**Image 1**

This bone fragment (“Denisova 11”) was found in 2012 at Denisova Cave in Russia by Russian archaeologists and represents the daughter of a Neandertal mother and a Denisovan father. (Credit: Thomas Higham, University of Oxford)

**Image 2**

View of the Denisova Cave archaeological site, Russia. (Credit: Bence Viola, Max Planck Institute for Evolutionary Anthropology)

**Image 3**

View of the valley from above the Denisova Cave archaeological site, Russia. (Credit: Bence Viola, Max Planck Institute for Evolutionary Anthropology)

**Image 4**

View of the valley from above the Denisova Cave archaeological site, Russia. (Credit: Bence Viola, Max Planck Institute for Evolutionary Anthropology)

**Image 5**

View of the entrance to the Denisova Cave archaeological site, Russia. (Credit: Bence Viola, Max Planck Institute for Evolutionary Anthropology)

**Image 6**

Excavation works in the East Chamber of Denisova Cave, Russia. (Credit: Bence Viola, Max Planck Institute for Evolutionary Anthropology)

**Image 7**

Excavation works in the East Chamber of Denisova Cave, Russia. (Credit: Bence Viola, Max Planck Institute for Evolutionary Anthropology)

**Image 8**

Stratigraphic profile of the East Chamber in Denisova Cave, Russia. (Credit: IAET SB RAS, Sergei Zelensky)

**Image 9**

Richard (Bert) Roberts, Vladimir Ulianov and Maxim Kozlikin (clockwise from top) in the East Chamber of Denisova Cave, Russia. (Credit: IAET SB RAS, Sergei Zelensky)

**Image 10**

Clean laboratory at the Max Planck Institute for Evolutionary Anthropology. (Credit: Max Planck Institute for Evolutionary Anthropology)

**Image 11**

Researcher at work in the clean laboratory at the Max Planck Institute for Evolutionary Anthropology. (Credit: Max Planck Institute for Evolutionary Anthropology)

**Image 12**

Matthias Meyer at work in the clean laboratory at the Max Planck Institute for Evolutionary Anthropology. (Credit: Max Planck Institute for Evolutionary Anthropology)

**Image 13**

The automation of laboratory procedures to generate DNA libraries and isolate DNA by hybridization capture enabled the processing of multiple samples in parallel. (Credit: Max Planck Institute for Evolutionary Anthropology)

**Image 14**

Svante Pääbo, lead author of the study and director at the Max Planck Institute for Evolutionary Anthropology in Leipzig (Germany), with a replicate Neandertal skeleton. (Credit: Karsten Möbius)

**Image 15**

Drawing of a Neandertal mother and a Denisovan father with their child, a girl, at Denisova Cave in Russia. (Credit: Petra Korlević)

**Video Clip**

Processing of samples in the ancient DNA laboratory and analysis of the sequencing data generated. (Credit: Max Planck Institute for Evolutionary Anthropology)