

Faculty of Life Sciences and Biotechnology

Expert Seminar Series

Title of the talk:

Harnessing AI and
Transcriptomics to Solve
Oncology Grand Challenges

By

Dr. Debarka Sengupta

Associate Professor of Computational
Biology & Computer Science at
IIIT-Delhi and an honorary Associate
Professor at the Queensland University
of Technology-Brisbane



23rd August 2024 at 3:30 p.m.

Venue: LS 001, Ground Floor

All are cordially invited

Abstract:

In the world of cancer care, early diagnosis and personalized treatments are top priorities. Our recent work combines the power of single-cell/bulk transcriptomics and artificial intelligence to analyze cancer cells, circulating tumor cells (CTCs), and tumor-educated platelets (TEPs). This interdisciplinary approach has allowed us to create models that tackle crucial challenges, including identifying cancer and assessing drug resistance. Join us in this presentation as we explore practical ways to use technology in addressing important clinical issues and share key findings from our research.

About the Speaker:

Dr. Debarka Sengupta is an Associate Professor of Computational Biology and Computer Science at IIIT-Delhi and an honorary Associate Professor at the Queensland University of Technology-Brisbane. Jointly affiliated with the Departments of Computational Biology and Computer Science, he led India's first research program in single-cell genomics at IIIT-D, where his laboratory introduced big data algorithms to expedite the analysis of large-scale single-cell omics data. As a scientific co-founder at multiple technology startups, Dr. Sengupta has developed and commercialized numerous technologies. Currently, he heads the Infosys Center for Artificial Intelligence, which is at the forefront of AI research in India and is also Institute Chair Professor. His doctoral and post-doctoral research was conducted at the Machine Intelligence Unit of the Indian Statistical Institute and the Genome Institute of Singapore, respectively. Recognized for his pioneering work, Dr. Sengupta received the INSPIRE Faculty Award in 2015, the 2022 INAE Young Innovator and Entrepreneur Award, the 2023 Merck Young Scientist Award, and became a Fellow of NASI in 2023. He has also been awarded the 2024 Humboldt Research Fellowship for Experienced Researchers. His lab has invented and commercialized a panel of eleven platelet genes to track the early onset of cancer, further solidifying his impact on the field.