

Title

When biomedical challenges seem insurmountable, dial D for *Drosophila*

Pradip Sinha

Professor Emeritus
Biological Sciences and Bioengineering
Indian Institute of Technology Kanpur

Abstract

The tiny fruit fly, *Drosophila melanogaster*, has become an unlikely hero in modern biomedical research. Although its body plan looks simple, its genes tell a different story—most of the genes that control human development and disease have close counterparts in the fly. This surprising genetic similarity allows researchers to use *Drosophila* as a living test system to explore how diseases begin and how they might be treated.

In this talk, I will show how fly models in our laboratory help uncover hidden mechanisms of cancer and identify potential drug targets. I will also describe how the same approach, applied to genes of the COVID-19 virus, reveals new clues to how the infection damages cells and how future therapies might work.