

Shekhar Chintamani Mande

Structural and Computational Biologist



BORN ON 5TH APRIL, 1962, IN PUNE

Get ready to be inspired by Dr. Shekhar Chintamani Mande, a brilliant Indian scientist who has been at the forefront of understanding life's building blocks and battling big health challenges like tuberculosis. His work has fundamentally advanced how we figure out the tiny structures of things like bacteria and how we can find new ways to fight diseases, paving the way for crucial medical breakthroughs and strengthening India's scientific leadership globally.

Unlocking Life's Blueprints

Dr. Mande is a master of structural biology, which is like being a detective for proteins – the tiny machines that make our bodies work and also allow bacteria to survive. He used advanced techniques like **X-ray crystallography** to literally "see" the shapes of these proteins, especially those from **Mycobacterium tuberculosis**, the germ that causes TB. His work revealed how crucial bacterial proteins, like **chaperonins**, help the

TB bug survive inside us. Understanding these shapes is key to finding new ways to stop the disease.

Beyond the Microscope: Digital Biology

Dr. Mande did not just stop at looking at tiny structures. He is also a pioneer in **computational biology**, using powerful computers to analyze huge amounts of biological data.

He developed tools to map out **protein-protein interactions** – how these tiny machines talk to each other within a cell. This helps us understand complex biological networks and pinpoint weaknesses in disease-causing organisms.

A Leader for India's Science

Dr. Mande's impact extends far beyond the lab. As a key figure in India's science policy and administration, he has helped guide our nation's research efforts, even playing a crucial role in India's COVID-19 response! His dedication to science communication ensures that complex discoveries reach everyone.

He has been honored with prestigious awards like the **Shanti Swarup Bhatnagar Prize (2005)**, a testament to his groundbreaking contributions.

Dr. Mande's work truly bridges biology and technology, inspiring young minds to explore how understanding the smallest parts of life can lead to the biggest breakthroughs for our country and the world!