



Univerzita Hradec Králové  
Filozofická fakulta

# E-learningový kurz

Modern quantitative methods  
and shape analysis in archaeology



EVROPSKÁ UNIE  
Evropské strukturální a investiční fondy  
Operační program Výzkum, vývoj a vzdělávání



MINISTERSTVO ŠKOLSTVÍ,  
MLÁDEŽE A TĚLOVÝCHOVY

Tento materiál vznikl v rámci realizace projektu  
Strategický rozvoj Univerzity Hradec Králové,  
reg. č. CZ.02.2.69/0.0/0.0/16\_015/0002427.

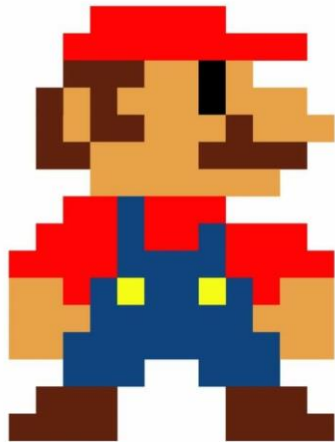
# 3D landmark analyses

Analyses of 3D landmarks and semilandmarks



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2D is cool but we are living in 3D...

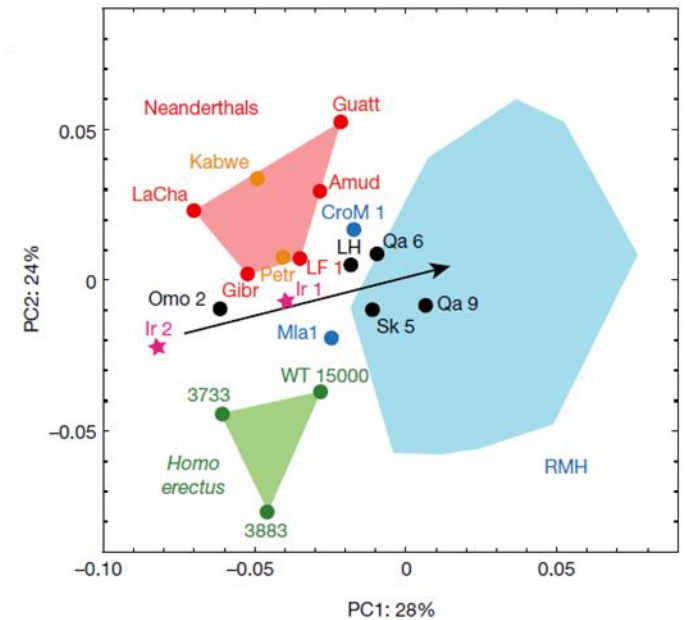
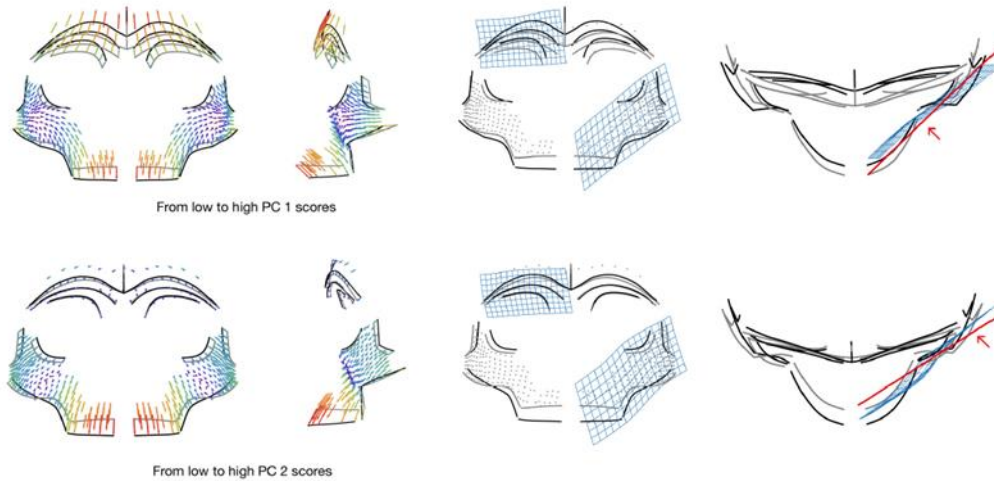


VS.



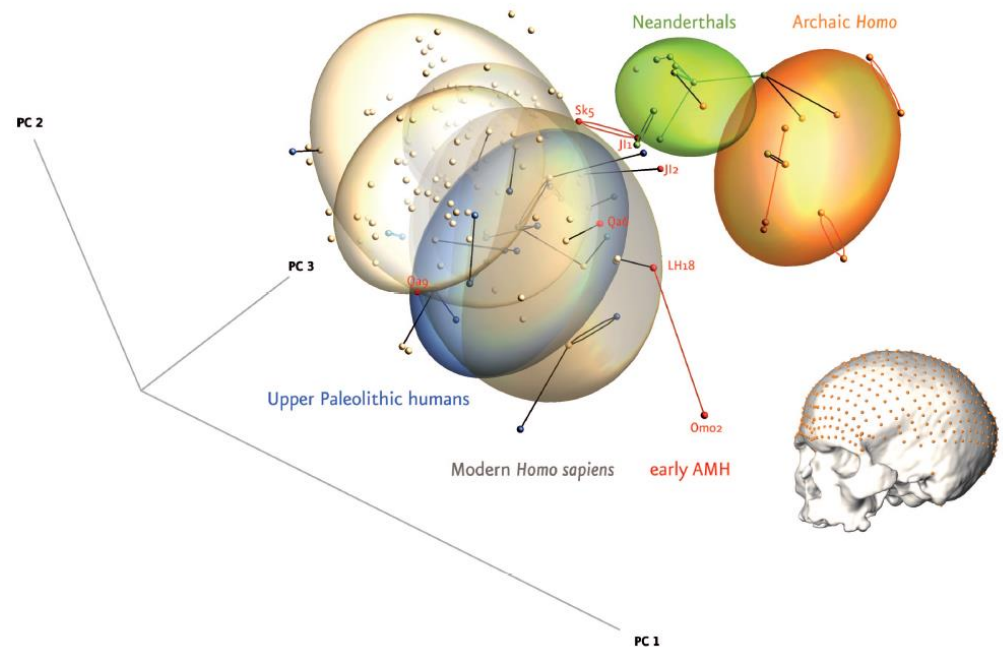
## Other examples...

### ... faces among *Homo* groups



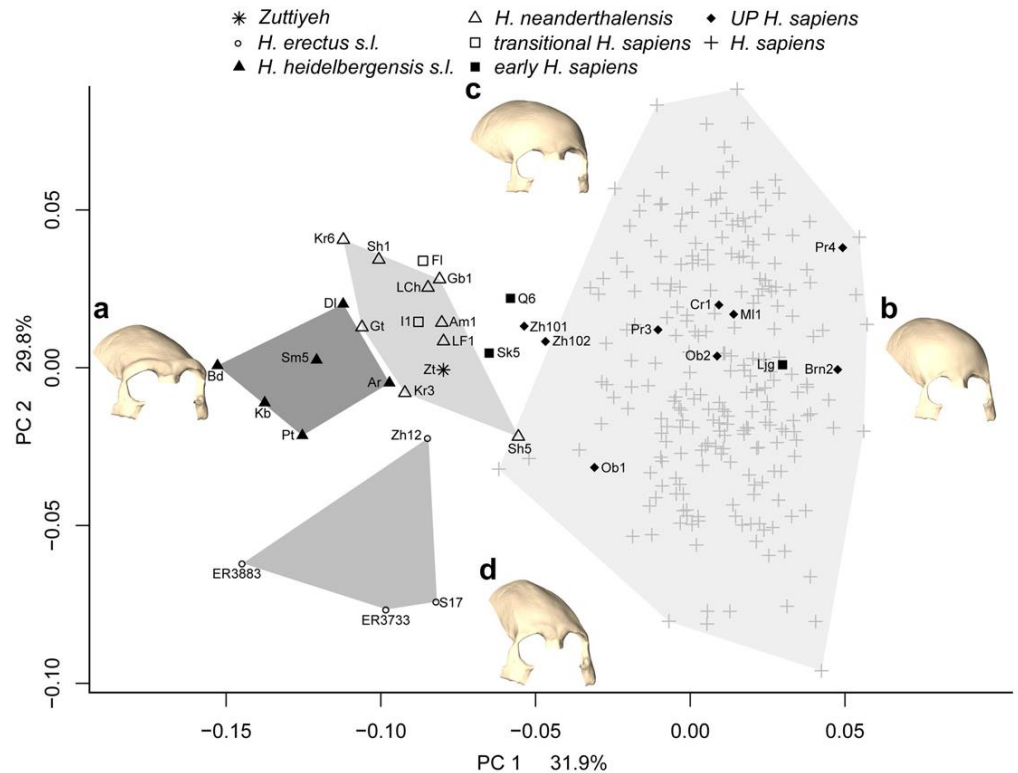
## Other examples...

### ... skulls among *Homo* groups



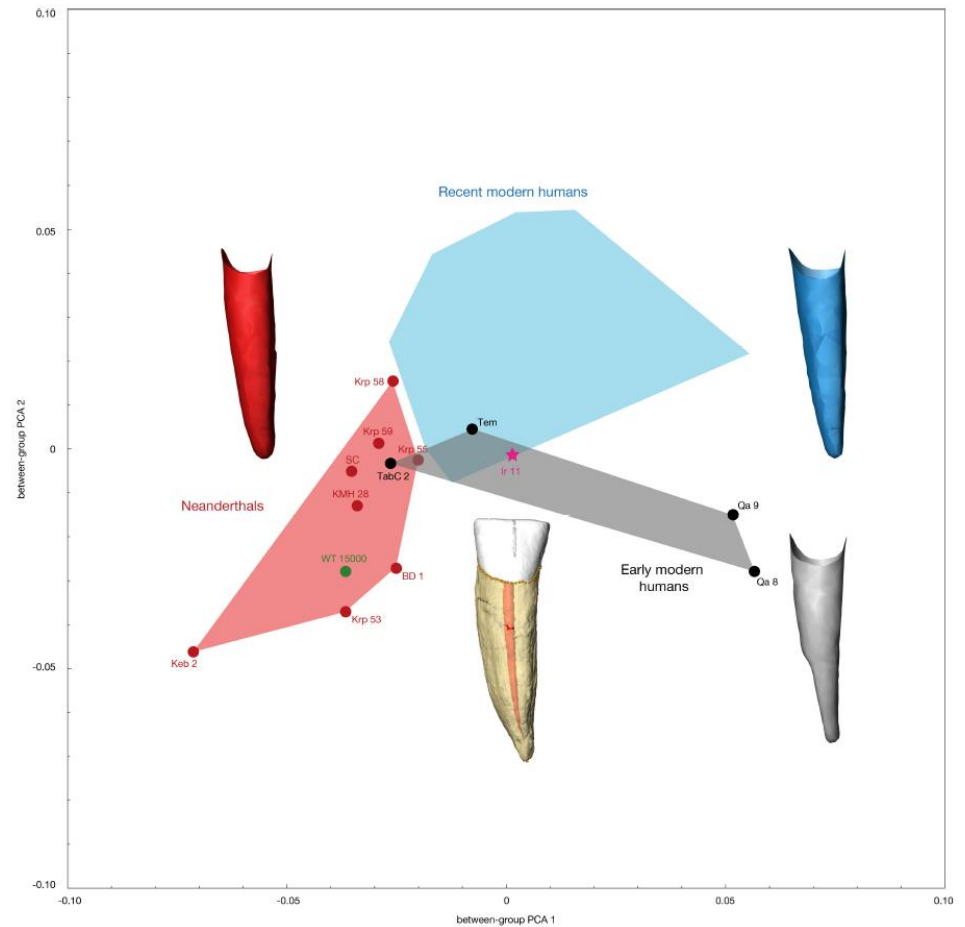
## Other examples...

### ... skulls among *Homo* groups



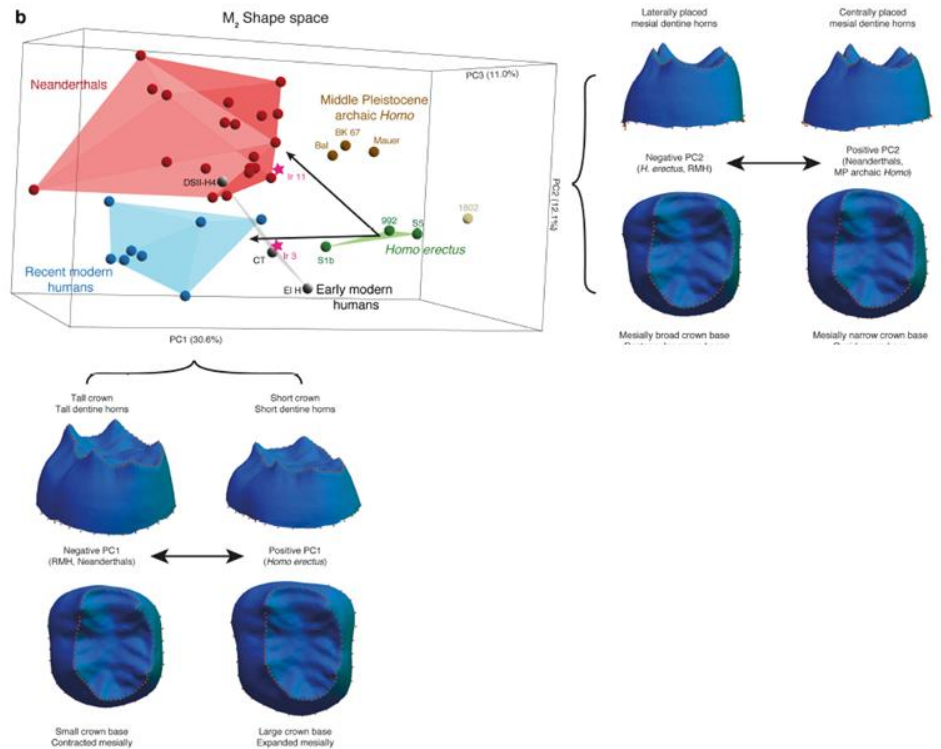
## Other examples...

... roots among *Homo* groups



## Other examples...

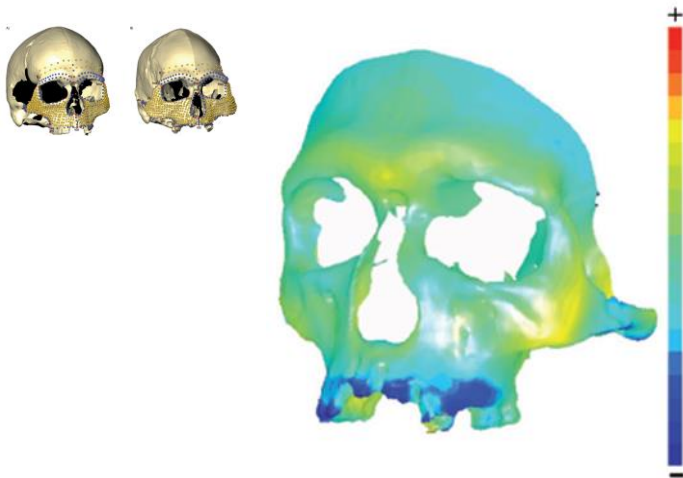
### ... molars among *Homo* groups





## Other examples...

### ... sexual dimorphism in *Homo* groups



heat map highlighting differences between Oberkassel female and Oberkassel male



superimposition of recent modern human female (in gray) and male (in bone color) mean shape

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