

International Seminar on Paleontology, Evolution,  
Paleoecosystems and Paleoprimateology  
Room 410, build. B35 (3<sup>rd</sup> floor, northern wing)

Thursday 21<sup>st</sup> april 2022 – 1 p.m.

## The use of gait analysis and modelling to build evolutionary hypotheses

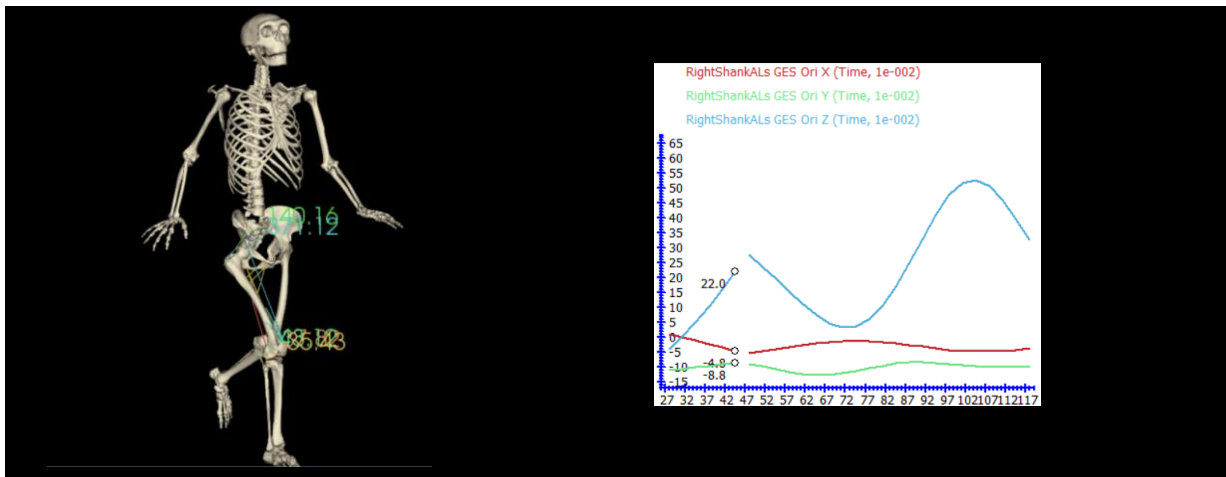
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Complete fossil skeletons do not exist in the fossil record as in many fossil sites only a few bones are found and these are often fragmented. Complete hominid skeletons have previously been reconstructed using clay and other materials in a traditional way, although large scale geometrical and or morphological reconstructions using different specimens have not been attempted virtually. The Royal Belgian Institute of Natural Sciences and the Université Libre de Bruxelles are working on projects to virtually reconstruct fossil skeletons (the Spy II Neandertal from Belgium and the recently *Homo naledi* from South Africa) and then find out if they walked in a similar way to modern humans. The reconstruction of the Neandertal skeleton and potential gait analysis shows that bipedal gait was likely to be similar to modern humans. *Homo naledi* demonstrates a morphology largely compatible with bipedalism although has an overall general mix of primitive and *Homo*-like traits. Whilst these primitive traits may not have impeded obligate bipedalism, they may have been advantageous for climbing.



**Tara Chapman** is currently Senior Researcher at the Royal Belgian Institute of Natural Sciences and she is scientific coordinator of the HOME that aims to make an inventory of all the human remains in Belgium and propose management solutions for these remains. She is also scientific coordinator of the Neandertal\_3D project that aims to improve software for measurement and biomechanical analysis of fossil hominids, create a website on Neandertals and disseminate the 3D models of fossil hominids in RBINS to the broader public.