

## Podcast: ‘How to argue with a racist’—geneticist Adam Rutherford challenges what he calls ‘pseudoscience’ in genetics and politics

**I**n our hyper-partisan world, many people are willing to misrepresent science to advance political ends. The contentious debates (which often explode on social media) over climate change, vaccines and GMOs offer examples of agenda-driven activists, public officials and researchers massaging data to promote worldviews, which often are in conflict with consensus science.

Geneticist [Adam Rutherford](#) says the same thing is happening in the realm of evolutionary biology. On this episode of *Genetics Unzipped*, host Kat Arney talks with Rutherford about his new book, provocatively titled [How to Argue With a Racist](#), which explores how modern genetics and what he calls “old-fashioned eugenic pseudoscience” are misused in pursuit of harmful agendas.

The human evolutionary family tree isn’t a straightforward linear progression from ancient ape to modern human, but a complex, tangled web of interrelated and interbreeding species. People move around and fool around; they aren’t always careful when it comes to picking a playmate. Add up the effects over thousands and thousands of years, and it’s easy to understand that it is challenging to map the complexity of genetics of modern populations scattered across the globe.

Rutherford contends that the more we study human populations on a genomic level, the more diversity we find. Historically, scientists somewhat crudely used to assign groupings of people based primarily on skin color to distinct races, often implying there were sharp distinctions from racial group to racial group. These days no scientist embraces the concept of distinct genetically based racial groups based on skin color. But that simplistic worldview still persists in popular culture and even among extremists in the science community, and we need to be on guard, Rutherford warns.

<https://geneticliteracyproject.org/wp-content/uploads/2020/02/304-Race-to-the-Bottom-Genetics-Unzipped.mp3>

Rutherford studied science at University College London—an institution with a long legacy of genetics, from the dark eugenics work of Francis Galton and his colleagues in the 19th century to modern cutting-edge genomics and evolutionary biology. Add to that his own mixed anglo-Indian heritage, the massive growth in the popularity of direct-to-consumer ancestry testing and the rise of hardline nationalist and racist narratives in political and public life in many parts of the world, Rutherford says he had a compelling reason to write a book that provides more nuances to the ‘race debate’. Follow him on Twitter [@AdamRutherford](#)

Arney also speaks with UCLA graduate student [Arun Durvasula](#) about his work searching for genetic ‘ghosts’—the remnants of mysterious species from our past that live on within our DNA today, making up around 11 per cent of the modern human genome. Follow him on Twitter [@ArunDurvasula](#)

Finally, Arney chats with Daniel Khosravinia, a graduate student at King’s College London who has designed a Lego model depicting the discovery of the structure of DNA, complete with minifigures of Maurice Wilkins, Rosalind Franklin, James Watson and Francis Crick. If he receives 10,000 votes for his

design, it has a chance of becoming a commercially available kit. [You can find out more and cast your vote on the Lego Ideas website.](#)

Full transcript, links and references available online at [GeneticsUnzipped.com](http://GeneticsUnzipped.com)

**[Genetics Unzipped](#)** is the podcast from the UK [Genetics Society](#), presented by award-winning science communicator and biologist [Kat Arney](#) and produced by [First Create the Media](#). Follow Kat on Twitter [@Kat\\_Arney](#), Genetics Unzipped [@geneticsunzip](#), and the Genetics Society at [@GenSocUK](#)

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