

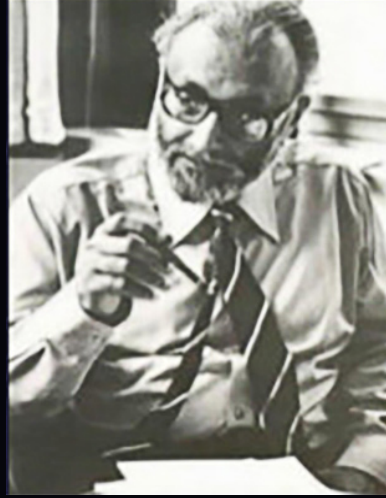


INTERNATIONAL
CENTRE for
THEORETICAL
SCIENCES

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

ABDUS SALAM MEMORIAL LECTURES

Abdus Salam is one of the creators of the Standard Model of Elementary particles. He won the Nobel Prize in 1979 with Sheldon Glashow and Steven Weinberg. Besides his extensive contributions to physics, he created the International Centre for Theoretical Physics in Trieste, Italy, with the mission of promoting science in the developing world. The Abdus Salam Memorial Lectures are delivered by eminent personalities on their area of specialization and are aimed at a general audience.



NETWORKS AND MYCOBACTERIUM TUBERCULOSIS

Tuberculosis has been and remains to be one of deadliest diseases of the mankind. Caused by the bacterium, *Mycobacterium tuberculosis*, currently faces the challenge of prevention, early detection and effective control. Our laboratory has been working in understanding the biology of this organism using various Biophysical and Biochemical methods. One of our interests has been to study genome-wide protein: protein interactions and then through applications of graph theory, address various questions. We have been able to propose the mechanisms of its mode of entry into dormancy through a combination of such a study of interactions and Boolean modeling. We have also proposed methods to study differential gene expressions, especially to delineate role of various control factors. More recently, by measuring the concentrations of metabolites, we have attempted to understand its adaptation to various environmental conditions. Through these studies, exciting and valuable insights have been obtained. In my lecture, I will try to present the methodologies behind these results.

SHEKHAR C. MANDE

(Director General of the Council of Scientific and Industrial Research (CSIR) and Secretary, Department of Scientific and Industrial Research (DSIR), Govt of India)

4 pm, 30 April 2019
CHANDRASEKHAR AUDITORIUM,
ICTS, BENGALURU



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