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NTU-Led Study: Asia Was Longest Early Human Migration

An international genomics study led by scientists from NTU Singapore at the Singapore Centre for Environmental Life Sciences Engineering (SCELSE) and Asian School of the Environment (ASE) has shown that early Asians made humanity's longest prehistoric migration.

These prehistoric humans, roaming the earth over ten thousand years ago, would have traversed more than 20,000 kilometres on foot from North Asia to the southernmost tip of South America.

This journey would have taken multiple generations of humans, taking thousands of years. In the past, land masses were also different, with ice bridging certain portions that made the route possible.

Supported by the GenomeAsia100K consortium, the study was published this week in Science, which analyses DNA sequence data from 1,537 individuals representing 139 diverse ethnic groups.

The study involved 48 authors from 22 institutions across Asia, Europe and the Americas.

The researchers traced an ancient migratory journey that began in Africa, proceeded through North Asia and ended at Tierra del Fuego in modern-day Argentina, which is considered the final boundary of human migration on Earth.

By comparing patterns of shared ancestry and genetic variations that accumulate over time, the team was able to trace how groups split, moved, and adapted to new environments.

These patterns allowed the team to reconstruct ancient migration routes and estimate when different populations diverged.

The reconstructed routes gave a detailed picture of how early humans reached the far edge of the Americas, and the findings suggested that this pioneering group overcame extreme environmental challenges to complete their journey across millennia.