

The fossil record of hominin brain evolution: From *Australopithecus* to Albert Einstein

Abstract

The origin and evolution of language in our ancestors likely paved the way for the subsequent evolution of other advanced cognitive skills in *Homo sapiens*. Analyses of casts of the interiors of hominin braincases (endocasts) provide a window into the evolution of both brain size and cortical reorganization. The same methods used to analyze the bumps and grooves on ape and hominin endocasts were applied to photographs of Albert Einstein's brain. Results showed that, although the size of Einstein's brain was average, the morphology of his cerebral cortex was extraordinary compared to our ancestors and to most living people. Various features of Einstein's brain suggest that, despite the importance of brain enlargement during hominin evolution, alterations in the brain's wiring were crucial for the emergence of complex abstract thinking. The evolution of hominin cognition is also reflected in the archeological record of material culture, which has progressed from simple stone tools in australopithecines to the relatively recent emergence of reading in *Homo sapiens* and the subsequent invention of atomic weapons, based partly on Einstein's theoretical discoveries. Human brains are still evolving, but it remains to be seen whether our species will survive the material culture that it continues to invent.



The poster features a white background with abstract geometric shapes in shades of blue, pink, and orange. On the left, the University of Melbourne logo is displayed, consisting of a shield with a figure and the motto 'POSTERIORA SIBI LAEVIUS'. To the right of the logo, the text 'Anatomy and Neuroscience' is written in a large, dark blue font, followed by '2019 Seminar Series' in a bold, dark blue font. Below this, a dark blue rectangular box contains the title 'The fossil record of hominin brain evolution: From *Australopithecus* to Albert Einstein' in white text. To the right of the box, the speaker's name 'Prof Dean Falk' is listed, followed by 'Department of Anthropology, Florida State University' in a smaller font. Below the box, the location 'Frederic Wood Jones Theatre, Level 3 East, Medical Building' is provided, along with the time 'Friday, 5th July, 3:30 - 4:30 pm' and the host 'Dr Varsha Pilbrow (vpilbrow@unimelb.edu.au)'. In the bottom right corner, a red circle contains the text 'July 5' in white.

 Anatomy and Neuroscience
2019 Seminar Series

**The fossil record of hominin brain evolution:
From *Australopithecus* to Albert Einstein**

Prof Dean Falk
Department of Anthropology, Florida State University

Location: Frederic Wood Jones Theatre, Level 3 East, Medical Building
Time: Friday, 5th July, 3:30 - 4:30 pm
Host: Dr Varsha Pilbrow (vpilbrow@unimelb.edu.au)

July
5