



Department of Biochemistry School of Life Sciences University of Hyderabad

Cordially invites you to

lecture on

Structure and mechanism of respiratory complex I

By

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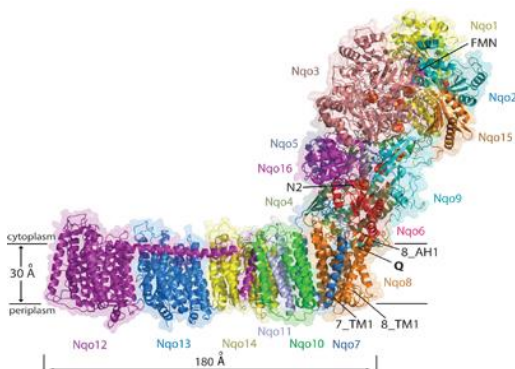
VENUE: Seminar Hall, SLS

Time: 5:00-6:00pm



Sazanov Group has a long-standing interest in the structural biology of membrane proteins, especially those from the domain of bioenergetics.

Most energy in humans is produced in the form of ATP by the mitochondrial respiratory chain consisting of several protein assemblies embedded into lipid membrane (complexes I-V). The main emphasis in the group's research so far has been on complex I, a huge (up to 1 MDa) enzyme central to cellular energy production, one of the basic foundations of life. Mutations in complex I subunits lead to many human neurodegenerative diseases, and the enzyme is also involved in many common pathologies, including cancer. They have determined all known full atomic structures of complex I, followed recently by the mammalian complex I, the largest asymmetric membrane protein solved to date, with 78 transmembrane helices. The structures allowed for the interpretation of over 50 years of functional data.



Structure of the entire complex I
from *T. thermophilus*