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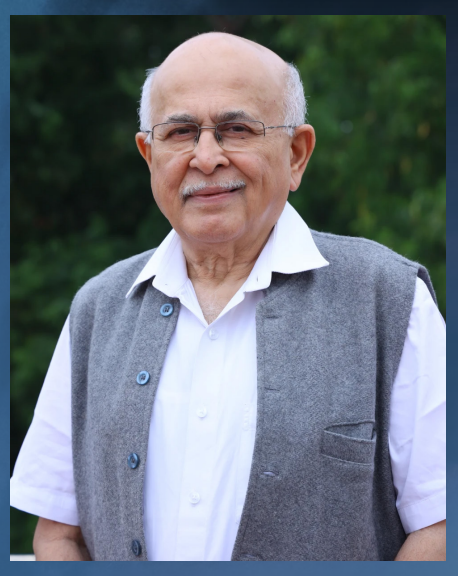
TATA INSTITUTE OF FUNDAMENTAL RESEARCH

ICTS MONTHLY COLLOQUIUM

How do we tackle the resurgent drug-resistant tuberculosis?

Tuberculosis continues to be a global health problem with several million new cases added annually and two million deaths every year. The emergence of multiple and total drug-resistant strains of Mycobacterium tuberculosis (the bacteria that causes TB) has resulted worldwide efforts to combat the disease using a variety of strategies. I will describe some of these efforts including our own. Our approach is to understand the pathogen biology to develop inhibitors that kill the pathogen. By employing a combination of approaches- genetics, biophysics, molecular and cell biology, we have investigated the importance of several essential proteins needed for survival of mycobacteria. To understand their cellular role, and to target them, we have either developed inhibitors that curtail bacterial growth or constructed knock down strains to down regulate their expression and disturb cellular function. These genetic and chemical perturbations have revealed hidden secrets of the pathogen's success facilitating newer intervention strategies



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Prof. V. Nagaraja is an Honorary Professor at the Microbiology and Cell Biology Department, IISc, Bangalore. Professor Nagaraja's major research interests are DNA topoisomerases, topology modulation, regulation of gene expression to understand the underlying molecular mechanisms and their importance in cellular function. Prof. Nagaraja completed his PhD in 1981 from IISc and carried out his postdoctoral research work at Biozentrum, University of Basel and the University of Rochester. He has been the recipient of several awards and honors including the Shanti Swarup Bhatnagar Award, G.N Ramachandran Gold medal, J C Bose Medal of INSA, IISc Alumni Award for Excellence in Research, Sir Visveswariah senior scientist award Goel Prize, TWAS Prize in Biology, etc. He is a fellow of the Indian National Science Academy, Indian Academy of Sciences, National Academy of Sciences, TWAS, and a life member of various professional Societies.

3:30 PM, 18th Feb 2025

Zoom link: https://shorturl.at/kzfj6
Meeting ID: 980 6699 0169
Passcode: 181819

Madhava Lecture Hall ICTS, Bengaluru