Citation (summary) on the outstanding research work on which award is claimed in about 250 words **signed** by the nominator.

Nominee: Prof. Kaustuv Sanyal

Prof. Sanyal's pioneering work on human fungal pathogens helped traced the trajectory of centromeres during evolution.His work revealed that despite performing a conserved biological function of chromosome segregation, centromeres are species-specific and centromere DNA sequences are rapidly evolving. His landmark discoveries on the structure, function, and evolution of the centromere-kinetochore complex are exemplary and has significantly improved our understanding of the molecular determinants of this key chromosomal functional domain. Through a combination of biochemical, genetic, and genomic approaches, Prof. Sanyal and his colleagues opened new research frontiers by identifying factors, in addition to DNA sequence, that define centromere structure and function. His elegant research demonstrates that spatial proximity and high DNA sequence homology make centromeres a nexus of inter-chromosomal rearrangements. By improving the genome assembly of various fungal pathogens including the ones that are more prevalent in tropicalis countries like India, Prof. Sanyal's findings contribute a quantum leap in our understanding of genome stability and have defined key molecular events leading to the emergence of new pathogenic species – including the basis of aneuploidy and its link to antifungal drug resistance.

(Prof. M.R.S.Rao)