

Mitali Mukerji

Genome variation and human disease susceptibility
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Mitali Mukerji, a senior scientist at the Institute of Genomics and Integrative Biology works in the broad area of Genomics and Molecular Medicine. Dr. Mitali's discovered the role of DNA hairpin in regulation of cryptic operon in *E.coli*, during her doctoral research at the Indian Institute of Science in Bangalore. At IGIB, she has been instrumental in the setting up the genomics initiative and has made important contributions in the area of population genomics, hereditary ataxias and role of repetitive sequence in genome organization and function. All her projects primarily aim at identifying informative and predictive markers for disease predisposition. Her group has provided insights into the mechanism and origin of triplet repeat expansion in hereditary ataxias and identified founders for different ataxias like SCA1, SCA2, SCA3 and SCA12 in the Indian population. Her group has also carried out extensive genome wide informatics analysis of primate specific Alu repeats in human and have demonstrated how these elements could create novel regulatory networks in human. She has been the convener of the Indian Genome Variation (IGV), a CSIR consortium initiative which has recently completed the development of an Indian Genome Variation database which houses variability information in over 1000 genes from diverse Indian populations. She has also demonstrated how this basal data can be used for dissecting disease genes, identifying signatures of selection, tracing mutational histories and also for pharmacogenomics studies. Presently, she has concerted her efforts at integrating genomics with principles of Ayurveda, an ancient system of predictive and personalized medicine and initiated a new field of Ayurgenomics. She has been recipient of a number of national awards, the CSIR Young Scientist's Award (2001), DBT young woman scientist award (2008) and Shanti Swarup Bhatnagar award (2010) and has been nominated Human Genome Organization (HUGO) member in 2006.