and diagnostics

Sundaram Acharya, Asgar Ansari... Souvik Maiti and **Debojyoti Chakraborty#**. **Research Square** (2023)

CrISNPr, a single interface for the curated and de novo design of gRNAs for CRISPR diagnostics using diverse Cas systems.

Asgar Hussain Ansari, Manoj Kumar, Sajal Sarkar, Souvik Maiti and **Debojyoti Chakraborty#**. **eLife** (2023).

FnCas9 Editor Linked Uniform Detection Assay for COVID 19.

Rhythm Phutela, Sneha Gulati, Souvik Maiti and **Debojyoti Chakraborty#**. **Multiplex Biomarker Techniques, Springer** (2022).

FnCas9 based CRISPR diagnostic for rapid and accurate detection of major SARS- CoV2 variants on a paper strip.

Manoj Kumar, Sneha Gulati,... Souvik Maiti and **Debojyoti Chakraborty#**. **eLife** (2021)

Low-cost CRISPR diagnostics for resource- limited settings

Sneha Gulati, Souvik Maiti and **Debojyoti Chakraborty#**. **Trends in Genetics** (2021)

Rapid identification and tracking of SARS-CoV-2 variants of concern

Debojyoti Chakraborty*, Anurag Agrawal and Souvik Maiti. **The Lancet** (2021)

Rapid, field-deployable nucleobase detection and identification using FnCas9

Mohd. Azhar, Rhythm Phutela, Manoj Kumar, Asgar Hussain Ansari, Riya Rauthan, ... **Debojyoti Chakraborty#**, Souvik Maiti#. **Biosensors and Bioelectronics** (2021)

Voices of Biotech Research

Annabi N, Baker M, Boettiger A, **Chakraborty D**,... Wang J. **Nature Biotechnology** (2021)

TUTase mediated site-directed access to clickable chromatin employing CRISPR-dCas9

Jerrin Thomas George, Mohd. Azhar, Meghali Aich, Dipanjali Sinha, Uddhav B. Ambi, Souvik Maiti#, **Debojyoti Chakraborty#**, Seergazhi Srivatsan#. **JACS** (2020)

Francisella novicida Cas9 interrogates genomic DNA with very high specificity and can be used for mammalian genome editing

Sundaram Acharya, Arpit Mishra, Deepanjan Paul.. **Debojyoti Chakraborty**. **PNAS** (2019)

RNA G-quadruplex mediated structural enhancement of CRISPR-Cas9 based genome editing

Smita Nahar, Paras Sehgal.. **Debojyoti Chakraborty#** and **Souvik Maiti#**. **Chemical Communications** (2018)

LncRNA *Pancf1* maintains mouse embryonic stem cell identity by recruiting TOBF1 to Oct-Sox sequences in early G1

Debojyoti Chakraborty, Maciej Paszkowski-Rogacz, Nicolas Berger, Li Ding, Jovan Mircetic *et al.* **Cell Reports** (2017)

CRISPR/Cas9: a historical and chemical biology perspective of targeted genome engineering

Amrita Singh, **Debojyoti Chakraborty#**, and **Souvik Maiti#**. **Chem. Soc. Rev.** (2016)

Inactivation of cancer mutations utilizing CRISPR/Cas9

Christina Gebler, Tim Lohoff, Maciej Paszkowski-Rogacz, Jovan Mircetic, **Debojyoti Chakraborty et al.** *Journal of the National Cancer Institute* (2016)

Directed evolution of Brec1: A broad-range recombinase that inactivates HIV-1 in patient-specific humanized mice

Janet Karpinski, Ilona Hauber, Jan Chemnitz, Carola Schäfer, Maciej Paszkowski-Rogacz, **Debojyoti Chakraborty** *et al.* **Nature Biotechnology** (2016)

Targeting Human Long-Noncoding Transcripts by Endoribonuclease-prepared siRNAs

Mirko Theis, Maciej Paszkowski-Rogacz, Ina Weisswange, **Debojyoti Chakraborty**, Frank Buchholz. **Journal of Biomolecular Screening** (2015)

Systems Analyses Reveal Shared and Diverse Attributes of Oct4 Regulation in Pluripotent Cells

Li Ding, Maciej Paszkowski-Rogacz, Maria Winzi, **Debojyoti Chakraborty**, Mirko Theis *et al.* **Cell Systems** (2015)

Universal Tre (uTre) recombinase specifically targets the majority of HIV-1 isolates

Janet Karpinski, Jan Chemnitz, Ilona Hauber Josephine Abi-Ghanem, Maciej Paszkowski-Rogacz, Vineeth Surendranath, **Debojyoti Chakraborty** *et al.* **Journal of the International AIDS Society** (2014)

Combined RNAi and localization for functionally dissecting long noncoding RNAs

Debojyoti Chakraborty, Dennis Kappei, Mirko Theis, Anja Nitzsche, Li Ding, Maciej Paszkowski-Rogacz *et al.* **Nature Methods** (2012)

#co- corresponding authors

Personal Details

Date of birth : 28th August 1985

Nationality : Indian