SORS/WomenInBSC: "African Integrative Genomics: Reconstructing Human Evolution and the Genetic Basis of Complex Adaptive Traits"

Objectives

Abstract:

Africa is the ancestral homeland of all modern human populations within the past 300,000 years. It is also a region of tremendous cultural, linguistic, climatic, phenotypic and genetic. Despite the important role that African populations have played in human history, they remain one of the most underrepresented groups in human genomics studies. A comprehensive knowledge of patterns of variation in African genomes is critical for a deeper understanding of human genomic diversity, the identification of functionally important genetic variation, the genetic basis of adaptation to diverse environments and diets, and for reconstructing modern human origins. African populations practice diverse subsistence patterns (hunter-gatherers, pastoralists, agriculturalists, and agro-pastoralists) and live in diverse environments with differing pathogen exposure (tropical forest, savannah, coastal, desert, low altitude, and high altitude) and, therefore, are likely to have experienced local adaptation. In this talk I will discuss results of analyses of integrative genomic analyses to reconstruct human evolutionary history in Africa as well as the genetic basis of adaption to diverse environments.

Short Bio:
Sarah Tishkoff is the Davidand Lyn Silfen University Professor in Genetics and Biology at the University of Pennsylvania, holding appointments in the School of Medicine and the Schoolof Arts and Sciences. She is also the Director of the Penn Center for Global Genomics & Health Equity in the Department of Genetics.

Dr.Tishkoff studies genomic and phenotypic variation in ethnically diverse Africans. Her research combines field work, laboratory research, and computational methods to examine African population history, the genetic basis of anthropometric, cardiovascular, and immune related traits, and how humans have adapted to diverse environments and diets. She plays an active role as an advocate for the inclusion of ethnically diverse global populations in human genetics and genomics research.
Dr. Tishkoff is a member of the National Academy of Sciences, the National Academy of Medicine and the American Academy of Arts and Sciences. She is a recipient of an NIH Pioneer Award, a David and Lucile Packard Career Award, a Burroughs/Wellcome Fund Career Award, the ASHG Curt Stern Award, the Wilbur Cross medal from Yale and a Penn Integrates Knowledge (PIK) endowed chair. She is President Elect of the American Society of Human Genetics, is on the NAS Board of Global Health and the Scientific Advisory Board for the Packard Fellowships in Science and Engineering, and is on the editorial boards at Cell and PLOS Genetics. Her research is supported by grants from the National Institutes of Health, the Chan Zuckerberg Institute, the American Diabetes Association, and the Pennsylvania Department of Health.

Speakers

Speaker: Sarah Tishkoff, University Professor in Genetics and Biology at the University of Pennsylvania and Director of the Penn Center for Global Genomics & Health Equity in the Department of Genetics.
Host: Marta Melé, Transcriptomics and Functional Genomics Lab Leading Researcher, Life Sciences, BSC