

## NCBS scientist Dr Anjana Badrinarayanan wins Infosys Prize 2025 for pioneering work on genome repair

12 November 2025 | News

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Dr Anjana Badrinarayanan, Associate Professor at the National Centre for Biological Sciences (NCBS), Bengaluru, has been awarded the Infosys Prize 2025 in Life Sciences for her groundbreaking research on the mechanisms of genome maintenance and repair, work that has significantly advanced the understanding of how living cells protect and preserve their genetic material.

The award was announced by the Infosys Science Foundation (ISF), recognising six outstanding young researchers under the age of 40 across major scientific disciplines. The Infosys Prize, among India's most prestigious recognitions for research excellence, includes a gold medal, a citation, and a cash award of \$100,000 (or its equivalent in Rs).

Dr Anjana was selected by a jury chaired by Prof. Mriganka Sur, Newton Professor of Neuroscience at the Massachusetts Institute of Technology (MIT), who praised her for "revealing fundamental principles of how DNA damage is repaired and how cells maintain genome stability through innovative live-cell imaging and genetic approaches."

Her research has uncovered new mechanisms by which non-dividing cells repair DNA damage, and identified novel pathways of mitochondrial DNA damage response, shedding light on how genomes maintain integrity across diverse cellular states. These discoveries have profound implications for understanding diseases linked to genome instability, including

cancer and neurodegeneration.

"Dr. Badrinarayanan's discoveries represent a major leap in our understanding of genome stability," said Prof. Mriganka Sur, adding that her work exemplifies the kind of "innovative, cross-disciplinary science that pushes the boundaries of biology." Dinesh, President of the Infosys Science Foundation, congratulated the laureate, saying "Her achievements underscore the importance of fundamental research in shaping the future of biomedical science. The Infosys Prize celebrates such excellence, which not only advances global knowledge but also inspires young scientists in India to aim high."

A graduate of the University of Cambridge, Dr Anjana joined NCBS after postdoctoral research at Harvard University. Her lab integrates genetics, cell biology, and advanced microscopy to visualize DNA repair processes in real time, uncovering how cells respond to genetic damage and maintain stability in challenging conditions.

Her pioneering contributions have placed India at the forefront of global research in genome dynamics, with potential applications ranging from improving our understanding of evolution to informing therapeutic strategies against genetic diseases.

Since 2009, the Infosys Prize has honoured leading researchers for their contributions to science and scholarship. In 2024, the Foundation shifted focus to highlight researchers under 40, underscoring the need for early recognition of exceptional talent in India's growing research ecosystem.

Alongside Dr Anjana, the 2025 Infosys Prize recognised laureates in Economics, Engineering and Computer Science, Humanities and Social Sciences, Mathematical Sciences, and Physical Sciences.