OIST Okinawa Institute of Science and Technology Graduate University
沖縄科学技術大学院大学

OIST Presidential Lecture

A Neandertal Perspective on Human Origins

Our laboratory works on methods to retrieve DNA from ancient bones and other tissue remains as well as sediments found at archaeological excavations. We take a particular interest in Neandertals, the closest evolutionary relative of present-day humans.
We have generated genomes from a number of Neandertals and also retrieved the genome from a small bone found at this site. Unexpectedly, the bone comes from a hitherto unknown extinct Asian hominin group related to Neandertals, which we named "Denisovans."
We have shown that gene flow occurred among modern human ancestors and different archaic hominins. Consequently, about 2.0% of the genomes of people living outside Africa come from Neandertals while about 4.0% of the genomes of people living in Oceania come from Denisovans. These genetic contributions have consequences today for the immune system, for lipid metabolism, for adaptation to life at high altitudes in the Himalayas, and for susceptibility for diseases such as diabetes. The Neandertal and Denisovan genomes also allow the identification of novel genomic features that appeared in present-day humans since their divergence from a common ancestor with their closest extinct relatives. A future challenge is to identify the subset of these features that contributed to how modern humans developed complex culture, technology and art.

Fri, May 24

Center Bldg. B250
17:00 to 18:30

Prof. Svante Pääbo

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