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VENUE Silver Jubilee Hall (maximum occupancy 35)		LINK

TITLE


Genome Diversity in Asia

ABSTRACT

In spite of the incredible diversity of Asian populations, large-scale and in-depth characterization of Asian genome variation has not been attempted. Towards this characterization, we have completed the first stage of the Genome Asia 100K project with the ultimate goal of providing a rich resource for precision medicine. In this first phase we focused on population isolates to capture a broad swath of genetic diversity across the continent. We have characterized the genomes of 1,739 individuals, including 1,236 newly sequenced genomes, representing 64 countries and more than 200 ethnic groups. We identified 63 million SNPs, 29 million of which have not been previously described, and nearly 4 million indels. Analysis revealed correlates of extinct hominid admixture with present day social structure in South Asia. We also identified admixture events in Southeast Asia that shed light on where modern humans interacted with denisovans during their migrations into the area. To evaluate the eventual value of a population-scale catalogue of Asian variants to precision medicine and molecular diagnostics, we generated pharmacogenomics predictions, identified Asian specific or enriched disease alleles and demonstrated the value of using Asian allele frequency filters in disease gene discovery.

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SPEAKER *Prof. Partha P. Majumder, National Institute of Biomedical Genomics, India*



Prof. Partha Pratim Majumder is the Director of the National Institute of Biomedical Genomics, Kalyani (near Kolkata). He is also a Professor at the Indian Statistical Institute and the Indian Institute of Science Education & Research, Kolkata. He obtained his Bachelor's, Master's and Doctoral degrees from the Indian Statistical Institute. He did his post-doctoral research at the Center for Demographic & Population Genetics, University of Texas Medical Center, Houston. He has served on the faculty of the Department of Biostatistics and Human Genetics of the University of Pittsburgh. His major scientific interests and contributions have been in the field of human population genetics and genetics of complex human disorders. He is an elected Fellow of all the three science academies of India. He has served on the Board of Directors of the International Genetic Epidemiology Society (IGES), and was the founding Chair of the ELSI Committee of IGES. He is a Member of the Human Genome Organisation. He is a recipient of many awards and medals, including the TWAS (The Academy of Sciences for the Developing World) Biology Prize – 2009, G.D. Birla Award for Scientific Research – 2002, Shri Om Prakash Bhasin Award in Biotechnology – 2001, Ranbaxy Research Award in Applied Medical Sciences – 2000, and the New Millennium Science Medal, Government of India, 2000.