



**Prof. Nihar Ranjan
Jana**
FNASc

KT Shetty Memorial Oration

KT Shetty Memorial Oration was instituted in recognition of impeccable scientific contributions of Professor KT Shetty in the field of Neuroscience.

The award is bestowed to mid career neuroscientist for his/her meritorious contributions to the field

Dr. Nihar Ranjan Jana presently working as Scientist VI at National Brain Research Centre, Manesar. Dr. Jana obtained his Ph.D. from Visva-Bharati University in 1996. After completing his Post Doctoral training at RIKEN Brain Science Institute, Japan, he joined NBRC in 2001.

His laboratory is primarily interested in exploring the role of E3 ubiquitin ligases (an important regulatory enzyme in ubiquitin-proteasome system) in cellular protein quality control and how loss of function of quality control ubiquitin ligases lead to neuronal dysfunction or neurodegeneration observed in various neurological disorders.

His laboratory have shown that ubiquitin ligase Ube3a function as cellular protein quality control ubiquitin ligase and therefore may be implicated in the biology of neurodegenerative disorders involving protein aggregation. Using Huntington's disease as model they have demonstrated that Ube3a promotes the clearance of mutant disease proteins and thereby rescue neurodegeneration. They have further found that removal of Ube3a from Huntington's disease mice brain increases aggregates load and accelerates disease progression. These finding indicates that Ube3a might be a potential therapeutic target not only for Huntington's disease or also other neurodegenerative disorders involving protein aggregation.

His laboratory also demonstrated defect in the cellular protein quality control system in Lafora disease (a progressive myoclonus epilepsy). They have also identified a novel target of Lafora disease ubiquitin ligase, malin that could provide new insight in understanding the disease pathogenesis.

His group also trying to identify novel targets of Ube3a that could explain its potential link with autism and Angelman syndrome (an autism spectrum disorder). They have found that Ube3a-maternal deficient mice (model mice for Angelman syndrome) are under chronic stress because of defective GR signaling and chronic stress could lead to cognitive deficits and increased anxiety like behaviour in these mice.

Dr. Jana is elected fellow of National Academy of Sciences, India and West Bengal Academy of Science and Technology. He is a recipient of DBT's National Bioscience Award for (2008).