AVESTHAGEN LIMITED PRESENTS ITS WORK ON PERSONALIZED EPIGENOMIC SCREENING AT LONDON CALLING 2021

Avesthagen Limited showcased its recent outcomes on personalized epigenomic sequencing using Nanopore sequencing platform to study methylation in ageing and disease. Avesthagen's Founder & CMD, Dr. Villoo Morawala Patell and Senior Research Scientist, Dr. Kashyap Krishnasamy presented The Avestagenome Project™ and results of the linkage between epigenome-genome interactions during ageing in the Breakout session 'Epigenetics & human disease' as part of the "Human and Clinical research" track.

Ageing is driven by a complex web of processes involving mutations in the genome as well as epigenetic changes. To investigate the interplay of these changes over time and their effects on critical cell processes associated with ageing, the Avesthagen team performed long-read Nanopore sequencing of PCR-free DNA, from human genomic samples taken 12 years apart. Comparisons of these samples' specific mutations and their methylation profiles helped shed light on the physiological processes driving ageing, and the role played by dynamic methylation.

Nanopore sequencing has been shown to provide reliable results for analysis of the dynamic methylome. Our current study provides additional insight into the ageing methylome over time and the interplay between different methylation and gene variants in the etiology of disease. Analysis indicated a critical cluster of 10 genes that were each significantly methylated and had variants at the CpG site or the ±4 bp CpG region window impacting biological processes regulating the immune system, disease networks implicated in cancer and neurodegenerative diseases, and transcriptional control of processes regulating cellular senescence and longevity.

Dr. Villoo Morawala Patell, says: "It was a great honour to speak at London Calling 2021 and highlight the work Avesthagen Limited is doing with Oxford Nanopore Technologies long-read sequencing platform for analysis of the unique Zoroastrian Parsi genome cohort collection. Our mission is to deliver disease relevant, validated prognostic biomarkers using a systems biology study of prevalent diseases in the Parsi population, with special reference to cancers (breast cancer, prostate cancer), neurodegenerative disorders (Alzheimer's disease, Parkinson's disease), cardiovascular disorders, female infertility), autoimmune diseases (rheumatoid arthritis) and heritable rare disorders."

Avesthagen Limited is committed to sharing knowledge on this unique population genetics study and will continue to collaborate, share new insights and discoveries as part of our pledge to ensure better health outcomes for all. London Calling is a virtual 2-day event, hosted by Oxford Nanopore Technologies. This year's event included 5,500 registered delegates and international speakers across human translational research, SARS-CoV-2 & genetic epidemiology, bioinformatics, microbiology & metagenomics and plant & animal research.

Please click to listen to Dr. Villoo Morawala Patell and Dr. Kashyap Krishnasamy share the research. CLICK HERE to read the full study: **Dynamic methylome modification is associated with mutational signatures in aging and the etiology of disease.**