



Hermann J. Muller Award for Contributions to Our Understanding of Genes and Society Award Ceremony and Lecture

Friday, March 6 • 6:30 p.m. • Jordan Hall Room 124



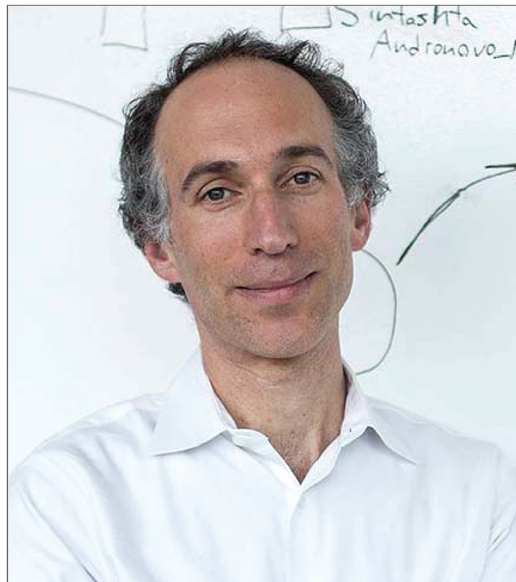
David Reich

Professor of Genetics, Harvard Medical School

Toward a new history and geography of human genes informed by ancient DNA

A measure of importance of a new scientific instrument is the extent to which it challenges previous assumptions and changes our understanding of the world when we turn it to study something that could not previously be studied. In 2010 a new instrument gave us the ability to generate genome-scale data from ancient human remains, making it possible to ask and answer questions about the deep past that were simply not possible to address before: how people are related to each other, the extent to which changes evident in the archaeological record were propelled by movements and mixtures of people, and how adaptation of human populations occurred over time.

New evidence shows that modern humans are a mixture of multiple highly differentiated populations that co-existed more than 50,000 years ago: most of our ancestors are African modern humans, but outside of Africa, people today also inherit substantial ancestry from Neanderthals and an archaic group, the “Denisovans,” that was unknown prior to ancient DNA. New evidence shows that “white people” are a mixture of at least four populations that 10,000 years ago were as different from each other as Europeans and East Asians. Reich will discuss how large scale movements of people from north of the Black and Caspian Sea made a major impact on the populations of Europe and South Asia. He will also discuss how ancient DNA studies around the world are making an impact on our understanding of the human past. The application of ancient DNA technology is opening up new avenues for dialogue between the sciences and the humanities. Reich will share the (still unrealized) promise of ancient DNA studies to reveal as much about the nature of biological adaptation as it has revealed about history.



David Reich | Kayana Szymczak/The New York Times

Free and open to the public • go.iu.edu/muller

Why you know David Reich:

- Reich and his research team are known for providing evidence of a gradual genetic split between chimpanzee and human lineages.
- They made significant contributions to the discovery that modern humans interbred with Neanderthals and Denisovans.
- They located a genetic marker linked to an increased chance of developing prostate cancer.
- Reich was co-leader of a team of genetic researchers that made the most complete human genetic map known at that time (2011).

This award and lecture honors Hermann J. Muller—renowned geneticist, Nobel Laureate, social activist, and esteemed IU Bloomington faculty member (1945-67). It recognizes luminary international geneticists whose discoveries, like Muller’s, have or are making a significant impact on the field of genetics and society.

